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-E, Catalyst 3750, Catalyst 3560-E, Catalyst 3560, Catalyst 2960, Catalyst 2950, Catalyst 2940, and Catalyst Express 500 Series Fixed-Configuration Switches

Summer 2007 V.3

Cisco Catalyst Switches

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

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 even more powerful, delivering intelligent services from the wiring closet to the core, protecting, optimizing, and growing your network as your business needs evolve.

Over the past 20 years, networks have transformed the way people live, work, and play, enhancing and accelerating communication in countless ways. Yet each new benefit comes at a price. The proliferation of powerful desktop computers, bandwidth-intensive applications, and new devices, such as wireless access points, IP phones, and video surveillance has left networks—and network managers—looking for holistic and simple solutions to their business challenges.

Cisco Systems, the worldwide leader in networking systems for organizations of every size, offers an architectural approach to networking that makes it easy for organizations to adapt and grow. As part of the foundation of the Services Oriented Network Architecture, Cisco Catalyst switches provide the application intelligence, unified network services, integrated security, non-stop communications, virtualization, and operational manageability needed for today's most valuable converged network services, including networked applications, IP voice and video, wireless access, and other demanding applications.

Cisco Catalyst Switches

Quick Reference Guide

Introduction

Modular Switches

Fixed-Configuration Switches

Optics

Intelligent Switching for the Evolving Network

From edge to core, Cisco Catalyst switches provide the performance, high availability, comprehensive security, delivery optimization, and enhanced manageability needed to get the most out of your network for years to come.

MODULAR SWITCHES

Cisco Catalyst 6500 Series

Optimized for secure, converged voice, video, and data networks, the Catalyst 6500 offers industry-leading scalability (32 Gbps to 720 Gbps), multi-gigabit application intelligence, operational manageability, and virtualization to meet the needs of enterprises, medium-sized businesses, and service providers.

- **Flexible Options:** Modular 3-, 4-, 6-, 9-, and 13-slot chassis all support redundant supervisors; LAN/WAN service modules; modular Power over Ethernet (PoE) up to 420 IEEE 802.3af Class 3 (15.4W) PoE devices, and forwarding engines
- **Stateful Application Intelligence:** Hardware accelerated Network-Based Application Recognition (NBAR)
- **Highest Availability:** Cisco IOS Software Modularity featuring subsystem In Service Software Upgrades (ISSUs); Generic Online Diagnostics (GOLD)
- **Comprehensive Security:** H/W accelerated Flexible Packet Matching, H/W-based Control Plane Policing (CoPP); integrated H/W NetFlow; 802.1x enhancements; firewall; intrusion prevention and anomaly detection modules
- **Enhanced Manageability:** Subsystem ISSU with IOS modularity; integrated TDR; Encapsulated Remote Span (ERSPAN); Embedded Event Manager (EEM); Network Analysis Module (NAM); CiscoWorks; CNA
- **Highest Port Densities:** Up to 1152 10/100 ports, 577 10/100/1000 ports, 410 SFP Gigabit Ethernet ports, or 64 10 Gigabit Ethernet (10GbE) ports
- **IP Communications:** Highest integrated PoE density; TDM/Analog gateway and media services; industry-leading scalability and quality for voice and video applications
- **Integrated Service Modules:** Accelerated IT performance with simplified architectures and integrated wireless technologies
- **WAN Aggregation:** Extensive choice of WAN interfaces from DS0 to OC-192, FE, GbE and 10GbE; MPLS; VPLS; H-VPLS

Cisco Catalyst 4500 Series

Midrange modular platform offering Layer 2–4 switching intelligent network services up to 136 Gbps, and added investment protection for enterprises, small- to medium-sized businesses, and service providers.

- **Investment Protection:** Evolutionary centralized modular architecture with functionally transparent line cards allow for easy upgrade of all system ports to higher level functions with a supervisor upgrade
- **Flexible Options:** Modular 3- and 6-slot single supervisor chassis and 7- and 10-slot redundant supervisor chassis supporting numerous connectivity and service configurations
- **Highest Availability:** Redundant supervisor engines with In Service Software Upgrade (ISSU), Non-stop Forwarding/Stateful Switchover (NSF/SSO) offering 50ms failover; redundant power supplies with power circuit redundancy; hot-swappable fan trays with redundant fans
- **Comprehensive Security:** Integrated Network Admission Control (NAC) and 802.1x, H/W-based Control Plane Policing (CoPP); integrated man-in-the-middle and DoS attack mitigation; NetFlow; access control lists and SSH
- **Comprehensive Management:** CiscoWorks; CNA; RSPAN; TDR and NetFlow
- **High Port Density:** Up to 384 Fast Ethernet or Gigabit Ethernet ports available in copper or fiber with 10 Gigabit uplinks; PoE (Cisco pre-standard and IEEE 802.3af)

FIXED-CONFIGURATION SWITCHES

Cisco Catalyst 4900 Series

Fixed-configuration switches offering high-performance and highest availability in a 1-RU configuration, optimized for data center top of rack server aggregation.

