Cisco Catalyst Switch Guide

Scalable, intelligent LAN switching for campus, branch, and data center networks of all sizes

Cisco® Catalyst® 6500 and Catalyst 4500 Series Modular Switches

Cisco Catalyst 4900, Catalyst 3750-X, Catalyst 3750-E, Catalyst 3750, Catalyst 3560-E, Catalyst 3560-X, Catalyst 3560, Catalyst 2960-S, Catalyst 2960, and Catalyst Express Series Fixed-Configuration Switches

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Cisco Catalyst Switches

Scalable, intelligent LAN switching for Campus, Branch, and Data Center networks.

Driving the Borderless Experience: Connect anyone, anywhere, on any device—securely, reliably, and seamlessly.

This is your guide to Cisco Catalyst switches, the industry's most advanced and versatile portfolio of modular and fixed-configuration LAN switches.

Individually, these switches offer the performance and features required for virtually any deployment, from small workgroups and wiring closets to corporate data centers and network cores. Working together, they are the building blocks of an integrated network that delivers secure, reliable, and seamless services from the wiring closet to the core-protecting, optimizing, and growing your network as your business needs evolve.

The workspace is changing. It is no longer about working just in our offices or even confined to the country in which we work. Borderless Networks, a Cisco® next-generation architecture for agile delivery of services and applications, delivers a new workspace experience, connecting anyone, anywhere, using any device, to any resource: securely, reliably, and seamlessly. The Cisco Borderless Networks architecture addresses primary IT and business challenges to help create a truly borderless experience by bringing interactions closer to the employee and customer.

Borderless experience is only possible with intelligent network elements designed to meet the needs of a global workspace with an increasingly mobile workforce. Cisco Catalyst Switch solutions are a primary component of this architecture, enabling various services such as mobility, security, medianet, and Cisco EnergyWise that simplify operations, increase productivity, and improve operational efficiency. When network access is intelligent and relevant, it knows the identity of the user, as well as where the user is on the network. It knows what

is connecting to the network to automatically provision the network for optimal quality of service (QoS) and delivery. It becomes services-aware to optimize user experience. Only with an intelligent access network can your enterprise go borderless securely and smoothly. Your business can save energy, simplify operations with better business efficiency, and enjoy an optimized total cost of ownership. Cisco Borderless Networks, a Cisco next-generation architecture, deliver a new workspace experience, connecting anyone, anywhere, using any device, to any resource: securely, reliably, and smoothly.

Cisco Catalyst Switches

Quick Reference Guide

Introduction

Cisco Catalyst Family Overview 4
Technology Spotlight 10
Cisco Catalyst Family Feature Comparison 12
Cisco Catalyst Switching Transition Guide 48

Modular Switches

Introduction 63
Cisco Catalyst 6500 Series 65
Cisco Catalyst 4500 Series 85

Fixed-Configuration Switches

Introduction 101
Cisco Catalyst 4900 Series 103
Cisco Catalyst 3750-X Series 109
Cisco Catalyst 3750-E Series 119
Cisco Catalyst 3750 Series 129
Cisco Catalyst 3560-E Series 139
Cisco Catalyst 3560-X Series 149
Cisco Catalyst 3560 Series 157
Cisco Catalyst 2960-S Series 165
Cisco Catalyst 2960 Series 177
Cisco Catalyst Express Series 187

Optics

Optics Introduction 194

Series Overview

Intelligent Switching for the Integrated Network

From edge to core, Cisco Catalyst switches provide a complete range of services for all levels of application intelligence, unified network services, integrated security, virtualization, non-stop communications and operational manageability.

Modular Switches

Cisco Catalyst 6500 Series

The flagship Catalyst switching platform delivers the highest levels of services for every place in the network. Industry-leading scalability (32 Gbps to 1.4 Tbps) and the broadest offering of interfaces provide excellent solutions for the Wiring Closet, Distribution, Core, Data Center, Wide-Area Network routing, and Metro-Ethernet.

Integrated Security:
H/W accelerated Flexible Packet Matching, H/W-based Control Plane Policing; Integrated H/W NetFlow; 802.1x enhancements; firewall, intrusion prevention and anomaly detection modules

Virtualization:
Scalability up to 1.4 Tbps with the Virtual Switching System 1440, service modules support up to 256 virtual instances, network virtualization with MPLS, VRF-Lite and GRE-Tunnels, multicast VPN

Application Intelligence:
H/W accelerated network based application recognition (NBAR), URL Filtering, NetFlow for IPv6 and multicast

Operational Manageability:
Smart Call Home, Adaptive Control Technology, In-Service Software Upgrades; Encapsulated Remote SPAN; Embedded Event Manager; Network Analysis Module

Unified Network Services:
Highest PoE port density; enhanced PoE support for more than 15.4W per port; wireless controller module, advanced quality-of-service

Non-Stop Communications:
Sub-200 ms link recovery, Cisco IOS Software Modularity, In-Service Software Upgrades

WAN Aggregation:
Extensive choice of WAN interfaces from DSO to OC-192, FE, GbE and 10 GbE; MPLS; VPLS; H-VPLS

Flexible Options:
Modular 3-, 4-, 6-, 9-, and 13-slot chassis all support redundant supervisors; wide range of AC and DC power supplies (950W to 8,700W)

Highest Port Densities:
Up to 1,152 10/100 ports, 770 10/100/1000 ports, 820 SFP Gigabit Ethernet ports, or 260 10 Gigabit Ethernet (10 GbE) and 10G Base T ports

Flexible NetFlow :
First Catalyst to support Flexible NetFlow with visibility into Layer 2, 3, and 4 applications up to 128K flows. Flexible NetFlow facilitates capacity planning, anomaly and malware detection and prevention, and troubleshooting.

Cisco Catalyst 4500 Series

Cisco Catalyst 4500-E Series modular switches enable a high performance, mobile, and secure user experience. The Catalyst 4500-E Series is Cisco's lead access and collapsed access/aggregation platform for Borderless Networks. Offering up to 848 Gbps in switching capacity and 250 Mpps in throughput, Catalyst 4500 E-series switches are optimized for unified communication with high density POE and POE+, embedded security with Cisco TrustSec and enable maximum uptime for voice, video and critical applications with services like Stateful Switchover, Non-stop Forwarding, and In-service software upgrades.

Unified Communications:
Cisco pre-standard and IEEE 802.3af PoE Support. 20w PoE support for 802.11n access points. Up to 30 watts per port with E-Series line cards. Extensive QoS features with up to 8 user configurable queues per port.

Non-stop Communications:
Redundant supervisor engines with In Service Software Upgrade (ISSU), Non-stop Forwarding/ Stateful Switchover (NSF/SSO) offering 50 ms failover; redundant power supplies with power circuit redundancy; hot-swappable fan trays with redundant fans

Simplified Operations:
Minimize network operational time with ISSU, EEM, AutoQoS, Smartports RSPAN; TDR, OIR, Flexible NetFlow for application visibility, CiscoWorks, and CNA

Comprehensive Security:
Integrated Network Admission Control (NAC) and Comprehensive security with Cisco TrustSec and 802.1x, H/W-based Control Plane Policing (CoPP); integrated man-in-the-middle and DoS attack mitigation; NetFlow; access control lists for IPv4 and IPv6 at wire rate and SSH

Flexible Options:
3,6,7 and 10-slot chassis supporting numerous connectivity configurations with up to 48 Gbps per slot capacity, 10/100, 10/100/1000 (PoE or Non-PoE), GE SFP Fiber and 10 GE line cards. Mix and match classic line cards with high performance E-Series line cards for maximum flexibility

High Port Density:
Up to 384 Fast Ethernet or Gigabit Ethernet Ports (PoE or Non PoE) and up to 100 10 Gigabit Ethernet (10 GbE) ports

Investment Protection:
Evolutionary centralized modular Architecture, media flexibility, and scalability of the Catalyst 4500 Series delivers maximum investment protection with backward and forward compatibility across several generations dating back to 1999

Series Overview (continued)

Fixed-configuration Switches

Cisco Catalyst 4900 Series

Fixed-configuration switches offering high-performance and highest availability in 1-2 RU configuration, optimized for data center top of rack server aggregation and for space constrained branch collapsed core/distribution LAN aggregation.

- Standalone fixed-configuration for low-latency and wire-speed switching
- Wire-rate performance with 96-320 Gbps non-blocking switching fabric
- Layer 2–4 switching and intelligent services with dynamic IP routing and IPv6
- Configurations from 48 10/100/1000 ports to 24 10 GbE ports
- TwinGig converter module for migrating from 1 Gigabit Ethernet (SFP) to 10 GbE (X2) on 4900M
- Dual, hot-swappable internal AC or DC power supplies
- Hot-swappable fan trays

Cisco Catalyst 3750-X Series

Enterprise-class stackable switches with innovative features such as Cisco StackPower, Power over Ethernet Plus (PoE+), and MAC security. for enterprise branch offices and mid-market organizations.

- 24 and 48 10/100/1000 PoE+ and non-PoE models with optional four 1 Gb Ethernet SFP or two 10 Gb Ethernet SFP+ uplink network modules
- PoE+ with 30W power on all ports in 1 rack unit (RU)
- Cisco StackPower: Innovative, industry-first feature for sharing power among stack members
- Cisco StackWise Plus for ease of use and resiliency with 64 Gbps throughput
- Backward compatibility with Catalyst 3750 Series
- Enhanced limited lifetime warranty
- MAC security hardware-based encryption
- Multicast routing, IPv6 routing, and access control list in hardware
- Support LAN Base, IP Base and IP Services configurations

Cisco Catalyst 3750-E Series

Stackable switches offering multilayer switching and the enhanced Cisco StackWise™ Plus technology for enterprise branch offices and mid-market organizations.

- Stackable fixed-configuration switches featuring Cisco StackWise Plus technology, a 64 Gbps interconnect for a unified, resilient system of up to nine switches (including Cisco Catalyst 3750 Series switches)
- Layer 2–4 switching and intelligent services with dynamic IP routing and IPv6
- Gigabit Ethernet and upgradeable Gigabit Ethernet to 10 GbE connectivity
- Up to 48 10/100/1000 ports plus two 10 GbE X2 ports per stackable switch or four GbE ports
- Enhanced PoE support; the capability to power beyond 15.4W per port
- AC power supply failure protection with external power system

Cisco Catalyst 3750 Series

Stackable switches offering multilayer switching and Cisco StackWise™ technology for enterprise branch offices and mid-market organizations.

- Stackable fixed-configuration switches featuring Cisco StackWise technology, a 32 Gbps interconnect for a unified, resilient system of up to nine switches
- Layer 2–4 switching and intelligent services with dynamic IP routing and IPv6
- Fast Ethernet, Gigabit Ethernet and 10 GbE connectivity
- Up to 48 10/100/1000 ports plus four SFP ports per stackable switch
- Integrated PoE (Cisco pre-standard and IEEE 802.3af); up to 24 ports with 15.4 watts or 48 ports with 7.3 watts
- AC power supply failure protection with external power supply

Cisco Catalyst 3560-X Series

Fixed configuration switches with PoE+, optional 10 GE uplinks and MAC security for enterprise LAN and branch access.

- 24 and 48 10/100/1000 PoE+ and non-PoE models with optional four 1 GE SFP or two 10 GE SFP+ uplink network modules
- PoE+ with 30W power on all ports in 1 rack unit (RU) form factor
- Dual redundant, modular power supplies and fans
- Enhanced limited lifetime warranty
- MAC security hardware-based encryption
- Multicast routing, IPv6 routing, and access control list in hardware
- Support LAN Base, IP Base and IP Services configurations

Cisco Catalyst 3560-E Series

Fixed-configuration switches combining Gigabit Ethernet connectivity and PoE for enterprise LAN access and branch offices.

- Standalone fixed-configuration switches
- Layer 2–4 switching and intelligent services with dynamic IP routing and IPv6
- Gigabit Ethernet and upgradable Gigabit Ethernet to 10 GbE uplinks
- Up to 48 10/100/1000 ports plus two 10 GbE X2 ports per stackable switch or 4 Gigabit Ethernet ports
- Enhanced PoE support; the capability to power beyond 15.4W per port
- AC power supply failure protection with external power system

Series Overview (continued)

Fixed-configuration Switches

Cisco Catalyst 3560 Series

Fixed-configuration switches combining Gigabit Ethernet connectivity and PoE for enterprise LAN access and branch offices.

- Standalone fixed-configuration switches
- Layer 2–4 switching and intelligent services with dynamic IP routing and IPv6
- Fast Ethernet and Gigabit Ethernet connectivity
- Up to 48 10/100/1000 ports plus four SFP ports
- Integrated PoE (Cisco pre-standard and IEEE 802.3af); up to 24 ports with 15.4 watts or 48 ports with 7.3 watts
- AC power supply failure protection with external power supply
- Compact Fast Ethernet PoE with no fan

Cisco Catalyst 2960-S Series

The Cisco Catalyst 2960-S Series are fixed-configuration access switches designed to provide a lower total cost of ownership for enterprise, midmarket and branch office networks.

- 24 or 48 ports of Gigabit Ethernet desktop connectivity with optional four 1 Gigabit Ethernet SFP or two 10 Gigabit Ethernet SFP+ Uplinks
- Industry first PoE+ with up to 30W per port
- Cisco FlexStack stacking module with 40 Gbps of throughput, allowing ease of operation with single configuration and simplified switch upgrade
- Catalyst Smart Operations allows for zero touch deployment
- Cisco Smart Install to have the switch immediately active after installation
- Cisco Auto Smartports enables automatic configuration by connected device type
- Superior Layer 2 threat defense capabilities
- Enhanced Cisco EnergyWise to measure, report and reduce energy usage across the entire organization
- Pay for functions and services only as needed
- Enhanced Limited Lifetime Warranty

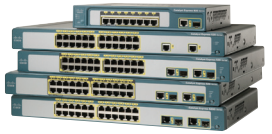
Cisco Catalyst 2960 Series

Fixed-configuration switches offering Fast Ethernet and Gigabit Ethernet connectivity with enhanced LAN services for mid-market and branch office networks.

- Standalone fixed-configuration switches
- Layer 2 switching with intelligent Layer 2–4 services
- Fast Ethernet and Gigabit Ethernet connectivity
- Up to 48 10/100 ports or 10/100/1000 ports
- Power over Ethernet: 24 full PoE port and 24-port (PoE supported on 8 ports) configurations
- AC power supply failure protection with external power supply
- Compact Fast Ethernet and Gigabit Ethernet switches with no fan

Fixed-configuration LAN Lite switches offering Fast Ethernet connectivity with Basic LAN services for mid-market and branch office networks.

- Standalone fixed-configuration switches
- Layer 2 switching with Basic Layer 2–4 services
- Fast Ethernet connectivity
- Up to 48 10/100 ports
- Compact Fast Ethernet model with no fan



Cisco Catalyst Express Series

Cisco-class switches that simplify advanced services and IP Communications for businesses with 20 to 250 employees.

- Standalone fixed-configuration Layer 2 switches
- Fast Ethernet and Gigabit Ethernet connectivity
- Up to 24 10/100 ports with optional PoE
- Up to 24 10/100/100 ports plus 2 SFP ports
- Simple GUI based management

Technology Spotlight

The architectural foundation of Services Oriented Network Architecture

Cisco Systems offers the industry's most complete range of switching solutions, supporting a wide variety of deployment requirements in networks of every size. Yet Cisco Catalyst switches are much more than a collection of point products to meet isolated IT needs; they are part of an integrated approach to the broader goals of protecting, optimizing, and growing networks for years to come.

Cisco Catalyst switches provide an architectural foundation for the intelligent services that enable new applications and uses for the network.

Key Elements

Hardware Integration

At the core of Cisco's hardware integration is application-specific integrated circuit (ASIC) innovation. Cisco has developed more than one hundred ASICs for the Cisco Catalyst switching family since 1995, with each generation including more capabilities. For example, Cisco was the first vendor to integrate Layer 3 switching into hardware, and has gone on to integrate security access control lists (ACLs), quality of service (QoS) classification, and queuing across the entire Cisco Catalyst line. Cisco is also the only switching vendor to offer hardware-based services modules, which integrate key functions such as firewalling, content networking, and network analysis directly into Catalyst 6500 switches.

Predictable Performance

Cisco offers among the highest performance modular and stackable switches in the industry, but throughput alone is not enough. Organizations need to be assured of predictable performance, regardless of variables like congestion, traffic type, or the use of software- or hardware-enabled services. That's why all Cisco Catalyst switches are designed to maintain predictable performance through a unique combination of mechanisms, including Cisco Express Forwarding (CEF), Ternary Content Addressable Memory (TCAM), buffering, and congestion management. This ensures that network managers can enable complex features without fear of losing speed in their networks.

Unified Network Services

Scaling rich media applications, voice, video, and data on a single network requires a comprehensive approach to network services. The Catalyst portfolio leads the industry in Gigabit and 10 Gigabit Ethernet (10 GbE) port density. Desktop Gigabit Ethernet, also called 10/100/1000, provides investment protection for future connectivity needs while also making use of the "free" LAN-on-motherboard solutions shipping on most new desktop and laptop computers. Similarly, 10 GbE is being rapidly adopted in many enterprise networks, particularly in the network core, distribution, and in data center networks. Another key consideration is Power over Ethernet (PoE), which simplifies the deployment of devices such as IP phones and wireless access points. PoE eliminates the need for additional power cabling. Cisco drove the 802.3af power standard through IEEE and today offers extensions to the IEEE standard through the use of intelligent power management. In keeping with Cisco's evolutionary approach, the Cisco Catalyst line includes switches that support both pre-standard inline power as well as IEEE 802.3af-compliant devices, enabling our customers to deploy new technology while continuing to make the most of past investments. Cisco offers the highest density of IEEE 802.3af PoE devices (up to 420) in a single chassis with full power redundancy.

Virtualization

Cisco Catalyst Series switches offer a wide variety of technologies that enable the scaling of a single physical network into multiple, logical networks. Identity services such as 802.1x and Network Admission Control (NAC) ensure users are able to access appropriate resources. Path isolation technologies provide a means for traffic isolation. These include Generic Route Encapsulation (GRE), Virtual Route Forwarding (VRF) and Multiprotocol Label Switching (MPLS). Additionally, service modules such as the Application Control Engine (ACE) for the Catalyst 6500 can be virtualized to offer up to 256 different instances.

Cisco Catalyst Family Feature Comparison

Intelligent Switching for the Evolving Network

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
LAN Switching Features						
Connectivity and Filtering						
EtherChannel®/802.3ad	·	·	·	·	·	·
Jumbo Frames—GbE on Copper	·	*	·	·	L2 Only	·
Jumbo Frames—GbE on Fiber	·	*	·	·	L2 Only	·
Broadcast Suppression	·	·	·	·	·	·
Multicast Suppression	·	·	·	·	·	·
Unicast Flood Suppression	·	·	·			
Flexible Packet Matching	·					
Layer 2						
ISL/802.1Q	·	·	·	·	·	·
Private VLAN Edge	·	·	·	·	·	·
Private VLAN	·	·	·	·	·	·
Voice VLAN	·	·	·	·	·	·
VLAN Trunking Protocol (VTP)	·	·	·	·	·	·
GVRP	·					
GARP	·					
URT/VMPS	·	·	·	·	·	·
VTP v3	·	·	·	·	·	·
VTP Bomb Protection	·	·	·			
VMPS Server	·	·	·			
Number of Active VLANs	4096	4096	4096	1005	1005	1005
Number of VLAN IDs	4096	4096	4096	4096	4096	4096
Layer 3						
H/W-based MPLS/EoMPLS	·					
EIGRP	·	·	·	IP Services	IP Services	IP Services
EIGRP Stub	·	·	·	IP Base	IP Base	IP Base
VPLS/H-VPLS	·					
A-VPLS	·					
MPLS L3 VPNs	·					
MPLS Traffic Engineering (TE)	·		·	IP Services	IP Services	IP Services
OSPF	·	·				

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
LAN Switching Features (continued)						
Layer 3 (continued)						
BGP	·	·	·	IP Services	IP Services	IP Services
Equal Cost Load Balancing	·	·	·	·	·	·
RIP, RIPv2	·	·	·	·	·	·
Static Routes	·	·	·	·	·	·
IS-IS	·	·	·			
H/W-based IPv6 Routing	·	·	·	·	·	·
H/W-based Policy Routing IPv4	·	·	·	·	·	·
H/W-based Policy Routing IPv6	·			·	·	·
Multiprotocol Routing (IPX, AppleTalk)	·	·	·			
Cisco Express Forwarding (CEF)	·	·	·	·	·	·
H/W FIB Entries	Up to 1,000,000	Up to 256,000	Up to 200,000	Up to 20,000	Up to 20,000	Up to 20,000
VRF Lite	IP Services	Enhanced Layer 3	IP Services	IP Services	IP Services	IP Services
Integrated Security						
Access Control Lists						
Reflexive ACL	·					
Port ACL	·	·	·	·	·	·
Time-based ACL	·	·	·	·	·	·
Router ACL	·	·	·	·	·	·
VLAN ACL	·	·	·	·	·	·
VACL with Redirect/Capture/Logging of Denied Traffic	·	·	·*	Capture and Logging	Capture and Logging	Capture and Logging
Context-based Access Control	·					
H/W-based Access Control Entry (ACE) Counters	·	·				
Order-dependent ACL Merge	·					
Dedicated Hardware Resources for Security ACLs	·	·	·			
ACL Scalability (ACE entries)	32,000	128,000	32,000	2000	2000	2000
Attack Mitigation						
Flexible Packet Matching	·					
Control Plane Policing (Multiple CPU Rate Limiters)	·	·	·			
IP Source Guard	·	·	·	·	·	·

*As part of IPACL MAP but not for the entire VACL

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
Integrated Security (continued)						
Attack Mitigation (continued)						
DHCP Snooping/Option 82	·	·	·	·	·	·
Dynamic ARP Inspection	·	·	·	·	·	·
MAC Address Notification	·	·	·	·	·	·
Port Security	·	·	·	·	·	·
H/W-based uRFP Check	·	·		·	·	
H/W-based MAC Learning	·					
H/W-assisted MAC Aging	·			·	·	
PIM Accept Register—Rogue Multicast Server Protection	·			·	·	
Routing Protocol Pass Through	·					
ARP Policing	·	·				
H/W-based Directed Broadcast	·					
Trust and Identity Management						
802.1x Identity-based	·		·	·	·	·
Networking Port Authentication	·	·	·	·	·	·
802.1x with VLAN Assignment	·	·	·	·	·	·
802.1x with Guest VLAN	·	·	·	·	·	·
802.1x with Aux. VLAN Support	·	·	·	·	·	·
802.1x Port Description	·	·	·			
TACACS+/RADIUS	·	·	·	·	·	·
Web Authentication Proxy	·	·	·	·	·	·
MAC Authentication	·	·	·	·	·	·
Unidirectional Control Port	·	·	·			
Inaccessible Authentication	·	·	·	·	·	·
Secure Connectivity						
Media Access Control Security (MACsec)				·		
H/W-based NAT/PAT	·					
MD5 Route Authentication	·	·	·	·	·	·
Multilevel Account Privilege	·	·	·	·	·	·

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
Availability and Resiliency						
Switch Redundancy						
Virtual Switching System (VSS)	·					
IOS Software Modularity	·					
Non-stop Forwarding/Stateful Switchover (NSF/SSO)	·	·		·	·	·
NSF-aware	·	·	·	·	·	·
Redundant Power Supplies	·	·	·	External Only	External Only	External Only
Redundant Fans	·	·	·			
Redundant Fan Trays	·	·				
Redundant Supervisors	·	·				
Generic Online Diagnostics (GOLD)	·	·	·	·	·	·
Basic Support for GOLD Services	·	·	·	·	·	·
Power Supply Failure Redundancy	·	·	·	·	·	·
Power Circuit Failure Redundancy	·	·	·			
StackWise Plus				·	·	·
StackPower				·		
Network Protocols						
Unidirectional Link Detection (UDLD)	·	·	·	·	·	·
Gateway Load Balancing Protocol (GLBP)	·	·	·			
Hot Standby Routing Protocol (HSRP)	·	·	·	·	·	·
Virtual Router Redundancy Protocol (VRRP)	·	·	·			
UplinkFast	·	·	·	·	·	·
Backbone Fast	·	·	·	·	·	·
RSTP (802.1w)	·	·	·	·	·	·
PortFast	·	·	·	·	·	·
Per VLAN STP (PVSTP)	·	·	·	·	·	·
Per VLAN RSTP (PVRSTP)	·	·	·	·	·	·
Multiple Instance STP (MISTP)	·	·	·	·	·	·
MSTP (802.1s)	·	·	·	·	·	·
STP Root Guard	·	·	·	·	·	·
BDPU Guard	·	·	·	·	·	·
Loop Guard	·	·	·	·	·	·

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
Availability and Resiliency (continued)						
Network Protocols (continued)						
IP Event Dampening	·	*	·			
Bidirectional Forwarding Detection	·					
Digital Optical Monitoring	·	·	·			
Flex Link	·	·	·	·	·	·
Link State Tracking		*	·	·	·	·
Delivery Optimization						
Stateful Application Intelligence						
Network-based Application Recognition	·					
Quality of Service						
Number of Queues per Port	Up to 8	Up to 8	Up to 8	Up to 8	Up to 8	Up to 8
Congestion Avoidance	·	·	·	WTD	WTD	WTD
L2–L3 Rewrite/Mapping	·	·	·	·	·	·
Ingress Queuing	·		N/A	·	·	·
Ingress Strict Priority	·		N/A	·	·	·
Egress Queuing	·	·	·	·	·	·
Egress Strict Priority	·	·	·	·	·	·
Traffic Classification	·	·	·	·	·	·
IP Service Level Agreement	·	·	·	·	·	·
Policers						
H/W-based Policing	·	·	·			
Per-port Policers	·	·	·	·	·	·
Per-VLAN Policers	·	·	·	·	·	·
H/W-based Aggregate Policers	·	·	·	·	·	·
Hierarchical Policers	·	·				
User-based (Source IP) Rate Limiting	·	·				
Shaped Round Robin	·			·	·	·
Multicast						
H/W-based IPv6 Multicast	·	·	*	No PIM	No PIM	No PIM
H/W-based IPv4 Multicast	·	·	·	·	·	·
H/W-based Bidirectional PIM	·	·	·			
Multicast Routing Manager	·					
Multicast Services Reflection	·					

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
Delivery Optimization (continued)						
Multicast (continued)						
Source Specific Multicast (SSM)	·	·	·	·	·	·
Multicast NSF/SSO	·					
PIM Sparse	·	·	·	·	·	·
PIM Dense	·	·	·	·	·	·
PIM Sparse/Dense	·	·	·	·	·	·
PIM Snooping	·					
PIM Accept Register—Rogue Multicast Server Protection	·	·	·	·	·	·
IGMP v1/v2	·	·	·	·	·	·
IGMP v3	·	·	·	·	·	·
CGMP	·	·	·	·	·	·
RGMP	·					
DVMRP Interoperability	·	·	·	·	·	·
Number of Multicast Routes	32,000	32,000	28,000	1000	1000	1000
IGMP Snooping	·	·	·	·	·	·
IGMP Querier	·	·	·	·	·	·
SSM Mapping	·	·	·			
H/W-based Multicast Tunneling	·					
mVRF Lite	·	·	·			
Multicast VPN (mVPN)	·					
Tunneling Protocols						
H/W-based GRE	·	In Software	In Software			
H/W-based Multipoint GRE	·	·	·			
H/W-based IPv4 in IPv6	·	In Software	In Software			
H/W-based IP in IP	·	In Software	In Software			
Enhanced Manageability						
Link Layer Discovery Protocol (LLDP)	·	·	·	·	·	·
Time Domain Reflectometry (TDR)	·	·	·	·	·	·
Time Domain Reflectometry (TDR) Interface 10/100/1000	·	·	·	·	·	·
Cisco Network Assistant (CNA)	·	·	·	·	·	·
Auto Smartports		·	·	·	·	·
Smart Install				·	·	·

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
Enhanced Manageability (continued)						
Smartports	•	•	•	•	•	•
NetFlow	•	•				
NetFlow Data Export	•	•				
Syslog	•	•	•	•	•	•
Switch TopN	•					
SNMP	•	•	•	•	•	•
RMON	•	•	•	•	•	•
SPAN	•	•	•	•	•	•
RSPAN	•	•	•	•	•	•
ERSPAN	•					
Mini Protocol Analyzer	•					
L2-Traceroute	•	•	•	•	•	•
SSH v2	•	•	•	•	•	•
AutoQoS	•	•	•	•	•	•
E-911 MIB Support	•	•	•	•	•	•
Out of Band Management (Serial)—RJ-45	•	•	•	•	•	•
Out of Band Management (Serial)—USB	•	•				
USB Drive Support		•*		•		
Remote Power Cycle and Shutdown	•	•				
Compact Flash	•	•	•			
Configuration Rollback	•	•	•	•	•	•
Call Home	•	•	•			
Digital Optical Monitoring	•	•	•			
NetFlow						
Integrated H/W-based NetFlow	•	•				
NetFlow Top Talkers	•	•				
Sampled NetFlow	•					
NetFlow v9	•	•				
Multicast NetFlow	•					
Per Interface NetFlow Data Export	•	•				
Bridged IP Flows	•	•				
NetFlow v5	•	•				
NetFlow v8	•	•				
Microflow Policing	•	•				

*6000W AC power supply allows to remotely shut down the switch.