- Standalone fixed-configuration for low-latency and wire-speed switching
- Layer 2–4 switching and intelligent services with dynamic IP routing and IPv6
- Up to 48 10/100/1000 ports with four SFP ports or 48 10/100/1000 ports with two 10GbE ports
- Dual, hot-swappable internal AC or DC power supplies
- Hot-swappable fan trays

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 10GbE connectivity
- Up to 48 10/100/1000 ports plus two 10GbE X2 ports per stackable switch or four GbE ports
- Integrated PoE (Cisco pre-standard and IEEE 802.3af); up to 48 ports with 15.4 watts
- 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 10GbE 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-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 10GbE uplinks
- Up to 48 10/100/1000 ports plus two 10GbE X2 ports per stackable switch or 4 Gigabit Ethernet ports
- Integrated full PoE (Cisco pre-standard and IEEE 802.3af); up to 48 ports with 15.4 watts
- AC power supply failure protection with external power system

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 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
- AC power supply failure protection with external power supply
- Compact Fast Ethernet and Gigabit Ethernet switches with no fan

Cisco Catalyst 2950 Series

Fixed-configuration switches offering Fast Ethernet and Gigabit Ethernet connectivity for branch offices, small wiring closets, and industrial deployments.

- Standalone fixed-configuration switches
- Layer 2 switching with intelligent Layer 2–4 services
- Fast Ethernet connectivity with Gigabit Ethernet Uplinks
- Up to 48 10/100 ports
- AC power supply failure protection with external power supply; DC power option available

Cisco Catalyst 2940 Series

Compact fixed-configuration switches with Fast Ethernet connectivity for workgroups, conference rooms, and classrooms.

- Standalone fixed-configuration Layer 2 switches with no fan
- Fast Ethernet connectivity with Gigabit Ethernet Uplinks
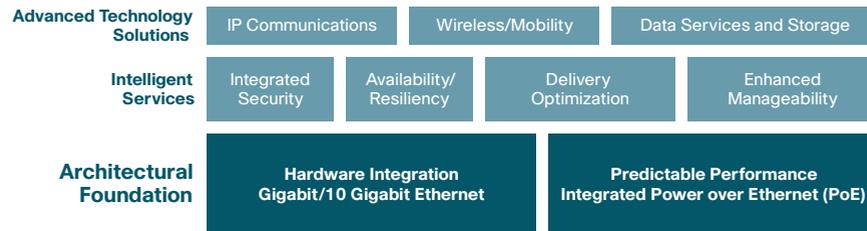- Up to eight 10/100 ports

Cisco Catalyst Express 500 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 or 12 10/100/1000 ports

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.

Advanced Technology Solutions	IP Communications	Wireless/Mobility	Data Services and Storage	
Intelligent Services	Integrated Security	Availability/ Resiliency	Delivery Optimization	Enhanced Manageability
Architectural Foundation	**Hardware Integration Gigabit/10 Gigabit Ethernet**		**Predictable Performance Integrated Power over Ethernet (PoE)**	

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

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 (10GbE) 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, 10GbE 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.

End-to-end intelligent switching for today's converged network services.

The LAN switching infrastructure connects users, applications, and communications systems together. That basic task has become much more challenging as the variety and complexity of network uses have increased. Cisco Catalyst switches provide the intelligent services required to create secure, resilient networks that optimize the delivery of disparate services, yet remain easy to configure, manage, and troubleshoot.

Advanced Technology Solutions	IP Communications	Wireless/Mobility	Data Services and Storage
Intelligent Services	Integrated Security / Availability/Resiliency	Delivery Optimization	Enhanced Manageability
Architectural Foundation	Hardware Integration Gigabit/10 Gigabit Ethernet	Predictable Performance Integrated Power over Ethernet (PoE)	
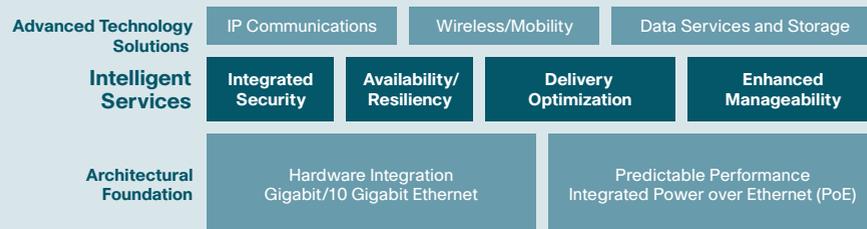
Cisco Catalyst switches support today's technology trends and business goals through a unique combination of intelligent capabilities. Major advantages include:

Integrated Security

Cisco Catalyst switches help make networks self-defending. Encrypted passwords, multilevel account privileges, and authentication protocols prevent unauthorized network access—a problem exacerbated by the rapid adoption of wireless networking. The switches can also prevent devices from connecting if they fail to meet certain criteria, such as having the latest antivirus software. Users can be separated into private subnets to permit varying levels of access. Other features enable the switches to protect themselves from worms and denial-of-service (DoS) attacks, prevent routing and spanning tree information from being spoofed, and ensure malicious users can't steal confidential information, either from the company or from other employees. Flexible Packet Matching (FPM) also provides protection against notable worms and viruses and day zero attacks.

Non-Stop Communications

Cisco Catalyst switches help maintain the highest levels of network availability and resiliency. Each switch is designed to protect itself from hardware, software, power, or connection failures—or at the very least, minimize recovery times by enabling redundant backup systems and protocols to take over in as little as a millisecond. The switches are also designed to increase resiliency on a network-wide level, utilizing an array of Cisco innovations to recover from device, link, or protocol failures and maintain uninterrupted access. Integrated security features also play a role in preserving availability in the event of incidents like DoS attacks. Conversely, resilient designs help networks recover faster from security breaches, or even nullify their impact.

Application Intelligence

Today's networks must be intelligent and adaptable enough to meet the varying requirements of converged data, voice, video, and storage traffic. Cisco Catalyst switches optimize the delivery of disparate traffic types using four key technologies: stateful application intelligence (SAI), quality of service (QoS), multicast, and content switching. SAI provides IT managers with visibility into application bandwidth requirements on the network. SAI also gives IT managers the power to take control of application performance by prioritizing, deprioritizing, limiting or blocking traffic based on application type. QoS allows network managers to prioritize traffic and ensure low-latency traffic, such as voice, gets handled accordingly. Multicast makes it much more efficient to deliver video or music on-hold to multiple points on the network, reducing the burden on servers. The Cisco Catalyst 6500 Series Content Switching Module adds advanced Layer 4–7 load balancing to the Catalyst line's existing Layer 2 and 3 features, further optimizing service delivery.

Operational Manageability

All Cisco Catalyst switches offer enhanced capabilities that make them much easier to configure, manage, and troubleshoot. These include wizards that automatically configure switches, integrated Web-based management tools, device discovery and intelligent power management features for PoE equipment such as IP phones and wireless access points, and an array of data collection and analysis tools. The benefits are real-time visibility, faster response and repair times, more adaptive policy management, and reduced cost and complexity. In the case of the Cisco Catalyst 6500 Series, optional Network Analysis Modules (NAMs) embed a rich set of management features on a single blade, providing volumes of performance information without burdening the switch itself.

Cisco Catalyst Switches: FEATURE COMPARISON

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
LAN SWITCHING FEATURES											
Connectivity and Filtering											
EtherChannel®/802.3ad	•	•	•	•	•	•	•	•	•	•	•
Jumbo Frames—Gigabit Ethernet on Copper	•	6-port card only	•	•	L2 only	•	L2 only	L2 only			
Jumbo Frames—Gigabit Ethernet on Fiber	•	All non-blocking ports	•	•	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	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	4096	4096	2048	1005	1005	1005	1005	255	128 (SI), 250 (EI)	128	32
Number of VLAN IDs	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	1005
Layer 3											
H/W-based MPLS/EoMPLS	•										
EIGRP	•	•	•	IP Services	IP Services	IP Services	IP Sevices				
EIGRP Stub				IP Base	IP Base	IP Base	IP Base				
VPLS/H-VPLS	•										
MPLS L3 VPNs	•										
MPLS Traffic Engineering (TE)	•										
OSPF	•	•	•	IP Services	IP Services	IP Services	IP Services				
BGP	•	•	•	IP Services	IP Services	IP Services	IP Services				
Equal Cost Load Balancing	•	•	•	•	•	•	•				

Cisco Catalyst Switches: FEATURE COMPARISON

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
LAN SWITCHING FEATURES continued											
Layer 3 continued											
RIP, RIPv2	▪	▪	▪	▪	▪	▪	▪				
Static Routes	▪	▪	▪	▪	▪	▪	▪				
IS-IS	▪	▪	▪								
H/W-based IPv6 Routing	▪	In software	In software	▪	▪	▪	▪				
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 128,000	Up to 128,000	Up to 20,000	Up to 20,000	Up to 11,000	Up to 11,000				
VRF Lite	IP Services	IP Services	IP Services	IP Services	IP Services	IP Services	IP Services				
INTEGRATED SECURITY											
Access Control Lists											
Reflexive ACL	▪										
Port ACL	▪	▪	▪	▪	▪	▪	▪	▪	EI only		
Time-based ACL	▪	▪	▪	▪	▪	▪	▪	▪	▪		
Router ACL	▪	▪	▪	▪	▪	▪	▪				
VLAN ACL	▪	▪	▪	▪	▪	▪	▪				
VACL with Redirect/Capture/ Logging of Denied Traffic	▪	▪*	▪*	Capture and Logging	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	32,000	32,000	2000	2000	2000	2000	512	300 ACP—EI only		
Attack Mitigation											
Flexible Packet Matching	▪										
Control Plane Policing (Multiple CPU Rate Limiters)	▪	▪	▪								
IP Source Guard	▪	▪	▪		▪	▪	▪				
DHCP Snooping/Option 82	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪	

*As part of IP ACL in VLAN MAP but not for the entire VACL.

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
INTEGRATED SECURITY continued											
Attack Mitigation continued											
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											
H/W-based NAT/PAT	▪										
MD5 Route Authentication	▪	▪	▪	▪	▪	▪	▪				
Multilevel Account Privilege	▪	▪	▪	▪	▪	▪	▪				

Cisco Catalyst Switches: FEATURE COMPARISON

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
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 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	■	■	■								
Network Protocols											
Unidirectional Link Detection (UDLD)	■	■	■	■	■	■	■	■	■	■	■
Gateway Load Balancing Protocol (GLBP)	■										
Hot Standby Routing Protocol (HSRP)	■	■	■	■	■	■	■				
Virtual Router Redundancy Protocol (VRRP)	■	■	■								
UplinkFast	■	■	■		■	■	■	■	■	■	■
BackBoneFast	■	■	■		■	■	■	■	■	■	■
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 Switches: **FEATURE COMPARISON**