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
NetFlow (continued)						
Flexible NetFlow		128K Entries				
Flexible NetFlow for L2 Ports		•				
Flexible NetFlow with Embedded Event Manager Integration		•				
Flexible NetFlow with TCP Flags as Non-key Fields		•				
Flexible NetFlow for IPv4		•				
Flexible NetFlow for IPv6		•				
Software Modularity						
Subsystem in Service Software Upgrade (ISSU)	•					
Fault Containment	•					
Memory Protection	•					
Process Restartability	•					
Application, Security, and Management Modules						
Virtualized Firewall Module	•					
Intrusion Detection and Prevention Module	•					
VPN: IPsec, SSL Module	•					
Anomaly Detection and Guard Module	•					
Network Analysis Module	•					
Communication Media Module	•					
Wireless LAN Service Module	•					
Content Switching and SSL Module	•					
Application-oriented Network Module	•					
IPT Solution						
802.1at 30W PoE+		•		•		
802.3af—15W on 48 Ports in a Modular/ Fixed Switch	•	•		•		•
802.3af—7W on 48 Ports in a Modular/ Fixed Switch	•	•		•	•	•
802.3af—15W on 24 Ports in a Modular/ Fixed Switch	•	•		•	•	•
802.3af Modular PoE Daughter Card	•					
Subsystem In Service Software Upgrade (ISSU)	•					

Cisco Catalyst Family Feature Comparison (continued)

Modular Switches			Fixed-Configuration Switches			
Model/Series	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-X	Catalyst 3750-E	Catalyst 3750
IPT Solution (continued)						
Fast Link Failure Detection (Bidirectional Forwarding Detection)	·					
Redundant Supervisors with Stateful Switchover	·	·				
Redundant Power Supply	·	·	·	·	·	·
Redundant Power Circuit	·	·	·			
Communication Media Module	·					
AutoQoS	·	·	·	·	·	·
Cisco Discovery Protocol (CDP)	·	·	·	·	·	·
Link Layer Discovery Protocol (LLDP)	·	·		·	·	·
Encapsulated RSPAN	·					
IP Service Level Agreement	·	·	·	·	·	·
VoIP Quality Monitoring with Network Analysis Module	·					
System Scalability						
Switching Fabric (Gbps)	32–720	136-848	96–320	64	64	32
Packets per Second (Mpps)	15–400	48–250	72–250	6.5–39	6.5–39	6.5–39
Modular Memory Upgrade	·	·				

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches						
Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
LAN Switching Features						
Connectivity and Filtering						
FlexStack Stacking					•	
10 Gig SFP+ Support					•	
EtherChannel®/802.3ad	•	•	•	•	•	•
Jumbo Frames—GbE on Copper	•	•	L2 Only	L2 Only	L2 Only	
Jumbo Frames—GbE on Fiber	•	•	L2 Only	L2 Only	L2 Only	
Broadcast Suppression	•	•	•	•	•	•
Multicast Suppression	•	•	•	•	•	
Unicast Flood Suppression						
Flexible Packet Matching						
Layer 2						
ISL/802.1Q	•	•	•	802.1Q Only	802.1Q Only	802.1Q Only
Private VLAN Edge	•	•	•	•	•	
Private VLAN	•	•	•			
Voice VLAN	•	•	•	•	•	•
VLAN Trunking Protocol (VTP)	•	•	•	•	•	Transparent Mode Only
GVRP						
GARP						
URT/VMPS	•	•	•	•	•	
VTP v3	•	•	•	•	•	
VTP Bomb Protection						
VMPS Server						
Number of Active VLANs	1005	1005	1005	255	255	32
Number of VLAN IDs	4096	4096	4096	4096	4096	1005
Layer 3						
H/W-based MPLS/EoMPLS						
EIGRP	IP Services	IP Services	IP Services			
EIGRP Stub	IP Base	IP Base	IP Base			
VPLS/H-VPLS						
MPLS L3 VPNs						
MPLS Traffic Engineering (TE)						
OSPF	IP Services	IP Services	IP Services			

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches						
Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
LAN Switching Features (continued)						
Layer 3 (continued)						
BGP	IP Services	IP Services	IP Services			
Equal Cost Load Balancing	·	·	·			
RIP, RIPv2	·	·	·			
Static Routes	·	·	·	· (Summer 10)	· (Summer 10)	
IS-IS						
H/W-based IPv6 Routing	·	·	·			
H/W-based Policy Routing IPv4	·	·	·			
H/W-based Policy Routing IPv6	·	·	·			
Multiprotocol Routing (IPX, AppleTalk)						
Cisco Express Forwarding (CEF)	·	·	·			
H/W FIB Entries	Up to 11,000	Up to 11,000	Up to 11,000			
VRF Lite	IP Services	IP Services	IP Services			
Integrated Security						
Access Control Lists						
Reflexive ACL						
Port ACL	·	·	·	·	·	
Time-based ACL	·	·	·	·	·	
Router ACL	·	·	·			
VLAN ACL	·	·	·			
VACL with Redirect/Capture/Logging of Denied Traffic	Capture and Logging	Capture and Logging	Capture and Logging			
Context-based Access Control						
H/W-based Access Control Entry (ACE) Counters						
Order-dependent ACL Merge						
Dedicated Hardware Resources for Security ACLs						
ACL Scalability (ACE Entries)	2000	2000	2000	512	512	
Attack Mitigation						
Flexible Packet Matching						
Control Plane Policing (Multiple CPU Rate Limiters)						
IP Source Guard	·	·	·	·	·	

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches							
Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
Integrated Security (continued)						
Attack Mitigation (continued)						
DHCP Snooping/Option 82	·	·	·	·	·	
Dynamic ARP Inspection	·	·	·	·	·	
MAC Address Notification	·	·	·	·	·	·
Port Security	·	·	·	·	·	·
H/W-based uRFP Check	·	·				
H/W-based MAC Learning						
H/W-assisted MAC Aging	·	·				
PIM Accept Register—Rogue Multicast Server Protection	·	·				
Routing Protocol Pass Through						
ARP Policing						
H/W-based Directed Broadcast						
Trust and Identity Management						
802.1x Identity-based Networking Port Authentication	·	·	·	·	·	·
802.1x with VLAN assignment	·	·	·	·	·	
802.1x with Guest VLAN	·	·	·	·	·	
802.1x with Aux. VLAN Support	·	·	·	·	·	
802.1x Port Description						
TACACS+/RADIUS	·	·	·	·	·	RADIUS Only
Web Authentication Proxy	·	·	·	·	·	
MAC Authentication	·	·	·	·	·	
Unidirectional Control Port						
Inaccessible Authentication	·	·	·	·	·	
Secure Connectivity						
Media Access Control Security (MACsec)	·					
H/W-based NAT/PAT						
MD5 Route Authentication	·	·	·			
Multilevel Account Privilege	·	·	·			

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches

Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
Availability and Resiliency						
Switch Redundancy						
IOS Software Modularity						
Non-stop Forwarding/Stateful Switchover (NSF/SSO)						
NSF-aware	·	·	·			
Redundant Power Supplies	External Only	External Only	External Only	External Only	External Only	External
Redundant Fans						
Redundant Fan Trays						
Redundant Supervisors						
Generic Online Diagnostics (GOLD)	·	·	·		·	
Basic Support for GOLD Services	·	·	·		·	
Power Supply Failure Redundancy	·	·	·	·	·	24, PC Only
Power Circuit Failure Redundancy						
StackWise Plus						
StackPower						
Network Protocols						
Unidirectional Link Detection (UDLD)	·	·	·	·	·	·
Gateway Load Balancing Protocol (GLBP)						
Hot Standby Routing Protocol (HSRP)	·	·	·			
Virtual Router Redundancy Protocol (VRRP)						
UplinkFast	·	·	·	·	·	·
Backbone Fast	·	·	·	·	·	·
RSTP (802.1w)	·	·	·	·	·	·
PortFast	·	·	·	·	·	·
Per VLAN STP (PVSTP)	·	·	·	·	·	·
Per VLAN RSTP (PVRSTP)	·	·	·	·	·	·
Multiple Instance STP (MISTP)	·	·	·	·	·	·
MSTP (802.1s)	·	·	·	·	·	
STP Root Guard	·	·	·	·	·	·
BDPU Guard	·	·	·	·	·	·
Loop Guard	·	·	·	·	·	·
IP Event Dampening						
Bidirectional Forwarding Detection						

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches						
Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
Availability and Resiliency (continued)						
Network Protocols (continued)						
Digital Optical Monitoring						
Flex Link	·	·	·	·	·	
Link State Tracking	·	·	·	·	·	
Delivery Optimization						
Stateful Application Intelligence						
Network-based Application Recognition						
Quality of Service						
Number of Queues per Port	4	Up to 8	Up to 8	4	4	4
Congestion Avoidance	WTD	WTD	WTD	WTD	WTD	WTD
L2–L3 Rewrite/Mapping	·	·	·	·	·	
Ingress Queuing	·	·	·	·	·	
Ingress Strict Priority	·	·	·	·	·	
Egress Queuing	·	·	·	·	·	·
Egress Strict Priority	·	·	·	·	·	·
Traffic Classification	·	·	·	·	·	·
IP Service Level Agreement	·	·	·	Responder	Responder	
Policers						
H/W-based Policing						
Per-port Policers	·	·	·	·	·	
Per-VLAN Policers	·	·	·			
H/W-based Aggregate Policers	·	·	·			
Hierarchical Policers						
User-based (Source IP) Rate Limiting						
Shaped Round Robin	·	·	·	·	·	
Multicast						
H/W-based IPv6 Multicast	No PIM	No PIM	No PIM			
H/W-based IPv4 Multicast	·	·	·	·	·	·
H/W-based Bidirectional PIM						
Multicast Routing Manager						
Source Specific Multicast (SSM)	·	·	·			
Multicast NSF/SSO						

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches

Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
Delivery Optimization (continued)						
Multicast (continued)						
PIM Sparse	·	·	·			
PIM Dense	·	·	·			
PIM Sparse/Dense	·	·	·			
PIM Snooping						
PIM Accept Register—Rogue Multicast Server Protection	·	·	·			
IGMP v1/v2	·	·	·	·	·	·
IGMP v3	·	·	·	·	·	·
CGMP	·	·	·			
RGMP						
DVMRP Interoperability	·	·	·			
Number of Multicast Routes	1000	1000	1000			
IGMP Snooping	·	·	·	·	·	·
IGMP Querier	·	·	·	·	·	
SSM Mapping						
H/W-based Multicast Tunneling						
mVRF Lite						
Multicast VPN (mVPN)						
Tunneling Protocols						
H/W-based GRE						
H/W-based Multipoint GRE						
H/W-based IPv4 in IPv6						
H/W-based IP in IP						
Enhanced Manageability						
Link Layer Discovery Protocol (LLDP)	·	·	·	·	·	
Time Domain Reflectometry (TDR)	·	·	·	·	·	·
Time Domain Reflectometry (TDR) Interface 10/100/1000	·	·	·	·	·	·
Cisco Network Assistant (CNA)	·	·	·	·	·	·
Auto Smartports	·	·	·	·	·	
Smart Install	·	·	·	·	·	
Smartports	·	·	·	·	·	·

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches

Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
Enhanced Manageability (continued)						
NetFlow						
NetFlow Data Export						
Syslog	·	·	·	·	·	
Switch TopN						
SNMP	·	·	·	·	·	·
RMON	·	·	·	·	·	·
SPAN	·	·	·	·	·	·
RSPAN	·	·	·	·	·	
ERSPAN						
L2-Traceroute	·	·	·	·	·	
SSH v2	·	·	·	·	·	
AutoQoS	·	·	·	·	·	
E-911 MIB Support	·	·	·	·	·	·
Out of Band Management (Serial)—RJ-45	·	·	·	·	·	
Out of Band Management (Serial)—USB					·	
USB Drive Support					·	
Remote Power Cycle and Shutdown						
Compact Flash						
Configuration Rollback	·	·	·	·	·	
Call Home						
Digital Optical Monitoring						
NetFlow						
Integrated H/W-based NetFlow						
NetFlow Top Talkers						
Sampled NetFlow						
NetFlow v9						
Multicast NetFlow						
Per Interface NetFlow Data Export						
Bridged IP Flows						
NetFlow v5						
NetFlow v8						
Microflow Policing						

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches

Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
Software Modularity						
Subsystem In Service Software Upgrade (ISSU)						
Fault Containment						
Memory Protection						
Process Restartability						
Application, Security, and Management Modules						
Virtualized Firewall Module						
Intrusion Detection and Prevention Module						
VPN: IPsec, SSL Module						
Anomaly Detection and Guard Module						
Network Analysis Module						
Communication Media Module						
Wireless LAN Service Module						
Content Switching and SSL Module						
Application-oriented Network Module						
IPT Solution						
802.1at 30W PoE+					·	
802.3af—15W on 48 Ports in a Modular/ Fixed Switch	·					
802.3af—7W on 48 Ports in a Modular/ Fixed Switch	·	·	·			
802.3af—15W on 24 Ports in a Modular/ Fixed Switch	·	·	·			·
802.3af Modular PoE Daughter Card						
Subsystem In Service Software Upgrade (ISSU)						
Fast Link Failure Detection (Bidirectional Forwarding Detection)						
Redundant Supervisors with Stateful Switchover						
Redundant Power Supply	·	·	·	· (with RPS)	· (with RPS)	
Redundant Power Circuit						
Communication Media Module						
AutoQoS	·	·	·	·		
Cisco Discovery Protocol (CDP)	·	·	·	·		·

Cisco Catalyst Family Feature Comparison (continued)

Fixed-Configuration Switches						
Model/Series	Catalyst 3650-X	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2960-S	Catalyst Express
IPT Solution (continued)						
Link Layer Discovery Protocol (LLDP)	·	·	·		3.6	8.8–24
Encapsulated RSPAN					2.7	6.5–17.9
IP Service Level Agreement	·	·				
VoIP Quality Monitoring with Network Analysis Module						
System Scalability						
Switching Fabric (Gbps)	32	64	32–720	64–320	88–176	8.8–24
Packets per Second (Mpps)	6.5–39	6.5–39	15–400	48–250	42–101	6.5–17.9
Modular Memory Upgrade			·	·		

For more product information on Cisco Catalyst Switches, go to: http://www.cisco.com/en/us/products/hw/switches/index.html

Cisco Catalyst Switching Transition Guide

Intelligent Switching for the Evolving Network

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 6500 Series Switches	
Chassis	
WS-C6503	WS-C6503-E
	WS-C6504-E
WS-C6506	WS-C6506-E
WS-C6509-NEB	WS-C6509-V-E
WS-C6509-NEB-FAN	WS-C6509-V-E-FAN
WS-6509-NEB-UPGRD=	WS-C6509-V-E
WS-C6006	WS-C6506-E
WS-C6006-1000AC=	WS-C6506-E + WS-CAC-3000W
WS-C6006-1300AC=	WS-C6506-E + WS-CAC-3000W
WS-C6009	WS-C6509-E
WS-C6009-1300AC=	WS-C6509-E + WS-CAC-3000W
WS-C6009-2500AC=	WS-C6509-E + WS-CAC-3000W
Power Supplies	
WS-CAC-4000W-US	WS-CAC-6000W
WS-CAC-4000W-INT	WS-CAC-6000W
WS-CAC-2500W	WS-CAC-3000W
	WS-CAC-6000W
	WS-CAC-8700W-E
WS-CAC-1300W	WS-CAC-2500W
	WS-CAC-3000W
	WS-CAC-6000W
	WS-CAC-8700W-E
WS-CAC-1000W	WS-CAC-3000W
PWR-950-AC	PWR-1400-AC
	PWR-1400-AC (for WS-C6503-E)
	PWR-2700-AC/4 (for WS-C6504-E)
PEM-15A-AC	PEM-20A-AC+
	PEM-20A-AC+ (for 1400W Power Supply)

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 6500 Series Switches (continued)	
Fan Trays	
FAN-MOD-3	WS-C6503-E-FAN (for WS-C6503-E Chassis)
	WS-C6503-E-FAN (for WS-C6503-E Chassis)
	FAN-MOD-4HS (for WS-C6504-E Chassis)
FAN-MOD-3HS	WS-C6503-E-FAN (for WS-C6503-E Chassis)
	FAN-MOD-4HS (for WS-C6504-E Chassis)
WS-C6K-6SLOT-FAN	WS-C6506-E-FAN (for WS-C6506-E Chassis)
WS-C6K-9SLOT-FAN	WS-C6509-E-FAN (for WS-C6509-E Chassis)
WS-C6K-13SLOT-FAN	WS-C6K-13SLT-FAN2
WS-C6K-6SLOT-FAN2	WS-C6506-E-FAN (for WS-C6506-E Chassis)
WS-C6K-9SLOT-FAN2	WS-C6509-E-FAN (for WS-C6509-E Chassis)
Service Modules	
WS-SVC-WLAN-1-K9	WS-SVC-WISM-1-K9
WS-X6502-FULL-CVR	No Replacement
Optical Modules	
WS-G6488	No Replacement
WS-G6483	No Replacement
Supervisors	
WS-F6K-GE48-AF=	WS-F6K-48-AF=
WS-F6K-VPWR-GE=	WS-F6K-48-AF=
	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6148X2-45AF	WS-X6196-21AF
WS-X6148X2-RJ-45	WS-X6196-RJ-21
WS-X6516-GE-TX	WS-X6748-GE-TX

Cisco Catalyst Switching Transition Guide (continued)

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 6500 Series Switches (continued)	
Supervisors (continued)	
WS-X6K-S2U-MSFC2	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
	VS-S720-10G-3C
	VS-S720-10G-3CXL
WS-X6K-S2-MSFC2	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
	VS-S720-10G-3C
	VS-S720-10G-3CXL
WS-X6K-S2-PFC2	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
	VS-S720-10G-3C
	VS-S720-10G-3CXL
WS-X6K-S1A-MSFC2	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-X6K-SUP1A-MSFC	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-X6K-SUP1A-PFC	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-X6K-SUP1A-2GE	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-X6K-SUP1-2GE	VS-S720-10G-3CXL
	VS-S720-10G-3C
Line Cards and Daughter Cards	
WS-F6K-GE48-AF=	WS-F6K-48-AF=
WS-F6K-VPWR-GE=	WS-F6K-48-AF=
WS-F6K-VPWR=	WS-X6148-21AF
	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6148X2-45AF	WS-X6196-21AF
WS-X6148X2-RJ-45	WS-X6196-RJ-21
WS-X6516-GE-TX	WS-X6748-GE-TX

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 6500 Series Switches (continued)	
Line Cards and Daughter Cards (continued)	
WS-X6548-RJ-21	WS-X6148-RJ-21
WS-X6548-RJ-45	WS-X6748-GE-TX
WS-X6548V-GE-TX	WS-X6548-GE-45AF
WS-X6816-GBIC	WS-X6724-SFP
	WS-X6748-SFP
WS-X6248A-TEL	WS-X6148-21AF
WS-X6316-GE-TX	WS-X6748-GE-TX
	WS-X6548-GE-TX
	WS-X6148-GE-TX
	WS-X6516-GE-TX
WS-X6348-RJ21V	WS-X6148-21AF
	WS-X6196-21AF
WS-X6348-RJ-45	WS-X6148A-RJ-45
	WS-X6148A-GE-TX
	WS-X6548-GE-TX
WS-X6348-RJ45V	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6148-RJ45V	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6416-GBIC	WS-X6516A-GBIC
	WS-X6724-SFP (Requires Catalyst 6500 Series Supervisor Engine 720)
WS-X6148-RJ-45	WS-X6148A-RJ-45
	WS-X6148A-GE-TX
WS-X6148-45AF	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6148-GE-TX	WS-X6148A-GE-TX
WS-X6148V-GE-TX	WS-X6148A-GE-45AF
WS-X6148-GE-45AF	WS-X6148A-GE-45AF
WS-X6516-GBIC	WS-X6516A-GBIC
WS-X6148A-RJ-45	WS-X6148A-GE-TX
WS-X6148A-45AF	WS-X6148A-GE-45AF
WS-X6548-RJ-45	WS-X6148A-GE-45AF

Cisco Catalyst Switching Transition Guide (continued)

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 6500 Series Switches (continued)	
Line Cards and Daughter Cards (continued)	
WS-C6500-SFM	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-X6500-SFM2	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-F6K-MSFC2=	VS-S720-10G-3CXL
	VS-S720-10G-3C
WS-X6502-10GE	WS-X6704-10GE
Modular Switches: Cisco Catalyst 4500 Series Switches	
Chassis	
WS-C4003	WS-C4503-E
WS-C4006	WS-C4506-E
	WS-X4507R+E
	WS-C4510R+E
Supervisors	
WS-X4012 (SUP I)	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X45-SUP7-E
	WS-X4516-10GE
WS-X4013 (SUP II)	WS-X45-SUP6L-E (SUP6L-E)
WS-X4013+	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+/2	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+10GE	WS-X45-SUP6L-E
WS-X4013+10GE/2	WS-X45-SUP6L-E
WS-X4013+10GE=	WS-X45-SUP6L-E
WS-X4013+=	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+TS	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 4500 Series Switches (continued)	
Supervisors (continued)	
WS-X4013+TS=	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4014 (SUP III)	WS-X4516-10GE (SUP V-10GE)
	WS-X45-SUP6-E (SUP6-E)
	WS-X45-SUP6L-E
	WS-X45-SUP7-E
WS-X4032-L3	WS-X4516-10GE (SUP V-10GE)
	WS-X45-SUP6-E (SUP6-E)
	WS-X45-SUP6L-E
	WS-X45-SUP7-E
WS-X4515	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4515/2	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4515=	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4516	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4516/2	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4516=	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E

Cisco Catalyst Switching Transition Guide (continued)

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 4500 Series Switches (continued)	
Line Cards and Daughter Cards	
WS-U4504-FX-MT	WS-X4232-GB-RJ
WS-U4504-FX-MT=	WS-X4232-GB-RJ=
WS-X4124-FX-MT	WS-X4148-FX-MT
WS-X4124-FX-MT=	WS-X4148-FX-MT=
WS-X4124-RJ45	WS-X4148-RJ
WS-X4124-RJ45=	WS-X4148-RJ=
WS-X4148-RJ21	WS-X4148-RJ
WS-X4148-RJ21=	WS-X4148-RJ=
WS-X4224-RJ45V	WS-X4248-RJ45V
WS-X4224-RJ45V=	WS-X4248-RJ45V=
WS-X4232-GB-RJ	WS-X4148-RJ
WS-X4232-GB-RJ=	WS-X4148-RJ=
WS-X4232-RJ-XX	WS-X4232-GB-RJ
	WS-X4648-RJ45V-E
	WS-X4648-RJ45V+E
	WS-X4606-X2-E
WS-X4232-RJ-XX=	WS-X4232-GB-RJ=
	WS-X4648-RJ45V-E
	WS-X4648-RJ45V+E
	WS-X4606-X2-E
WS-X4248-RJ21V	WS-X4248-RJ45V
WS-X4248-RJ21V=	WS-X4248-RJ45V=
WS-X4302-GB	WS-X4306-GB
WS-X4302-GB=	WS-X4306-GB=
WS-X4424-GB-RJ45	WS-X4548-GB-RJ45
	WS-X4648-GB-RJ45
WS-X4424-GB-RJ45=	WS-X4548-GB-RJ45=
	WS-X4648-GB-RJ45
WS-X4524-GB-RJ45V	WS-X4548-RJ45V+
	WS-X4648-RJ45V+E
	WS-X4748-RJ45V+E
WS-X4524-GB-RJ45V=	WS-X4548-RJ45V+=
	WS-X4648-RJ45V+E=
	WS-X4748-RJ45V+E

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 4500 Non-E-Series Switches	
Chassis	
C4K-SLOT-CVR	There is currently no replacement product available for this product
C4K-SLOT-CVR=	There is currently no replacement product available for this product
C4K-UPLINK-CVR	There is currently no replacement product available for this product
C4K-UPLINK-CVR=	There is currently no replacement product available for this product
WS-C4503	WS-C4503-E
WS-C4503-E-S2+48	WS-C4503E-S6L-48V+
WS-C4503-E-S2+48V	WS-C4503E-S6L-48V+
WS-C4503-S2+48	WS-C4503E-S6L-48V+
WS-C4506	WS-C4506-E
WS-C4506-S2+96	WS-C4506E-S6L-96V+
WS-C4506-S4-AP25	There is currently no replacement product available for this product
WS-C4506-S4-AP50	There is currently no replacement product available for this product
WS-C4506E-GE-96V	WS-C4506E-S6L-96V+
WS-C4507R	WS-C4507R+E
WS-C4507R-E-S2+96	There is currently no replacement product available for this product
WS-C4507R-E-S2+96V	WS-C4507RES6L-96V
WS-C4510R	WS-C4510R+E
WS-X4503-23CNTR=	There is currently no replacement product available for this product
WS-X4506-23CNTR=	There is currently no replacement product available for this product
WS-X4507-23CNTR=	There is currently no replacement product available for this product
WS-X4510-23CNTR=	There is currently no replacement product available for this product
WS-X4581=	There is currently no replacement product available for this product
WS-X4582=	There is currently no replacement product available for this product
WS-X4583=	There is currently no replacement product available for this product
WS-X4584=	There is currently no replacement product available for this product
WS-X4585=	There is currently no replacement product available for this product
WS-X4586=	There is currently no replacement product available for this product
WS-X4587=	There is currently no replacement product available for this product
WS-X4588=	There is currently no replacement product available for this product
WS-X4590=	There is currently no replacement product available for this product

Cisco Catalyst Switching Transition Guide (continued)

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 4500 Non-E-Series Switches (continued)	
Chassis (continued)	
WS-X4593=	There is currently no replacement product available for this product
WS-X4596=	There is currently no replacement product available for this product
WS-X4597=	There is currently no replacement product available for this product
WS-X4598=	There is currently no replacement product available for this product
Supervisors	
WS-X4013+	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+/2	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+10GE	WS-X45-SUP6L-E
WS-X4013+10GE/2	WS-X45-SUP6L-E
WS-X4013+10GE=	WS-X45-SUP6L-E
WS-X4013+=	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+TS	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4013+TS=	WS-C4503E-S6L-48V+
	WS-X45-SUP6L-E
WS-X4515	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4515/2	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4515=	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4516	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E

Current Product	Recommended Product
Modular Switches: Cisco Catalyst 4500 Non-E-Series Switches (continued)	
Supervisors (continued)	
WS-X4516/2	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
WS-X4516=	WS-X45-SUP6-E
	WS-X45-SUP6L-E
	WS-X4516-10GE
	WS-X45-SUP7-E
Line Cards and Daughter Cards	
WS-X4148-RJ21	WS-X4148-RJ
WS-X4148-RJ21=	WS-X4148-RJ=
WS-X4224-RJ45V	WS-X4248-RJ45V
WS-X4224-RJ45V=	WS-X4248-RJ45V=
WS-X4232-GB-RJ	WS-X4148-RJ
WS-X4232-GB-RJ=	WS-X4148-RJ=
WS-X4248-RJ21V	WS-X4248-RJ45V
WS-X4248-RJ21V=	WS-X4248-RJ45V=
WS-X4302-GB	WS-X4306-GB
WS-X4302-GB=	WS-X4306-GB=
WS-X4424-GB-RJ45	WS-X4548-GB-RJ45
	WS-X4648-GB-RJ45
WS-X4424-GB-RJ45=	WS-X4548-GB-RJ45=
	WS-X4648-GB-RJ45
WS-X4524-GB-RJ45V	WS-X4548-RJ45V+
	WS-X4648-RJ45V+E
	WS-X47W8-RJ45V+E
WS-X4524-GB-RJ45V=	WS-X4548-RJ45V+=
	WS-X4648-RJ45V+E=
	WS-X47W8-RJ45V+E

Cisco Catalyst Switching Transition Guide (continued)

Current Product	Recommended Product
Fixed-Configuration Switches: Cisco Catalyst 3750, 3500, 3500XL, and 2950 Series Switches	
WS-C3750G-24TS-S	WS-C3750G-24-TS-S1U
	WS-C3750E-24TD-S
	WS-C3750X-24T-S
WS-C3750G-24TS-E	WS-C3750G-24-TS-E1U
	WS-C3750E-24TD-E
	WS-C3750X-24T-S with IP Services Upgrade
WS-C3750G-16TD-E	WS-C3750E-24TD-E
	WS-C3750X-24T-S with 10G Uplink and IP Services Upgrade
WS-C3750G-16TD-S	WS-C3750E-24TD-S
	WS-C3750X-24T-S with 10G Uplink
WS-C3550-12G	WS-C3750G-12S-S
	WS-C3750G-12S-E
WS-C3550-12T	WS-C3560G-24TS-S
	WS-C3560G-24TS-E
	WS-C3560E-24TD-S
	WS-C3560E-24TD-E
	WS-C3750G-24T-S
	WS-C3750G-24T-E
	WS-C3750G-24TS-S1U
	WS-C3750G-24TS-E1U
	WS-C3750E-24TD-S
	WS-C3750E-24TD-E
	WS-C3750X-24T-S
WS-C3550-24-SMI	WS-C3560V2-24TS-S
	WS-C37502-24TS-S
	WS-C3560E-24TD-S
	WS-C3750E-24TD-S
	WS-C3750X-24T-S

Current Product	Recommended Product
Fixed-Configuration Switches: Cisco Catalyst 3750, 3500, 3500XL, and 2950 Series Switches (continued)	
WS-C3550-24-EMI	WS-C3560V2-24TS-E
	WS-C3750V2-24TS-E
	WS-C3560E-24TD-E
	WS-C3750E-24TD-E
	WS-C3750X-24T-S with IP Services Upgrade
WS-C3550-24-FX-SMI	WS-C3750-24FS-S
WS-C3550-48-SMI	WS-C3560V2-48TS-S
	WS-C3750V2-48TS-S
	WS-C3560E-48TD-S
	WS-C3750E-48TD-S
	WS-C3750X-24T-S with GE Uplinks
WS-C3550-48-EMI	WS-C3560V2-48TS-E
	WS-C3750V2-48TS-E
	WS-C3560E-48TD-E
	WS-C3750E-48TD-E
	WS-C3750X-48T-S with GE Uplinks and IP Services Upgrade
WS-C3550-24PWR-SMI	WS-C3560V2-24PS-S
	WS-C3560V2-48PS-S
	WS-C3750V2-24PS-S
	WS-C3750V2-48PS-S
	WS-C3560E-24PD-S
	WS-C3560E-48PD-S
	WS-C3750E-24PD-S
	WS-C3750E-48PD-S
	WS-C3750X-24P-S with GE Uplinks

Cisco Catalyst Switching Transition Guide (continued)

Current Product	Recommended Product
Fixed-Configuration Switches: Cisco Catalyst 3750, 3500, 3500XL, and 2950 Series Switches (continued)	
WS-C3550-24PWR-EMI	WS-C3560V2-24PS-E
	WS-C3560V2-48PS-E
	WS-C3750V2-24PS-E
	WS-C3750V2-48PS-E
	WS-C3560E-24PD-E
	WS-C3560E-48PD-E
	WS-C3750E-24PD-E
	WS-C3750E-48PD-E
	WS-C3750X-24P-S with GE Uplinks and IP Services Upgrade
WS-3500XL-48	WS-C3750V2-48TS-S
WS-C3524-XL-EN	WS-C3560V2-24PS-S
	WS-C3750G-24T-E
	WS-C3750G-24TS-E
	WS-C3560E-24PD-S
	WS-C3750E-24TD-E
	WS-C3750X-24T-S with GE Uplinks
WS-C3548-XL-EN	WS-C3750V2-48PS-S
	WS-C3750E-48PD-S
	WS-C3750X-48T-S with GE Uplinks
	WS-C3750X-48P-S with GE Uplinks
WS-C2950G-48-EI	WS-C3560V2-48PS-S
	WS-C3560V2-48TS-S
	WS-C2960-48TC-L
WS-C2950G-24-EI	WS-C3560V2-24PS-S
	WS-C3560V2-24TS-S
	WS-C2960-24TC-L
WS-C2950G-12-EI	WS-C3560V2-24PS-S
	WS-C3560V2-24TS-S
	WS-C2960-24TC-L
WS-C2950T-24	WS-C2960-24TT-L
WS-C2950T-48-SI	WS-C2960-48TT-L

Current Product	Recommended Product
Fixed-Configuration Switches: Cisco Catalyst 3750, 3500, 3500XL, and 2950 Series Switches (continued)	
WS-C2950-12	WS-C2960-24TT-L
	WS-C2960-24-S
WS-C2950-24	WS-C2960-24TT-L
	WS-C2960-24-S
WS-C2950C-24	WS-C2960-24TC-L
	WS-C2960-24TC-S
WS-C2950SX-24	WS-C2960-24TC-L
	WS-C2960-24TC-S
WS-C2950SX-48-SI	WS-C2960-48TC-L
	WS-C2960-48TC-S
Based on EOL6608	
WS-C2940-8TF-S	WS-C2960-8TC-S
WS-C2940-8TT-S	WS-C2960-8TC-S
Based on EOL6926	
WS-C2950G-24-EI-DC	WS-C3560V2-24TS-SD
WS-C3550-24-DC-SMI	WS-C3560V2-24TS-SD
WS-C3560-24PS-E	WS-C3560V2-24PS-E
WS-C3560-24PS-S	WS-C3560V2-24PS-S
WS-C3560-24TS-E	WS-C3560V2-24TS-E
WS-C3560-24TS-S	WS-C3560V2-24TS-S
WS-C3560-48PS-E	WS-C3560V2-48PS-E
WS-C3560-48PS-S	WS-C3560V2-48PS-S
WS-C3560-48TS-E	WS-C3560V2-48TS-E
WS-C3560-48TS-S	WS-C3560V2-48TS-S
WS-C3750-24PS-E	WS-C3750V2-24PS-E
WS-C3750-24PS-S	WS-C3750V2-24PS-S
WS-C3750-24TS-E	WS-C3750V2-24TS-E
WS-C3750-24TS-S	WS-C3750V2-24TS-S
WS-C3750-48PS-E	WS-C3750V2-48PS-E
WS-C3750-48PS-S	WS-C3750V2-48PS-S
WS-C3750-48TS-E	WS-C3750V2-48TS-E
WS-C3750-48TS-S	WS-C3750V2-48TS-S

Notes

Cisco Catalyst Modular Switches

The Cisco Catalyst 6500 and Catalyst 4500 Series modular switches provide customers with an intelligent platform for deploying numerous, concurrent intelligent services without degrading the overall performance of the switch. With a broad selection of line cards and power supplies, and their highly versatile architecture, modular switches deliver the highest levels of port density and flexibility, including Power over Ethernet (PoE) and Enhanced Power over Ethernet (ePoE) scalability to deploy new converged applications and extend investment protection well into the future. The modular architecture also provides scalable performance via a selection of supervisors that can be upgraded to enhance the performance and service features of the entire switch as needed.

To minimize costly user downtime, modular switches are optimized for high availability. Critical redundant hardware and software features deliver the highest resiliency for all places in the network. Another key advantage is the ease of use of modular switches. Modular switches have a single IOS image to manage, no matter how many line cards are inserted. This allows for simpler IOS configurations, updating, and management leading to a reduction in overall cost of ongoing operations.

Notes

Cisco Catalyst 6500 Series

The flagship Catalyst switching platform offers the highest levels of application intelligence, unified network services, integrated security, non-stop communications, operational manageability, and virtualization for enterprises, medium-sized businesses, and service providers.

The Cisco Catalyst 6500 Series continues to be the industry's most innovative switching platform, delivering the highest levels of service. The feature-richness, density and scalability of this product line sets the standard for converged data, voice, and video networks. In addition, its flexibility enables deployments in wiring closet, campus distribution, core, data center, Internet access and WAN service aggregation, environments, and enables maximum operational efficiency and investment protection through hardware and software consistency.

The Cisco Catalyst 6500 Series offers integrated service modules that provide high-speed advanced services such as integrated wireless, firewalling, intrusion detection, application control, SSL termination, and network analysis services. With a choice of 3-, 4-, 6-, 9-, and 13-slot chassis, the Cisco Catalyst 6500 Series scales to support the highest port densities for Power over Ethernet (PoE) and Enhanced Power over Ethernet (ePoE), 10/100 Fast Ethernet, 10/100/1000 Gigabit Ethernet,

10 Gigabit Ethernet (10 GbE) 10GBase-T and DS0 to OC-192 WAN interfaces. The Cisco Catalyst 6500 Series switch also offers the investment protection of backwards compatibility, enabling new services and functions on older line cards by simply upgrading a supervisor to the latest generation.