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES									
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
AVAILABILITY AND RESILIENCY continued											
Network Protocols continued											
Digital Optical Monitoring	■	■	■								
Flexlink	■			■	■		■	■			
Link State Tracking				■	■	■	■	■			
DELIVERY OPTIMIZATION											
Stateful Application Intelligence											
Network-Based Application Recognition	■										
Quality of Service											
Number of Queues per Port	Up to 8	4	4	4	4	4	4	4	4	4	4
Congestion Avoidance	■	■	■	WTD	WTD	WTD	WTD	WTD			WTD
L2–L3 Rewrite/Mapping	■	■	■	■	■	■	■	■	El only		
Ingress Queuing	■	N/A	N/A	■	■	■	■	■			
Ingress Strict Priority	■	N/A	N/A	■	■	■	■	■			
Egress Queuing	■	■	■	■	■	■	■	■	■	■	■
Egress Strict Priority	■	■	■	■	■	■	■	■	■	■	■
Traffic Classification	■	■	■	■	■	■	■	■	■	■	■
IP Service Level Agreement	■			■	■	■	■	Responder			
Policers											
H/W-based Policing	■	■	■								
Per-port Policers	■	■	■	■	■	■	■	■	El only		
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	■	In software	In software	No PIM	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	■										

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
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	32,000	28,000	28,000	1000	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)	■	■	■	■	■	■	■	■	■	■	■
Smartports	■	■	■	■	■	■	■	■	■	■	■
NetFlow	■	■									
NetFlow Data Export	■	■									
Syslog	■	■	■	■	■	■	■	■	■	■	

Cisco Catalyst Switches: **FEATURE COMPARISON**										
	MODULAR SWITCHES		**FIXED-CONFIGURATION SWITCHES**							
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
ENHANCED MANAGEABILITY continued											
Switch TopN	•										
SNMP	•	•	•	•	•	•	•	•	•	•	•
RMON	•	•	•	•	•	•	•	•	•	•	•
SPAN	•	•	•	•	•	•	•	•	•	•	•
RSPAN	•	•	•	•	•	•	•	•	EI only		
ERSPAN	•										
L2-Traceroute	•	•	•	•	•	•	•	•	•	•	
SSH v2	•	•	•	•	•	•	•	•	•	•	
AutoQoS	•	•	•	•	•	•	•	•	EI only		
E-911 MIB Support					•	•	•	•	•	•	•
Out of Band Management (Serial) —RJ45	•	•	•	•	•	•	•	•	•	•	
Out of Band Management (Serial) —USB	•										
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	•	•									
SOFTWARE MODULARITY											
Subsystem In Service Software Upgrade (ISSU)	•										
Fault Containment	•										
Memory Protection	•										
Process Restartability	•										

Cisco Catalyst Switches: FEATURE COMPARISON

	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
	Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3650-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
APPLICATION, SECURITY, AND MANAGEABILITY MODULES											
Virtualized Firewall Module	▪										
APPLICATION, SECURITY, AND MANAGEABILITY MODULES continued											
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											
802.3af—15W on 48 Ports in a Module/Fixed Switch	▪	▪		▪			▪				
802.3af—7W on 48 Ports in a Module/Fixed Switch	▪	▪		▪	▪	▪	▪				
802.3af—15W on 24 Ports in a Module/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	▪	▪	▪	▪	▪	▪	▪				
Redundant Power Circuit	▪	▪	▪	▪							
Communication Media Module	▪										
AutoQoS	▪	▪	▪	▪	▪	▪	▪	▪	EI only		
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	64–136	96–136	64	32	64	32	16–32	8.8–13.6	3.6	8.8–24
Packets per Second (Mpps)	15–400	48–102	72–102	6.5–39	6.5–39	6.5–39	6.5–39	6.5–35.7	6.5–10.1	2.7	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

Cisco Catalyst 6500 Series Switches

CHASSIS

Current Product	Recommended Product
WS-C6503	WS-C6503-E
	WS-C6504-E
WS-C6506	WS-C6506-E
WS-C6509-NEB	WS-C6509-NEB-A + FAN-MOD-09
WS-C6509-NEB-FAN	FAN-MOD-09
WS-6509-NEB-UPGRD=	WS-C6509-NEB-A
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

Current Product	Recommended Product
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-1300W	WS-CAC-2500W
	WS-CAC-3000W
	WS-CAC-6000W
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)

FAN TRAYS

Current Product	Recommended Product
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)

Cisco Catalyst 6500 Series Switches continued

FAN TRAYS continued

Current Product	Recommended Product
FAN-MOD-3HS	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)
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

Current Product	Recommended Product
WS-SVC-WLAN-1-K9	WS-SVC-WISM-1-K9
WS-X6502-FULL-CVR	No Replacement

OPTICAL MODULES

Current Product	Recommended Product
WS-G6488	No Replacement
WS-G6483	No Replacement

SUPERVISORS

Current Product	Recommended Product
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-X6148-RJ21V	WS-X6148-21AF
	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6148-RJ45V	WS-X6148A-45AF
	WS-X6148A-GE-45AF
WS-X6148V-GE-TX	WS-X6148A-GE-45AF
WS-X6148X2-45AF	WS-X6196-21AF
WS-X6148X2-RJ-45	WS-X6196-RJ-21
WS-X6516-GE-TX	WS-X6548-GE-TX
	WS-X6748-GE-TX

Cisco Catalyst 6500 Series Switches continued

SUPERVISORS continued

Current Product	Recommended Product
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-X6K-S2U-MSFC2	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
	WS-SUP720-3B
	WS-SUP720-3BXL
WS-X6K-S2-MSFC2	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
	WS-SUP720-3B
	WS-SUP720-3BXL
WS-X6K-S2-PFC2	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
	WS-SUP720-3B
	WS-SUP720-3BXL
WS-X6K-S1A-MSFC2	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X6K-SUP1A-MSFC	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X6K-SUP1A-PFC	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X6K-SUP1A-2GE	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X6K-SUP1-2GE	WS-SUP720-3BXL
	WS-SUP720-3B

LINE CARDS AND DAUGHTER CARDS

Current Product	Recommended Product
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

Cisco Catalyst 6500 Series Switches continued

LINE CARDS AND DAUGHTER CARDS continued

Current Product	Recommended Product
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
WS-C6500-SFM	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X6500-SFM2	WS-SUP720-3BXL
	WS-SUP720-3B
WS-F6K-MSFC2=	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X6502-10GE	WS-X6704-10GE

Cisco Catalyst 5000 and 5500 Series Switches

CHASSIS

Current Product	Recommended Product
WS-C5505	WS-C6506-E
	WS-C4506
	WS-C4507R
WS-C5500	WS-C6513
	WS-C4510R
WS-C5509	WS-C6509-E
	WS-C4510R
WS-C5002	WS-C6504-E
	WS-C4503
WS-C5000	WS-C6506-E
	WS-C4506

SUPERVISORS

Current Product	Recommended Product
WS-X5550	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
WS-X5550 + WS-F5541	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
WS-X5534-E1-GESX	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5536-E1-GELX	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5530-E1	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5530-E2	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5530-E2A	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5530-E3	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5530-E3A	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5530-E3A + WS-X5302	WS-SUP720-3BXL
	WS-SUP720-3B

Cisco Catalyst 5000 and 5500 Series Switches continued

SUPERVISORS continued

Current Product	Recommended Product
WS-X5540	WS-SUP32-10GE-3B
	WS-SUP32-GE-3B
WS-X5505	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5506	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5509	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5005	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5006	WS-SUP720-3BXL
	WS-SUP720-3B
WS-X5009	WS-SUP720-3BXL
	WS-SUP720-3B

INTERFACE MODULE OPTIONS

Current Product	Recommended Product
WS-X5157	WS-X6101-OC12-SMF
	WS-X6182-2PA
WS-X5158	WS-X6101-OC12-MMF
	WS-X6182-2PA
WS-X5161	WS-X6101-OC12-MMF
	WS-X6182-2PA
WS-X5162	WS-X6101-OC12-SMF
	WS-X6182-2PA
WS-X5165	No Replacement
WS-X5166	WS-X6182-2PA
WS-X5167	WS-X6101-OC12-MMF
	WS-X6182-2PA
WS-X5168	WS-X6101-OC12-SMF
	WS-X6182-2PA

Cisco Catalyst 5000 and 5500 Series Switches continued

INTERFACE MODULE OPTIONS continued

Current Product	Recommended Product
WS-X5201R	WS-X6524-100FX-MM
	WS-X6324-100FX-MM
	WS-X4124-FX-MT
	WS-X4148-FX-MT
WS-X5234-RJ45	WS-X6148A-GE-45AF
	WS-X6148A-RJ-45 + WS-X6148A-GE-TX
	WS-X4148-RJ
	WS-X4148-RJ45V
	WS-X4232-GB-RJ
	WS-X4232-RJ-XX
	WS-X4424-GB-RJ45
	WS-X4448-GB-RJ45
WS-X5236-FX-MT	WS-X6524-100FX-MM
	WS-X6324-100FX-MM
	WS-X4124-FX-MT
	WS-X4148-FX-MT
WS-X5239-RJ21	WS-X6148-RJ21V
	WS-X6148-RJ21
	WS-X4148-RJ
	WS-X4148-RJ45V
	WS-X4232-GB-RJ
	WS-X4232-RJ-XX
	WS-X4424-GB-RJ45
	WS-X4448-GB-RJ45
WS-X5305	No Replacement
WS-X5381	WS-SVC-NAM-1=
	WS-SVC-NAM-2=
WS-X5403	WS-X6816-GBIC
	WS-X6516A-GBIC
	WS-X6408A-GBIC
	WS-X4306-GB
	WS-X4418-GB

Cisco Catalyst 5000 and 5500 Series Switches continued

INTERFACE MODULE OPTIONS continued

Current Product	Recommended Product
WS-X5410	WS-X6816-GBIC
	WS-X6516-GBIC
	WS-X6516A-GBIC + WS-X6724-SFP (requires Catalyst 6500 Series Supervisor Engine 720)
	WS-X6408A-GBIC
	WS-X4306-GB
	WS-X4418-GB
WS-X5303-15=	WS-X6182-2PA
	WS-X4604-GWY
WS-X5303-40=	WS-X6182-2PA
	WS-X4604-GWY
WS-X5530-E3A+	WS-SUP32-10GE-3B + WS-SUP32-GE-3B + WS-SUP720-3B + WS-SUP720-3BXL
	WS-X4013+
WS-X5304-15	WS-X6182-2PA
	WS-X4604-GWY
WS-X5304-40	WS-X6182-2PA
	WS-X4604-GWY

Cisco Catalyst 4500 Series Switches

CHASSIS

Current Product	Recommended Product
WS-C4003	WS-C4503
WS-C4006	WS-C4506
	WS-C4507R
	WS-C4510R