Hardware Features

	WS-C6503-E	WS-C6504-E	WS-C6506-E	WS-C6509-E	WS-C6509-V-E	WS-C6513-E
Slots	3	4	6	9	9	13
Gigabit Ethernet GBIC/SFP Density	32/98	48/144	80/242	128/386	128/384	240/528
Two Chassis configured as a Virtual Switching System (SFP Only)	196	288	484	772	768	1056*
10 GbE XENPAK/X2 Port Density	11170	17136	20/82	32/130	32/130	48/84
Two Chassis configured as a Virtual Switching System	68	100	164	260	260	164
10/100/1000 Density	97	145	241	385	385	577
Two Chassis configured as a Virtual Switching System	194	290	482	770	770	482
10/100 Density	192	288	480	768	768	1152
100BASE-FX Density	96	144	240	384	384	576
10 Gigabit Ethernet RJ-45 port density	32	48	80	128	128	80
Maximum Watt Power Consumption (Redundant Mode)						
AC Internal (Redundant Mode)	1400	2700	8700	8700	8700	6000
DC Internal (Redundant Mode)	950	2700	4000	4000	4000	4000
Maximum Number of Class 3 Devices (15.4W) Maximum Power Supplies						
AC Internal (Redundant Mode)	48	110	284	288	215	281
DC Internal (Redundant Mode)	31	110	173	184	206	176
Dimension (H x W x D) Inches	7 x 17.37 x 21.75	8.75 x 17.5 x 21.75	19.2 x 17.5 x 18.2	24.5 x 17.5 x 18.2	33.3 x 17.2 x 18.1	33.3 x 17.3 x 18.1
Dimension (H x W x D) Centimeters	17.8 x 44.1 x 55.2	22.2 x 44.5 x 55.2	48.8 x 44.5 x 46.0	62.2 x 44.5 x 46.0	84.6 x 43.7 x 46.0	84.6 x 43.7 x 46.0
Rack Unit (RU)	4	5	12	15	21	20
Unit Weight Pounds (Kilograms) (Chassis Only)	33 (15.0)	40 (18.1)	50 (22.7)	60 (27.3)	55 (24.9)	98 (45.0)

Supervisor Engines Hardware Features

	Virtual Switching Supervisor 720-10G VS-S720-10G-3CXL VS-S720-10G-3C	SUP 720 WS-SUP720-3BXL WS-SUP720-3B	SUP 32 WS-SUP32-10GE-3B WS-SUP32-GE-3B	SUP 32-PISA WS-SUP32-10GE-PISA WS-SUP32-GE-PISA
Chassis Supported	All	All	All	All
Bandwidth per Slot (Gbps)	40	40	32 Gbps Shared	32 Gbps Shared
Total Bandwidth (Gbps)	720	720		
Packets per Second (Mpps)	450	400	15	15
MAC Addresses Supported	96K	64K	64K	64K
Routes Supported	1,000,000 (3CXL) 256,000 (3C)	1,000,000 (3BXL) 256,000 (3B)	256,000	256,000
Onboard Memory (DRAM)	1GB (SP), 1GB (RP)	Up to 1GB (SP), 1GB (RP)	Up to GB	Up to GB
Uplinks	2 x 10Gbe, 3 x GbE (2 SFP, 1 10/100/1000)	2 x GbE (SFP) or 1 x GbE (SFP) + 1 x GbE (10/100/1000)	(-10 GE) : 2 x 10 GbE + 1 x 10/100/1000 (-GE) : 8 x 1 GbE (SFP) + 1 x 10/100/1000	(-10 GE) : 2 x 10 GbE + 1 x 10/100/1000 (-GE) : 8 x 1 GbE (SFP) + 1 x 10/100/1000

Features

Catalyst 6500 Supervisor Common Features

- Supports next generation performance of 10Gigabit, Gigabit, Power over Ethernet and Enhanced Power over Ethernet interfaces
- Compatible with all three generations of Catalyst 6500 series interfaces and service modules
- Advanced automation with Smart CallHome and Embedded Event Manager
- User-based rate limiting enforcing up to 64 policy rates
- High performance features in hardware
- IPv4 and IPv6 forwarding
- Layer 2 and Layer 3 MPLS and EoMPLS
- Virtual Route Forwarding Lite (VRF-Lite)
- Generic Route Encapsulation (GRE)
- Advanced security features
- Trustsec 802.1x and NAC features
- Access Control Lists (ACLs)
- Virtual LANs (VLANs)
- Port Security
- CPU rate limiting
- Multi-path uRFP
- Services Advertisement Framework (SAF)

Features

Virtual Switching Supervisor 720-10G

- Scales to 1.4 Terabits with **Virtual Switching System** 1440
- Integrated 720 Gbps switch fabric
- Two 10 Gigabit and two Gigabit Ethernet uplinks
- 3CXL Policy Feature Card expands routing, MPLS, and NetFlow capacity

Catalyst Supervisor Engine 720

- Optimized for maximum services scalability
- Integrated 720 Gbps switch fabric
- 3BXL Policy Feature Card expands routing, MPLS, and NetFlow capacity

Supervisor Engine 32-PISA[1]

- Integrated Programmable Intelligent Services Accelerator
- Multi-gigabit deep packet inspection
- Optimized for the access layer—common services with Supervisor Engine 720
- Available with two 10 Gigabit or eight Gigabit uplinks
- Shared 32 Gbps bus

Supervisor Engine 32

- Optimized for the access layer—common services with Supervisor Engine 720
- Available with two 10 Gigabit or eight Gigabit uplinks
- Shared 32 Gbps bus

[1]Per EOS announcement, last day to order is September 8, 2010

Cisco Catalyst 6500 Series Spotlight

Virtual Switching System 1440[1]

The key enabler of a VSS 1440 is the Virtual Switching Supervisor 720-10G. Any two Cisco Catalyst 6500 Series Switches with this supervisor engine can be pooled together into a VSS 1440*. The two switches are connected with 10 GbE links called Virtual Switch Links (VSLs). Once a VSS 1440 is created it acts as a single virtual Cisco Catalyst 6500 switch delivering the following benefits:

Operational Manageability:
Two Catalyst 6500s shares a single point of management, single gateway IP address, and single routing instance—eliminating the dependence on First Hop Redundancy Protocols (FHRP) and Spanning Tree Protocol.

Non-Stop Communications:
Delivers deterministic, sub-200 millisecond Layer 2 link recovery through inter-chassis stateful failovers and the predictable resilience of Etherchannel.

Scales to 1.4 Tbps:
Scales system bandwidth capacity to 1.4 Tbps by activating all available bandwidth across redundant Catalyst 6500 switches and delivers up to 260 ports of 10 GbE per system.

Programmable Intelligent Services Accelerator (PISA)[2]

The Cisco Catalyst 6500 Supervisor Engine 32 Programmable Intelligent Services Accelerator (PISA) embeds multi-gigabit deep packet inspection capability into the Catalyst 6500 Series platform. This enables hardware acceleration of services and offers new levels of application intelligence, integrated security, and operational manageability for enterprise campus access and WAN routing.

Cisco IOS Software Modularity[3]

The Cisco Catalyst 6500 Series with Cisco IOS Software Modularity boosts operational efficiency and minimizes downtime through evolutionary software infrastructure advancements. By enabling modular Cisco IOS subsystems to run as independent, self-healing processes, this innovation minimizes unplanned downtime through fault containment and stateful process restarts, simplifies software changes through subsystem In-Service Software Upgrades (ISSU), and enables process-level, automated policy control by integrating the Embedded Event Manager (EEM).

Maximum PoE Scalability

The Cisco Catalyst 6500 Series provides industry leading levels of power scalability (up to 420 Class 3 devices) needed to support high-density PoE deployments. It also offers Enhanced Power over Ethernet (ePoE) for devices that require more than 15.4 Watts per port. The enhanced 6- and 9-slot chassis (WS-C6506-E and WS-C6509-E models) are designed to scale beyond the current 8700W power supplies. Continuing this product line's tradition of unmatched investment protection, all existing supervisors, line cards, switch fabrics, and software releases are supported in the E series chassis.

Metro Ethernet 6500

The ME 6500 offers high services in a fixed 1.5 RU form factor. It is optimized for space-constrained branch collapsed core/distribution GE LAN aggregation.

The Cisco ME 6524 Ethernet Switch delivers advanced Catalyst 6500 features and services such as IOS modularity, MPLS, QoS, Multicast, and IPv6 features in a small fixed form factor enabling service-rich Gigabit Ethernet LAN aggregation in branch deployments.

[1]See Virtual Switching System 1440 on the Catalyst 6500 Series White Paper for complete requirements.
[2]Per EOS announcement, last day to order is September 8, 2010.
[3]Subsystem ISSU aka Patching has been deprecated starting 12.2(33)SXI3.

Product Overview

Product Number	Product Description
Catalyst 6500 Chassis: Top Sellers	
WS-C6503-E	6500 Enhanced 3-slot Chassis, 4 RU, No Power Supply, No Fan Tray
WS-C6504-E	6500 Enhanced 4-slot Chassis, 5 RU, No Power Supply, No Fan Tray
WS-C6506-E	6500 Enhanced 6-slot Chassis, 12 RU, No Power Supply, No Fan Tray
WS-C6509-E	6500 Enhanced 9-slot Chassis, 15 RU, No Power Supply, No Fan Tray
WS-C6509-V-E	6500 Enhanced 9-slot Chassis, 21 RU, No Power Supply, No Fan Tray
WS-C6513-E	6500 13-slot Chassis, 20 RU, No Power Supply, With Fan Tray
Catalyst 6500 Sup32 PISA-GbE bundles: Top Sellers	
WS-C6503E-PISA-GE	6503E Chassis, WS-S32-PISA-GE-3B, Fan Tray (Requires Power Supply)
WS-C6504E-PISA-GE	6504E Chassis, WS-S32-PISA-GE-3B, Fan Tray, (Requires Power Supply)
WS-C6506E-PISA-GE	6506E Chassis, WS-S32-PISA-GE-3B, Fan Tray (Requires Power Supply)
WS-C6509E-PISA-GE	6509E Chassis, WS-S32-PISA-GE-3B, Fan Tray (Requires Power Supply)
WS-C6513-PISA-GE	6513 Chassis, WS-S32-PISA-GE-3B, Fan Tray (Requires Power Supply)
Catalyst 6500 Sup32-GbE Bundles: Top Sellers	
WS-C6503E-S32-GE	6503E Chassis, WS-SUP32-GE-3B, Fan Tray (Requires Power Supply)
WS-C6504E-S32-GE	6504E Chassis, WS-SUP32-GE-3B, Fan Tray, (Requires Power Supply)
WS-C6506E-S32-GE	6506E Chassis, WS-SUP32-GE-3B, Fan Tray (Requires Power Supply)
WS-C6509E-S32-GE	6509E Chassis, WS-SUP32-GE-3B, Fan Tray (Requires Power Supply)
WS-C6513-S32-GE	6513 Chassis, WS-SUP32-GE-3B, Fan Tray (Requires Power Supply)
WS-C6506E-IPS10GK9	6506E Chassis, 4 x IDSM2, WS-SUP32-GE-3B, 2 10 GbE XENPAKs, Power Supply
WS-C6506E-IPSF-K9	6506 Chassis, 4 x IDSM2, WS-SUP32-GE-3B, 8 Fiber SFP, Power Supply
Catalyst 6500 Sup32-10 GbE Bundles: Top Sellers	
WS-C6503E-S32-10GE	6503E Chassis, WS-SUP32-10GE-3B, Fan Tray (Requires Power Supply)
WS-C6504E-S32-10GE	6504E Chassis, WS-SUP32-10GE-3B, Fan Tray (Requires Power Supply)
WS-C6506E-S32-10GE	6506E Chassis, WS-SUP32-10GE-3B, Fan Tray (Requires Power Supply)
WS-C6509E-S32-10GE	6509E Chassis, WS-SUP32-10GE-3B, Fan Tray (Requires Power Supply)
WS-C6513-S32-10GE	6513 Chassis, WS-SUP32-10GE-3B, Fan Tray (Requires Power Supply)

Product Overview (continued)

Product Number	Product Description
Catalyst 6500 Advanced Technology Bundles: Top Sellers	
WS-C6504-E-VPN+-K9	6504E IPsec VPN SPA Security System
WS-C6506-E-VPN+-K9	6506E IPsec VPN SPA Security System
WS-C6509-E-VPN+-K9	6509E IPsec VPN SPA Security System
WS-C6513-VPN+-K9	6513 IPsec VPN SPA Security System
WS-C6503-E-FWM-K9	6503E Firewall Security System
WS-C6506-E-FWM-K9	6506E Firewall Security System
WS-C6509-E-FWM-K9	6509E Firewall Security System
WS-C6513-FWM-K9	6513 Firewall Security System
WS-C6504-E-ACE-K9	ACE 4G 6504 Bundle
WS-C6509-E-ACE-K9	ACE 8G 6509 Bundle
WS-C6504-E-WISM	6504-E WiSM Bundle (SUP720-3B, WiSM, Fan Tray, Two Power Supplies)
WS-C6509-E-WISM	6509-E WiSM Bundle (SUP720-3B, WiSM, Fan Tray, No Power Supply)
WS-C6503E-CSM	CSM, 6503, SUP720 Bundle
WS-C6503E-CSMS-K9	CSM-S, 6503, SUP720 Bundle
WS-C6509E-CSM	CSM, 6509, SUP720 Bundle
WS-C6509E-CSMS-K9	CSM-S, 6509, SUP720 Bundle
WS-C6513-CSM	CSM, 6513, SUP720 Bundle
WS-C6513-CSMS-K9	CSM-S, 6513, SUP720 Bundle
WS-SVC-SSL-CSM-K9=	6500 SSL and CSM Bundle
Catalyst 6500 Service Module Bundles: Top Sellers	
DSN09E-VS720-AC-K9	Cisco Catalyst 6509E Data Center Services Bundle (6509-E Chassis, Dual AC Power, Sup720-10G, 3x FWSM, 1x ACE, 6704)
DSN09E-VS720-DC-K9	Cisco Catalyst 6509E Data Center Services Bundle (6509-E Chassis, Dual AC Power, Sup720-10G, 3x FWSM, 1x ACE, 6704)
DSN06E-VS720-AC-K9	Cisco Catalyst 6506E Data Center Services Bundle (6506-E Chassis, Dual AC Power, Sup720-10G, 3x FWSM, 1x ACE, 6704)
DSN06E-VS720-DC-K9	Cisco Catalyst 6506E Data Center Services Bundle (6506-E Chassis, Dual DC Power, Sup720-10G, 3x FWSM, 1x ACE, 6704)
DSN9VE-VS720-AC-K9	Cisco Catalyst 6509VE Data Center Services Bundle (6509-VE Chassis, Dual AC Power, Sup720-10G, 3x FWSM, 1x ACE, 6704)
DSN9VE-VS720-DC-K9	Cisco Catalyst 6509VE Data Center Services Bundle (6509-VE Chassis, Dual DC Power, Sup720-10G, 3x FWSM, 1x ACE, 6704)
BSN09E-VS720-10G	Cisco Catalyst 6509E Borderless Services Node (VS Sup720, 2 PS, 1 FT, 1 WiSM, 2 FWSM, 2 20VC licenses, 16p 10G)
BSN09E-VS720-1G	Cisco Catalyst 6509E Borderless Services Node (VS Sup720, 2 PS, 1 FT, 1 WiSM, 2 FWSM, 2 20VC licenses, 1 24p SFP)

Product Number	Product Description
Catalyst 6500 AC Power Supplies: Top Sellers	
PWR-1400-AC	1400W AC Power Supply for 7603 and WS-C6503 Chassis
PEM-20A-AC+	Power Entry Module use w/1400W AC Power Supply for 7603/6503
PWR-2700-AC/4	2700W AC Power Supply for 7604/6504-E
WS-CAC-3000W	6500 3000W AC Power Supply
WS-CAC-6000W	6500 6000W AC Power Supply
Catalyst 6500 DC Power Supplies: Top Sellers	
PWR-950-DC	950W DC Power Supply for 7603/6503
PEM-DC/3	DC Power Entry Module for 7603/6503
PWR-2700-DC/4	2700W DC Power Supply for 7604/6504-E
WS-CDC-2500W	6000 2500W DC Power Supply
PWR-4000-DC	4000W DC PS for 7609-S/7609/13, 6509/13
Catalyst 6500 Supervisor Engines: Top Sellers	
WS-SUP32-10GE-3B	6500 SUP32 with 2 Ports 10 GbE and PFC3B
WS-SUP32-GE-3B	6500 SUP32 with 8 GbE Uplinks and PFC3B
VS-SUP720-10G-3CXL	6500 Virtually Switching Supervisor 720 with 10 GE Uplinks, MSFC3, PFC3CXL
VS-SUP720-10G-3CXL	6500 Virtually Switching Supervisor 720 with 10 GE Uplinks, MSFC3, PFC3C
WS-SUP720-3BXL	6500/7600 SUP720 Fabric MSFC3 PFC3BXL
WS-SUP720-3B	6500/7600 SUP720 Fabric MSFC3 PFC3B
Catalyst 6500 10 Gigabit Ethernet: Top Sellers	
WS-X6716-10G-3CXL	16-port 10 Gigabit Ethernet Module with DFC3CXL (Requires X2)
WS-X6716-10G-3C	16-port 10 Gigabit Ethernet Module with DFC3C (Requires X2)
WS-X6708-10G-3CXL	8-port 10 Gigabit Ethernet Module with DFC3CXL (Requires X2)
WS-X6708-10G-3C	8-port 10 Gigabit Ethernet Module with DFC3C (Requires X2)
WS-X6704-10GE	4-port 10 Gigabit Ethernet Module (Requires XENPAKs)
WS-X6716-10G-T -3C	6-Port 10 Gigabit Ethernet Copper Module with DFC3C
WS-X6716-10GT-3CXL	16-Port 10 Gigabit Ethernet Copper Module with DFC3CXL
Catalyst 6500 Gigabit Ethernet: Top Sellers	
WS-X6408A-GBIC	6000 8-port Gigabit Ethernet Module, Enhanced QoS (Requires GBICs)
WS-X6516A-GBIC	6500 16-port Gigabit Ethernet Module, Fabric-enabled (Requires GBICs)
WS-X6724-SFP	6500 24-port Gigabit Ethernet Module, Fabric-enabled (Requires SFPs)
WS-X6748-SFP	6500 48-port Gigabit Ethernet Module, Fabric-enabled (Requires SFPs)

Product Overview (continued)

Product Number	Product Description
Catalyst 6500 10/100/1000: Top Sellers	
WS-X6148A-GE-TX	6500 48-port 10/100/1000, Jumbo Frame, RJ-45
WS-X6148A-GE-45AF	6500 48-port PoE 802.3af 10/100/1000, Jumbo Frame
WS-X6548-GE-TX	6500 48-port Fabric-enabled 10/100/1000 Module
WS-X6548-GE-45AF	6500 48-port PoE 802.3af 10/100/1000 (RJ-45) CEF256 Card
WS-X6748-GE-TX	6500 48-port 10/100/1000 GbE Module, Fabric-enabled, RJ-45
WS-X6148E-GE-TX	6500 48 port 10/100/1000Base-T
WS-X6148E-GE-45AT	6500 48 port PoE+ 802.3at 10/100/1000Base-T Ethernet Card with TDR
Catalyst 6500 10/100: Top Sellers	
WS-X6148A-RJ-45	6500 48-port 10/100 with TDR, Upgradable - PoE 802.3af
WS-X6148A-45AF	6500 48-port PoE 802.3af 10/100 Line Card with TDR
WS-X6148-RJ-21	6500 48-port 10/100 Upgradable to Voice, RJ-21
WS-X6148-21AF	6500 48-port PoE 802.3af 10/100, (RJ-21) Line Card
WS-X6196-RJ-21	6500 96-port 10/100 Upgradable - PoE 802.3af
WS-X6196-21AF	6500 96-port, PoE 802.3af 10/100 - RJ-21
WS-F6700-DFC3BXL	6500 Dist Fwd Card-3BXL for WS-X67xx
WS-F6700-DFC3B	6500 Dist Fwd Card, 256K Routes for WS-X67xx
WS-F6K-DFC3BXL	6500 Dist Fwd Card-3BXL for 65xx, 6816 Modules
WS-F6K-DFC3B	6500 Dist Fwd Card-3B for 65xx, 6816 Modules
WS-F6K-PFC3BXL	SUP720 PFC-3BXL Plus 2x1 Gigabit Memory
WS-F6K-PFC3B	SUP720 Policy Feature Card-3B
Catalyst 6500 Service Modules: Top Sellers	
ACE10-6500-K9	Application Control Engine Service Module
WS-SVC-FWM-1-K9	Firewall Blade for 7600/6500, VFW License Separate
WS-SVC-IDS2-BUN-K9	600M IDSM-2 Module
7600-SSC-400	7600/6500 Services SPA Carrier Card
SPA-IPSEC-2G	7600/6500 IPsec VPN SPA - DES/3DES/AES
SPA-IPSEC-SSC400-1	7600/6500 IPsec VPN SPA Bundle 1 (System Only)
SPA-IPSEC-SSC400-2	7600/6500 IPsec VPN SPA Bundle 2 (System Only)
WS-SVC-ADM-1-K9	6500 Anomaly Detection Module
WS-SVC-AGM-1-K9	6500 Anomaly Guard Module

Product Number	Product Description
Catalyst 6500 Service Modules: Top Sellers (continued)	
WS-X6066-SLB-S-K9	Content Switching Module with SSL Daughter Card
WS-X6066-SLB-APC	6000 Content Switching Module
WS-SVC-NAM-1	6500 Network Analysis Module-1
WS-SVC-NAM-2	6500 Network Analysis Module-2
Catalyst 6500 802.3af Upgrades: Top Sellers	
WS-F6K-48-AF=	C6500 802.3af PoE Daughter Card - 6 x 48 x-GbE-TX , 6148A-RJ-45
WS-F6K-FE48X2-AF=	6500 PoE 802.3af Voice Card (WS-X6148X2-RJ-45 and -RJ-21)
WS-X6148-45AF-UG=	6500 802.3af Upgrade for 6148-RJ-45 (Trade-in Order Only)
WS-X6148-21AF-UG=	6500 - PoE 802.3af Upgrade, 6148-RJ-21
WS-F6K-48-AT	6500 802.3at PoE Daughter Card
Catalyst 6500 FlexWAN/OSM: Top Sellers	
WS-X6582-2PA	7600/6500 Enhanced FlexWAN, Fabric-enabled
7600-SIP-200	7600 Series SPA Interface Processor-200
7600-SIP-400	7600 Series SPA Interface Processor-400
WS-C6503-E-FAN	6503-E Chassis Fan Tray
WS-C6506-E-FAN	6506-E Chassis Fan Tray
WS-C6509-E-FAN	6509-E Chassis Fan Tray
WS-C6509-V-E-FAN	Catalyst 6509-V-E Fan Tray
WS-C6K-13SLT-FAN2	High-speed Fan Tray for 6513/7613
FAN-C6524	Fan Tray for ME6524 Switch
FAN-MOD-4HS	High-speed Fan Module for 7604/6504-E
Catalyst 6500 Optics: Top Sellers	
GLC-FE-100LX	100BASE-LX SFP for FE port
GLC-FE-100BX-U	100BASE-BX10-U SFP
GLC-FE-100BX-D	100BASE-BX10-D SFP
GLC-FE-100EX	100BASE-EX SFP (40 km)
GLC-FE-100ZX	100BASE-ZX SFP (80 km)
GLC-LH-SM	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM	GbE SFP, LC Connector SX Transceiver
GLC-ZX-SM	1000BASE-ZX SFP
GLC-T	1000BASE-T SFP

Product Overview (continued)

Product Number	Product Description
Catalyst 6500 Optics: Top Sellers (continued)	
GLC-T24	24 GLC-T SFP
WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode Only)
WS-G5486	1000BASE-LX/LH Long-haul GBIC (Single Mode or Multimode)
WS-G5487	1000BASE-ZX Extended-reach GBIC (Single Mode)
XENPAK-10GB-CX4	10GBASE-CX4 XENPAK Module
XENPAK-10GB-ER+	10GBASE-ER XENPAK Module with DOM Support
XENPAK-10GB-LR	10GBASE-LR XENPAK Module
XENPAK-10GB-LX4	10GBASE-LX4 XENPAK Module
XENPAK-10GB-SR	10GBASE-SR XENPAK Module
XENPAK-10GB-ZR	10GBASE-ZR XENPAK Module
XENPAK-10GB-LW	10GBASE-LW XENPAK Module
X2-10GB-SR	10GBASE-SR X2 Module
X2-10GB-LR	10GBASE-LR X2 Module
X2-10GB-ER	10GBASE-ER X2 Module
X2-10GB-LX4	10GBASE-LX4 X2 Module
X2-10GB-CX4	10GBASE-CX4 X2 Module
SFP-10G-LRM	10GBASE-LRM SFP
CVR-X2-SFP10G	OneX Converter Module
Cable supported with OneX Converter	SFP-H10GB-CU1M=Cisco 10GBASE-CU SFP+ cable, 1 meter (Version -02) SFP-H10GB-CU3M=Cisco 10GBASE-CU SFP+ cable, 3 meter (Version -02) SFP-H10GB-CU5M=Cisco 10GBASE-CU SFP+ cable, 5 meter (Version -02) SFP-10G-SR=Cisco 10GBASE-SR SFP+ Module for MMF
Catalyst 6500 Rack-mount Kits: Top Sellers	
KIT-MNTG-CG-3=	Mounting Kit and Cable Guide For 7603/6503 Chassis
KIT-MNTG-CG-4=	Mounting Kit and Cable Guide For 7604/6504-E
WS-C6X06-RACK=	6x06 Rack-mount Kit and Cable Organizer, Spare
WS-C6X09-RACK=	6x09 Rack-mount Kit and Cable Organizer, Spare
WS-C6509-E-RACK=	6509-E Rack-mount Kit
WS-C6513-RACK=	6513 Rack-mount Kit and Cable Organizer, Spare
WS-C6597=	6506/9 (E and Non-E) 23in Center Rack-mount Kit

Product Number	Product Description
Catalyst 6500 Rack-mount Kits: Top Sellers (continued)	
WS-6513-RACK-MNT=	23-inch Rack-mount Kit for 6513
KIT-MNTG-09=	Mounting Kit For 7609/6509-NEB-A Chassis
CABLETRAY-09=	Cable Tray Assembly for 7609/6509-NEB-A
Catalyst 6500 Accessories: Top Sellers	
WS-F6K-48X2-SPLTR=	Spare Y-Type Splitter Bar for WS-X6148X2-RJ-45
Catalyst 6500 Removable Storage: Top Sellers	
MEM-C6K-CPTFL128M	SUP720/SUP32 Compact Flash Memory 128MB
MEM-C6K-CPTFL256M	SUP720/SUP32 Compact Flash Memory 256MB
MEM-C6K-CPTFL512M	SUP720/SUP32 Compact Flash Memory 512MB
Catalyst 6500 FlexWAN: Top Sellers	
WS-X6582-2PA	7600/6500 Enhanced FlexWAN, Fabric-enabled

Cisco Service Modules

The modular design of the Cisco Catalyst 6500 Series allows organizations to scale their networks and adapt to changing needs, without having to redesign the network or add additional devices. Cisco integrated services modules enable network administrators to quickly and easily deploy the industry's most advanced, high-performance network services.

Wireless Services Module (WiSM)

This module enables scalable wireless LAN network deployments without requiring special client devices or changes to the underlying wireline infrastructure, providing an ideal solution for enterprises, mid-market businesses, universities, and service providers.

- Delivers centralized security policies, IPS, RF management, QoS, and Layer 3 fast secure roaming for WLAN deployments of all sizes.
- Provides automated recovery from failures of Cisco Aironet® lightweight access points, Cisco WiSMs, and Cisco Catalyst 6500 Series Supervisor Engine 720, maximizing the availability of the wireless network.
- Creates an intelligent RF control plane for self-configuration, self-healing, and self-optimization.
- Deploys without manually configuring access points or modifying existing network infrastructures.
- Adapts to changing corporate security needs with flexible policies and features, including integrated wireless intrusion protection to ensure the integrity of sensitive data.
- Allows user to roam between access points and across bridged and routed subnets without requiring changes to the underlying infrastructure.
- Enables better visibility and control of the air space, reducing operational costs.

Communication Media Module (CMM)

This module provides high-performance and high-density voice over IP (VoIP) gateways and media services, allowing organizations to connect their existing time-division multiplexing (TDM) network to their IP communications network, provide connectivity to the public switched telephone network (PSTN), and enable conferencing, transcoding, and media termination services for their IP Communication networks.

- Supports four port adapters in a single line card, including 6-port T1, 6-port E1, 24-port Foreign Exchange Station (FXS), and 128-port conferencing and transcoding.
- Integration of VoIP gateways, analog, and digital, and conferencing and transcoding in a single module saves space and allows for remote management along with the other Catalyst 6500 modules.
- Field-upgradable components allow customers to easily add, replace, or change interface port adapters without upgrading or replacing the entire module.
- Hot-swappable design allows hardware maintenance with little or no service interruption, since only the calls on the card being removed or replaced are affected.
- Cisco AVVID design lends itself to the robust, fault-tolerant architecture of clustered Cisco CallManagers.

Applications Control Engine Module

This module is Cisco's next-generation application delivery solution, providing the industry's highest throughput (up to 16 Gigabits per second), rich multilayer security, and unique virtual partitioning capabilities. The ACE multiservice module offers many new capabilities, including hundreds of virtual partitions, per-partition resource allocation, role-based access control, and an XML management API.

- Partitions network for up to 250 logical devices that can be managed and operated separately. Role-based access control capabilities enable IT to delegate management tasks to distributed IT teams, guarantee resource levels for each logical partition, and apply desired functions to each partition separately.
- Allows IT to control the infrastructure centrally while delegating application administration to separate operational teams. Also simplifies application infrastructures, shortens the workflow necessary to bring applications and business services online, and shortens time-to-deployment of applications.
- Also consolidates functionality such as server load balancing and off-load, application acceleration, and application-layer security.
- Supports 4, 8, or 16 Gbps of data throughput and up to 345,000 sustained connection setups per second. Several ACE modules can be deployed in a Catalyst 6500 chassis for even higher throughput.

Content Switching Module

This module adds advanced, high-performance Layer 4–7 content switching and load balancing to existing Layer 2 and 3 features of the Catalyst 6500 switches, reducing application response times, optimizing service delivery, increasing application time, and increasing service scalability for servers, firewalls, VPN devices, SSL termination devices, and caches.

- Supports a wide range of common IP protocols, including TCP, User Datagram Protocol (UDP), and higher-level protocols, including Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), Telnet, Domain Name System (DNS), Real-Time Streaming Protocol (RTSP), and Simple Mail Transfer Protocol (SMTP).
- Reduces the cost and complexity of deploying content switching services by allowing for integration into existing infrastructure.
- Fault-tolerant configurations to provide improved application uptime, utilizing both connection and sticky state redundancy for seamless failover.
- Ability to integrate content switching services into an existing infrastructure minimizes the time and resources required for deployment.
- High-density, scalable platform with proven reliability offers unparalleled investment protection.

Content Switching Module with SSL

This module combines advanced Layer 4–7 content switching capabilities with Secure Sockets Layer acceleration, freeing backend servers from the CPU-intensive task of processing SSL transactions.

- High-speed content switching provides load balancing, increases performance, ensures connection persistence, and helps maximize uptime for application and Web servers, caches, firewalls, and other devices.
- End-to-end encryption with intelligent load balancing ensures information on the network never appears as clear text.
- Reduces the number of SSL devices needed and reduces the number of certificates that a site requires to purchase and manage, lowering both capital and operating expenses.
- Combines content switching and SSL acceleration in a single chassis slot, freeing up space for other integrated services.

Cisco Security Service Modules

Cisco Catalyst 6500 Series switches support a variety of high-performance security modules that protect networks from the full range of threats, while also simplifying management and reducing overhead by consolidating security services into the switching chassis.

Traffic Anomaly Detector Services Module

This module helps large organizations protect against distributed denial-of-service (DDoS) or other cyber attacks, enabling users to quickly initiate mitigation services and block the attack before business is adversely affected. It utilizes the latest behavioral analysis and attack recognition technology to proactively detect and identify all types of cyber assaults.

- Monitors and processes attack traffic at full Gigabit line rates, delivering a high-performance solution that detects DDoS attacks without consuming valuable switch or router resources.
- Identifies and blocks all types and sizes of assaults, including those launched by hundreds of thousands of distributed zombie hosts, providing complete protection against the widest range of attacks.
- Scales through clustering in a single chassis to support multi-gigabit performance, providing maximum protection for the largest enterprise and service provider environments or for individual vulnerable zones.
- Automatic learning builds baseline profiles of normal operating conditions, enabling rapid identification of anomalous or unusual activity that indicates an attack.
- Supports real-time monitoring of individual devices and protected zones with a web-based graphical manager, as well as historical attack-level reports showing specific attack types seen and associated statistics.

Anomaly Guard Services Module

This module mitigates DDoS and other cyber attacks. It effectively stops the DDoS attack while allowing legitimate traffic to continue to its destination, thereby maintaining continuous business operations.

- Monitors and processes attack traffic at full Gigabit line rates, delivering a high-performance solution that detects DDoS attacks without consuming valuable switch or router resources.
- Multi-verification process (MVP) architecture utilizes advanced anomaly recognition, source verification, and anti-spoofing technologies to identify and block individual attack flows without affecting legitimate transactions.
- Dynamic diversion redirects and cleans only traffic destined for targeted devices, allowing unaffected traffic to flow freely and ensuring business continuity.
- Automatic learning builds baseline profiles of normal operating conditions, enabling rapid identification of anomalous or unusual activity that indicates an attack.
- Identifies and blocks all types and sizes of assaults, including those launched by hundreds of thousands of distributed zombie hosts, providing complete protection against the widest range of attacks.

Intrusion Detection Services Module (IDSM-2)

This module helps detect, classify, and stop threats including worms, spyware/adware, network viruses, and application abuse. The Cisco IDSM-2 combines inline prevention services with innovative technologies that improve accuracy, allowing you to stop more threats without dropping legitimate network traffic.

- Accurate inline prevention technologies offer intelligent, automated, contextual analysis of your data and help ensure you are getting the most out of your intrusion prevention solution.
- Offers 600 Mbps performance per module, providing the high bandwidth detection capabilities required for larger networks.
- Multivector threat identification protects your network from policy violations, vulnerability exploitations, and anomalous activity through detailed inspection of traffic in Layers 2–7.
- Unique network collaboration enhances scalability and resiliency through network collaboration, including efficient traffic capture techniques, load-balancing capabilities, and visibility into encrypted traffic.

IPsec VPN Shared Port Adapter

This module delivers scalable and cost-effective VPN performance with Data Encryption Standard (DES), Triple Data Encryption Standard (3DES), plus next-generation Advanced Encryption Standard (AES) technology, including all key sizes (128-, 192-, and 256-bit keys) for ultimate in IPsec VPN security and interoperability.

- Provides up to 2.5 Gbps of AES and 3DES IPsec throughput with large packets and 1.6 Gbps with Internet mix (IMIX) traffic.
- Up to 10 Cisco IPsec VPN SPAs can be installed in a system, scaling to 25 Gbps of total throughput for wire-speed security transport for native 10 Gigabit Ethernet (10 GbE) interfaces.
- Using the Cisco Services SPA Carrier-400, each slot of the Cisco Catalyst 6500 supports up to two IPsec VPN SPAs, increasing total performance per slot.

Network Analysis Module

This module provides traffic monitoring services for visibility into network and application usage, helping network managers troubleshoot delivery issues, improve the utilization of network resources, and ease the deployment of new network services. The NAM is available in two hardware versions, NAM-1 and NAM-2, to meet diverse network analysis needs in scalable switching environments.

- Includes an embedded, web-accessible Traffic Analyzer interface that presents both configuration menus and real-time and historical reports.
- Provides visibility into what applications are running on the network and how they're performing, tracking response times and identifying whether issues are server- or network-related.
- Offers web-based captures and decodes for anytime, anywhere troubleshooting.
- Analyzes the performance of IP-based services, including VoIP, video, and QoS.

SSL Services Module

This module offloads processor-intensive tasks related to securing traffic with Secure Sockets Layer (SSL), increases the number of secure connections supported by a website, and reduces the operational complexity of high performance web server farms.

- Ensures high availability when installed in a redundant Cisco Catalyst 6500 configuration, maintaining SSL sessions if hardware failures occur.
- Simplifies security management while encrypting user data to the web servers, providing privacy, confidentiality, and authentication using a wide range of certificates, including Netscape and VeriSign.
- An integrated Content Switching Module or external load-balancing appliance can load balance secure HTTPS content requests to multiple Cisco SSL services modules, maximizing SSL termination performance and providing SSL scalability.
- Provides the best price/performance ratio of any SSL accelerator on the market. Cost of maintenance is included in the maintenance contract of the Cisco Catalyst chassis, providing cost savings on annual service contracts. And by offloading the processing-intensive SSL termination burden from the web servers, the SSL Service Module eliminates the need to purchase additional servers.

Firewall Services Module

This module delivers the fastest firewall data rates in the industry: 5 Gbps throughput, 100,000 CPS, and one million concurrent connections. Up to four modules can be installed in a single chassis, offering scalability to 20 Gbps per chassis. Based on Cisco PIX® Firewall technology, it provides large enterprises and service providers with unmatched security, reliability, and performance.

- Allows any port on Cisco Catalyst 6500 to operate as a firewall port and integrates firewall security inside the network infrastructure.
- Provides unsurpassed performance to meet future requirements, scaling to up to 20 Gbps per chassis without requiring a system overhaul.
- Offers the best price/performance ratio of any firewall, utilizing the familiar, time-tested Cisco PIX Operating System to reduce the cost of training, and integrating firewall services into the chassis to reduce management requirements.
- An intuitive graphical user interface (GUI) simplifies management and configuration, and it's supported by the Cisco management framework and by Cisco AVVID partners for configuration and monitoring.
- Virtualized FWSM delivers multiple firewalls on one physical hardware platform, allowing network administrators to configure, deploy, and manage functions as if they were separate devices, while reducing the cost and complexity of managing network infrastructure.

Notes

Notes

Cisco Catalyst 4500 Series

The leading high performance modular switches for unified communications designed for unparalleled resiliency and simplified operations while enabling virtualization for Enterprise access layer and price-performance campus aggregation.

The Cisco Catalyst 4500 Series is a high-density modular switch delivering robust intelligent services that enable high performance and security for both the mobile and desktop user. The Catalyst 4500 Series optimizes application performance through deep visibility with Flexible NetFlow and pervasive security with Cisco TrustSec while the centralized forwarding architecture enables collaboration, virtualization, and operational manageability. The simple centralized architecture, media flexibility, and scalability of the Catalyst 4500 Series delivers maximum investment protection with backward and forward compatibility across several generations dating back to 1999, maximizing return on investment while minimizing recurring operational expenses.

The Catalyst 4500 Series extends intelligence, resiliency and operational simplicity to the network edge (wiring closet) with intelligent network services, including sophisticated quality of service (QoS), predictable performance, advanced security, up to 30 watts of PoE plus with IEEE 802.3at and comprehensive management features. The Catalyst 4500 series delivers the highest levels of integrated resiliency in both hardware and software minimizing costly downtime for both planned and unplanned network outages helping maximizing workforce productivity.

The Catalyst 4500 Series includes four chassis: the Catalyst 4510R+E (10 slots), the Catalyst 4507R+E (7 slots), Catalyst 4506-E (6 slots), and Catalyst 4503-E (3 slots). A broad selection of supervisor engines meet the needs of networks of all sizes while delivering up to 848 Gbps of Layer 2–4 switching. The series supports an extensive set of line cards, providing up to 384 10/100 or 10/100/1000 ports with integrated Power over Ethernet Plus (PoEP). The Catalyst 4500 Series switches also support 1 GE and 10 GE fiber line cards for price-performance campus aggregation.

Features

Supervisor 7-E

- Highest performance Layer 2/3/4 Supervisor
- 848 Gbps switching capacity
- 384 10/100/1000 copper port density
- Supports 48 Gbps per slot capacity
- IPv6 in hardware
- Four wire-rate 10 GE / 1 GE uplinks (SFP/SFP+)
- Flexible NetFlow
- Maximum investment protection
- High-performance, high density access layer
- Price-performance distribution

Supervisor 6-E

- High performance Layer 2/3/4 Supervisor
- 320 Gbps switching capacity
- 384 10/100/1000 copper port density
- Supports 24 Gbps per slot capacity
- IPv6 in hardware
- Two wire rate 10 GE or four 1 GE uplinks (via Cisco TwinGig Module)
- Maximum investment protection
- High-performance, high density access layer
- Price-performance distribution

Supervisor 6L-E

- High performance Layer 2/3/4 Supervisor
- 280 Gbps switching capacity
- 240 10/100/1000 copper port density
- Supports 24 Gbps per slot capacity
- IPv6 in hardware
- Two wire rate 10 GE or four GE uplinks (via TwinGig Module)
- Maximum investment protection
- High-performance, high density access layer

Supervisor V-10 GE

- High performance Layer 2/3/4 switching
- 136 Gbps switching capacity
- 384 10/100/1000 port density
- Supports 6 Gbps per slot capacity
- Two wire-rate 10 GE and four 1 GE uplinks
- Built-in NetFlow capabilities for application visibility
- High-performance, high density access layer
- Small distribution

Cisco Catalyst 4500 Series Spotlight

Borderless Services

- Security through Cisco TrustSec
- Mobility services through converged wired and wireless location
- 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 SLA
- Medianet capabilities to simplify video quality of service, monitoring, and security
- Energy efficient design with Cisco EnergyWise technology to manage network, PoE end points, and PC/server/laptop power

Infrastructure Services

- Maximum resiliency with redundant components, Non-stop 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
- IOS XE Modular Operating System that has the capability to run 3rd Party Services

Performance/Scalability

- Non-blocking 48 Gbps slot and total system bandwidth of 848 Gbps with the new Supervisor Engine 7-E, ready with four 1 G/10 G uplinks
- Power over Ethernet scalability for the next generation workspace with non-blocking 48-port 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 line rate ports of Gbps SFP, or 96 ports of 10 Gbps SFP+
- Scalable routing (IPv4, IPv6, and multicast) tables, Layer 2 tables, and ACL and QoS entries to ensure 8 queues per port and comprehensive security policies per port

Investment Protection and Reduced TCO

- Full backward compatibility for Supervisor Engine 7-E with 6 Gbps, 24 Gbps, and 48 Gbps per 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

Hardware Features				
	WS-C4503-E	WS-C4506-E	WS-C4507R+E	WS-C4510R+E
Slots	3	6	7	10
Redundant Supervisor Option	No	No	Yes	Yes
Gigabit Ethernet GBIC/SFP Density	100	244	244	388
10 GE X2 Port Density	28	64	64	100
10/100/1000 Density	96	240	240	384
10/100 Density	96	240	240	384
100BASE-FX, LX-10, BX-D Density	96	240	240	384
Backplane Capacity (Gbps)	136	280	280	320
Maximum Watt Power Consumption (Redundant Mode)				
AC Internal (Redundant Mode)	6000	6000	6000	6000
AC External Power Shelf (N+1)	7500	7500	7500	7500
DC Internal (Redundant Mode)	7500	7500	7500	7500
Maximum Number of Class 3 Devices (15.4W) Maximum Power Supplies				
AC Internal (Redundant Mode)	108	240	240	270
AC External Power Shelf (N+1)	108	240	240	384
DC Internal (Redundant Mode)	108	240	240	384
Dimension (H x W x D) Inches	12.25 x 17.31 x 12.50	17.38 x 17.31 x 12.50	19.19 x 17.31 x 12.50	24.35 x 17.31 x 12.50
Dimension (H x W x D) Centimeters	31.12 x 43.97 x 31.70	44.13 x 43.97 x 31.70	48.74 x 43.97 x 31.70	61.84 x 43.97 x 31.70
Rack Unit (RU)	7	10	11	14
Unit Weight Pounds (Kilograms) (Chassis Only)	32.25 (14.63)	40.5 (18.37)	44.50 (20.19)	54.50 (24.73)

Cisco Catalyst 4500 Series: Supervisor Engines

Hardware Features	Sup 7-E WS-X45-SUP7-E	SUP 6-E WS-X45-SUP6-E	SUP V-10GE WS-X4516-10GE	SUP6L-E WS-X45-SUP6L-E
Chassis Supported	All	All	All	3-, 6- and 7-slot Chassis
Enhanced Layer 3 Option	Yes	Yes	Yes	Yes
Total Bandwidth (Gbps)	848	320	136	280
Packets per Second (Mpps)	250	250	102	225
Uplinks	4 10 GE/1 GE	2x10 GE or 4 GE (TwinGig)	2 x 10 GE + 4 GE	2x10 GE or 4 GE (TwinGig)
Line Card Support (E-Series/Classic)	E-Series/Classic	E-Series/Classic	Classic	E-Series/Classic
CPU MHz	1500	1300	800	1000
NetFlow	Yes	No	Yes	No
Flexible NetFlow	Yes	No	No	No
Onboard Memory (DRAM)	2GB	512MB	512MB	512MB

Notes

Product Overview

Product Number	Product Description
Catalyst 4500 E-Series Chassis	
WS-C4503-E	Catalyst 4500 E-Series 3-slot Chassis, Fan, No Power Supply
WS-C4506-E	Catalyst 4500 E-Series 6-slot Chassis, Fan, No Power Supply
WS-C4507R+E	Catalyst 4500 E-Series 7-slot Chassis, Fan, No Power Supply, Redundant Power Supply Capable
WS-C4510R+E	Catalyst 4500 E-Series 10-slot Chassis, Fan, No Power Supply, Redundant Power Supply Capable
WS-C4503E-S6L-48V+	Catalyst 4500 E-Series POE+ Bundle, 1x3-slot Chassis, 1 x Sup6L-E, 1X WS-X4648-RJ45V+E
WS-C4506E-S6L-96V+	Catalyst 4500 E-Series POE+ Bundle, 1x6-slot Chassis, 1 x Sup6L-E, 2 X WS-X4648-RJ45V+E
WS-C4507RES6L+96V+	Catalyst 4500 E-Series POE+ Bundle, 1x7-slot Chassis, 1 x Sup6L-E, 2 X WS-X4648-RJ45V+E
WS-C4510RE-S6-96V+	Catalyst 4500 E-Series POE+ Bundle, 1x10-slot Chassis, 1 x Sup6-E, 2 X WS-X4648-RJ45V+E
BN-CF2-SBA-K9	Borderless Network Smart Business Arch Core 1 X AIR-CT5508-50-K9, 1x7-slot Chassis, 1 X SUP6L-E, 1 X WS-X4624-SFP-E
Catalyst 4500 PoE Enabled Power Supplies	
PWR-C45-6000ACV	4500 6000W AC Dual Input Power Supply (Data and PoE)
PWR-C45-6000ACV/2	4500 6000W AC Dual Input Power Supply (Data and PoE)
PWR-C45-6000ACV=	4500 6000W AC Dual Input Power Supply (Data and PoE)
PWR-C45-4200ACV	4500 4200W AC Dual Input Power Supply (Data and PoE)
PWR-C45-4200ACV/2	4500 4200W AC Dual Input Power Supply (Data and PoE)
PWR-C45-4200ACV=	4500 4200W AC Dual Input Power Supply (Data and PoE)
PWR-C45-2800ACV	4500 2800W AC Power Supply (Data and PoE)
PWR-C45-2800ACV=	4500 2800W AC Power Supply (Data and PoE)
PWR-C45-2800ACV/2	4500 2800W AC Power Supply (Data and PoE)
PWR-C45-1300ACV	4500 1300W AC Power Supply (Data and PoE)
PWR-C45-1300ACV/2	4500 1300W AC Power Supply (Data and PoE)
PWR-C45-1300ACV=	4500 1300W AC Power Supply (Data and PoE)
PWR-C45-1400DC-P	4500 1400W DC Power Supply with Int PEM
PWR-C45-1400DC-P=	4500 1400W DC Power Supply with Int PEM (Spare)
PWR-C45-1400DC-P/2	4500 1400W DC Power Supply Redundant with Int PEM

Product Number	Product Description
Catalyst 4500 Non-PoE Power Supplies	
PWR-C45-1400AC	4500 1400W AC Power Supply (Data Only)
PWR-C45-1400AC/2	4500 1400W AC Power Supply Redundant (Data Only)
PWR-C45-1400AC=	4500 1400W AC Power Supply (Data Only) Spare
PWR-C45-1000AC	4500 1000W AC Power Supply (Data Only)
PWR-C45-1000AC=	4500 1000W AC Power Supply (Data Only) Spare
PWR-C45-1000AC/2	4500 1000W AC Power Supply Redundant (Data Only)
PWR-C45-1400DC	4500 1400W DC Triple Input SP Power Supply (Data Only)
PWR-C45-1400DC=	4500 1400W DC Triple Input SP Power Supply (Data Only)
PWR-C45-1400DC/2	4500 1400W DC Triple Input SP Power Supply (Data Only)
Catalyst 4500 E-Series Supervisor Engines	
WS-X45-SUP7-E	Catalyst 4500 E-Series Supervisor 7-E, 4x10 GE (SFP/SFP+)
WS-X45-SUP7-E/2	Catalyst 4500R E-Series Supervisor 7-E, 4x10 GE (SFP/SFP+)
WS-X45-SUP7-E=	Catalyst 4500 E-Series Supervisor 7-E, 4x10 GE (SFP/SFP+)
WS-X45-SUP6-E	Catalyst 4500 E-Series Supervisor 6-E, 2x10 GE (X2) with TwinGig
WS-X45-SUP6-E/2	Catalyst 4500R E-Series Supervisor 6-E, 2x10 GE (X2) with TwinGig
WS-X45-SUP6-E=	Catalyst 4500 E-Series Supervisor 6-E, 2x10 GE (X2) with TwinGig
WS-X45-SUP6L-E	Catalyst 4500 E-Series Supervisor 6L-E, 2x10 GE (X2) with TwinGig
WS-X45-SUP6L-E/2	Catalyst 4500 E-Series Supervisor 6L-E, 2x10 GE (X2) with TwinGig
WS-X45-SUP6L-E=	Catalyst 4500 E-Series Supervisor 6L-E, 2x10 GE (X2) with TwinGig
Catalyst 4500 Supervisor Engines	
WS-X4516-10GE	4500 Supervisor V-10 GE, 2x10 GE (X2) and 4 x 1 GE (SFP)
WS-X4516-10GE=	4500 Supervisor V-10 GE, 2x10 GE (X2) and 4 x 1 GE (SFP)
WS-X4516-10GE/2	4500R Supervisor V-10 GE, 2x10 GE (X2) and 4 x 1 GE (SFP)
Catalyst 4500 10/100 Line Cards	
WS-X4148-RJ	4500 10/100 Auto Module, 48-port (RJ-45)
WS-X4148-RJ=	4500 10/100 Auto Module, 48-port (RJ-45) (Spare)
WS-X4248-RJ45V	4500 PoE 802.3af 10/100, 48-port (RJ-45)
WS-X4248-RJ45V=	4500 PoE 802.3af 10/100, 48-port (RJ-45)

Product Overview (continued)

Product Number	Product Description
Catalyst 4500 10/100/1000 Line Cards	
WS-X4748-RJ45V+E	Catalyst 4500 E-Series 48-port premium POE 10/100/1000 (RJ-45)
WS-X4748-RJ45V+E=	Catalyst 4500 E-Series 48-port premium POE 10/100/1000 (RJ-45)
WS-X4648-RJ45V-E	Catalyst 4500 E-Series 48-port PoE 802.3af 10/100/1000 (RJ-45)
WS-X4648-RJ45V+E	Catalyst 4500 E-Series 48-port Premium PoE 10/100/1000
WS-X4648-RJ45V+E=	Catalyst 4500 E-Series 48-port Premium PoE 10/100/1000
WS-X4648-RJ45-E	Catalyst 4500 E-Series 48-Port 10/100/1000 (RJ-45)
WS-X4648-RJ45V-E=	Catalyst 4500 E-Series 48-port PoE 802.3af 10/100/1000 (RJ-45)
WS-X4548-GB-RJ45V+	Catalyst 4500 48-port Premium PoE 10/100/1000
WS-X4548-GB-RJ45V+=	Catalyst 4500 48-port Premium PoE 10/100/1000
WS-X4548-GB-RJ45	4500 Enhanced 48-port 10/100/1000 Base-T (RJ-45)
WS-X4548-GB-RJ45=	4500 Enhanced 48-port 10/100/1000 Base-T (RJ-45)
WS-X4506-GB-T	4500 6-port 10/100/1000 PoE or SFP (Optional)
WS-X4506-GB-T=	4500 6-port 10/100/1000 PoE or SFP (Optional)
WS-X4506-GB-T=	
WS-X4248-FE-SFP	4500 48-port 100BASE-X (SFPs Optional)
WS-X4248-FE-SFP=	4500 48-port 100BASE-X (SFPs Optional)
WS-X4148-FX-MT	4500 FE Switching Module, 48-100FX MMF (MTRJ)
WS-X4148-FX-MT=	4500 FE Switching Module, 48-100FX MMF (MTRJ) (Spare)
Catalyst 4500 1000 Base-X GE and 10 GE Line Cards	
WS-X4712-SFP-E	4500 E-Series 10 Gigabit Ethernet Module, 12-port
WS-X4712-SFP-E=	4500 E-Series 10 Gigabit Ethernet Module, 12-port
WS-X4624-SFP-E	4500 E-Series Gigabit Ethernet Module, 24-port
WS-X4624-SFP-E=	4500 E-Series Gigabit Ethernet Module, 24-port
WS-X4612-SFP-E	4500 E-Series Gigabit Ethernet Module, 12-port
WS-X4612-SFP-E=	4500 E-Series Gigabit Ethernet Module, 12-port
WS-X4306-GB	4500 Gigabit Ethernet Module, 6-port (GBIC)
WS-X4306-GB=	4500 Gigabit Ethernet Module, 6-port (GBIC) (Spare)
WS-X4506-GB-T	4500 6-port 10/100/1000 PoE or SFP (Optional)
WS-X4506-GB-T=	4500 6-port 10/100/1000 PoE or SFP (Optional)
WS-X4418-GB	4500 GbE Module, Server Switching 18-port (GBIC)
WS-X4418-GB=	4500 GbE Module, Server Switching 18-port (GBIC)
WS-X4448-GB-SFP	4500 48-port 1000Base-X (SFPs Optional)
WS-X4448-GB-SFP=	4500 48-port 1000Base-X (SFPs Optional)

Product Number	Product Description
Catalyst 4500 Fan Trays	
WS-X4593-E=	Catalyst 4503-E Fan Tray (Spare)
WS-X4596-E=	Catalyst 4506-E Fan Tray (Spare)
WS-X4597+E=	Catalyst 4507R+E Fan Tray (Spare)
WS-X4582+E=	Catalyst 4510R+E Fan Tray (Spare)
Catalyst 4500 Tranceiver Modules	
WS-G5483=	1000BASE-T GBIC
WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode Only)
WS-G5486	1000BASE-LX/LH Long-haul GBIC (Single Mode or Multimode)
WS-G5487	1000Base-ZX Extended-reach GBIC (Single Mode)
GLC-T	1000BASE-T SFP
GLC-SX-MM	GbE SFP, LC Connector SX Transceiver
GLC-LH-SM	GbE SFP, LC Connector LX/LH Transceiver
GLC-FE-100BX-D48	48 Units of GLC-FE-100BX-D
GLC-FE-100BX-D	100BASE-BX10-D SFP
GLC-FE-100BX-U	100BASE-BX10-U SFP
GLC-FE-100FX	100BASE-FX SFP for FE Port
GLC-BX-D	1000BASE-BX SFP, 1490 nm
GLC-BX-U	1000BASE-BX SFP, 1310 nm
GLC-ZX-SM=	1000BASE-ZX SFP
X2-10GB-CX4	10GBASE-CX4 X2 Module
X2-10GB-SR	10GBASE-SR X2 Module
X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LX4	10GBASE-LX4 X2 Module
X2-10GB-LR	10GBASE-LR X2 Module
SFP-10G-SR	10GBASE-SR, SFP+ Module
SFP-H10GB-CU1M	10GBASE-Copper, SFP+ Module 1M
SFP-H10GB-CU3M	10GBASE-Copper, SFP+ Module 3M
SFP-H10GB-CU5M	10GBASE-Copper, SFP+ Module 5M
SFP-H10GB-CU7M	10GBASE-Copper, SFP+ Module 7M
SFP-10G-LR	10GBASE-LR, SFP+ Module
SFP-10G-LRM	10GBASE-LRM, SFP+ Module

Product Overview (continued)

Product Number	Product Description
Catalyst 4500 Compact Flash	
USB-X45-4GB-E	4 GB USB Key for Supervisor 7-E
MEM-X45-2GB-E	2 GB Secure Digital Memory Card for Supervisor 7-E
MEM-C4K-FLD64M	4500 IOS-based Supervisor, Compact Flash, 64MB Option
MEM-C4K-FLD64M=	4500 IOS-based Supervisor, Compact Flash, 64MB Spare
MEM-C4K-FLD128M	4500 IOS-based Supervisor, Compact Flash, 128MB Option
MEM-C4K-FLD128M=	4500 IOS-based Supervisor, Compact Flash, 128MB Spare
MEMC4K-512D-SDRAM=	512 DIMM DRAM for Supervisor V-10 GbE
Catalyst 4500 Accessories	
WS-X4593=	4503 Fan Tray (Spare)
WS-X4596=	4506 Fan Tray (Spare)
WS-X4597=	4507R Fan Tray (Spare)
WS-X4598=	4510R 23-inch Rack-mount
WS-X4581=	4510R 19-inch Rack-mount
WS-X4582=	4510R Fan Tray (Spare)
WS-X4583=	4503 19-inch Rack-mount
WS-X4584=	4503 23-inch Rack-mount
WS-X4585=	4506 19-inch Rack-mount
WS-X4586=	4506 23-inch Rack-mount
WS-X4587=	4507R 19-inch Rack-mount
WS-X4588=	4507R 23-inch Rack-mount
WS-X4K-CLOCK=	4507R/4510R Clock Module (Spare)
WS-X4590=	4507R/4510R Fabric Redundancy Module
WS-X4503-23CNTR=	4503 Center Mount 23-inch Rack Kit L/R
WS-X4503-FILTER=	4503 Center Mount 23-inch Filter (1 Set)
WS-X4506-23CNTR=	4506 Center Mount 23-inch Rack Kit L/R
WS-X4506-FILTER=	4506 Center Mount 23-inch Filter (1 Set)
WS-X4507-23CNTR=	4507R Center Mount 23-inch Rack Kit L/R
WS-X4507-FILTER=	4507R Center Mount 23-inch Filter (1 Set)
WS-X4510-23CNTR=	4510R Center Mount 23-inch Rack Kit L/R
WS-X4510-FILTER=	4510R Center Mount 23-inch Filter (1 Set)
C4K-SLOT-CVR=	4000 Family Slot Cover (Spare)
C4K-UPLINK-CVR	4000 Uplink Cover

Product Number	Product Description
Catalyst 4500 Accessories (continued)	
C4K-UPLINK-CVR=	4000 Uplink Cover (Spare)
CAB-AC-2800W-EU	Europe Power Cord
CAB-AC-2800W-EU=	Europe Power Cord
CAB-AC-2800W-INT	International Power Cord
CAB-AC-2800W-INT=	International Power Cord
CAB-AC-2800W-TWLK	U.S. Power Cord, Twist Lock, NEMA 6-20 Plug
CAB-AC-2800W-TWLK=	U.S. Power Cord, Twist Lock, NEMA 6-20 Plug
CAB-AC-2800W-6-20	Non-locking NEMA Cord for the 2800WAC Power Supply
CAB-AC-2800W-6-20=	Non-locking NEMA Cord for the 2800WAC Power Supply
CAB-US515P-C19-US	NEMA 5-15 to IEC-C19 13-foot US
CAB-US515P-C19-US=	NEMA 5-15 to IEC-C19 13-foot US
CAB-L520P-C19-US	NEMA L5-20 to IEC-C19 6-foot US
CAB-L520P-C19-US=	NEMA L5-20 to IEC-C19 6-foot US
CAB-L620P-C19-US	NEMA L6-20 to IEC-C19 14-foot US
CAB-L620P-C19-US=	NEMA L6-20 to IEC-C19 14-foot US
CAB-US620P-C19-US	NEMA 6-20 to IEC-C19 13-foot US
CAB-US620P-C19-US=	NEMA 6-20 to IEC-C19 13-foot US
CAB-CEE77-C19-EU	CEE 7/7 to IEC-C19 13-foot Europe
CAB-CEE77-C19-EU=	CEE 7/7 to IEC-C19 13-foot Europe
CAB-I309-C19-INT	IEC-309 to IEC-C19 13-foot International
CAB-I309-C19-INT=	IEC-309 to IEC-C19 13-foot International
CAB-A3112-C19-AUS	AS-3112 to IEC-C19 14-foot Australia
CAB-A3112-C19-AUS=	AS-3112 to IEC-C19 14-foot Australia
CAB-C2316-C19-IT=	CEI 23-16 to IEC-C19 14-foot Italy
CAB-C2316-C19-IT	CEI 23-16 to IEC-C19 14-foot Italy
CAB-BS1363-C19-UK	BS-1363 to IEC-C19 14-foot UK
CAB-BS1363-C19-UK=	BS-1363 to IEC-C19 14-foot UK

Product Overview (continued)

Product Number	Product Description
Catalyst 4500 Accessories (continued)	
CAB-4502AC-EU	AC Power Cord for PWR-4502 (Europe)
CAB-4502AC-EU=	AC Power Cord for PWR-4502 (Europe)
CAB-4502AC-UK=	AC Power Cord for PWR-4502 (UK)
CAB-4502AC-US	L6-20 AC Power Cord for PWR-4502 (North America)
CAB-4502AC-US=	AC Power Cord for PWR-4502 (North America)
WS-X4571=	4500 Connection Strap for Auxiliary Power Shelf
CAB-ACS-10	AC Power Cord (Swiss) 10A
CAB-ACS-10=	AC Power Cord (Swiss) 10A
CAB-ACS-16	AC Power Cord (Swiss) 16A
CAB-ACS-16=	AC Power Cord (Swiss) 16A
CAB-S132-C19-ISRL	S132 to IEC-C19 14-foot (Israel)
CAB-S132-C19-ISRL=	S132 to IEC-C19 14-foot (Israel)
CAB-SABS-C15-IND	SABS 164-1 to IEC-C15 (India)
CAB-SABS-C15-IND=	SABS 164-1 to IEC-C15 (India)
CAB-SABS-C19-IND	SABS 164-1 to IEC-C19 (India)
CAB-SABS-C19-IND=	SABS 164-1 to IEC-C19 (India)
WS-X4500-PS01=	Plastic Cover for 4500 Power Shelf (WS-P4502-1)
WS-X4K-CLOCK-E=	Catalyst 4507R-E/4510R-E Clock Module (Spare)
WS-X4590-E=	Catalyst 4507R-E/4510R-E Fabric Redundancy Module
C4K-SLOT-CVR-E	Catalyst 4500 E-Series Family Slot Cover
C4K-SLOT-CVR-E=	Catalyst 4500 E-Series Family Slot Cover (Spare)
WS-X4503E-23CNTR=	C4503 E Center Mount 23-inch Rack Kit L/R C
WS-X4506E-23CNTR=	C4506 E Center Mount 23-inch Rack Kit L/R C
WS-X4507E-23CNTR=	C4507R E Center Mount 23-inch Rack Kit L/R C
WS-X4510E-23CNTR=	C4510R E Center Mount 23-nch Rack Kit L/R C

Product Number	Product Description
CWDM GBIC Solution for Catalyst 4500	
CWDM-GBIC-1470=	1000BASE-CWDM 1470 nm GBIC (Single Mode Only)
CWDM-GBIC-1490=	1000BASE-CWDM 1490 nm GBIC (Single Mode Only)
CWDM-GBIC-1510=	1000BASE-CWDM 1510 nm GBIC (Single Mode Only)
CWDM-GBIC-1530=	1000BASE-CWDM 1530 nm GBIC (Single Mode Only)
CWDM-GBIC-1550=	1000BASE-CWDM 1550 nm GBIC (Single Mode Only)
CWDM-GBIC-1570=	1000BASE-CWDM 1570 nm GBIC (Single Mode Only)
CWDM-GBIC-1590=	1000BASE-CWDM 1590 nm GBIC (Single Mode Only)
CWDM-MUX8A=	8-channel CWDM Multiplexer/Demultiplexer Module
CWDM-OADM1-1470=	Dual Single-channel OADM Module (1470 nm)
CWDM-OADM1-1490=	Dual Single-channel OADM Module (1490 nm)
CWDM-OADM1-1510=	Dual Single-channel OADM Module (1510 nm)
CWDM-OADM1-1530=	Dual Single-channel OADM Module (1530 nm)
CWDM-OADM1-1550=	Dual Single-channel OADM Module (1550 nm)
CWDM-OADM1-1570=	Dual Single-channel OADM Module (1570 nm)
CWDM-OADM1-1590=	Dual Single-channel OADM Module (1590 nm)
CWDM-OADM1-1610=	Dual Single-channel OADM Module (1610 nm)
CWDM-OADM4-1=	4-channel CWDM OADM Module (1470, 1490, 1510, 1530)
CWDM-OADM4-2=	4-channel CWDM OADM Module (1550, 1570, 1590, 16100)
WDM-1300-1550-S=	1300 nm/1550 nm WDM Splitter Cable
WDM-1300-1550-S=	1300 nm/1550 nm WDM Splitter Cable
CWDM-CHASSIS-2=	2-slot Chassis for CWDM Multiplexer Plug-in Modules
WDM-SFP-2CH-CONV=	2-channel WDM SFP-based Transponder
CWDM-MUX-4-SF1=	Single Fiber 4-channel Multiplexer/Demultiplexer
CWDM-MUX-4-SF2=	Single Fiber 4-channel Multiplexer/Demultiplexer
EWDM-MUX8=	8-channel EWDM MUX/DEMUX Module
EWDM-OADM4=	4-channel EWDM OADM Module
EWDM-OADM2=	2-channel EWDM OADM Module
EWDM-OA=	EWDM Optical Amplifier

Notes

Cisco Catalyst Fixed-Configuration Switches

The Cisco Catalyst switch portfolio includes the industry's widest and most versatile selection of fixed-configuration switches, making it easy for customers to find the ideal platform for any deployment. Yet unlike point solutions, these switches share the feature-rich functionality of Cisco IOS software, providing a firm foundation for converged data, voice, and video services.

The Cisco Catalyst 4900, 3750-X, 3750-E, 3750, 3560-X, 3560-E, 3560, 2960-S, 2960, and Catalyst Express 500 Series switches offer an array of connectivity options, from Fast Ethernet to 10 GbE. They range from small, standalone switches to stackable models that function as a single, scalable switching unit. And many models are available with a choice of software images, allowing customers to dictate the level of intelligent network services based on individual needs.

Notes

Cisco Catalyst 4900 Series

High-performance small form-factor switching for datacenter top of rack applications and space constrained LAN aggregation in branch deployments.

The Catalyst 4900 Series are a compact form factor (1-2 RU) family of switches providing wire speed GE and 10 GbE connectivity and services for top of rack server aggregation in the datacenter and for space constrained branch collapsed core/distribution LAN aggregation. The Catalyst 4900 Series includes six Layer 2 & 3 fixed-configuration switches.

The Catalyst 4948E switch offers 48 ports of wire-speed 10/100/1000BASE-T with four 1 Gbps/10 Gigabit Ethernet (10 GbE) uplinks via optional SFP/SFP+ optics in addition to offering true front-to-back airflow.

The Catalyst 4948E-F switch offers 48 ports of wire-speed 10/100/1000BASE-T with four 1 Gbps/10 Gigabit Ethernet (10 GbE) uplinks via optional SFP/SFP+ optics in addition to offering true back-to-front airflow.

The Cisco Catalyst 4900M is a 320 Gbps, two-rack-unit (2 RU) semi-fixed configuration switch with 8 fixed wire-speed 10 GbE ports on the base unit and 2 optional half-card slots for deployment flexibility. Four half-card modules provide additional 10 GbE density or 10/100/1000 copper ports. The 8-port half card supports 1 GE SFPs via the TwinGig adapter.

The Catalyst 4948 switch offers 48 ports of wire-speed 10/100/1000BASE-T with four alternative wired ports that can accommodate optional 1000BASE-X Small Form-factor Pluggable (SFP) optics.

The Catalyst 4948 10 GbE switch offers 48 ports of wire-speed 10/100/1000BASE-T with two wire-speed 10 Gigabit Ethernet (10 GbE) uplinks via optional 10 GbE (X2) optics.

The Catalyst 4928 10 GbE switch offers 28 wire-speed Small Form-Factor Pluggable (SFP) ports with two wire-speed 10 Gigabit Ethernet (10 GbE) uplinks via optional 10 GbE (X2) optics.

All models provide exceptional reliability and serviceability, supporting optional internal AC or DC 1 + 1 hot-swappable power supplies and a hot-swappable fan tray with redundant fans.

These switches are available with either the Lan Base Software image or IP Base Software image or the Enterprise Services Software image. The Enterprise Services Software additionally supports Shortest Path First (OSPF), Intermediate System-to-Intermediate System (IS-IS), Enhanced Interior Gateway Routing Protocol (EIGRP), and Border Gateway Protocol (BGP).