SUPERVISORS

Current Product	Recommended Product
WS-X4013 (SUP II)	WS-X4013+ (SUP II+)
	WS- X4013+10GE (SUP II-Plus-10GE)
	WS-X4515 (SUP IV)
WS-X4014 (SUP III)	WS-X4515 (SUP IV)
	WS-X4516 (SUP V)
	WS-X4516-10GE (SUP V-10GE)

Cisco Catalyst 4500 Series Switches continued

SUPERVISORS continued

Current Product	Recommended Product
WS-X4032-L3	WS-X4515 (SUP IV)
	WS-X4516 (SUP V)
	WS-X4516-10GE (SUP V-10GE)
WS-X4012 (SUP I)	WS-X4013+ (SUP II+)
	WS-X4013+TS (SUP II Plus-TS)
	WS- X4013+10GE (SUP II-Plus-10GE)
	WS-X4515 (SUP IV)
WS-X4032-L3	WS-X4515 (SUP IV)
	WS-X4516 (SUP V)
	WS-X4516-10GE (SUP V-10GE)

LINE CARDS AND DAUGHTER CARDS

Current Product	Recommended Product
WS-U4504-FX-MT	WS-X4232-GB-RJ
WS-U4504-FX-MT=	WS-X4232-GB-RJ=
WS-X4232-RJ-XX	WS-X4232-GB-RJ
WS-X4232-RJ-XX=	WS-X4232-GB-RJ=

Cisco Catalyst 3750, 3500 and 3500XL Series Switches

CHASSIS

Current Product	Recommended Product
WS-C3750G-24-TS-S	WS-C3750G-24-TS-S1U
	WS-C3750E-24TD-S
WS-C3750G-24-TS-E	WS-C3750G-24-TS-E1U
	WS-C3750E-24TD-E
WS-C3750G-16TD-E	WS-C3750E-24TD-E
WS-C3750G-16TD-S	WS-C3750E-24TD-S
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-C3550-24-SMI	WS-C3560-24TS-S
	WS-C3750-24TS-S
	WS-C3560E-24TD-S
	WS-C3750E-24TD-S
WS-C3550-24-EMI	WS-C3560-24TS-E
	WS-C3750-24TS-E
	WS-C3560E-24TD-E
	WS-C3750E-24TD-E
WS-C3550-24-FX-SMI	WS-C3750-24FS-S
WS-C3550-48-SMI	WS-C3560-48TS-S
	WS-C3750-48TS-S
	WS-C3560E-48TD-S
	WS-C3750E-48TD-S
WS-C3550-48-EMI	WS-C3560-48TS-E
	WS-C3750-48TS-E

Cisco Catalyst 3750, 3500, and 3500XL Series Switches continued

CHASSIS continued

Current Product	Recommended Product
WS-C3550-48-EMI continued	WS-C3560E-48TD-E
	WS-C3750E-48TD-E
WS-C3550-24PWR-SMI	WS-C3560-24PS-S
	WS-C3560-48PS-S
	WS-C3750-24PS-S
	WS-C3750-48PS-S
	WS-C3560E-24PD-S
	WS-C3560E-48PD-S
	WS-C3750E-24PD-S
	WS-C3750E-48PD-S
WS-C3550-24PWR-EMI	WS-C3560-24PS-E
	WS-C3560-48PS-E
	WS-C3750-24PS-E
	WS-C3750-48PS-E
	WS-C3560E-24PD-E
	WS-C3560E-48PD-E
	WS-C3750E-24PD-E
	WS-C3750E-48PD-E
WS-3500XL-48	WS-C4948
WS-C3524-XL-EN	WS-C3560-24PS-S
	WS-C3750G-24T-E
	WS-C3750G-24TS-E
	WS-C3560E-24PD-S
	WS-C3750E-24TD-E
WS-C3548-XL-EN	WS-C3750G-24T-S
	WS-C3750-48PS-S
	WS-C3750-24TD-S
	WS-C3750E-48PD-S
	WS-C4948

Cisco Catalyst 2900 Series Switches

CHASSIS continued

Current Product	Recommended Product
WS-C2980G	WS-C4948
WS-C2970G-24T	WS-C2960G-24TC-L
	WS-C3560G-24TS-E
	WS-C3560E-24TD-E
WS-C2970G-24TS	WS-C2960G-24TC-L
	WS-C3560G-24TS-E
	WS-C3560E-24TD-E
WS-C2970G-24T-E	WS-C2960G-24TC-L
	WS-C3560G-24TS-S
	WS-C3560E-24TD-S
WS-C2970G-24TS-E	WS-C2960G-24TC-L
	WS-C3560G-24TS-S
	WS-C3560E-24TD-S
WS-C2950G-12-EI	WS-C2960-24TC-L
WS-C2950G-24-EI	WS-C2960-24TC-L
WS-C2950G-48-EI	WS-C2960-48TC-L
WS-C2950T-24-EI	WS-C2960-24TT-L
WS-C2950T-48-SI	WS-C2960-48TT-L
WS-C2948G-GE-TX	WS-C2960G-48TC-L
	WS-C3560G-48TS
	WS-C3560E-48STD-S
	WS-C4948
WS-C2948G	WS-C2960G-48TC-L
	WS-C3560G-48TS
	WS-C3560E-48TD-S
	WS-C4948
WS-C2924M-XL-EN	WS-C3560-48-PS-S
	WS-C3750-48PS-S
	WS-C3560E-48PD-S
	WS-C3750E-48PD-S
WS-C2924-XL-EN	WS-C3560-24PS-S
	WS-C3750G-24T-E
	WS-C3750-24PS-S