Fixed Switches: Cisco Catalyst 4900 Series

Hardware Features

	WS-C4948	WS-C4948-10GE	WS-C4928-10GE	WS-4900M	WS-C4948-E/WS-C4948E-F
Environmental					
Height	1RU	1RU	1RU	2RU	1RU
Dimension (H x W x D) Inches(cm)	1.71(4.3) x 17.3(43.9) x 16.1(40.9)	1.71(4.3) x 17.3(43.9) x 16.1(40.9)	1.71(4.3) x 17.3(43.9) x 16.1(40.9)	3.5 (8.9) x 17.2 (43.7) x 17.9 (45.5)	1.75(4.4) x 17.5(44.4) x 19.4(49.3)
Power Redundancy	1+1 AC or DC	1+1 AC or DC	1+1 AC or DC	1+1 AC or DC	1+1 AC or DC
Unit Weight Pounds (Kilograms)	16.5 (7.48)	16.5 (7.48)	16.5 (7.48)	34.0 lb (15.4)	19 lbs (8.62)
Hot Swappable Fan	Yes	Yes	Yes	Yes	Yes
Avg/Max Power Consumption	176/300 Watts	212/300 Watts	300 Watts	300/446 Watts	230/275 Watts
Airflow	Side to Back	Side to back	Side to back	Side to Back	Front to Back (4948E)
Rack Mounting Options	Front and Rear Mount	Front and Rear Mount High Perf Rear Mount	Front and Rear Mount	Four Post Rack Side rail Mount High Performance Mount	Front and Rear Mount High Perf Rear Mount
Uplink Optic Types	4 SFP optics	Two X2 (10 Gigabit Ethernet) optics	Two X2 (10 Gigabit Ethernet) optics	Eight X2 (10 Gigabit Ethernet) optics	SFP/SFP+
Cisco TwinGig Converter Module Support	No	No	Yes	Yes (WS-X4908-10GE only)	No
Cisco OneX Converter Module Support (X2 to SFP+)*	No	No	Yes	Yes	No
Optics	LH, SX, ZX, CWDM	LR, CX4, LX4, SR, ER, LRM, ZR, DWDM	LR, CX4, LX4, SR, ER, LRM	X2: LR, CX4, LX4, SR, ER, LRM, ZR, DWDM	32
Modular Half-Card Slots	SFP+: SR	CWDM, DWDM, SR, LR, LRM, CX4	0	0	0
Ports					
Maximum 10/100/1000 Ports	48	48	0	40	48

Hardware Features (continued)

	WS-C4948	WS-C4948-10GE	WS-C4928-10GE	WS-4900M	WS-C4948-E/WS-C4948E-F
Ports (continued)					
Maximum Gigabit Ethernet (Fiber) Ports	4	0	28	32 (Cisco TwinGig Converter Module)	4
Maximum 10 Gigabit Ethernet (10GBase-T) Ports	0	0	0	16	0
Maximum 10 Gigabit Ethernet (fiber) Ports	0	2 (X2)	2 (X2)[1]	24 (X2)[1]	4 (SFP+)
Performance/Scalability					
Switching Capacity	96 Gbps	136 Gbps	96 Gbps	320 Gbps	176 Gbps
Throughput	72 mpps	102 mpps	72 Mpps	250 mpps for IPv4 125 mpps for IPv6	131 mpps for IPv4 110 mpps for IPv6
Routes Supported	32K	32K	32K	256K	57K
MAC Addresses	32K	55K	55K	55K	55K
Per VLAN Spanning Tree (PVST) Protocol and VLAN IDs	4094	4094	4094	4094	4094
Switched Virtual Interfaces (SVIs)	2000	2000	2000	4094	4094
Active VLANs	4094	4094	2048	4094	4094
Multicast Routes	28K	28K	28K	28K	28K
Security and Quality-of-Service (QoS) Hardware Entries	32K	32K	32K	128K	32K
Switched Port Analyzer (SPAN)	2 ingress and 4 egress	2 ingress and 4 egress	2 ingress and 4 egress	8 ingress and 8 egress	8 ingress and 8 egress
Shared Buffer	16 MB	16 MB	16 MB	17.5 MB	17.5 MB
CPU	266 MHz	666 MHz	666 MHz	1.3 GHz	1 GHz
Synchronous Dynamic RAM (SDRAM)	256 MB	256 MB	256 MB	512 MB	1 GB
IPv6 Support	Software Switched	Software Switched	Software Switched	Hardware Switched	Hardware Switched
USB Port	No	No	No	Yes	No
Compact Flash Memory Support	No	No	No	Yes	No
System Reset Button	No	No	Yes	Yes	Yes
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0	0	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0	0	0	0

* X2 can be converted to SFP+ using OneX Converter Module.

Cisco Catalyst 4900 Series Spotlight

Wire-speed Performance

The Cisco Catalyst 4900 Series delivers wire-speed throughput on all ports from 96 Gbps to 320 Gbps with low-latency for data-intensive applications. Switching performance is guaranteed regardless of the number of route entries or Layer 3 and 4 services enabled. The hardware-based Cisco Express Forwarding (CEF) routing architecture allows for increased scalability and performance.

Exceptional Reliability

The Cisco Catalyst 4900 Series offers redundant hot-swappable internal AC or DC power supplies for nonstop operation. The 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. The Cisco Catalyst 4900 Series also features a hot-swappable fan tray with four redundant fans for additional serviceability and availability.

Product Overview

Product Number	Product Description
Catalyst 4900 Switches	
WS-C4948E	4948E, LB S/W, 48-port 10/100/1000+4*1/10 GE (SFP/SFP+) ports, no p/s, Front-to-back Airflow
WS-C4948E-S	4948E, IPB S/W, 48-port 10/100/1000+4*1/10 GE (SFP/SFP+) ports, AC p/s, Front-to-back Airflow
WS-C4948E-E	4948E, ES Image, 48-port 10/100/1000+4*1/10 GE (SFP/SFP+) ports, AC p/s, Front-to-back Airflow
WS-C4948E-F	4948E-F, LB S/W, 48-port 10/100/1000+4*1/10 GE (SFP/SFP+) ports, no p/s, Back-to-front Airflow
WS-C4948E-F-S	Base System with 8-port (X2) and 2 Half Slots
WS-C4948E-F-E	4 Port Wire Speed 10 GbE Card for 4900M
WS-C4900M	8 Port 2:1 10 GbE Card for 4900M
WS-X4904-10GE	20 Port 10/100/1000 RJ-45 Card for 4900M
WS-X4908-10GE	8-port 2:1 10GBASE-T Card for 4900M
WS-X4920-GB-RJ45	4948, Optional S/W, 48-port10/100/1000+2*10 GbE (X2), No Power Supply
WS-X4908-10G-RJ45	4948, Optional S/W, 48-port10/100/1000+2*10 GbE (X2), No Power Supply
WS-C4948-10GE	4948, IPB S/W, 48-port 10/100/1000+2*10 GbE (X2), 1 AC Power Supply
WS-C4948-10GE-S	4948, ES Image, 48-port 10/100/1000+2*10 GbE (X2), 1 AC Power Supply
WS-C4948-10GE-E	4948, ES Image, 48-port 10/100/1000+2*10 GbE (X2), 1 AC Power Supply
WS-C4928-10GE	4928, Optional S/S, 28-port 1000Base-X (SFP) +2*10 GbE (X2), No Power Supply
WS-C4948-S	4948, IPB S/W, 48-port 10/100/1000+4 SFP, 1 AC Power Supply
WS-C4948-E	4948, ES S/W 48-port 10/100/1000+4 SFP, 1 AC Power Supply
WS-C4948	4948, Optional S/W, 48-port 10/100/1000+4 SFP, No Power Supply

Product Overview (continued)

Product Number	Product Description
Catalyst 4900 Transceiver Modules	
GLC-T	1000BASE-T SFP
GLC-SX-MM	GbE SFP, LC Connector SX Transceiver
GLC-LH-SM	GbE SFP, LC Connector LX/LH Transceiver
GLC-BX-D	1000BASE-BX SFP, 1490nm
GLC-BX-U	1000BASE-BX SFP, 1310nm
GLC-ZX-SM	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 NM SFP Gigabit Ethernet and 1G/2G FC
X2-10GB-CX4	10GBASE-CX4 X2 Module
X2-10GB-ER	10GBASE-ER X2 Module
X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-SR	10GBASE-SR X2 Module
X2-10GB-LX4	10GBASE-LX4 X2 Module
X2-10GB-LR	10GBASE-LR X2 Module
SFP-10G-SR	10GBASE-SR SFP+ Module
SFP-10G-LR	10GBASE-LR SFP+ Module
SFP-10G-ER	10GBASE-ER SFP+ Module
SFP-10G-LRM	10GBASE-LRM SFP+ Module
SFP-H10GB-CU1M	10GBASE-CU SFP+ Cable 1 Meter, passive SFP+ Module
SFP-H10GB-CU3M	10GBASE-CU SFP+ Cable 3 Meter, passive SFP+ Module
SFP-H10GB-CU5M	10GBASE-CU SFP+ Cable 5 Meter, passive CX1 SFP+ Module
SFP-H10GB-ACU7M	10GBASE-CU SFP+ Cable 7 Meter, active SFP+ Module
SFP-H10GB-ACU10M	10GBASE-CU SFP+ Cable 10 Meter, active SFP+ Module
CVR-X2-SFP	TwinGig Converter Module
CVR-X2-SFP10G	OneX Converter Module

Product Overview (continued)

Product Number	Product Description
Catalyst 4900 Accessories	
PWR-C49E-300AC-R	4948E 300-Watt AC Power Supply
PWR-C49E-300AC-F	4948E-F 300-Watt AC Power Supply
PWR-C49-300DC-F	4948E-F 300-Watt DC Power Supply
PWR-C49M-1000AC	4900M AC Power Supply, 1000W
PWR-C49M-1000AC=	4900M AC Power Supply, 1000W
PWR-C49M-1000AC/2	Redundant AC Power Supply for 4900M
PWR-C49M-1000DC	4900M DC power supply
PWR-C49M-1000DC/2	4900M DC power supply redundant
PWR-C49-300AC	4948 300-Watt AC Power Supply
PWR-C49-300AC=	4948 300-Watt AC Power Supply (Spare)
PWR-C49-300AC/2	4948 300-Watt AC Power Supply Redundant
PWR-C49-300DC	4900 300-Watt DC Power Supply
PWR-C49-300DC=	4900 300-Watt DC Power Supply (Spare)
PWR-C49-300DC/2	4900 300-Watt DC Power Supply Redundant
WS-X4993-F	4900E-F Fan Tray
WS-X4992=	4900M Fan Tray (Spare)
WS-X4991=	4948 Fan Tray (Spare)
C4948-ACC-KIT=	4900 Spare Accessory Kit
C4948-BKT-KIT=	4900 Front and Rear Mount Brackets

Cisco Catalyst 3750-X Series

The Cisco Catalyst 3750-X Series Switches are an enterprise-class lines of stackable switches. These switches provide high availability, scalability, security, energy efficiency, and ease of operation with innovative features such as Cisco StackPower, IEEE 802.3at Power over Ethernet Plus (PoE+) configurations, optional network modules, redundant power supplies, and Media Access Control Security (MACsec) features. The Cisco Catalyst 3750-X Series with StackWise® Plus technology provides scalability, ease of management and investment protection for the evolving business needs. The Cisco Catalyst 3750-X enhances productivity by enabling applications such as IP telephony, wireless, and video for borderless network experience.

Key Features

- 24 and 48 10/100/1000 PoE+ and non-PoE models
- Optional four Gigabit Ethernet (GbE) SFP or two 10 GbE SFP+ uplink network modules
- Industry first PoE+ with 30W power on all ports in 1 rack unit (RU) form factor
- Dual redundant, modular power supplies and fans
- Media Access Control Security (MACsec) hardware-based encryption
- IPv4 and IPv6 routing, Multicast routing, advanced quality of service (QoS), and security features in hardware
- Enhanced limited lifetime warranty (LLW) with next business day (NBD) advance hardware replacement and 90 day access to Cisco Technical Assistance Center (TAC) support
- Enhanced Cisco EnergyWise for operational cost optimization by measuring actual power consumption of the PoE devices, reporting, and reducing energy consumption across the network
- USB Type-A and Type-B ports for storage and console respectively and an out-of-band Ethernet management port.
- Cisco StackPower™ technology: An innovative feature and industry first for sharing power among stack members
- Cisco StackWise Plus technology for ease of use and resiliency with 64 Gbps of throughput
- Investment protection with backward compatibility with all other models of Cisco Catalyst 3750 Series Switches

Hardware Features

	WS-C3750X-24T	WS-C3750X-48T	WS-C3750X-24P	WS-C3750X-48P	WS-C3750X-48PF
Switching Fabric (Gbps)	160	160	160	160	160
Maximum Stack Members	9	9	9	9	9
Clustering	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster
Total Bandwidth of Stack (Gbps)	64	64	64	64	64
Packets per Second per Box (Mpps)	65.5	101.2	65.5	101.2	101.2
MAC Addresses Supported	12,000	12,000	12,000	12,000	12,000
Routes Supported	11,000	11,000	11,000	11,000	11,000
Onboard Memory (DRAM MB)	256	256	256	256	256
10 GbE Density	2	2	2	2	2
Gigabit Ethernet GBIC/SFP Density	4	4	4	4	4
10 GbE XENPAK/X2Port Density	0	0	0	0	0
10/100/1000 Density	24	48	24	48	48
10/100 Density	0	0	0	0	0
100BASE-FX Density	0	0	0	0	0
Maximum Watt Power Consumption (100% Forwarding without PoE Load)	93.5	120	99.3	133.9	137.2
PoE+: Maximum 802.3at devices (30W)	0	0	24	48	48
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	0	24	48	48
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	0	24	48	48
AC/DC Support	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available
Redundant Power Supply Support	Yes	Yes	Yes	Yes	Yes
Dimensions (H x W x D) Inches	1.75 x 17.5 x 18.0	1.75 x 17.5 x 18.0	1.75 x 17.5 x 18.0	1.75 x 17.5 x 18.0	1.75 x 17.5 x 19.5
Dimensions (H x W x D) Centimeters	4.45 x 44.5 x 46.0	4.45 x 44.5 x 46.0	4.45 x 44.5 x 46.0	4.45 x 44.5 x 46.0	4.45 x 44.5 x 49.5
Unit Weight Pounds (Kilograms)	15.6(7.1)	16.3(7.4)	15.8(7.2)	16.5(7.5)	16.7(7.6)

For further information on the Cisco Catalyst 3750 Metro Ethernet Series, go to:
http://www.cisco.com/en/US/partner/products/hw/switches/ps5532/index.html

Cisco Catalyst 3750-X Spotlight

Cisco StackPower Technology

The Cisco Catalyst 3750-X Series introduces Cisco StackPower technology, an innovative power interconnect system that allows the power supplies in a stack to be shared as a common resource among all the switches. Cisco StackPower unifies the individual power supplies installed in the switches and creates a pool of power, directing that power where it is needed. Up to four switches can be configured in a StackPower stack with the special connector at the back of the switch using the StackPower cable. StackPower can be deployed in either power sharing mode or redundancy mode. In power sharing mode, the power of all the power supplies in the stack is aggregated and distributed among the switches in the stack. In redundant mode, when the total power budget of the stack is calculated, the wattage of the largest power supply is not included. That power is held in reserve and used to maintain power to switches and attached devices when one power supply fails, enabling the network to operate without interruption. StackPower eliminates the need for an external redundant power system or installation of dual power supplies in all the stack members.

MACsec

The Cisco Catalyst 3750-X and 3560-X Series Switches offer exceptional security with integrated hardware support for MACsec defined in IEEE 802.1AE. MACsec provides MAC layer encryption over wired networks using out-of-band methods for encryption keying. The MACsec Key Agreement (MKA) protocol provides the required session keys and manages the keys required for encryption when configured. MKA and MACsec are implemented following successful authentication using 802.1x Extensible Authentication Protocol (EAP) framework. In Cisco Catalyst 3750-X and 3560-X Series Switches only the user/down-link ports (links between the switch and endpoint devices such as a PC or IP phone) can be secured using MACsec.

Software Features

Cisco Catalyst 3750-X Series is orderable with three feature sets:

- The LAN Base feature set offers enhanced intelligent services that include comprehensive Layer 2 features.
- The IP Base feature set provides baseline enterprise services, including the support for routed access, StackPower, and MACsec.
- The IP Services feature set provides full enterprise services that include advanced Layer 3 features such as Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Border Gateway Protocol (BGP), Protocol Independent Multicast (PIM), and IPv6 routing such as OSPFv3 and EIGRPv6.

Product Overview

Product Number	Product Description
Catalyst 3750-X Series	
WS-C3750X-24T-L	Stackable 24 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3750X-48T-L	Stackable 48 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3750X-24P-L	Stackable 24 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3750X-48P-L	Stackable 48 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3750X-48PF-L	Stackable 48 10/100/1000 Ethernet PoE+ Ports, with 1100W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3750X-24T-S	Stackable 24 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, IP Base Feature Set
WS-C3750X-48T-S	Stackable 48 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, IP Base Feature Set
WS-C3750X-24P-S	Stackable 24 10/100/1000 Ethernet PoE+ ports, with 715W AC power supply 1 RU, IP Base Feature Set
WS-C3750X-48P-S	Stackable 48 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, IP Base feature set
WS-C3750X-48PF-S	Stackable 48 10/100/1000 Ethernet PoE+ Ports, with 1100W AC Power Supply 1 RU, LAN Base Feature Set
Network Modules for the Catalyst 3750-X Series	
C3KX-NM-1G=	1G Network Module Spare
C3KX-NM-10G=	10G Network Module Spare
C3KX-NM-BLANK=	Network Module Blank Spare
Power Supplies and Fan for the Catalyst 3750-X Series	
C3KX-PWR-350WAC=	350W AC Power Supply
C3KX-PWR-715WAC=	715W AC Power Supply
C3KX-PWR-1100WAC=	1100W AC Power Supply
C3KX-PWR-440WDC=	440W DC Power Supply
C3KX-PWR-BLANK=	Power Supply Blank Spare
C3KX-FAN-23CFM=	Fan Module Spare
eXpandable Power System (XPS) for the Catalyst 3750-X Series	
XPS-2200	eXpandable Power System 2200
CAB-XPS-58CM=	XPS Cable 58 cm Spare
CAB-XPS-150CM=	XPS Cable 150 cm Spare
XPS-2200-FAN=	XPS 2200 Fan Module Spare

Product Overview (continued)

Product Number	Product Description
StackWise and StackPower Cables	
CAB-STACK-50CM=	Cisco StackWise 50 cm Stacking Cable
CAB-STACK-1M=	Cisco StackWise 1 m Stacking Cable
CAB-STACK-3M=	Cisco StackWise 3 m Stacking Cable
CAB-STACK-50CM-NH=	Cisco StackWise 50 cm Non-halogen Lead-free Stacking Cable
CAB-STACK-1M-NH=	Cisco StackWise 1 m Non-halogen Lead-free Stacking Cable
CAB-STACK-3M-NH=	Cisco StackWise 3 m Non-halogen Lead-free Stacking Cable
CAB-SPWR-30CM=	Catalyst 3750-X StackPower Cable 30 cm Spare
CAB-SPWR-150CM=	Catalyst 3750-X StackPower Cable 150 cm Spare
SFP+ Transceivers for Catalyst 3750-X Series	
SFP-10G-LR=	10GBASE-LR SFP+ Module
SFP-10G-SR=	10GBASE-SR SFP+ Module
SFP-10G-LRM=	10GBASE-LRM SFP+ Module
SFP-10G-CX1=	10GBASE-CX1 SFP Module
SFP-10G-CX3=	10GBASE-CX3 SFP Module
SFP-10G-CX5=	10GBASE-CX5 SFP Module
SFP Transceivers for Catalyst 3750-X Series	
GLC-GE-100FX=	100BASE-FX SFP on Gigabit Ethernet SFP Ports
GLC-LH-SM=	Gigabit Ethernet SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	Gigabit Ethernet SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm
CWDM-SFP-1470=	Coarse Wavelength-division Multiplexing (CWDM) 1470 nm SFP Gigabit Ethernet and 1G/2G Fibre Channel (FC)
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
GLC-GE-100FX=	100BASE-FX SFP on Gigabit Ethernet SFP Ports
GLC-LH-SM=	Gigabit Ethernet SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	Gigabit Ethernet SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP

Product Number	Product Description
SFP Transceivers for Catalyst 3750-X Series (continued)	
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm
CWDM-SFP-1470=	Coarse Wavelength-division Multiplexing (CWDM) 1470 nm SFP Gigabit Ethernet and 1G/2G Fibre Channel (FC)
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
DWDM-SFP-3033=	Dense Wavelength-division Multiplexing (DWDM) SFP 1530.33 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3112=	DWDM SFP 1531.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3190=	DWDM SFP 1531.90 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3268=	DWDM SFP 1532.68 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3425=	DWDM SFP 1534.25 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3504=	DWDM SFP 1535.04 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3582=	DWDM SFP 1535.82 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3661=	DWDM SFP 1536.61 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3819=	DWDM SFP 1538.19 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3898=	DWDM SFP 1538.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3977=	DWDM SFP 1539.77 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4056=	DWDM SFP 1540.56 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4214=	DWDM SFP 1542.14 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4294=	DWDM SFP 1542.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4373=	DWDM SFP 1543.73 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4453=	DWDM SFP 1544.53 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4612=	DWDM SFP 1546.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4692=	DWDM SFP 1546.92 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4772=	DWDM SFP 1547.72 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4851=	DWDM SFP 1548.51 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5012=	DWDM SFP 1550.12 nm SFP (100 GHz ITU Grid)

Product Overview (continued)

Product Number	Product Description
SFP Transceivers for Catalyst 3750-X Series (continued)	
DWDM-SFP-5092=	DWDM SFP 1550.92 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5172=	DWDM SFP 1551.72 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5252=	DWDM SFP 1552.52 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5413=	DWDM SFP 1554.13 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5494=	DWDM SFP 1554.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5575=	DWDM SFP 1555.75 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5655=	DWDM SFP 1556.55 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5817=	DWDM SFP 1558.17 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5898=	DWDM SFP 1558.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5979=	DWDM SFP 1559.79 nm SFP (100 GHz ITU Grid)
DWDM-SFP-6061=	DWDM SFP 1560.61 nm SFP (100 GHz ITU Grid)
Catalyst 3750-X Series Product Activation Keys	
C3750X-LIC=	Product Activation Keys for 3750-X Series
3750-X LAN Base to IP Base Upgrade License	
C3750X-24-L-S=	C3750X-24 LAN Base to IP Base Paper License
C3750X-48-L-S=	C3750X-48 LAN Base to IP Base Paper License
L-C3750X-24-L-S=	C3750X-24 LAN Base to IP Base E-License
L-C3750X-48-L-S=	C3750X-48 LAN Base to IP Base E-License
LL-C3750X-24-L-S=	C3750X-24 LAN Base to IP Base E-License for Used Switch
LL-C3750X-48-L-S=	C3750X-48 LAN Base to IP Base E-License for Used Switch
3750-X IP Base to IP Services Upgrade	
C3750X-24-IOS-S-E	C3750X-24 IP Base to IP Services Factory IOS Upgrade
C3750X-48-IOS-S-E	C3750X-48 IP Base to IP Services Factory IOS Upgrade
C3750X-24-S-E=	C3750X-24 IP Base to IP Services Paper License
C3750X-48-S-E=	C3750X-48 IP Base to IP Services Paper License
L-C3750X-24-S-E=	C3750X-24 IP Base to IP Services E-License
L-C3750X-48-S-E=	C3750X-48 IP Base to IP Services E-License
LL-C3750X-24-S-E=	C3750X-24 IP Base to IP Services E-License for Used Switch
LL-C3750X-48-S-E=	C3750X-48 IP Base to IP Services E-License for Used Switch

Product Number	Product Description
3750-X LAN Base to IP Services Upgrade	
C3750X-24-IOS-S-E	C3750X-24 IP Base to IP Services Factory IOS Upgrade
C3750X-48-IOS-S-E	C3750X-48 IP Base to IP Services Factory IOS Upgrade
C3750X-24-S-E=	C3750X-24 IP Base to IP Services Paper License
C3750X-48-S-E=	C3750X-48 IP Base to IP Services Paper License
L-C3750X-24-S-E=	C3750X-24 IP Base to IP Services E-License
L-C3750X-48-S-E=	C3750X-48 IP Base to IP Services E-License
LL-C3750X-24-S-E=	C3750X-24 IP Base to IP Services E-License for Used Switch
Spare Power Cords for the Catalyst 3750-X Series	
CAB-3KX-AC=	AC Power Cord for Catalyst 3K-X (North America)
CAB-3KX-AC-AP=	AC Power Cord for Catalyst 3K-X (Australia)
CAB-3KX-AC-AR=	AC Power Cord for Catalyst 3K-X (Argentina)
CAB-3KX-AC-SW=	AC Power Cord for Catalyst 3K-X (Switzerland)
CAB-3KX-AC-UK=	AC Power Cord for Catalyst 3K-X (United Kingdom)
CAB-3KX-AC-JP=	AC Power Cord for Catalyst 3K-X (Japan)
CAB-3KX-AC-EU=	AC Power Cord for Catalyst 3K-X (Europe)
CAB-3KX-AC-IT=	AC Power Cord for Catalyst 3K-X (Italy)
CAB-3KX-AC-IN=	AC Power Cord for Catalyst 3K-X (India)
CAB-3KX-AC-CN=	AC Power Cord for Catalyst 3K-X (China)
CAB-3KX-AC-DN=	AC Power Cord for Catalyst 3K-X (Denmark)
CAB-3KX-AC-IS=	AC Power Cord for Catalyst 3K-X (Israel)
Spare Accessory and Rack-mount Kits for the Catalyst 3750-X Series	
C3KX-ACC-KIT=	Accessory Kit for Catalyst 3750-X and 3560-X Series
C3KX-RACK-KIT=	Rack-mount Kit for Catalyst 3750-X and 3560-X Series

Notes

Cisco Catalyst 3750-E Series

Fixed-configuration switches offering multilayer switching and Cisco StackWise™ Plus technology for enterprise branch offices and mid-market organizations.

The Cisco Catalyst 3750-E Series with StackWise Plus is an enterprise-class line of stackable wiring closet switches. Combining 10/100/1000 and Power over Ethernet (PoE) configurations with upgradable 1 Gigabit Ethernet to 10 Gigabit Ethernet (10 GbE) uplinks, Catalyst 3750-E Series help enhance worker productivity by enabling applications such as IP telephony, wireless, and video.

Key Features

- TwinGig converter module for migrating uplinks from 1 Gigabit Ethernet (SFP) to 10 GbE (X2)
- Enhanced PoE support with configurations beyond 15.4 watts of support for all ports.
- Industry first portfolio to scale beyond 15.4W per port delivering maximum solution simplicity for 802.11n access point deployments
- StackWise Plus for ease of use and resiliency with 64 Gbps stacking
- Field-replaceable and upgradable power supplies and fan tray
- Wire-rate performance with 68 Gbps non-blocking switching fabric
- Multicast routing, IPv6 routing, and access control list in hardware
- Out-of-band Ethernet management port along with RS-232 console port
- Full backward compatibility with the Catalyst 3750 Series

Hardware Features

	WS-C3750E-24TD	WS-C3750E-48TD	WS-C3750E-24PD	WS-C3750E-48PD	WS-C3750E-48PD-F
Switching Fabric (Gbps)	64	64	64	64	64
Maximum Stack Members	9	9	9	9	9
Clustering	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster
Total Bandwidth of Stack (Gbps)	64	64	64	64	64
Packets per Second per Box (Mpps)	65.5	101.2	65.5	101.2	101.2
MAC Addresses Supported	12,000	12,000	12,000	12,000	12,000
Routes Supported	11,000	11,000	11,000	11,000	11,000
Onboard Memory (DRAM MB)	128	128	128	128	128
10 GbE Density	2	2	2	2	2
Gigabit Ethernet GBIC/SFP Density	4	4	4	4	4
10 GbE XENPAK/X2 Port Density	2	2	2	2	2
10/100/1000 Density	24	48	24	48	48
10/100 Density	0	0	0	0	0
100BASE-FX Density	0	0	0	0	0
Maximum Watt Power Consumption					
265W AC	331	331	331	331	331
265W DC	379	379	379	379	379
750W AC	882	882	882	882	882
1150W AC	1386	1386	1386	1386	1386
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	0	24	24	48
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	0	24	48	48
AC/DC Support	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available
Redundant Power Supply Support	Yes	Yes	Yes	Yes	Yes
Dimensions (H x W x D) Inches	1.73 x 17.5 x 11.8	1.73 x 17.5 x 11.9	1.73 x 17.5 x 11.1	1.73 x 17.5 x 11.11	1.75 x 17.5 x 21.7
Dimensions (H x W x D) Centimeters	4.4 x 44.5 x 30.1	4.4 x 44.5 x 30.2	4.4 x 44.5 x 30.3	4.4 x 44.5 x 30.4	4.45 x 44.5 x 55.2
Unit Weight Pounds (Kilograms)	17.9 (8.1)	18.8 (8.6)	18.3 (8.3)	19.2 (8.75)	20.9 (9.5)

For further information on the Cisco Catalyst 3750 Metro Ethernet Series, go to:
http://www.cisco.com/en/US/partner/products/hw/switches/ps5532/index.html

Cisco Catalyst 3750-E Series Spotlight

Cisco StackWise Plus Technology

A unique stacking architecture optimized for Gigabit and 10 GbE, this technology is designed to respond to additions, deletions, and redeployment while maintaining constant performance. It unites up to nine individual Cisco Catalyst 3750-E switches into a single logical unit, using special interconnect cables and stacking software. Cisco Catalyst 3750-E switches can also be stacked with existing Catalyst 3750 switches. The stack is managed as a single switching unit controlled by a master switch elected from one of the member switches. The master switch automatically creates and updates all the switching and routing tables. A working stack can accept new members or delete old members without service interruption.

Addition of IP Communications

Cisco Catalyst 3750-E Series PoE models support Cisco IP phones and Cisco Aironet® wireless LAN (WLAN) access points, as well as any IEEE 802.3af–compliant end device. The Catalyst 3750-E 24-port models can support 24 simultaneous full-powered PoE ports at 15.4 W for maximum powered device support. The 48-port versions can deliver the necessary power to support all 48 ports at 15.4W.

Software Features

Cisco Catalyst 3750-E Series is orderable with two feature sets:

- The IP Base feature set includes advanced QoS, security, and basic routing functionality.
- The IP Services feature set provides a richer set of enterprise-class features, including advanced hardware-based IP unicast and multicast routing as well as Virtual Route Forwarding (VRF), and policy-based routing (PBR).

Upgrades

- The IP Advanced Services software license can be purchased separately to enable IPv6 routing.

Simplified Management

Available for the Catalyst 3750-E Series, Cisco Network Assistant is a centralized management application that simplifies the administration task of Cisco switches, routers, and wireless access points. Free of charge, Cisco Network Assistant provides configuration wizards that greatly simplify the implementation of converged networks and intelligent network services.

Product Overview

Product Number	Product Description
Catalyst 3750-E Series 10/100/1000 GbE, 10 GbE Workgroup Switch	
WS-C3750E-24TD-S	Catalyst 3750E 24 10/100/1000 + 2* 10 GE (X2), 265W, IPB S/W
WS-C3750E-24TD-E	Catalyst 3750E 24 10/100/1000 + 2* 10 GE (X2), 265W, IPS S/W
WS-C3750E-24TD-SD	Catalyst 3750E 24 10/100/1000 + 2* 10 GE (X2), 265W DC, IPB S/W
WS-C3750E-48TD-S	Catalyst 3750E 48 10/100/1000 + 2* 10 GE (X2), 265W, IPB S/W
WS-C3750E-48TD-E	Catalyst 3750E 48 10/100/1000 + 2* 10 GE (X2), 265W, IPS S/W
WS-C3750E-24PD-S	Catalyst 3750E 24 10/100/1000 PoE + 2* 10 GE (X2), 750W, IPB S/W
WS-C3750E-24PD-E	Catalyst 3750E 24 10/100/1000 PoE + 2*10 GE (X2), 750W, IPS S/W
WS-C3750E-48PD-S	Catalyst 3750E 48 10/100/1000 PoE + 2* 10 GE (X2), 750W, IPB S/W
WS-C3750E-48PD-E	Catalyst 3750E 48 10/100/1000 PoE + 2* 10 GE (X2), 750W, IPS S/W
WS-C3750E-48PD-SF	Catalyst 3750E 48 10/100/1000 PoE + 2* 10 GE (X2), 1150W, IPB S/W
WS-C3750E-48PD-EF	Catalyst 3750E 48 10/100/1000 PoE + 2* 10 GE (X2), 1150W, IPS S/W
WS-C3750E-48TD-SD	Catalyst 3750E 48 10/100/1000 + 2* 10 GE (X2), 265W DC, IPB S/W
Catalyst 3750-E Series Product Activation Keys	
3750E-AISK9LCBQTY	Advanced IP Services for 3750-E, 24 Ports, Upgrade from Base
3750E-AISK9LCSQTY	Advanced IP Services for 3750-E, 24 Ports, Upgrade from IPS
3750E48-AISK9LCBQ	Advanced IP Services for 3750-E, 48 Ports, Upgrade from Base
3750E48-AISK9LCSQ	Advanced IP Services for 3750-E, 48 Ports, Upgrade from IPS
3750E48-IPSLCB-QTY	IP Services for 3750-E, 48 Ports, Upgrade from IP Base
3750E-IPB-LIC-QTY	IP Base for 3750-E (Default License)
3750E-IPSLCB-QTY	IP Services for 3750-E, 24 Ports, Upgrade from IP Base
Power Supplies for the Catalyst 3750-E Series	
C3K-BLWR-60CFM=	Fan Module for the 3750-E and 3560-E
C3K-PWR-265WAC=	3750-E/3560-E 265W AC Power Supply (Spare)
C3K-PWR-265WDC=	3750-E/3560-E 265W DC Power Supply (Spare)
C3K-PWR-750WAC=	3750-E/3560-E/RPS 2300 750W AC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150W AC Power Supply (Spare)
TwinGig Converter Module for the Catalyst 3750-E Series	
CVR-X2-SFP	Cisco TwinGig Converter Module
CVR-X2-SFP=	Cisco TwinGig Converter Module
SFPs for the Catalyst 3750-E Series	
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm

Product Overview (continued)

Product Number	Product Description
SFPs for the Catalyst 3750-E Series (continued)	
GLC-GE-100FX=	100FX SFP on GbE SFP Ports for DSBU Switches
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm
GLC-GE-100FX=	100BASE-FX SFP for GE SFP Port on 3750, 3560, 2970, 2960
GLC-LH-SM=	GE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GE SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
DWDM-SFP-3033=	DWDM SFP 1530.33 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3112=	DWDM SFP 1531.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3190=	DWDM SFP 1531.90 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3268=	DWDM SFP 1532.68 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3425=	DWDM SFP 1534.25 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3504=	DWDM SFP 1535.04 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3582=	DWDM SFP 1535.82 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3661=	DWDM SFP 1536.61 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3819=	DWDM SFP 1538.19 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3898=	DWDM SFP 1538.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3977=	DWDM SFP 1539.77 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4056=	DWDM SFP 1540.56 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4214=	DWDM SFP 1542.14 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4294=	DWDM SFP 1542.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4373=	DWDM SFP 1543.73 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4453=	DWDM SFP 1544.53 nm SFP (100 GHz ITU Grid)

Product Number	Product Description
X2 for Catalyst 3750-E	
X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LR=	10GBASE-LR X2 Module
X2-10GB-LRM=	10GBASE-LRM X2 Module
X2-10GB-SR=	10GBASE-SR X2 Module
X2-10GB-LX4=	10GBASE-LX4 X2 Module
X2-10GB-CX4=	10GBASE-CX4 X2 Module
10GBASE-CX4 X2 Module	
CSS5-CABLX-LCSC=	CSS11500 10-meter Fiber Single-mode LX LC-to-SC Connectors
CSS5-CABSX-LC=	CSS11500 10-meter Fiber Multimode SX LC Connectors
CSS5-CABSX-LCSC=	CSS11500 10-meter Fiber Multimode SX LC-to-SC Connectors
Power Cords for the Catalyst 3750-E Series	
CAB-AC	Power Cord, US
CAB-AC=	Power Cord, US
CAB-16AWG-AC	Power Cord, 16 AWG
CAB-16AWG-AC=	Power Cord, 16 AWG
CAB-ACA	Power Cord, Australia
CAB-ACA=	Power Cord, Australia
CAB-ACR	Power Cord, Argentina
CAB-ACR=	Power Cord, Argentina
CAB-ACS	Power Cord, Switzerland
CAB-ACS=	Power cord, Switzerland
CAB-ACU	Power Cord, UK
CAB-ACU=	Power Cord, UK
CAB-JPN=	Power Cord, Japan
CAB-IND=	Power Cord, India
CAB-ACE	Power Cord, Europe
CAB-ACE=	Power Cord, Europe
CAB-ACI	Power Cord, Italy
CAB-ACI=	Power Cord, Italy
CAB-JPN	Power Cord, Japan
CAB-IND	Power Cord, India

Product Overview (continued)

Product Number	Product Description
Power Cords for the Catalyst 3750-E Series (continued)	
CAB-ACI	Power Cord, Italy
CAB-ACI=	Power Cord, Italy
CAB-JPN	Power Cord, Japan
CAB-IND	Power Cord, India
CAB-L620P-C13-JPN	Power Cord, 250V AC, 15A, NEMA L6-20 to C13, Japan
CAB-L620P-C13-JPN=	Power Cord, 250V AC, 15A, NEMA L6-20 to C13, Japan
CAB-L620P-C13-US	Power Cord, 250V AC, 15A, NEMA L6-20 to C13, US
CAB-L620P-C13-US=	Power Cord, 250V AC, 15A, NEMA L6-20 to C13, US
Spare Rack-mount Kits for the 3750-E Series	
RCKMNT-E-1RU=	Rack-mount Kit 1 RU 19 in. for Catalyst 3750-E and 3560-E Series
RCKMNT-E-MISC=	Rack-mount 1 RU 23 in. 24 in. ETSI Wall-mount for Catalyst 3750-E and 3560-E
Catalyst 3750-E Relicensing for Used Equipment	
3750E-LIC=	Product Activation Key for 3750 E
RPS 2300 for the Catalyst 3750 Series	
PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, no Power Supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300	Bay Insert for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300	RPS 2300 Cable for Devices other than E-Series Switches
CAB-RPS2300=	Spare RPS2300 Cable for Devices other than E-Series Switches
CAB-RPS2300-E	RPS2300 Cable for 3750E/3560E Switches
CAB-RPS2300-E=	Spare RPS2300 Cable for 3750E/3560E Switches
PWR-RPS2300=	Spare Cisco RPS 2300 with Blower, PS Blank, no Power Supply
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300
C3K-PWR-750WAC=	3750-E/3560-E/RPS 2300 750WAC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150WAC Power Supply (Spare)

Product Number	Product Description
Cisco StackWise Cables for the Catalyst 3750-E Series	
CAB-STACK-50CM=	Cisco StackWise 50 cm Stacking Cable
CAB-STACK-1M	Cisco StackWise 1M Stacking Cable
CAB-STACK-1M=	Cisco StackWise 1M Stacking Cable
CAB-STACK-3M	Cisco StackWise 3M Stacking Cable
CAB-STACK-3M=	Cisco StackWise 3M Stacking Cable
CAB-STACK-50CM-NH	Cisco StackWise 50 cm Non-Halogen Lead-free Stacking Cable
CAB-STACK-50CM-NH=	Cisco StackWise 50 cm Non-Halogen Lead-free Stacking Cable
CAB-STACK-1M-NH	Cisco StackWise 1M Non-Halogen Lead-free Stacking Cable
CAB-STACK-1M-NH=	Cisco StackWise 1M Non-Halogen Lead-free Stacking Cable
CAB-STACK-3M-NH	Cisco StackWise 3M Non-Halogen Lead-free Stacking Cable
CAB-STACK-3M-NH=	Cisco StackWise 3M Non-Halogen Lead-free Stacking Cable
X2-10GB-CX4=	10GBASE-CX4 X2 Module

Notes

Cisco Catalyst 3750 Series

Fixed-configuration switches offering multilayer switching and Cisco StackWise™ technology for enterprise branch offices and mid-market organizations.

The Cisco Catalyst 3750 Series is an innovative line of multilayer Fast Ethernet and Gigabit Ethernet switches featuring Cisco StackWise technology, a 32 Gbps stack interconnect that allows customers to build a unified, highly resilient switching system—one switch at a time.

Up to nine Catalyst 3750 Series switches can be stacked in any combination, enabling organizations to mix and match to meet specific requirements. Additional 10/100, 10/100/100, 10 Gigabit Ethernet (10 GbE), and Power over Ethernet (PoE) connectivity can be deployed as necessary, offering a simple and cost-effective pay-as-you-go approach to network upgrades.

The Catalyst 3750 Series can be purchased with the IP Base (formerly called SMI) or IP 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, ACLs, and basic routing functionality. The IP Services license provides a richer set of enterprise-class features, including advanced hardware-based IP Unicast and IP Multicast routing as well as Policy-based Routing (PBR). The Advanced IP Services license adds IPv6 routing and advanced IP services.

Cisco Catalyst 3750 Series Spotlight

Cisco StackWise Technology

A unique stacking architecture optimized for Gigabit Ethernet, this technology is designed to respond to additions, deletions, and redeployment while maintaining constant performance. It unites up to nine individual Catalyst 3750 switches into a single logical unit, using special interconnect cables and stacking software. The stack is managed as a single switching unit controlled by a master switch elected from one of the member switches. The master switch automatically creates and updates all the switching and routing tables. A working stack can accept new members or delete old members without service interruption.

Addition of IP Communications

Cisco Catalyst 3750 Series PoE models support Cisco IP phones and Cisco Aironet® wireless LAN (WLAN) access points, as well as any IEEE 802.3af–compliant end device. The Catalyst 3750 24-port models can support 24 simultaneous full-powered PoE ports at 15.4W for maximum powered device support. The 48-port versions can deliver the necessary power to support 24 ports at 15.4W, 48 ports at 7.3W, or any combination in between.

Hardware Features

	WS-C3750V2-24TS	WS-C3750V2-48TS	WS-C3750V2-24PS	WS-C3750V2-48PS	WS-C3750G-24WS
Switching Fabric (Gbps)	32	32	32	32	32
Maximum Stack Members	9	9	9	9	4
Clustering	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster
Total Bandwidth of Stack (Gbps)	32	32	32	32	32
Packets per Second per Box (Mpps)	6.5	13.1	6.5	13.1	38.7
MAC Addresses Supported	12,000	12,000	12,000	12,000	12,000
Routes Supported	11,000	11,000	11,000	11,000	11,000
Onboard Memory (DRAM MB)	128	128	128	128	128
10 GbE Density	0	0	0	0	1
Gigabit Ethernet GBIC/SFP Density	2	4	2	4	0
10 GbE XENPAK/X2 Port Density	0	0	0	0	1
10/100/1000 Density	0	0	0	0	16
10/100 Density	24	48	24	48	0
100BASE-FX Density	0	0	0	0	0
Maximum Watt Power Consumption	39	57	444	458	255
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	0	24	24	24
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	0	24	48	24
AC/DC Support	AC Only	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	Yes	Yes	Yes	Yes	Yes
Dimensions (H x W x D) Inches	1.73 x 17.46 x 11.62	1.73 x 17.46 x 11.62	1.73 x 17.46 x 11.62	1.73 x 17.46 x 11.62	3.5 x 17.5 x 14.5
Dimensions (H x W x D) Centimeters	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	8.9 x 44.5 x 38.6
Unit Weight Pounds (Kilograms)	8.2 (3.7)	9.2 (4.2)	10 (4.6)	11 (5)	21 (9.5)

Product Overview

Product Number	Product Description
Catalyst 3750 Series 10/100/1000, GbE, 10 GbE Workgroup Switch	
WS-C3750G-24T-S	3750 24-port 10/100/1000T Standard Multilayer Image
WS-C3750G-24T-E	3750 24-port 10/100/1000T Enhanced Multilayer Image
WS-C3750G-24TS-S	3750 24-port 10/100/1000 + 4 SFP Standard Multilayer; 1.5 RU
WS-C3750G-24TS-E	3750 24-port 10/100/1000 + 4 SFP Enhanced Multilayer; 1.5 RU
WS-C3750G-24TS-S1U	3750 24-port 10/100/1000 + 4 SFP Standard Multilayer; 1 RU
WS-C3750G-24TS-E1U	3750 24-port 10/100/1000 + 4 SFP Enhanced Multilayer; 1 RU
WS-C3750G-24PS-S	3750 24-port 10/100/1000T PoE + 4 SFP Standard Image
WS-C3750G-24PS-E	3750 24-port 10/100/1000T PoE + 4 SFP Enhanced Image
SWLC3750-25-K9	IP Base without Crypto with Web-based Device Manager
WS-C3750G-24WS-S25	3750G Integrated Wireless LAN Controller
WS-C3750G-24WS-S50	3750G Integrated Wireless LAN Controller
WS-C3750G-48TS-S	3750 48-port 10/100/1000T + 4 SFP Standard Multilayer
WS-C3750G-48TS-E	3750 48-port 10/100/1000T + 4 SFP Enhanced Multilayer
WS-C3750G-48PS-S	3750 48-port 10/100/1000T PoE + 4 SFP Standard Image
WS-C3750G-48PS-E	3750 48-port 10/100/1000T PoE + 4 SFP Enhanced Image
WS-C3750G-12S-S	3750 12-port SFP Standard Multilayer Image
WS-C3750G-12S-SD	3750 12-port SFP DC Powered Standard Multilayer Image
WS-C3750G-12S-E	3750 12-port SFP Enhanced Multilayer Image
WS-C3750-24FS-S	3750 24-port 100BaseFX + 2 SFP Standard Multilayer Image
SWLC526K9-42	Wireless LAN Controller Software for WLC526 Express
SWLC3750-50-K9	IP Base without Crypto with Web-based Device Manager
Catalyst 3750v2 Series 10/100 Workgroup Switches	
WS-C3750V2-24FS-S	3750v2 24-port 100BaseFX + 2 SFP Standard Multilayer Image
WS-C3750V2-24PS-S	3750v2 24-port 10/100 PoE + 2 SFP Standard Image
WS-C3750V2-24PS-E	3750v2 24-port 10/100 PoE + 2 SFP Enhanced Image
WS-C3750V2-24TS-S	3750v2 24-port 10/100 + 2 SFP Standard Multilayer Image
WS-C3750V2-24TS-E	3750v2 24-port 10/100 + 2 SFP Enhanced Multilayer Image
WS-C3750V2-48PS-S	3750v2 48-port 10/100 PoE + 4 SFP Standard Image
WS-C3750V2-48PS-E	3750v2 48-port 10/100 PoE + 4 SFP Enhanced Image
WS-C3750V2-48TS-S	3750v2 48-port 10/100 + 4 SFP Standard Multilayer Image
WS-C3750V2-48TS-E	3750v2 48-port 10/100 + 4 SFP Enhanced Multilayer Image

Product Number	Product Description
Catalyst 3750 Series OADM Modules	
CWDM-CHASSIS-2=	2-slot Chassis for CWDM Multiplexer Plug-in Modules
CWDM-MUX8A=	8 Channel CWDM Multiplexer/Demultiplexer Module
CWDM-MUX-4-SF1=	Single Fiber 4 Channel Multiplexer/Demultiplexer
CWDM-MUX-4-SF2=	Single Fiber 4 Channel Multiplexer/Demultiplexer
CWDM-OADM1-1470=	Dual Single Channel OADM Module (1470 nm)
CWDM-OADM1-1490=	Dual Single Channel OADM Module (1490 nm)
CWDM-OADM1-1510=	Dual Single Channel OADM Module (1510 nm)
CWDM-OADM1-1530=	Dual Single Channel OADM Module (1530 nm)
CWDM-OADM1-1550=	Dual Single Channel OADM Module (1550 nm)
CWDM-OADM1-1570=	Dual Single Channel OADM Module (1570 nm)
CWDM-OADM1-1590=	Dual Single Channel OADM Module (1590 nm)
CWDM-OADM1-1610=	Dual Single Channel OADM Module (1610 nm)
CWDM-OADM4-1=	4-channel CWDM OADM Module (1470, 1490, 1510, 1530)
CWDM-OADM4-2=	4-channel CWDM OADM Module (1550, 1570, 1590, 16,100)
WDM-SFP-2CH-CONV=	2-channel WDM SFP-based Transponder
WDM-1300-1550-S=	1300 nm/1550 nm WDM Splitter Cable
EWDM-MUX8=	8-channel EWDM Multiplexer/Demultiplexer Module
EWDM-OADM4=	4-channel EWDM OADM Module
EWDM-OADM2=	2-channel EWDM OADM Module
EWDM-OA=	EWDM Optical Amplifier
IOS Upgrades for the Catalyst 3750v2	
CD-3750-EMI=	IP Services upgrade for the Cisco Catalyst 3750 v2 Series Switches
CD-3750G-EMI=	Enhanced Multilayer Image Upgrade for 24-port 3750 GE Models
CD-3750G-48EMI=	Enhanced Multilayer Image Upgrade for 48-port 3750 GE Models

Product Overview (continued)

Product Number	Product Description
Cisco StackWise Cables for the Catalyst 3750	
CAB-STACK-50CM=	Cisco StackWise 50 cm Stacking Cable
CAB-STACK-1M	Cisco StackWise 1M Stacking Cable
CAB-STACK-1M=	Cisco StackWise 1M Stacking Cable
CAB-STACK-3M	Cisco StackWise 3M Stacking Cable
CAB-STACK-3M=	Cisco StackWise 3M Stacking Cable
CAB-STACK-50CM-NH	Cisco StackWise 50 cm Non-Halogen Lead-free Stacking Cable
CAB-STACK-50CM-NH=	Cisco StackWise 50 cm Non-Halogen Lead-free Stacking Cable
CAB-STACK-1M-NH	Cisco StackWise 1M Non-Halogen Lead-free Stacking Cable
CAB-STACK-1M-NH=	Cisco StackWise 1M Non-Halogen Lead-free Stacking Cable
CAB-STACK-3M-NH	Cisco StackWise 3M Non-Halogen Lead-free Stacking Cable
CAB-STACK-3M-NH=	Cisco StackWise 3M Non-Halogen Lead-free Stacking Cable
SFPs for the Catalyst 3750	
GLC-GE-100FX=	100BASE-FX SFP for GE SFP port on 3750v2, 3560v2, 2970, 2960
GLC-LH-SM=	GE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GE SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
DWDM-SFP-3033=	DWDM SFP 1530.33 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3112=	DWDM SFP 1531.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3190=	DWDM SFP 1531.90 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3268=	DWDM SFP 1532.68 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3425=	DWDM SFP 1534.25 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3504=	DWDM SFP 1535.04 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3582=	DWDM SFP 1535.82 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3661=	DWDM SFP 1536.61 nm SFP (100 GHz ITU Grid)

Product Number	Product Description
SFPs for the Catalyst 3750 (continued)	
DWDM-SFP-3819=	DWDM SFP 1538.19 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3898=	DWDM SFP 1538.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3977=	DWDM SFP 1539.77 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4056=	DWDM SFP 1540.56 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4214=	DWDM SFP 1542.14 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4294=	DWDM SFP 1542.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4373=	DWDM SFP 1543.73 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4453=	DWDM SFP 1544.53 AWG SFP (100 GHz ITU Grid)
XENPAKs for the Catalyst 3750	
C3-XENPAK10GB-LR=	10GBASE-LR XENPAK Module
LC to SC Cables for the Catalyst 3750	
CSS5-CABLX-LCSC=	CSS11500 10-meter Fiber Single-mode LX LC-to-SC Connectors
CSS5-CABSX-LC=	CSS11500 10-meter Fiber Multimode SX LC Connectors
CSS5-CABSX-LCSC=	CSS11500 10-meter Fiber Multimode SX LC-to-SC Connectors
Right Angle Power Cords for the Catalyst 3750	
CAB-AC-RA=	Power Cord, Right Angle
CAB-AC-RA	Power Cord, 110V, Right Angle
CAB-ACA-RA=	Power Cord, Australia, Right Angle
CAB-ACC-RA=	Power Cord, China, Right Angle
CAB-ACE-RA=	Power Cord, Europe, Right Angle
CAB-ACI-RA=	Power Cord, Italy, Right Angle
CAB-ACR-RA=	Power Cord, Argentina, Right Angle
CAB-ACS-RA=	Power Cord, Switzerland, Right Angle
CAB-ACU-RA=	Power Cord, UK, Right Angle
CAB-JPN-RA=	Power Cord, Japan, Right Angle
CAB-JPN-RA	Power Cord, Japan, Right Angle
RPS for the Catalyst 3750	
PWR-RPS2300	Cisco RPS 2300 with one connector cable
CAB-RPS2300-E=	Spare RPS 2300 cable for Cisco Catalyst 3560v2, 3750v2, 3560-E, 3750-E, and 2960 PoE series switches
C3K-PWR-750WAC=	Spare 750WAC power supply for the RPS 2300 and Cisco Catalyst 3560-E/3750-E series switches
C3K-PWR-1150WAC=	Spare 1150WAC power supply for the RPS 2300 and Cisco Catalyst 3560-E/3750-E series switches

Product Overview (continued)

Product Number	Product Description
Spare Rack-mount Kits for the Catalyst 3750	
RCKMNT-1RU=	1 RU Rack-mount Kit for 3750v2, 3560v2, 3550, 2900-LRE-XL
RCKMNT-REC-1RU=	Recessed 1 RU Rack-mount for 3550, 3560, 3750
LC to SC Cables for the Catalyst 3750 Metro	
CSS5-CABLX-LCSC=	CSS11500 10-meter Fiber Single-mode LX LC-to-SC Connectors
CSS5-CABSX-LC=	CSS11500 10-meter Fiber Multimode SX LC Connectors
CSS5-CABSX-LCSC=	CSS11500 10-meter Fiber Multimode SX LC-to-SC Connectors
Spare Rack-mount Kits for the Catalyst 3750 Metro	
19INCH-BRKT-1RU=	19-inch Brackets for Mounting 1 RU Catalyst Switches
RCKMNT-1RU=	1 RU Rack-mount Kit for 3750, 3560, 3550, 2900-LRE-XL
RCKMNT-REC-1RU=	Recessed 1 RU Rack-mount For 3550, 3560, 3750

Notes

Notes

Cisco Catalyst 3560-X Series

The Cisco Catalyst 3560-X Series Switches are an enterprise-class lines of standalone switches. These switches provide high availability, scalability, security, energy efficiency, and ease of operation with innovative features such as IEEE 802.3at Power over Ethernet Plus (PoE+) configurations, optional network modules, redundant power supplies, and Media Access Control Security (MACsec) features. The Cisco Catalyst 3560-X Series provides ease of management and investment protection for the evolving business needs. The Cisco Catalyst 3560-X enhances productivity by enabling applications such as IP telephony, wireless, and video for borderless network experience.

Key Features

- 24 and 48 10/100/1000 PoE+ and non-PoE models.
- Optional four Gigabit Ethernet (GbE) SFP or two 10 GbE SFP+ uplink network modules.
- Industry first PoE+ with 30W power on all ports in 1 rack unit (RU) form factor.
- Dual redundant, modular power supplies and fans.
- Media Access Control Security (MACsec) hardware-based encryption.
- IPv4 and IPv6 routing, Multicast routing, advanced quality of service (QoS), and security features in hardware.
- Enhanced limited lifetime warranty (LLW) with next business day (NBD) advance hardware replacement and 90 day access to Cisco Technical Assistance Center (TAC) support.
- Enhanced Cisco EnergyWise for operational cost optimization by measuring actual power consumption of the PoE devices, reporting, and reducing energy consumption across the network.
- USB Type-A and Type-B ports for storage and console respectively and an out-of-band Ethernet management port.

Hardware Features

	WS-C3560X-24T	WS-C3560X-48T	WS-C3560X-24P	WS-C3560X-48P	WS-C3560X-48PF
Switching Fabric (Gbps)	160	160	160	160	160
Maximum Stack Members	0	0	0	0	0
Clustering	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster
Total Bandwidth of Stack (Gbps)	0	0	0	0	0
Packets per Second per Box (Mpps)	65.5	101.2	65.5	101.2	101.2
MAC Addresses Supported	12,000	12,000	12,000	12,000	12,000
Routes Supported	11,000	11,000	11,000	11,000	11,000
Onboard Memory (DRAM MB)	256	256	256	256	256
10 GbE Density	2	2	2	2	2
Gigabit Ethernet GBIC/SFP Density	4	4	4	4	4
10 GbE XENPAK/X2Port Density	0	0	0	0	0
10/100/1000 Density	24	48	24	48	48
10/100 Density	0	0	0	0	0
100BASE-FX Density	0	0	0	0	0
Maximum Watt Power Consumption (100% Forwarding without PoE Load)	93.5	120.4	99.3	133.9	137.2
PoE+: Maximum 802.3at devices (30W)	0	0	24	48	48
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	0	24	48	48
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	0	24	48	48
AC/DC Support	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available
Redundant Power Supply Support	Yes	Yes	Yes	Yes	Yes
Dimensions (H x W x D) Inches	1.75 x 17.5 x 18.0	1.75 x 17.5 x 18.0	1.75 x 17.5 x 18.0	1.75 x 17.5 x 18.0	1.75 x 17.5 x 19.5
Dimensions (H x W x D) Centimeters	4.45 x 44.5 x 46.0	4.45 x 44.5 x 46.0	4.45 x 44.5 x 46.0	4.45 x 44.5 x 46.0	4.45 x 44.5 x 49.5
Unit Weight Pounds (Kilograms)	15.4(7.0)	16.1(7.3)	15.7(7.1)	16.4(7.4)	16.6(7.5)

For further information on the Cisco Catalyst 3750 Metro Ethernet Series, go to:
http://www.cisco.com/en/US/partner/products/hw/switches/ps5532/index.html

Cisco Catalyst 3560-X Spotlight

MACsec

The Cisco Catalyst 3560-X Series Switches offer exceptional security with integrated hardware support for MACsec defined in IEEE 802.1AE. MACsec provides MAC layer encryption over wired networks using out-of-band methods for encryption keying. The MACsec Key Agreement (MKA) protocol provides the required session keys and manages the keys required for encryption when configured. MKA and MACsec are implemented following successful authentication using 802.1x Extensible Authentication Protocol (EAP) framework. In Cisco Catalyst 3750-X and 3560-X Series Switches only the user/down-link ports (links between the switch and endpoint devices such as a PC or IP phone) can be secured using MACsec.

Power over Ethernet Plus (PoE+)

In addition to PoE 802.3af, the Cisco Catalyst 3560-X Series Switches support PoE+ (IEEE 802.3at standard), which provides up to 30W of power per port. The Cisco Catalyst 3560-X Series Switches can provide a lower total cost of ownership for deployments that incorporate Cisco IP phones, Cisco Aironet® wireless LAN (WLAN) access points, or any IEEE 802.3af-compliant end device. PoE removes the need for wall power to each PoE-enabled device and eliminates the cost for additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments.

Software Features

Cisco Catalyst 3650-X Series is orderable with three feature sets:

- The LAN Base feature set offers enhanced intelligent services that include comprehensive Layer 2 features.
- The IP Base feature set provides baseline enterprise services, including the support for routed access and MACsec.
- The IP Services feature set provides full enterprise services that include advanced Layer 3 features such as Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Border Gateway Protocol (BGP), Protocol Independent Multicast (PIM), and IPv6 routing such as OSPFv3 and EIGRPv6.

Product Overview

Product Number	Product Description
Catalyst 3560-X Series	
WS-C3560X-24T-L	Standalone 24 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3560X-48T-L	Standalone 48 10/100/1000 Ethernet ports, with 350W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3560X-24P-L	Standalone 24 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3560X-48P-L	Standalone 48 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3560X-48P-L	Standalone 48 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3560X-48PF-L	Standalone 48 10/100/1000 Ethernet PoE+ Ports, with 1100W AC Power Supply 1 RU, LAN Base Feature Set
WS-C3560X-24T-S	Standalone 24 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, IP Base Feature Set
WS-C3560X-48T-S	Standalone 48 10/100/1000 Ethernet Ports, with 350W AC Power Supply 1 RU, IP Base Ffeature Set
WS-C3560X-24P-S	Standalone 24 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, IP Base Feature Set
WS-C3560X-48P-S	Standalone 48 10/100/1000 Ethernet PoE+ Ports, with 715W AC Power Supply 1 RU, IP Base Feature Set
WS-C3560X-48PF-S	Standalone 48 10/100/1000 Ethernet PoE+ Ports, with 1100W AC Power Supply 1 RU, IP Base Feature Set
Network Modules for the Catalyst 3560-X Series	
C3KX-NM-1G=	1G Network Module Spare
C3KX-NM-10G=	10G Network Module Spare
C3KX-NM-BLANK=	Network Module Blank Spare

Product Overview (continued)

Product Number	Product Description
Power Supplies and Fan for the Catalyst 3560-X Series	
C3KX-NM-1G=	1G Network Module Spare
C3KX-NM-10G=	10G Network Module Spare
C3KX-NM-BLANK=	Network Module Blank Spare
Power Supplies and Fan for the Catalyst 3560-X Series	
C3KX-PWR-350WAC=	350W AC Power Supply
C3KX-PWR-715WAC=	715W AC Power Supply
C3KX-PWR-1100WAC=	1100W AC Power Supply
C3KX-PWR-440WDC=	440W DC Power Supply
C3KX-PS-BLANK=	Power Supply Blank Spare
C3KX-FAN-23CFM=	Fan Module Spare
eXpandable Power System (XPS) for the Catalyst 3560-X Series	
XPS-2200	eXpandable Power System 2200
CAB-XPS-58CM=	XPS Cable 58 cm Spare
CAB-XPS-150CM=	XPS Cable 150 cm Spare
XPS-2200-FAN=	XPS 2200 Fan Module Spare
SFP+ Transceivers for Catalyst 3560-X Series	
SFP-10G-LR=	10GBASE-LR SFP+ Module
SFP-10G-SR=	10GBASE-SR SFP+ Module
SFP-10G-LRM=	10GBASE-LRM SFP+ Module
SFP-H10GB-CU1M=	10GBASE-CX1 SFP Module
SFP-H10GB-CU3M=	10GBASE-CX3 SFP Module
SFP-H10GB-CU5M=	10GBASE-CX5 SFP Module
SFP Transceivers for Catalyst 3560-X Series	
GLC-GE-100FX=	100BASE-FX SFP on Gigabit Ethernet SFP Ports
GLC-LH-SM=	Gigabit Ethernet SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	Gigabit Ethernet SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm
CWDM-SFP-1470=	Coarse Wavelength-division Multiplexing (CWDM) 1470 nm SFP Gigabit Ethernet and 1G/2G Fibre Channel (FC)

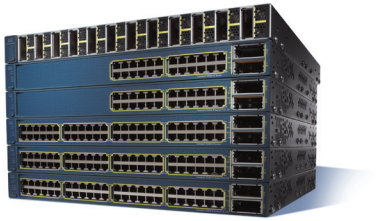
Product Number	Product Description
SFP Transceivers for Catalyst 3560-X Series (continued)	
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
DWDM-SFP-3033=	Dense Wavelength-division Multiplexing (DWDM) SFP 1530.33 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3112=	DWDM SFP 1531.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3190=	DWDM SFP 1531.90 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3268=	DWDM SFP 1532.68 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3425=	DWDM SFP 1534.25 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3504=	DWDM SFP 1535.04 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3582=	DWDM SFP 1535.82 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3661=	DWDM SFP 1536.61 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3819=	DWDM SFP 1538.19 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3898=	DWDM SFP 1538.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3977=	DWDM SFP 1539.77 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4056=	DWDM SFP 1540.56 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4214=	DWDM SFP 1542.14 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4294=	DWDM SFP 1542.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4373=	DWDM SFP 1543.73 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4453=	DWDM SFP 1544.53 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4612=	DWDM SFP 1546.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4692=	DWDM SFP 1546.92 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4772=	DWDM SFP 1547.72 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4851=	DWDM FP 1548.51 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5012=	DWDM SFP 1550.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5092=	DWDM SFP 1550.92 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5172=	DWDM SFP 1551.72 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5252=	DWDM SFP 1552.52 nm SFP (100 GHz ITU Grid)

Product Overview (continued)

Product Number	Product Description
SFP Transceivers for Catalyst 3560-X Series (continued)	
DWDM-SFP-5413=	DWDM SFP 1554.13 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5494=	DWDM SFP 1554.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5575=	DWDM SFP 1555.75 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5655=	DWDM SFP 1556.55 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5817=	DWDM SFP 1558.17 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5898=	DWDM SFP 1558.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-5979=	DWDM SFP 1559.79 nm SFP (100 GHz ITU Grid)
DWDM-SFP-6061=	DWDM SFP 1560.61 nm SFP (100 GHz ITU Grid)
Catalyst 3560-X Series Product Activation Keys	
C3560X-LIC=	Product activation keys for 3560-X Series
3560-X LAN Base to IP Base Upgrade License	
C3560X-24-L-S=	C3560X-24 LAN Base to IP Base Paper License
C3560X-48-L-S=	C3560X-48 LAN Base to IP Base Paper License
L-C3560X-24-L-S=	C3560X-24 LAN Base to IP Base E-License
L-C3560X-48-L-S=	C3560X-48 LAN Base to IP Base E-License
LL-C3560X-24-L-S=	C3560X-24 LAN Base to IP Base E-License for Used Switch
LL-C3560X-48-L-S=	C3560X-48 LAN Base to IP Base E-License for Used Switch
3560-X IP Base to IP Services Upgrade	
C3560X-24-IOS-S-E	C3560X-24 IP Base to IP Services factory IOS Upgrade
C3560X-48-IOS-S-E	C3560X-48 IP Base to IP Services factory IOS Upgrade
C3560X-24-S-E=	C3560X-24 IP Base to IP Services Paper License
C3560X-48-S-E=	C3560X-48 IP Base to IP Services Paper License
L-C3560X-24-S-E=	C3560X-24 IP Base to IP Services E-License
L-C3560X-48-S-E=	C3560X-48 IP Base to IP Services E-License
LL-C3560X-24-S-E=	C3560X-24 IP Base to IP Services E-License for Used Switch
LL-C3560X-48-S-E=	C3560X-48 IP Base to IP Services E-License for Used Switch

Product Number	Product Description
3560-X LAN Base to IP Services Upgrade	
C3560X-24-L-E=	C3560X-24 LAN Base to IP Services Paper License
C3560X-48-L-E=	C3560X-48 LAN Base to IP Services Paper License
L-C3560X-24-L-E=	C3560X-24 LAN Base to IP Services E-License
L-C3560X-48-L-E=	C3560X-48 LAN Base to IP Services E-License
LL-C3560X-24-L-E=	C3560X-24 LAN Base to IP Services E-License for Used Switch
LL-C3560X-48-L-E=	C3560X-48 LAN Base to IP Services E-License for Used Switch
Spare Power Cords for the Catalyst 3560-X Series	
CAB-3KX-AC=	AC Power Cord for Catalyst 3K-X (North America)
CAB-3KX-AC-AP=	AC Power Cord for Catalyst 3K-X (Australia)
CAB-3KX-AC-AR=	AC Power Cord for Catalyst 3K-X (Argentina)
CAB-3KX-AC-SW=	AC Power Cord for Catalyst 3K-X (Switzerland)
CAB-3KX-AC-UK=	AC Power Cord for Catalyst 3K-X (United Kingdom)
CAB-3KX-AC-JP=	AC Power Cord for Catalyst 3K-X (Japan)
CAB-3KX-AC-EU=	AC Power Cord for Catalyst 3K-X (Europe)
CAB-3KX-AC-IT=	AC Power Cord for Catalyst 3K-X (Italy)
CAB-3KX-AC-IN=	AC Power Cord for Catalyst 3K-X (India)
CAB-3KX-AC-CN=	AC Power Cord for Catalyst 3K-X (China)
CAB-3KX-AC-DN=	AC Power Cord for Catalyst 3K-X (Denmark)
CAB-3KX-AC-IS=	AC Power Cord for Catalyst 3K-X (Israel)
Spare Accessory and Rack-mount Kits for the Catalyst 3560-X Series	
C3KX-ACC-KIT=	Accessory Kit for Catalyst 3750-X and 3560-X Series
C3KX-RACK-KIT=	Rack-mount Kit for Catalyst 3750-X and 3560-X Series

Notes



Cisco Catalyst 3560-E Series

Fixed-configuration switches combining Gigabit Ethernet connectivity and full PoE for small enterprise LAN access and branch office deployments.