Cisco Catalyst 2900 Series Switches continued

CHASSIS continued

Current Product	Recommended Product
WS-C2924-XL-EN continued	WS-C3560E-24PD-S
	WS-C3750E-24TD-E
	WS-C3750E-24PD-S
WS-C1924-A	WS-C3560-24PS-S
	WS-C3750-24PS-S
	WS-C3560E-24PD-S
	WS-C3750E-24PD-S
WS-C1924C-EN	WS-C3750G-24T-S
	WS-C3750E-24PD-S
WS-C1912-A	WS-C3560-24PS-S
	WS-C3560E-24PD-S

Cisco Redundant Power Systems 675

POWER SUPPLIES

Current Product	Recommended Product
PWR675-AC-RPS-N1=	PWR-RPS2300

Cisco Catalyst Modular Switches

The Cisco Catalyst 6500 and Catalyst 4500 Series modular switches provide customers with an intelligent high performance platform for deploying numerous concurrent intelligent services without degrading the overall performance of the switch. With a broad selection of line cards, power supplies, and their highly versatile architecture, modular switches deliver the highest levels of port density and flexibility, including Power over Ethernet (PoE) 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 which 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.

Cisco Catalyst 6500 Series

Modular switches offering the highest levels of application intelligence, unified network services, integrated security, non-stop communications, operational manageability and virtualization for enterprise customers, 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 from wiring closet, campus distribution, and core, data centers to internet access and WAN service aggregation, enables maximum operational efficiency and investment protection through hardware and software consistency.

The Catalyst 6500 Series offer integrated service modules that provide high-speed advanced services such as integrated wireless, TDM/analog gateway, firewalling, intrusion detection, content switching, SSL termination, and network analysis services. With a choice of 3-, 4-, 6-, 9-, and 13-slot chassis, the Catalyst 6500 Series scales to support the highest port densities for Power over Ethernet (PoE), 10/100 Fast Ethernet, 10/100/1000 Gigabit Ethernet, 10 Gigabit Ethernet (10GbE) and DS0 to OC-192 WAN interfaces. The Catalyst 6500 switch platforms also offer the investment protection of backwards compatibility, enabling new services and functions on older line cards by simply upgrading a supervisor with up to 720 Gbps of performance.

Cisco Catalyst 6500 Series

Hardware Features: Catalyst 6500 Chassis

Chassis	WS-C6503-E	WS-C6504-E	WS-C6506-E	WS-C6509-E	WS-C6509-NEB-A	WS-C6513
Slots	3	4	6	9	9	13
Gigabit Ethernet GBIC/SFP Density	98	144	242	386	384	410
10 GbE XENPAK/X2 Port Density	16	24	40	64	64	40
10/100/1000 Density	97	144	241	385	385	577
10/100 Density	192	288	480	768	768	1152
100BASE-FX Density	96	144	240	384	384	576
Max. Watt Power Consumption (redundant mode)						
AC Internal (redundant mode)	1,400	2,700	8,700	8,700	6000	6000
DC Internal (redundant mode)	950	2,700	4000	4000	4000	4000
Max. Number of Class 3 Devices (15.4W) Max. 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)

Cisco Catalyst 6500 Series

Hardware Features: Catalyst 6500 Supervisor Engines

Supervisor Engines	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
Bandwidth per Slot (Gbps)	40	32 shared	32 shared
Total Bandwidth (Gbps)	720	32	32
Packets per Second (Mpps)	400	15	15
MAC Addresses Supported	64K	64K	64K
Routes Supported	1,000,000 (3BXL) 256,000 (3B)	256,000	256,000
Onboard Memory (DRAM)	Up to 1GbE	Up to 1GbE	Up to 1GbE
Uplinks	2xGbE	2x10GbE (-10GbE) 8GbE (-GbE)	2x10GbE (-10GbE) 8GbE (-GbE)

Catalyst 6500 Supervisor Common Features

- Supports next generation performance of Gigabit and 10GbE interface
- Compatible with all three generations of Catalyst 6500 series interfaces and service modules
- 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
- 802.1x and NAC
- Access Control Lists (ACLs)
- Virtual LANs (VLANs)
- Port Security
- CPU rate limiting
- Multi-path uRFP

Catalyst Supervisor Engine 720

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

Catalyst Supervisor Engine 32-PISA

- Integrated Programmable Intelligent Services Accelerator
- Multi-gigabit deep packet inspection for SAI and FPM
- Optimized for the access layer – common services with Supervisor Engine 720
- Shared 32 Gbps bus

Catalyst Supervisor Engine 32-PISA with 10 GbE Uplinks

- Integrated Programmable Intelligent Services Accelerator
- Multi-gigabit deep packet inspection for SAI and FPM
- Optimized for the access layer – common services with Supervisor Engine 720
- Shared 32 Gbps bus
- Two high-bandwidth 10 GbE uplinks

Catalyst Supervisor Engine 32

- Optimized for the access layer – common services with Supervisor Engine 720
- Shared 32 Gbps bus

Catalyst Supervisor Engine 32 with 10GbE Uplinks

- Optimized for the access layer – common services with Supervisor Engine 720
- Shared 32 Gbps bus
- Two high-bandwidth 10GbE uplinks

Series Spotlight

Programmable Intelligent Services Accelerator (PISA)

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

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

Cisco Catalyst 6500 Series provide the industry leading levels of power scalability (up to 420 Class 3 devices) needed to support high-density PoE deployments. 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.