The Cisco Catalyst 3560-E Series is an enterprise-class line of standalone wiring closet switches that ease the deployment of secure converged applications. Combining 10/100/1000 and Power over Ethernet (PoE) configurations with uplinks that easily upgrade from Gigabit Ethernet to 10 Gigabit Ethernet (10 GbE), these switches enhance worker productivity by enabling applications such as IP telephony, wireless, and video. Cisco Catalyst 3560-E Series aggregation switches deliver secure non-stop unified network services and versatile connectivity in a one rack-unit (1 RU) form factor for space and power constrained environments, enabling businesses to reduce total cost of ownership while maximizing investment protection.

Key Features

- Cisco TwinGig converter module for migrating uplinks from Gigabit Ethernet to 10 Gigabit Ethernet
- Enhanced PoE support with configurations beyond 15.4 watts of support for all ports
- Industry first portfolio to scale beyond 15.4W per port delivering maximum solution simplicity for 802.11n access point deployments
- Access switch models have modular fan and power supply with externally available backup
- Dual redundant modular power supplies and fans for Cisco Catalyst 3560E-12D and Catalyst 3560E-12SD aggregation switches for nonstop operation
- Multicast routing, IPv6 routing, and access control list (ACL) in hardware
- Out-of-band Ethernet management port along with RS-232 console port

Hardware Features

	WS-C3560E-24TD	WS-3560E-48TD	WS-3560E-24PD	WS-3560E-24PD	WS-3560E-48PD	WS-3560E-48PD-F	WS-3560E-12D	WS-3560E-12SD
Switching Fabric (Gbps)	64	64	64	64	64	64	128	128
Maximum Stack Members	0	0	0	0	0	0	0	0
Clustering							Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster
Total Bandwidth of Stack (Gbps)	0	0	0	0	0	0	0	0
Packets per Second per Box (Mpps)	65.5	65.5	101.2	101.2	101.2	101.2	90	47.6
MAC Addresses Supported	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Routes Supported	11,000	11,000	11,000	11,000	11,000	11,000	20,000	11,000
Onboard Memory (DRAM MB)	128	128	128	128	128	128	256	128
10 GbE Density	2	2	2	2	2	2	12	2
Gigabit Ethernet GBIC/SFP Density	4	4	4	4	4	4	24	4
10 GbE XENPAK/X2 Port Density	2	2	2	2	2	2	12	2
10/100/1000 Density	24	48	24	24	48	48	0	0
10/100 Density	0	0	0	0	0	0	0	0
100BASE-FX Density	0	0	0	0	0	0	0	0
Maximum Watt Power Consumption								
265W AC	331	331	331	331	331	331		
265W DC	379	379	379	379	379	379		
750W AC	882	882	882	882	882	882		
1150W AC	1386	1386	1386	1386	1386	1386		
300W AC							367	367
300W DC							370	370
PoE: Max. 802.3af Class 3 Devices (15.4W)	24	48	24	24	48	48	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	24	48	24	24	48	48	0	0
AC/DC Support	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available	AC and DC Available		
Dimensions (H x W x D) Inches	1.73 x 17.5 x 11.8	1.73 x 17.5 x 11.9	1.73 x 17.5 x 11.1	1.73 x 17.5 x 11.1	1.73 x 17.5 x 11.11	1.73 x 17.5 x 21.7	1.75 x 17.5 x 19.5	1.75 x 17.5 x 15
Dimensions (H x W x D) Centimeters	4.4 x 44.5 x 55.2	4.4 x 44.5 x 47	4.4 x 44.5 x 48	4.4 x 44.5 x 48	4.4 x 44.5 x 49	4.4 x 44.5 x 50	4.45 x 44.5 x 49.5	4.45 x 44.5 x 38.1
Unit Weight Pounds (Kilograms)	17.9 (8.1)	18.3 (8.3)	18.8 (8.6)	18.8 (8.6)	19.2 (8.75)	20.9 (9.5)	23.5 (10.7)	15.5 (7)

Cisco Catalyst 3560-E Series Spotlight

Addition of IP Communications

Cisco Catalyst 3560-E Series PoE models support Cisco IP phones and Cisco Aironet wireless LAN (WLAN) access points, as well as any IEEE 802.3af-compliant end device. The Catalyst 3560-E 24-port and 48-port models can support simultaneous full-powered PoE ports at 15.4 watts (W) for maximum powered device support.

Converged Services

The Catalyst 3560-E Series includes switches that deliver Gigabit Ethernet speed with integrated PoE, supporting both Cisco pre-standard and IEEE 802.3af PoE devices. At speeds of 1000 Mbps, Gigabit Ethernet provides the bandwidth to meet new and evolving network demands, alleviate bottlenecks, and boost performance, while increasing the return on existing infrastructure investments. PoE removes the cost of extending wall power to each IP phone, wireless access point, or other PoE devices.

Integrated Security

With a wide range of security features, businesses can protect important information, keep unauthorized people off the network, prevent malicious viruses and worms from infecting the network, guard privacy, and maintain uninterrupted operation. Cisco Network Admission Control (NAC) helps implement network-wide security policies by validating the security posture of hosts seeking to connect to the network. Cisco Identity-based Network Services (IBNS) prevents unauthorized access and helps ensure that users get only their designated privileges. And features like DHCP Snooping, Dynamic ARP Inspection, and IP Source Guard help prevent against man-in-the-middle attacks.

Software Features

The Cisco Catalyst 3560-E Series is orderable with these feature sets:

- The IP Base feature set includes advanced QoS, security, and basic routing functionality.
- The IP Services feature set provides more enterprise-class features, including advanced hardware-based IP unicast and multicast routing, Virtual Route Forwarding (VRF), and policy-based routing (PBR).

Upgrades

- The IP Advanced Services software license can be purchased separately to enable IPv6 routing.

Simplified Management

Available for the Catalyst 3560-E Series, Cisco Network Assistant is a centralized management application that simplifies the administration task of Cisco switches, routers, and wireless access points. Free of charge, Cisco Network Assistant provides configuration wizards that greatly simplify the implementation of converged networks and intelligent network services.

Product Overview

Product Number	Product Description
Catalyst 3560-E Series 10/100/1000 GbE, 10 GbE Workgroup Switch	
WS-C3560E-24TD-S	3560-E 24-port 10/100/1000 + 2 10 GbE (X2), 265W, IPB S/W
WS-C3560E-24TD-E	3560-E 24-port 10/100/1000 + 2 10 GbE (X2), 265W, IPS S/W
WS-C3560E-48TD-S	3560-E 48-port 10/100/1000 + 2 10 GbE (X2), 265W, IPB S/W
WS-C3560E-48TD-E	3560-E 48-port 10/100/1000 + 2 10 GbE (X2), 265W, IPS S/W
WS-C3560E-24PD-S	3560-E 24-port 10/100/1000 PoE + 2 10 GbE (X2), 750W, IPB S/W
WS-C3560E-24PD-E	3560-E 24 10/100/1000 PoE + 2 10 GbE (X2), 750W, IPS S/W
WS-C3560E-48PD-S	3560-E 48 10/100/1000 PoE + 2 10 GbE (X2), 750W, IPB S/W
WS-C3560E-48PD-E	3560-E 48 10/100/1000 PoE + 2 10 GbE (X2), 750W, IPS S/W
WS-C3560E-48PD-SF	3560-E 48 10/100/1000 PoE + 2 10 GbE (X2), 1150W, IPB S/W
WS-C3560E-48PD-EF	3560-E 48 10/100/1000 PoE + 2 10 GbE (X2), 1150W, IPS S/W
GLC-GE-100FX=	100FX SFP on GbE SFP Ports for DSBU Switches
GLC-FE-100FX	100BASE-FX SFP for FE Port
GLC-LH-SM=	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver
GLC-FE-100LX	100BASE-LX SFP for FE Port
Catalyst 3560-E Series Product Activation Keys	
3560E-AISK9LCBQTY	Advanced IP Services for 3560 E, Upgrade from IP Base
3560E-AISK9LCSQTY	Advanced IP Services for 3560 E, Upgrade from IP Services
3560E-LIC=	Product Activation Key for 3560 E
3560E-IPB-LIC-QTY	IP Base for 3560 E (Default License)
3560E-IPSLCB-QTY	IP Services for 3560 E, Upgrade from the IP Base Feature Set
Power Supplies and Fan Module for the Catalyst 3560-E Series	
C3K-BLWR-60CFM=	Fan Module for the 3750-E and 3560-E Series
C3K-PWR-265WAC=	3750- /3560-E 265W AC Power Supply (Spare)
C3K-PWR-265WDC=	3750-E/3560-E 265W DC Power Supply (Spare)
C3K-PWR-750WAC=	3750-E/3560-E/RPS 2300 750W AC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150W AC Power Supply (Spare)
RPS 2300	
PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, no Power Supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300	Bay Insert for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300	RPS 2300 Cable for Devices Other than E-Series Switches
CAB-RPS2300=	Spare RPS2300 Cable for Devices Other than E-Series Switches

Product Overview (continued)

Product Number	Product Description
RPS 2300 (continued)	
CAB-RPS2300-E	RPS2300 Cable for 3750-E/3560-E Switches
CAB-RPS2300-E=	Spare RPS2300 Cable for 3750-E/3560-E Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300
C3K-PWR-750WAC=	3750-E/3560-E/RPS 2300 750WAC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150WAC Power Supply (Spare)
TwinGig Converter Module for the Catalyst 3560-E Series	
CVR-X2-SFP	Cisco TwinGig Converter Module
CVR-X2-SFP=	Cisco TwinGig Converter Module
SFPs for the Catalyst 3560-E Series	
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm
GLC-GE-100FX=	100FX SFP on GbE SFP Ports for DSBU Switches
GLC-LH-SM=	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
CAB-SFP-50CM=	3560 SFP Interconnect Cable, 50cm
X2 for Catalyst 3560-E Series	
X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LR=	10GBASE-LR X2 Module
X2-10GB-SR=	10GBASE-SR X2 Module
X2-10GB-CX4=	10GBASE-CX4 X2 Module
LC to SC Cables for the Catalyst 3560-E Series	
CSS5-CABLX-LCSC=	CSS11500 10-meter Fiber Single Mode LX LC-to-SC Connectors
CSS5-CABSX-LC=	CSS11500 10-meter Fiber Multimode SX LC Connectors
CSS5-CABSX-LCSC=	CSS11500 10-meter Fiber Multimode SX LC-to-SC Connectors

Product Number	Product Description
Power Cords for the Catalyst 3560-E Series	
CAB-AC	Power Cord, US
CAB-AC=	Power Cord, US
CAB-16AWG-AC	Power Cord, 16 AWG
CAB-16AWG-AC=	Power Cord, 16 AWG
CAB-ACA	Power Cord, Australia
CAB-ACA=	Power Cord, Australia
CAB-ACR	Power Cord, Argentina
CAB-ACR=	Power Cord, Argentina
CAB-ACS	Power Cord, Switzerland
CAB-ACS=	Power Cord, Switzerland
CAB-ACU	Power Cord, UK
CAB-ACU=	Power Cord, UK
CAB-JPN=	Power Cord, Japan
CAB-IND=	Power Cord, India
CAB-ACE	Power Cord, Europe
CAB-ACE=	Power Cord, Europe
CAB-ACI	Power Cord, Italy
CAB-ACI=	Power Cord, Italy
CAB-JPN	Power Cord, Japan
CAB-IND	Power Cord, India

Notes

Cisco Catalyst 3560 Series

Fixed-configuration switches combining Gigabit Ethernet connectivity and PoE for small enterprise LAN access and branch office deployments.

The Cisco Catalyst 3560 Series combines multilayer Fast Ethernet and Gigabit Ethernet switching with integrated Power over Ethernet (PoE), simplifying the deployment of converged IP telephony, wireless access, video surveillance, and other new applications. The Catalyst 3560 Series is also available in a compact silent PoE model ideal for deployments in office workspaces, classrooms, and other space-constrained environments and enable intelligent services using enterprise-class features outside of the wiring closet.

These standalone, fixed-configuration switches offer up to 48 10/100/1000 ports and support network-wide intelligent services such as advanced quality of service (QoS), rate limiting, access control lists (ACLs), multicast management, and high-performance IP routing.

The Catalyst 3560 Series can be purchased with the IP Base (formerly called SMI) or IP 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, ACLs, and basic routing functionality. The IP Services license provides a richer set of enterprise-class features, including advanced hardware-based IP Unicast and IP Multicast routing as well as Policy-based Routing (PBR). The Advanced IP Services license adds IPv6 routing.

Cisco Catalyst 3560 Series Spotlight

Converged Services

Cisco Catalyst 3560 Series include switches that deliver Gigabit Ethernet speed with integrated PoE, supporting both Cisco pre-standard and IEEE 802.3af PoE devices. At speeds of 1000 Mbps, Gigabit Ethernet provides the bandwidth to meet new and evolving network demands, alleviate bottlenecks, and boost performance, while increasing the return on existing infrastructure investments. PoE removes the cost of extending wall power to each IP phone, wireless access point, or other PoE devices.

Integrated Security

With a wide range of security features, businesses can protect important information, keep unauthorized people off the network, prevent malicious viruses and worms from infecting the network, guard privacy, and maintain uninterrupted operation. Cisco Network Admission Control (NAC) helps implement network-wide security policies by validating the security posture of hosts seeking to connect to the network. Cisco Identity-based Network Services (IBNS) prevents unauthorized access and helps ensure that users get only their designated privileges. And features like DHCP Snooping, Dynamic ARP Inspection, and IP Source Guard help prevent against man-in-the-middle attacks.

Hardware Features

	WS-C3560V2-24TS	WS-C3560V2-48TS	WS-C3560V2-24PS	WS-C3560V2-48PS	WS-3560V2-24TS-SD	WS-C3560G-24TS	WS-C3560G-48TS	WS-C3560G-24PS	WS-C3560G-48PS	WS-C3560-8PC-S
Switching Fabric (Gbps)	32	32	32	32	32	32	32	32	32	32
Maximum Stack Members	0	0	0	0	0	0	0	0	0	0
Clustering	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster
Total Bandwidth of Stack (Gbps)	0	0	0	0	0	0	0	0	0	0
Packets per Second per Box (Mpps)	6.5	13.1	6.5	13.1	6.5	38.7	38.7	38.7	38.7	2.7
MAC Addresses Supported	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Routes Supported	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Onboard Memory (DRAM MB)	128	128	128	128	128	128	128	128	128	128
10 GbE Density	0	0	0	0	0	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	2	4	2	4	2	4	4	4	4	1
10 GbE XENPAK/X2 Port Density	0	0	0	0	0	0	0	0	0	0
10/100/1000 Density	0	0	0	0	0	24	48	24	48	1
10/100 Density	24	48	24	48	24	0	0	0	0	8
100BASE-FX Density	0	0	0	0	0	0	0	0	0	0
Maximum Watt Power Consumption	24	41	435	452	24	100	160	540	590	204
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	0	24	24	0	0	0	24	24	8
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	0	24	48	0	0	0	24	48	8
AC/DC Support	AC Only	AC Only	AC Only	AC Only	DC Only	AC Only	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Dimensions (H x W x D) Inches	1.73 x 17.46 x 11.62	1.73 x 17.46 x 11.62	1.73 x 17.46 x 11.62	1.73 x 17.46 x 14.62	1.73 x 17.46 x 11.62	1.73 x 17.5 x 14.9	1.73 x 17.5 x 16.1	1.73 x 17.5 x 14.9	1.73 x 17.5 x 16.1	1.73 x 10.6 x 9.1
Dimensions (H x W x D) Centimeters	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	4.4 x 44.3 x 29.5	4.4 x 44.5 x 37.8	4.4 x 44.5 x 40.9	4.4 x 44.5 x 37.8	4.4 x 44.5 x 40.9	4.4 x 27 x 23
Unit Weight Pounds (Kilograms)	8.2 (3.7)	9 (4)	10 (4.6)	11 (5)	8 (3.7)	12 (5.4)	13.5 (6.1)	14 (6.4)	15.5 (7.0)	5 (2.3)

Product Overview

Product Number	Product Description
Catalyst 3560 Series 10/100/1000 Workgroup Switches	
WS-C3560G-48PS-S	3560 48-port 10/100/1000T PoE + 4 SFP, Standard Image
WS-C3560G-48PS-E	3560 48-port 10/100/1000T PoE + 4 SFP, Enhanced Image
WS-C3560G-24PS-S	3560 24-port 10/100/1000T PoE + 4 SFP, Standard Image
WS-C3560G-24PS-E	3560 24-port 10/100/1000T PoE + 4 SFP, Enhanced Image
WS-C3560G-48TS-S	3560 48-port 10/100/1000T + 4 SFP, Standard Image
WS-C3560G-48TS-E	3560 48-port 10/100/1000T + 4 SFP, Enhanced Image
WS-C3560G-24TS-S	3560 24-port 10/100/1000T + 4 SFP, Standard Image
WS-C3560G-24TS-E	3560 24-port 10/100/1000T + 4 SFP, Enhanced Image
Catalyst 3560v2 Series 10/100 Workgroup Switches	
WS-C3560-8PC-S	3560 8 10/100 PoE + 1 T/SFP, Standard Image
WS-C3560V2-48PS-S	3560v2 48-port 10/100 PoE + 4 SFP, Standard Image
WS-C3560V2-48PS-E	3560v2 48-port 10/100 PoE + 4 SFP, Enhanced Image
WS-C3560V2-24PS-S	3560v2 24-port 10/100 PoE + 2 SFP, Standard Image
WS-C3560V2-24PS-E	3560v2 24-port 10/100 PoE + 2 SFP, Enhanced Image
WS-C3560V2-48TS-S	3560v2 48-port 10/100 + 4 SFP, Standard Image
WS-C3560V2-48TS-E	3560v2 48-port 10/100 + 4 SFP, Enhanced Image
WS-C3560V2-24TS-S	3560v2 24-port 10/100 + 2 SFP, Standard Image
WS-C3560V2-24TS-SD	3560v2 24-port 10/100 + 2 SFP, Standard Image, DC power supply
WS-C3560V2-24TS-E	3560v2 24-port 10/100 + 2 SFP, Enhanced Image
IOS Upgrades for the Catalyst 3560	
CD-3560-EMI=	Enhanced Multilayer Image Upgrade for 3560 10/100 Models
CD-3560G-EMI=	Enhanced Multilayer Image Upgrade for 3560 GE Models
SFPs for the Catalyst 3560	
GLC-GE-100FX=	100FX SFP on GbE SFP Ports for DSBU Switches
GLC-LH-SM=	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC

Product Number	Product Description
SFPs for the Catalyst 3560 (continued)	
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
CAB-SFP-50CM=	3560 SFP Interconnect Cable, 50 cm
DWDM-SFP-3033=	DWDM SFP 1530.33 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3112=	DWDM SFP 1531.12 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3190=	DWDM SFP 1531.90 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3268=	DWDM SFP 1532.68 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3425=	DWDM SFP 1534.25 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3504=	DWDM SFP 1535.04 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3582=	DWDM SFP 1535.82 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3661=	DWDM SFP 1536.61 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3819=	DWDM SFP 1538.19 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3898=	DWDM SFP 1538.98 nm SFP (100 GHz ITU Grid)
DWDM-SFP-3977=	DWDM SFP 1539.77 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4056=	DWDM SFP 1540.56 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4214=	DWDM SFP 1542.14 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4294=	DWDM SFP 1542.94 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4373=	DWDM SFP 1543.73 nm SFP (100 GHz ITU Grid)
DWDM-SFP-4453=	DWDM SFP 1544.53 nm SFP (100 GHz ITU Grid)
LC to SC Cables for the Catalyst 3560	
CSS5-CABLX-LCSC=	CSS11500 10-meter Fiber Single-mode LX LC-to-SC Connectors
CSS5-CABSX-LC=	CSS11500 10-meter Fiber Multimode SX LC Connectors
CSS5-CABSX-LCSC=	CSS11500 10-meter Fiber Multimode SX LC-to-SC Connectors
Right Angle Power Cords for the Catalyst 3560	
CAB-AC-RA=	Power Cord, 110V, Right Angle
CAB-AC-RA	Power Cord, 110V, Right Angle
CAB-ACA-RA=	Power Cord, Australia, Right Angle
CAB-ACC-RA=	Power Cord, China, Right Angle
CAB-ACE-RA=	Power Cord, Europe, Right Angle
CAB-ACI-RA=	Power Cord, Italy, Right Angle

Product Overview (continued)

Product Number	Product Description
Right Angle Power Cords for the Catalyst 3560 (continued)	
CAB-ACR-RA=	Power Cord, Argentina, Right Angle
CAB-ACS-RA=	Power Cord, Switzerland, Right Angle
CAB-ACU-RA=	Power Cord, UK, Right Angle
CAB-JPN-RA=	Power Cord, Japan, Right Angle
CAB-JPN-RA	Power Cord, Japan, Right Angle
RPS for the Catalyst 3560	
PWR-RPS2300	Cisco RPS 2300 with one connector cable
CAB-RPS2300-E=	Spare RPS 2300 cable for Cisco Catalyst 3560v2, 3750v2, 3560-E, 3750-E, and 2960 PoE series switches
C3K-PWR-750WAC=	Spare 750WAC power supply for the RPS 2300 and Cisco Catalyst 3560-E/3750-E series switches
C3K-PWR-1150WAC=	Spare 1150WAC power supply for the RPS 2300 and Cisco Catalyst 3560-E/3750-E series switches
Spare Rack-mount Kits for the Catalyst 3560	
RCKMNT-1RU=	1 RU Rack-mount Kit for 3750, 3560, 3550, 2900-LRE-XL
RCKMNT-REC-1RU=	Recessed 1 RU Rack-mount for 3550, 3560, 3750
RCKMNT-19-CMPCT=	19-inch Rack-mount for 3560, 2960, ME-3400 Compact Switch
Cable Guard for the Catalyst 3560 Compact Switch	
CBLGRD-C3560-8PC=	Cable Guard for the Catalyst 3560-8PC Compact Switch

Notes

Notes

Cisco Catalyst 2960-S Series

The Cisco Catalyst 2960-S Series Switches are the leading Layer 2 edge platform, providing improved ease of use, highly secure business operations, improved sustainability, and a borderless network experience. The Cisco Catalyst 2960-S Series Switches include new Cisco FlexStack switch stacking capability with 1 and 10 Gigabit connectivity, and Power over Ethernet Plus (PoE+). The Cisco Catalyst 2960-S Series are fixed-configuration access switches designed for enterprise, midmarket, and branch office networks to provide lower total cost of ownership.

Key Features:

- 10 and 1 Gigabit Ethernet uplink flexibility with Small Form-Factor Pluggable Plus (SFP+), providing business continuity and fast transition to 10 Gigabit Ethernet
- 24 or 48 ports of Gigabit Ethernet desktop connectivity
- Cisco FlexStack stacking module with 40 Gbps of throughput, allowing ease of operation and management with single configuration and simplified switch upgrade
- PoE+ with up to 30W per port that allows support of the latest PoE+ capable devices
- 740W or 370W fixed power supplies options for PoE+ switches are available
- USB storage for file backup, distribution, and simplified operations
- A wide range of software features to provide ease of operation, highly secure business operations, sustainability, and a borderless network experience
- Limited lifetime hardware warranty, including next-business-day replacement with 90-day service and support

Hardware Features

	WS-C2960S-48FPD-L	WS-C2960S-48LPD-L	WS-C2960S-24PD-L	WS-C2960S-48TD-L	WS-C2960S-24TD-L
Switching Fabric (Gbps)	88	88	88	88	88
Maximum Stack Members	4	4	4	4	4
Total Bandwidth of Stack (Gbps)	40	40	40	40	40
Packets per Second per Box (Mpps)	101.2	101.2	65.5	101.2	65.5
MAC Addresses Supported	8000	8000	8000	8000	8000
Routes Supported	16	16	16	16	16
Onboard Memory (DRAM MB)	128	128	128	128	128
10 GbE Density (SFP+)	2	2	2	2	2
Gigabit Ethernet GBIC/SFP Density	2	2	2	2	2
10 GbE XENPAK/X2 Port Density	0	0	0	0	0
10/100/1000BaseT Density	48	48	24	48	24
Maximum Watt Power Consumption (100% Forwarding without PoE Load)	81W	71W	55W	55W	39W
PoE+: Maximum 802.3at devices (30W)	24	12	12	0	0
PoE: Maximum 802.3af Class 3 Devices (15.4W)	48	24	24	0	0
PoE: Maximum 802.3af Class 2 Devices (7.3W)	48	48	24	0	0
AC/DC Support	AC Only	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	Yes with RPS	Yes with RPS	Yes with RPS	Yes with RPS	Yes with RPS
Dimensions (H x W x D) Inches	1.75 x 17.5 x 15.2	1.75 x 17.5 x 15.2	1.75 x 17.5 x 15.2	1.75 x 17.5 x 11.8	1.75 x 17.5 x 11.8
Dimensions (H x W x D) Centimeters	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 29.9	4.5 x 44.5 x 29.9
Unit Weight Pounds (Kilograms)	13(5.9)	12.5(5.7)	12.5(5.7)	9.5(4.3)	9.5(4.3)
Dimensions (H x W x D) Centimeters	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 29.9	4.5 x 44.5 x 29.9
Unit Weight Pounds (Kilograms)	13(5.9)	12.5(5.7)	12.5(5.7)	9.5(4.3)	9.5(4.3)

Hardware Features (continued)

	WS-C2960S-48FPS-L	WS-C2960S-48LPS-L	WS-C2960S-24PS-L	WS-C2960S-48TS-L	WS-C2960S-24TS-L
Switching Fabric (Gbps)	88	88	88	88	88
Maximum Stack Members	4	4	4	4	4
Total Bandwidth of Stack (Gbps)	40	40	40	40	40
Packets per Second per Box (Mpps)	77.4	77.4	41.7	77.4	41.7
MAC Addresses Supported	8000	8000	8000	8000	8000
Routes Supported	16	16	16	16	16
Onboard Memory (DRAM MB)	128	128	128	128	128
10 GbE Density	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	4	4	4	4	4
10/100/1000BaseT Density	48	48	24	48	24
Maximum Watt Power Consumption(100% Forewarding without PoE Load)	79W	71W	55W	52W	40W
PoE+: Maximum 802.3at devices (30W)	24	12	12	0	0
PoE: Maximum 802.3af Class 3 Devices (15.4W)	48	24	24	0	0
PoE: Maximum 802.3af Class 2 Devices (7.3W)	48	48	24	0	0
AC/DC Support	AC Only	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	Yes with RPS	Yes with RPS	Yes with RPS	Yes with RPS	Yes with RPS
Dimensions (H x W x D) Inches	1.75 x 17.5 x 15.2	1.75 x 17.5 x 15.2	1.75 x 17.5 x 15.2	1.75 x 17.5 x 11.8	1.75 x 17.5 x 11.8
Dimensions (H x W x D) Centimeters	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 29.9	4.5 x 44.5 x 29.9
Unit Weight Pounds (Kilograms)	13(5.9)	12.5(5.7)	12.5(5.7)	10.5(4.8)	10(4.5)
Dimensions (H x W x D) Inches	1.75 x 17.5 x 15.2	1.75 x 17.5 x 15.2	1.75 x 17.5 x 15.2	1.75 x 17.5 x 11.8	1.75 x 17.5 x 11.8
Dimensions (H x W x D) Centimeters	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 38.6	4.5 x 44.5 x 29.9	4.5 x 44.5 x 29.9
Unit Weight Pounds (Kilograms)	13(5.9)	12.5(5.7)	12.5(5.7)	10.5(4.8)	10(4.5)

Hardware Features (continued)

	WS-2960S-48TS-S	WS-C2960S-24TS-S
Switching Fabric (Gbps)	50	50
Maximum Stack Members	0	0
Clustering	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster
Total Bandwidth of Stack (Gbps)	N/A	N/A
Packets per Second per Box (Mpps)	74.4	38.7
MAC Addresses Supported	8,000	8,000
Routes Supported	N/A	N/A
Onboard Memory (DRAM MB)	128	128
10 GbE Density	0	0
Gigabit Ethernet GBIC/SFP Density	2	2
10/100/1000BaseT Density	48	24
Maximum Watt Power Consumption(100% Forwarding)	53W	36W
PoE+: Maximum 802.3at devices (30W)	0	0
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	0
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	0
AC/DC Support	AC Only	AC Only
Redundant Power Supply Support	N/A	N/A
Dimensions (H x W x D) Inches	1.75 x 17.5 x 11.8	1.75 x 17.5 x 11.8
Dimensions (H x W x D) Centimeters	4.5 x 44.5 x 29.9	4.5 x 44.5 x 29.9
Unit Weight Pounds (Kilograms)	10.5(4.8)	10(4.5)

Cisco Catalyst 2960-S Spotlight

Cisco FlexStack Stacking

Cisco FlexStack stacking with the hot-swappable stack module and Cisco IOS® Software provides true stacking as all switches in a stack act as a single switch unit. The Cisco FlexStack provides a unified data plane, unified configuration, and single IP address management for a group of switches. The advantages of true stacking are lower total cost of ownership through simplified management and higher availability. Cisco FlexStack supports cross-stack features including EtherChannel, SPAN and FlexLink technology. A stack module can be added to any Cisco Catalyst 2960-S switch with LAN Base software to quickly upgrade the switch to make it stack capable. Once a new switch is added to a stack the switch will automatically upgrade to the correct Cisco IOS® Software version and transparently become a stack member.

Power over Ethernet Plus

In addition to PoE 802.3af, the Cisco Catalyst 2960-S Series Switches support Power over Ethernet Plus (PoE+) (IEEE 802.3at standard), which provides up to 30W of power per port. The Cisco Catalyst 2960-S Series Switches can provide a lower total cost of ownership for deployments that incorporate Cisco IP phones, Cisco Aironet® wireless LAN (WLAN) access points, or any IEEE 802.3af-compliant end device. PoE removes the need for wall power to each PoE-enabled device and eliminates the cost for additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments.

Software Features

- All Cisco Catalyst 2960-S Series Switches ship with the LAN Base image, with the exceptions of WS-2960S-48TS-S and WS-C2960S-24TS-S
- WS-2960S-48TS-S and WS-C2960S-24TS-S ship with the LAN Lite image and are not upgradeable to LAN Base software
- Some advanced features, like Cisco FlexStack, PoE+ and SFP+, require a the LAN Base image

Product Overview

Part Numbers	Description
10 Gigabit Uplinks with 10/100/1000 Ethernet Connectivity	
WS-C2960S-48FPD-L	· 48 Ethernet 10/100/1000 PoE+ Ports · 740W PoE Capacity · Two 10 Gigabit Ethernet or Two 1 Gigabit Ethernet SFP+ Uplink Ports · Optional Cisco FlexStack stacking Support · LAN Base Image
WS-C2960S-24PD-L	· 24 Ethernet 10/100/1000 PoE+ Ports · 370W PoE Capacity · Two 10 Gigabit Ethernet or Two 1 Gigabit Ethernet SFP+ Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image
WS-C2960S-48TD-L	· 48 Ethernet 10/100/1000 Ports · Two 10 Gigabit Ethernet or Two 1 Gigabit Ethernet SFP+ Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image
WS-C2960S-24TD-L	· 24 Ethernet 10/100/1000 Ports · Two 10 Gigabit Ethernet or Two 1 Gigabit Ethernet SFP+ Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image
1 Gigabit Uplinks with 10/100/1000 Ethernet Connectivity	
WS-C2960S-48FPS-L	· 48 Ethernet 10/100/1000 PoE+ Ports · 740W PoE Capacity · Four 1 Gigabit Ethernet SFP Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image
WS-C2960S-48LPS-L	· 48 Ethernet 10/100/1000 PoE+ Ports · 370W PoE Capacity · Four 1 Gigabit Ethernet SFP Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image
WS-C2960S-48TS-L	· 48 Ethernet 10/100/1000 Ports · Four 1 Gigabit Ethernet SFP Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image

Product Number	Product Description
1 Gigabit Uplinks with 10/100/1000 Ethernet Connectivity (continued)	
WS-C2960S-24TS-L	· 24 Ethernet 10/100/1000 Ports · Four 1 Gigabit Ethernet SFP Uplink Ports · Optional Cisco FlexStack Stacking Support · LAN Base Image
1 Gigabit Uplinks with 10/100/1000 Ethernet Connectivity (LAN Lite software)	
WS-2960S-48TS-S	· 48 Ethernet 10/100/1000 · Two 1 Gigabit Ethernet SFP Uplink Ports · LAN Lite Software
WS-C2960S-24TS-S	· 24 Ethernet 10/100/1000 · Two 1 Gigabit Ethernet SFP Uplink Ports · LAN Lite Software
Cisco Catalyst 2960-S Series Switches Accessories	
CAB-STK-E-0.5M	FlexStack Stacking Cable with a 0.5 m Length
CAB-STK-E-1M	FlexStack Stacking Cable with a 1.0 m Length
CAB-STK-E-3M	FlexStack Stacking Cable with a 3.0 m Length
CAB-CONSOLE-RJ45	Console Cable 6 ft. with RJ-45
CAB-CONSOLE-USB	Console Cable 6 ft. with USB Type A and Mini-B Connectors
CAB-16AWG-AC	AC Power Cord, 16AWG
CAB-ACE	AC Power Cord (Europe), C13, CEE 7, 1.5M
CAB-L620P-C13-US	Power Cord, 250VAC, 15A, NEMA L6-20 to C13, US
CAB-ACI	AC Power Cord (Italy), C13, CEI 23-16, 2.5m
CAB-ACU	AC Power Cord (UK), C13, BS 1363, 2.5m
CAB-ACA	AC Power Cord (China/Australia), C13, AS 3112, 2.5m
CAB-ACS	AC Power Cord (Switzerland), C13, IEC 60884-1, 2.5m
CAB-ACR	AC Power Cord (Argentina), C13, EL 219 (IRAM 2073), 2.5m
CAB-ACC	Power Cord (China) 10A, IEC 320, C13 (APN=CS-PWR-CH)
CAB-JPN-12A	CABASY,POWER CORD, JAPAN 2P, PSE, 12A @125VAC
CAB-L620P-C13-JPN	Power Cord (Japan) 250VAC, 15A, NEMA L6-20 to C13, JAPAN
CAB-IND	Power Cord (India)
PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, no Power Supply
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300 for Cisco Catalyst 2960 and Cisco Catalyst 2960-S Switches
CAB-RPS2300-E=	Spare RPS2300 Cable for Cisco Catalyst 2960-48PST-L, 2960-24PC-L and 2960-24LT-L Switches and Cisco Catalyst 2960-S Switches

Product Overview (continued)

Product Number	Product Description
Cisco Catalyst 2960-S Series Switches Accessories (continued)	
BLWR-RPS2300=	Spare 45 CFM Blower for Cisco Redundant Power System 2300
C3K-PWR-750WAC=	Cisco Catalyst 2960 and Cisco Catalyst 2960-S RPS 2300 750W AC Power Supply Spare
PWR-A=	Power Adapter for Cisco Catalyst 2960PD-8TT-L Compact Switch
CBLGRD-C2960-8TC=	Cable Guard for Cisco Catalyst 2960-8TC Compact Switch
CBLGRD-C2960G-8TC=	Cable Guard for Cisco Catalyst 2960G-8TC Compact Switch
RCKMNT-19-CMPCT=	Rack-mount for Cisco Catalyst 2960-8TC and Cisco Catalyst 2960G-8TC Compact Switches
RCKMNT-1RU=	Spare Rack-mount Kit for Cisco Catalyst 2960 and 2960-S Series for 19- and 24-inch Racks
RCKMNT-REC-1RU=	1 RU Recessed rack-mount Kit for Cisco Catalyst 2960 and 2960-S Series
GLC-LH-SM=	1000BASE-LX/LH SFP Transceiver Module for MMF and SMF, 1300-nm Wavelength
GLC-SX-MM=	1000BASE-SX SFP Transceiver Module for MMF, 850-nm Wavelength
GLC-ZX-SM=	1000BASE-ZX SFP Transceiver Module for SMF, 1550-nm Wavelength
GLC-T=	1000BASE-T SFP Transceiver Module for Category 5 Copper Wire Not Supported on the Cisco Catalyst 2960-8TC and Cisco Catalyst 2960G-8TC Compact Switches and Cisco Catalyst 2960-S SFP+ Module
GLC-BX-D=	1000BASE-BX10 SFP Transceiver Module for Single-strand SMF, 1490-nm TX/1310-nm RX Wavelength
GLC-BX-U=	1000BASE-BX10 SFP Transceiver Module for Single-strand SMF, 1310-nm TX/1490-nm RX Wavelength
GLC-GE-100FX=	100BASE-FX SFP Module for Gigabit Ethernet Ports, 1310-nm Wavelength, 2 km over MMF Not Supported on the Cisco Catalyst 2960-8TC and Cisco Catalyst 2960G-8TC Compact Switches
GLC-FE-100FX=	100BASE-FX SFP Module for 100-Mb Ports, 1310-nm Wavelength, 2 km over MMF
GLC-FE-100LX=	100BASE-LX10 SFP Module for 100-Mb Ports, 1310-nm Wavelength, 10 km over SMF
GLC-FE-100BX-D=	100BASE-BX10-D SFP Module for 100-Mb Ports, 1550-nm TX /1310-nm RX Wavelength, 10 km over Single-strand SMF
GLC-FE-100BX-U=	100BASE-BX10-U SFP Module for 100-Mb Ports, 1310-nm TX/1550-nm RX Wavelength, 10 km over Single-strand SMF
CWDM-SFP-1470=	Cisco CWDM SFP 1470 nm; Gigabit Ethernet and 1G/2G Fibre Channel (FC) (Gray)
CWDM-SFP-1490=	Cisco CWDM SFP, 1490 nm; Gigabit Ethernet and 1G/2G FC (Violet)
CWDM-SFP-1510=	Cisco CWDM SFP, 1510 nm; Gigabit Ethernet and 1G/2G FC (Blue)
CWDM-SFP-1530=	Cisco CWDM SFP, 1530 nm; Gigabit Ethernet and 1G/2G FC (Green)
CWDM-SFP-1550=	Cisco CWDM SFP, 1550 nm; Gigabit Ethernet and 1G/2G FC (Yellow)

Product Number	Product Description
Cisco Catalyst 2960-S Series Switches Accessories (continued)	
CWDM-SFP-1570=	Cisco CWDM SFP, 1570 nm; Gigabit Ethernet and 1G/2G FC (Orange)
CWDM-SFP-1590=	Cisco CWDM SFP, 1590 nm; Gigabit Ethernet and 1G/2G FC (Red)
CWDM-SFP-1610=	Cisco CWDM SFP, 1610 nm; Gigabit Ethernet and 1G/2G FC (Brown)
CAB-SM-LCSC-1M	1m Fiber Single-mode LC-to-SC Connectors
CAB-SM-LCSC-5M	5m Fiber Single-mode LC-to-SC Connectors
SFP-10G-LR=	10GBASE-LR SFP+ Module
SFP-10G-SR=	10GBASE-SR SFP+ Module
SFP-10G-LRM=	10GBASE-LRM SFP+ Module
SFP-H10GB-CU1M=	0GBASE-CU SFP+ Cable 1 Meter
SFP-H10GB-CU3M=	0GBASE-CU SFP+ Cable 3 Meter
SFP-H10GB-CU5M=	0GBASE-CU SFP+ Cable 5 Meter

Notes

Cisco Catalyst 2960 Series

Fixed-configuration switches offering Fast Ethernet and Gigabit Ethernet connectivity with enhanced LAN services for mid-market and branch office networks. The Catalyst 2960 Series compact switches are fanless models that are ideal for deployments in office workspaces, classrooms, and other space-constrained environments and enable intelligent services using enterprise-class features outside of the wiring closet.

Cisco Catalyst 2960 Series Intelligent Ethernet switches are offered in two categories:

- Cisco Catalyst 2960 Series with LAN Base Software
- Cisco Catalyst 2960 Series with LAN Lite Software

Cisco Catalyst 2960 Series Switches with LAN Base software are a family of fixed-configuration, standalone intelligent Ethernet devices with Power Over Ethernet (PoE) or non-PoE configurations that provide desktop Fast Ethernet and Gigabit Ethernet connectivity, enabling enhanced LAN services for entry-level enterprise, mid-market, and branch office networks (See Figure 1). The Cisco Catalyst 2960 LAN Base Series offers integrated security, including Network Admission Control (NAC), advanced quality of service (QoS), and resiliency to deliver intelligent services for the network edge.

Cisco Catalyst 2960 Series Switches with LAN Lite software are fixed-configuration, standalone switches that provide desktop Fast Ethernet connectivity for entry-level wiring closet and small branch office networks. The Cisco Catalyst 2960 LAN Lite Series Switches simplify the migration from non-intelligent hubs and unmanaged switches to a fully scalable managed network. The LAN Lite Cisco IOS® Software provides entry-level security, quality of service (QoS), and availability capabilities while lowering the network total cost of ownership.

The Catalyst 2960 Series includes four configurations featuring dual-purpose (alternative wired) uplinks for Gigabit Ethernet, allowing the network manager to use either a copper or a fiber uplink. Each dual-purpose uplink offers one 10/100/1000 port and one SFP-based port, with one active at a time. The series includes 24-port and 48-port Gigabit Ethernet switches which drive cost-effective Gigabit to the Desktop (GTTD) across the network.

Cisco Catalyst 2960 Series Spotlight

Gigabit Ethernet

At speeds of 1000 Mbps, Gigabit Ethernet provides the bandwidth to meet new and evolving network demands, alleviate bottlenecks, and boost performance while increasing the return on existing infrastructure investments. Today's workers are placing higher demands on networks by running multiple, concurrent applications. The Catalyst 2960 Series provides a means to intelligently scale the network beyond 100 Mbps over existing Category 5 copper cabling.

Enhanced Security

Security is delivered through a wide range of authentication methods, data encryption technologies, and Network Admission Control (NAC) based on users, ports, and MAC addresses. Through these features, the Catalyst 2960 Series offers security to protect users and devices from attack.

Ease of Management and Configuration

Cisco Network Assistant simplifies configuration, Cisco IOS Software updates, and Troubleshooting. Smartports enable fast and easy configuration of Cisco Catalyst intelligent capabilities; Express setup is quick and easy using the Webpage interface. Enhanced troubleshooting for link connectivity issues and cable diagnostics.

Hardware Features

	WS-C2960G-8TC-L	WS-C2960G-24TC-L	WS-C2960G-48TC-L
LAN Base: Gigabit Ethernet			
LAN Base: Gigabit Ethernet			
Switching Fabric (Gbps)	32	32	32
Maximum Stack Members	0	0	0
Clustering	Yes,		
16 Switches/Cluster	Yes,		
Total Bandwidth of Stack (Gbps)	N/A	N/A	N/A
Packets per Second per Box (Mpps)	11.9	35.7	39
MAC Addresses Supported	8000	8000	8000
Routes Supported	16	16	16
Onboard Memory (DRAM MB)	64	64	64
10 GbE Density	N/A	N/A	N/A
Gigabit Ethernet GBIC/SFP Density	1*	4*	4*
10 GbE XENPAK/X2 Port Density	N/A	N/A	N/A
10/100/1000 Density	8	24	48
Maximum Watt Power Consumption	30	75	140
PoE: Maximum 802.3af Class 3 Devices (15.4W)	N/A	N/A	N/A
PoE: Maximum 802.3af Class 2 Devices (7.3W)	N/A	N/A	N/A
AC/DC Support	AC Only	AC Only	AC Only
Redundant Power Supply Support	No	Yes	Yes
Dimensions (H x W x D) Inches	1.73 x 10.6 x 8.1	1.73 x 17.5 x 12.9	1.73 x 17.5 x 12.9
Dimensions (H x W x D) Centimeters	4.4 x 27 x 20.5	4.4 x 44.5 x 32.8	4.4 x 44.5 x 32.8
Unit Weight Pounds (Kilograms)	3 (1.4)	10 (4.5)	12 (5.4)

*Dual purpose uplinks, only one SFP port or one 10/100/1000 BT port is active at any one time.

Hardware Features (continued)

	WS-C2960PD-8TT-L	WS-C2960-8TC-L	WS-C2960-24TT-L	WS-C2960-24LT-L	WS-C2960-24TC-L	WS-C2960-24PC-L	WS-C2960-48TT-L	WS-C2960-48TC-L
LAN Base: Fast Ethernet								
Switching Fabric (Gbps)	16	16	16	16	16	16	16	16
Maximum Stack Members	0	0	0	0	0	0	0	0
Clustering	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster	Yes, 16 Switches/ Cluster
Total Bandwidth of Stack (Gbps)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Packets per Second per Box (Mpps)	2.7	2.7	6.5	6.5	6.5	6.5	10.1	10.1
MAC Addresses Supported	8000	8000	8000	8000	8000	8000	8000	8000
Routes Supported	16	16	16	16	16	16	16	16
Onboard Memory (DRAM MB)	64	64	64	64	64	64	64	64
10 GbE Density	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gigabit Ethernet GBIC/SFP Density	0	1*	0	0	2*	2*	0	2*
10 GbE XENPAK/X2 Port Density	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/100/1000BaseT Density	1	1	2	2	2	2	2	2
10/100BaseT Density	8	8	24	24	24	24	48	48
Maximum Watt Power Consumption	11	20	30	175	30	470	45	45
PoE: Maximum 802.3af Class 3 Devices (15.4W)	N/A	N/A	N/A	8	N/A	24	N/A	N/A
PoE: Maximum 802.3af Class 3 Devices (15.4W)	N/A	N/A	N/A	8	N/A	24	N/A	N/A
PoE: Maximum 802.3af Class 2 Devices (7.3W)	N/A	N/A	N/A	8	N/A	24	N/A	N/A
AC/DC Support	PoE Input or AC Adapter	AC Only	AC Only	AC Only	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions (H x W x D) Inches	1.73 x 10.6 x 6.2	1.73 x 10.6 x 6.4	1.73 x 17.5 x 9.3	1.73 x 17.5 x 13	1.73 x 17.5 x 9.3	1.73 x 17.5 x 13	1.73 x 17.5 x 9.3	1.73 x 17.5 x 9.3
Dimensions (H x W x D) Centimeters	4.4 x 27 x 15.7	4.4 x 27 x 16.3	4.4 x 44.5 x 23.6	4.4 x 44.5 x 33.2	4.4 x 44.5 x 23.6	4.4 x 44.5 x 33.2	4.4 x 44.5 x 23.6	4.4 x 44.5 x 23.6
Unit Weight Pounds (Kilograms)	3 (1.4)	3 (1.4)	8 (3.6)	10 (4.5)	8 (3.6)	12 (5.4)	8 (3.6)	8 (3.6)

*Dual purpose uplinks, only one SFP port or one 10/100/1000 BT port is active at any one time.

Hardware Features (continued)

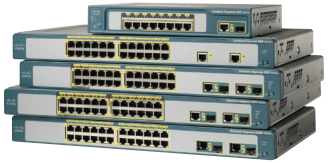
	WS-C2960-8TC-S	WS-C2960-24-S	WS-C2960-24TC-S	WS-C2960-48TT-S	WS-C2960-48TC-S
LAN Lite					
Switching Fabric (Gbps)	16	16	16	16	16
Maximum Stack Members	0	0	0	0	0
Clustering	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster	Yes, 16 Switches/Cluster
Total Bandwidth of Stack (Gbps)	N/A	N/A	N/A	N/A	N/A
Packets per Second per Box (Mpps)	2.7	3.6	6.5	10.1	10.1
MAC Addresses Supported	8000	8000	8000	8000	8000
Routes Supported	N/A	N/A	N/A	N/A	N/A
Onboard Memory (DRAM MB)	64	64	64	64	64
10 GbE Density	N/A	N/A	N/A	N/A	N/A
Gigabit Ethernet GBIC/SFP Density	1*	0	2*	0	2*
10 GbE XENPAK/X2 Port Density	N/A	N/A	N/A	N/A	N/A
10/100/1000BaseT Density	1	0	2	2	2
10/100BaseT Density	8	24	24	48	48
Maximum Watt Power Consumption	20	30	30	45	45
PoE: Maximum 802.3af Class 3 Devices (15.4W)	N/A	N/A	N/A	N/A	N/A
PoE: Maximum 802.3af Class 2 Devices (7.3W)	N/A	N/A	N/A	N/A	N/A
AC/DC Support	AC Only	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	No	No	No	No	No
Dimensions (H x W x D) Inches	1.73 x 10.6 x 6.4	1.73 x 17.5 x 9.3	1.73 x 17.5 x 9.3	1.73 x 17.5 x 9.3	1.73 x 17.5 x 9.3
Dimensions (H x W x D) Centimeters	4.4 x 27 x 16.3	4.4 x 44.5 x 23.6	4.4 x 44.5 x 23.6	4.4 x 44.5 x 23.6	4.4 x 44.5 x 23.6
Unit Weight Pounds (Kilograms)	3 (1.4)	8 (3.6)	8 (3.6)	8 (3.6)	8 (3.6)

Product Overview

Product Number	Product Description
Catalyst 2960 Workgroup Switches	
WS-C2960G-48TC-L	Catalyst 2960 48 10/100/1000, 4 T/SFP LAN Base Image
WS-C2960-48TC-L	Catalyst 2960 48 10/100 + 2 T/SFP LAN Base Image
WS-C2960-48TT-L	Catalyst 2960 48 10/100 + 2 1000BT LAN Base Image
WS-C2960G-24TC-L	Catalyst 2960 24 10/100/1000, 4 T/SFP LAN Base Image
WS-C2960-24LT-L	Catalyst 2960 24 10/100 (8 PoE) + 2 1000BT LAN Base Image
WS-C2960-24PC-L	Catalyst 2960 24 10/100 PoE + 2 T/SFP LAN Base Image
WS-C2960-24TC-L	Catalyst 2960 24 10/100 + 2 T/SFP LAN Base Image
WS-C2960-24TT-L	Catalyst 2960 24 10/100 + 2 1000BT LAN Base Image
WS-C2960G-8TC-L	Catalyst 2960 7 10/100/1000 + 1 T/SFP LAN Base Image
WS-C2960-8TC-L	Catalyst 2960 8 10/100 + 1 T/SFP LAN Base Image
WS-C2960PD-8TT-L	Catalyst 2960 Powered Device 8 10/100 + 1 1000BT LAN Base Image
Catalyst 2960 LAN Lite Switches	
WS-C2960-24-S	Catalyst 2960 24 10/100 LAN Lite Image
WS-C2960-24TC-S	Catalyst 2960 24 10/100 + 2 T/SFP LAN Lite Image
WS-C2960-48TC-S	Catalyst 2960 48 10/100 + 2 T/SFP LAN Lite Image
RPS 2300 for the Catalyst 2960 Series	
PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, no Power Supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300	Bay Insert for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300	RPS 2300 Cable for Devices other than E Series Switches
CAB-RPS2300=	Spare RPS2300 Cable for Devices other than E Series Switches
CAB-RPS2300-E	RPS2300 Cable for 3750E/3560E/2960 Power Switches
CAB-RPS2300-E=	Spare RPS2300 Cable for 3750E/3560E/2960 Power Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300
C3K-PWR-750WAC=	3750-E/3560-E/RPS 2300 750W AC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150W AC Power Supply (Spare)
Spare Rack-mount Kits for the Catalyst 2960	
RCKMNT-1RU=	Rack-mount Kit for 1 RU for 3750, 3560, 3550, 2900-LRE-XL, 2960
RCKMNT-REC-1RU=	Recessed 1 RU Rack-mount for 3550, 3560, 3750, 2960
RCKMNT-19-CMPCT=	19-inch Rack-mount for 3560, 2960, ME-3400 Compact Switch
RCKMNT-HPC=	Rack-mount for HPC for Catalyst 3750, 3560, 2960
Right Angle Power Cords for the Catalyst 2960	
CAB-AC-RA=	Power Cord, USA, Right Angle

Product Number	Product Description
Right Angle Power Cords for the Catalyst 2960 (continued)	
CAB-ACA-RA=	Power Cord, Australia, Right Angle
CAB-ACC-RA=	Power Cord, China, Right Angle
CAB-ACE-RA=	Power Cord, Europe, Right Angle
CAB-ACI-RA=	Power Cord, Italy, Right Angle
CAB-ACR-RA=	Power Cord, Argentina, Right Angle
CAB-ACS-RA=	Power Cord, Switzerland, Right Angle
CAB-ACU-RA=	Power Cord, UK, Right Angle
CAB-JPN-RA=	Power Cord, Japan, Right Angle
SFPs for Catalyst 2960	
GLC-BX-D=	1000BASE-BX SFP, 1490 nm
GLC-BX-U=	1000BASE-BX SFP, 1310 nm
GLC-FE-100BX-D=	100BASE-BX10-D SFP
GLC-FE-100BX-U=	100BASE-BX10-U SFP
GLC-FE-100FX=	100BASE-FX SFP for FE Port
GLC-FE-100LX=	100BASE-LX SFP for FE Port
GLC-GE-100FX=	100BASE-FX SFP for GE SFP Port on 3750, 3560. 2970, 2960
GLC-LH-SM=	GE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GE SFP, LC Connector SX Transceiver
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 nm SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 nm SFP Gigabit Ethernet and 1G/2G FC
Cable Guard for the Catalyst 2960 Compact Switches	
CBLGRD-C2960-8TC=	Cable Guard for the 2960-8TC Compact Switch
CBLGRD-C2960G-8TC=	Cable Guard for the 2960G-8TC Compact Switch
Catalyst 2960 Relicensing for Used Equipment	
LL-C2960G=	Software License for 2960 Gigabit Ethernet Switches
LL-C2960=	Software License for 2960 Fast Ethernet Switches
Power Adaptor for the Catalyst 2960PD	
PWR-A=	Power Supply In: 100-240VAC Out: 48VDC 380mA- 2960PD-8TT-

Notes



Cisco Catalyst Express Series

Cisco-class switches that make advanced network services and IP Communications easy to manage for small and medium sized businesses (SMBs) with up to 250 employees.

The Cisco Catalyst Express Series Switches include the 500 and 520 families. They are fixed-configuration, Layer 2 managed Ethernet switches that provide the reliability, security, scalability, and rich feature set that SMBs need in an affordable, easy-to-use platform.

The Catalyst Express Series offer non-blocking, wire-speed performance that provides a secure network foundation optimized for data, wireless, and voice. Built-in advanced security features help ensure that all devices on the network are protected.

The Catalyst Express can be easily deployed and centrally managed with the Cisco Network Assistant (CNA). This PC based GUI simplifies and streamlines setting up, running, and troubleshooting a network. CNA includes Cisco Smartports technology which suggests recommended settings for all ports. This preset options help ensure mission-critical traffic is prioritized, voice conversations are clear, bandwidth-intensive video traffic does not impact other applications on the network, and your wireless network is secure. Integrated intelligence helps detect device and network problems before they impact your business.

The Catalyst Express Series also offer Power over Ethernet (PoE), reducing the cost and complexity of IP Communications and wireless LAN deployments by supplying power and Ethernet connectivity over the same Category 5 cables. This eliminates the need to provide separate power outlets and cables for wireless access points, closed-circuit TV cameras, and IP phones.

Hardware Features: Cisco Catalyst Express 500 Series

	WS-CE500-24TT	WS-CE500-24LC	WS-CE500-24PC	WS-CE500G-12TC
Forwarding Bandwidth per Box (Gbps)	8.8	8.8	8.8	24
Maximum Stack Members	0	0	0	0
Clustering	No	No	No	No
Total Bandwidth of Stack (Gbps)	0	0	0	0
Packets per Second per Box (Mpps)	6.6	6.6	6.6	18
MAC Addresses Supported	8000	8000	8000	8000
Routes Supported	0	0	0	0
Onboard Memory (DRAM MB)	32	32	32	32
10 GbE Density	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	0	2*	2*	4*
10 GbE XENPAK/X2 Port Density	0	0	0	0
10/100/1000 Density	2	2*	2*	12
10/100 Density	24	24	24	0
100BASE-FX Density	0	0	0	0
Maximum Watt Power Consumption	30	110	460	45
PoE: Maximum 802.3af Class 3 Devices (15.4W)	0	4	24	0
PoE: Maximum 802.3af Class 2 Devices (7.3W)	0	4	24	0
AC/DC Support	AC Only	AC Only	AC Only	AC Only
Redundant Power Supply Support	Yes	Yes	Yes	Yes
Dimensions (H x W x D) Inches	1.73 x 17.5 x 9.9	1.73 x 17.5 x 9.9	1.73 x 17.5 x 14.4	1.73 x 17.5 x 9.9
Dimensions (H x W x D) Centimeters	4.39 x 44.45 x 25.15	4.39 x 44.45 x 25.15	4.39 x 44.45 x 36.58	4.39 x 44.45 x 25.15
Unit Weight in Pounds (Kilograms)	8 (3.7)	8 (3.7)	12 (5.5)	8 (3.7)

*Dual purpose uplinks, only one SFP port or one 10/100/1000 BT port is active at any one time.

Hardware Features: Cisco Catalyst Express 520 Series

	WS-CE520-24TT-K9	WS-CE520-24LC-K9	WS-CE520-24PC-K9	WS-CE520G-24TC-K9	WS-CE520-8PC-K9
Forwarding Bandwidth per Box (Gbps)	8.8	8.8	8.8	24	16
Maximum Stack Members	0	0	0	0	0
Total Bandwidth of Stack (Gbps)	0	0	0	0	0
Packets per Second per Box (Mpps)	6.6	6.6	6.6	18	2.7
MAC Addresses Supported	8000	8000	8000	8000	8000
Routes Supported	0	0	0	0	0
Onboard Memory (DRAM MB)	64	64	64	64	64
10 GbE Density	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	0	2*	2*	2*	1
10 GbE XENPAK/X2port Density	0	0	0	0	0
10/100/1000 Density	2	2*	2*	24	0
10/100 Density	24	24	24	0	8
100BASE-FX Density	0	0	0	0	0
Maximum Watt Power Consumption	30	110	460	45	204
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	4	24	0	8
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	4	24	0	8
AC/DC Support	AC Only	AC Only	AC Only	AC Only	AC Only
Dimensions (H x W x D) Inches	1.73 x 17.5 x 9.9	1.73 x 17.5 x 9.9	1.73 x 17.5 x 14.4	1.73 x 17.5 x 9.9	1.73 x 10.6 x 9.1
Dimensions (H x W x D) Centimeters	4.39 x 44.45x 25.15	4.39 x 44.45x 25.15	4.39 x 44.45x 36.58	4.39 x 44.45x 25.15	4.4 x 27 x 23
Unit Weight Pounds (Kilograms)	8 (3.7)	8 (3.7)	12 (5.5)	8 (3.7)	5 (2.3)

*Dual purpose uplinks, only one SFP port or one 10/100/1000 BT port is active at any one time.

Cisco Catalyst Express 500 Series Spotlight

Simplified Deployments

The Cisco Catalyst Express Series switches are designed for ease-of-use.

The Catalyst Express Series can be configured with its user-friendly GUI—Cisco Network Assistant. Integrated intelligence optimizes the switch at the system level. Optimal configuration for each port can be applied by choosing from 10 preset Cisco Smartports roles. All ports support autonegotiation of port speed and duplex, and all PoE ports can supply up to the IEEE standard maximum of 15.4W simultaneously.

Integrated Security

The Catalyst Express 500 Series offers several layers of security to protect your network, including a choice of three business-optimized levels. Management traffic to and from the GUI device manager can be encrypted with Secure Sockets Layer (SSL). Tight integration with Cisco wireless access points allows businesses to quickly and easily deploy a secure wireless LAN network. With the Cisco Self-Defending Network strategy and Cisco Clean Access solutions, the Catalyst Express Series raises antivirus and overall security protection to the next level.

Product Overview

Product Number	Product Description
Cisco Catalyst Express Series	
WS-CE500-24TT	24 10/100 Ports and 2 10/100/1000BT Uplinks, GUI S/W
WS-CE500-24LC	24 10/100 Ports (4 PoE) + 2 10/100/1000BT or SFP Uplinks, GUI S/W
WS-CE500-24PC	24 10/100 Ports (24 PoE) + 2 10/100/1000BT or SFP Uplinks, GUI S/W
WS-CE500G-12TC	8 10/100/1000BT + 4 10/100/1000BT or SFP Uplinks, GUI S/W
Cisco Catalyst Express 520 Series	
WS-CE520-8PC-K9	8 10/100 PoE + 1 GbE Combo Port
WS-CE520-24TT-K9	24 10/100 Ports + 2 10/100/1000BASE-T Ports
WS-CE520-24LC-K9	20 10/100 Ports + 4 10/100 Ports with PoE + 2 10/100/1000BASE-T or SFP Ports
WS-CE520-24PC-K9	24 10/100 Ports with PoE + 2 10/100/1000BASE-T or SFP Ports
WS-CE520G-24TC-K9	24 10/100/1000BASE-T Ports + 2 10/100/1000BASE-T or SFP Ports
RPS for Catalyst Express 500 and 520-24PC	
PWR675-AC-RPS-N1=	675W Redundant Power Supply with Connector Cable
CAB-RPS-1614=	RPS 675 Connector Cable 16/14
SFPs for the Catalyst Express Cisco 6506-E Systems	
GLC-GE-100FX=	100FX SFP on GbE SFP Ports for DSBU Switches
GLC-FE-100FX	100BASE-FX SFP for FE Port
GLC-LH-SM=	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver
GLC-FE-100LX	100BASE-LX SFP for FE Port

Product Overview (continued)

Product Number	Product Description
Right Angle Power Cords for the Catalyst Express	
CAB-AC-RA=	Power Cord, 110V, Right Angle
CAB-AC-RA	Power Cord, 110V, Right Angle
CAB-ACA-RA=	Power Cord, Australia, Right Angle
CAB-ACC-RA=	Power Cord, China, Right Angle
CAB-ACE-RA=	Power Cord, Europe, Right Angle
CAB-ACI-RA=	Power Cord, Italy, Right Angle
CAB-ACR-RA=	Power Cord, Argentina, Right Angle
CAB-ACS-RA=	Power Cord, Switzerland, Right Angle
CAB-ACU-RA=	Power Cord, UK, Right Angle
CAB-JPN-RA=	Power Cord, Japan, Right Angle
CAB-JPN-RA	Power Cord, Japan, Right Angle
RPS2300 for the Catalyst Express	
PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, no Power Supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300	Bay Insert for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300	RPS 2300 Cable for Devices other than E-Series Switches
CAB-RPS2300=	Spare RPS2300 Cable for Devices other than E-Series Switches
CAB-RPS2300-E	RPS2300 Cable for 3750E/3560E Switches
CAB-RPS2300-E=	Spare RPS2300 Cable for 3750E/3560E Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300
C3K-PWR-750WAC=	3750-E/3560-E/RPS 2300 750W AC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150W AC Power Supply (Spare)
Spare Rack-mount Kits for the Catalyst Express	
RCKMNT-CATEXP=	Rack-mount Kit for Catalyst Express

Cisco Optics

Cisco offers a comprehensive portfolio of pluggable transceiver modules across Cisco switching and routing platforms. Cisco pluggable transceivers provide a convenient and cost-effective solution for the adoption of Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet in data center, campus, metro access, and storage area networks.

As part of the Cisco end-to-end solution, pluggable transceivers are individually tested and qualified across switching and routing platforms and are an integral part of the overall architecture. Sold as spares or configurable options, transceiver modules benefit from the pay-as-you-populate model they enable. Customers can purchase the exact model and quantity required for their cabling infrastructure and for the number of ports they are planning to utilize. Additionally, customers can rest assured their investment in the Cisco equipment is protected as they will have the opportunity to reconfigure their connectivity scheme with our breadth of offerings. Cisco transceiver modules are fully supported by the Cisco Technical Assistance center and warranty contracts purchased for the Cisco platform where they are used are directly applicable to the transceivers at no extra cost.

Cisco 10 Gigabit Modules

Cisco offers a range of XENPAK, X2, XFP, and SFP+ modules for 10 Gigabit Ethernet (10 GbE) deployments. These Cisco transceivers meet Cisco specifications and are compliant with industry standards. Cisco XENPAK, X2, XFP, and SFP+ offer a convenient and cost-effective solution for the adoption of 10 GbE in data center, campus, metropolitan area access, and ring networks.

XENPAK modules are offered for several reaches and transmission media and are supported on the Catalyst 6500, 3750 Series switches, and CRS-1 routers today.

X2 modules are also offered for several reaches and transmission media and are supported on the Catalyst 4500, 4900, 3750-E, 3560-E, and 6500 Series switches, and Nexus 7000 Series switches today.

The Cisco XFP Module offers customers a dual rate interface for 10 GbE and Packet-over-SONET/SDH (POS) connectivity. XFPs are currently supported on Cisco 7600, ASR 1000, ASR 9000, CRS-1 and CRS-3 routers, as well as with Shared Port Adapter (SPA) modules across multiple Cisco platforms.

SFP+ is the smallest 10 GbE form factor enabling lowest power consumption per 10G port and highest port density per line card. It is supported in the latest Catalyst 2960-S, 3560X, 3750X, 4948E and newest 4500 series switches. It is also supported in Nexus 2000, 5000, 7000 series Server Access and Datacenter switches and in ASR 9000 routers. Also SFP+ devices can be supported through the OneX X2 to SFP+ converter modules in the X2 ports of Catalyst 4500, 4900, 3750-E, 3560-E, and 6500 Series switches.

For further compatibility details including minimum software requirements and exact line cards and switch modules support, please refer to the 10-Gigabit compatibility matrix:

http://www.cisco.com/en/US/docs/interfaces_modules/transceiver_modules/compatibility/matrix/OL_6974.pdf

Cisco Gigabit Ethernet GBIC and SFP Modules

Cisco offers a range of GBIC transceivers and Small Form-factor Pluggable (SFP) transceivers for Gigabit Ethernet and Fibre Channel applications. These small, modular optical interface transceivers offer a convenient and cost-effective solution for the adoption of Gigabit Ethernet and Fibre Channel in data center, campus, metropolitan area access and ring networks, and storage area networks.

Gigabit Ethernet SFP modules are supported across all Cisco switching and routing platforms today, whereas GBIC modules are supported with legacy Cisco line cards and switches.

For compatibility details including minimum software requirements and exact line cards and switch modules support, please refer to the Gigabit Ethernet compatibility matrix:

http://www.cisco.com/en/US/docs/interfaces_modules/transceiver_modules/compatibility/matrix/OL_6981.pdf

Cisco Fast Ethernet SFP Modules

Cisco offers a range of Fast Ethernet SFP Interface Transceivers. These small, modular optical interface transceivers offer a convenient and cost-effective solution for the adoption of Fast Ethernet over fiber medium in campus, industrial, and small and medium business access networks.

For compatibility information including minimum software requirements and exact line cards and switch modules support, please refer to the Fast Ethernet compatibility matrix:

http://www.cisco.com/en/US/docs/interfaces_modules/transceiver_modules/compatibility/matrix/OL632702.pdf

Cisco CWDM Solution

Cisco Coarse Wave Division Multiplexing (CWDM) Solution allows scalable and easy-to-deploy Gigabit Ethernet (GbE) and Fibre Channel services. The combination of CWDM GBICs and CWDM SFPs and CWDM Optical Add-Drop Modules (OADMs) and Multiplexers enables the design of a flexible and highly available multiservice network.

The Cisco CWDM Solution offers a convenient and cost-effective solution for the adoption of optical Gigabit Ethernet in campus, data center, and metropolitan-area access networks. Cisco CWDM Solution consists of a set of eight different Cisco CWDM GBICs (one for each of the eight different colors or wavelengths), eight different SFPs, a set of eight single wavelength/dual channel OADMs, two four-channel OADM/Multiplexer and an eight-channel Multiplexer along with a CWDM rack-mountable chassis.

Cisco DWDM Transceiver Modules

The Cisco Dense Wave Division Multiplexing (DWDM) transceiver modules allow users to integrate WDM transport directly with Cisco 1 GbE and 10 GbE switches and routers. Cisco offers GBIC and SFP DWDM modules for 1-Gigabit links, and XENPAK, X2 and XFP DWDM modules for 10-Gigabit links. The DWDM modules and DWDM optical filter and amplifier products (Cisco ONS 15216 and EWDM series) enable the design of a flexible and highly available multiservice network. The DWDM modules support 100GHz ITU grid and can be used for unamplified and amplified designs to transmit up to 320 Gigabits over one pair of fiber.

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: +31 0 20 357 1000
Fax: +31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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