Cisco Catalyst 6500 Series

Product Overview

CATALYST 6500 CHASSIS - TOP SELLERS

Product Number	Description
WS-C6503-E	6500 Enhanced 3-slot Chassis, 4-RU, no PS, no Fan Tray
WS-C6504-E	6500 Enhanced 4-slot Chassis, 5-RU, no PS, no Fan Tray
WS-C6506-E	6500 Enhanced 6-slot Chassis, 12-RU, no PS, no Fan Tray
WS-C6509-E	6500 Enhanced 9-slot Chassis, 15-RU, no PS, no Fan Tray
WS-C6509-NEB-A	6500 9-slot Chassis (NEBS), 21-RU, no PS, no Fan Tray
WS-C6513	6500 13-slot Chassis, 20-RU, no PS, no Fan Tray

CATALYST 6500 SUP32-GBE BUNDLES - TOP SELLERS

Product Number	Description
WS-C6503E-S32-GE	6503E Chassis, WS-SUP32-GE-3B, Fan Tray (Req. P/S)
WS-C6504E-S32-GE	6504E Chassis, WS-SUP32-GE-3B, Fan Tray, (Req. P/S)
WS-C6506E-S32-GE	6506E Chassis, WS-SUP32-GE-3B, Fan Tray (Req. P/S)
WS-C6509E-S32-GE	6509E Chassis, WS-SUP32-GE-3B, Fan Tray (Req. P/S)
WS-C6513-S32-GE	6513 Chassis, WS-SUP32-GE-3B, Fan Tray (Req. P/S)
WS-C6506E-IPS10GK9	6506E Chassis, 4 x IDSM2, WS-SUP32-GE-3B, 2 10GbE XENPAKs, P/S
WS-C6506E-IPSF-K9	6506 Chassis, 4 x IDSM2, WS-SUP32-GE-3B, 8 Fiber SFP, P/S

CATALYST 6500 SUP32-10GBE BUNDLES - TOP SELLERS

Product Number	Description
WS-C6503E-S32-10GE	6503E Chassis, WS-SUP32-10GE-3B, Fan Tray (Req. P/S)
WS-C6504E-S32-10GE	6504E Chassis, WS-SUP32-10GE-3B, Fan Tray (Req. P/S)
WS-C6506E-S32-10GE	6506E Chassis, WS-SUP32-10GE-3B, Fan Tray (Req. P/S)
WS-C6509E-S32-10GE	6509E Chassis, WS-SUP32-10GE-3B, Fan Tray (Req. P/S)
WS-C6513-S32-10GE	6513 Chassis, WS-SUP32-10GE-3B, Fan Tray (Req. P/S)

CATALYST 6500 ADVANCED TECHNOLOGY BUNDLES - TOP SELLERS

Product Number	Description
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

Product Overview continued

CATALYST 6500 ADVANCED TECHNOLOGY BUNDLES - TOP SELLERS (continued)

Product Number	Description
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, (2) P/S)
WS-C6509-E-WISM	6509-E WiSM Bundle (SUP720-3B, WiSM, Fan Tray, no P/S)
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 AC POWER SUPPLIES - TOP SELLERS

Product Number	Description
PWR-1400-AC	1400W AC Power Supply for 7603 and WS-C6503 Chassis
PEM-20A-AC+	Power Entry Module use w/1400W AC P/S 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
PWR-1400-AC=	1400W AC Power Supply for 7603 and WS-C6503 Chassis
PEM-20A-AC+=	Power Entry Module Use w/1400W AC P/S for 7603, WS-C6503
PWR-2700-AC/4=	2700W AC Power Supply for 7604/6504-E
WS-CAC-3000W=	6500 3000W AC Power Supply (Spare)
WS-CAC-6000W=	6500 6000W AC Power Supply
WS-CAC-8700W-E	6500 8700W Enhanced AC Power Supply
WS-CAC-8700W-E=	6500 8700W Enhanced AC Power Supply

Product Overview

CATALYST 6500 DC POWER SUPPLIES - TOP SELLERS

Product Number	Description
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
PWR-950-DC=	Spare 950W DC Power Supply for 7603/6503
PEM-DC/3=	Spare 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, Spare
PWR-4000-DC=	4000W DC Power Supply for 7609/13, 6509/13

CATALYST 6500 SUPERVISOR ENGINES/SWITCH MODULES - TOP SELLERS

Product Number	Description
WS-SUP32-10GE-3B	6500 SUP32 with 2 Ports 10GbE and PFC3B
WS-SUP32-GE-3B	6500 SUP32 with 8 GbE Uplinks and PFC3B
WS-SUP720-3BXL	6500/7600 SUP720 Fabric MSFC3 PFC3BXL
WS-SUP720-3B	6500/7600 SUP720 Fabric MSFC3 PFC3B
WS-SUP32-10GE-3B=	6500 SUP32 with 2 Ports 10GbE and PFC3B
WS-SUP32-GE-3B=	6500 SUP32 with 8 GbE Uplinks and PFC3B
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

Product Number	Description
WS-X6708-10G-3C	8-port 10 Gigabit Ethernet Module with DFC3C (Req. X2)
WS-X6708-10G-3C=	8-port 10 Gigabit Ethernet Module with DFC3C (Req. X2)
WS-X6708-10G-3CXL	8-port 10 Gigabit Ethernet Module with DFC3CXL (Req. X2)
WS-X6708-10G-3CXL=	8-port 10 Gigabit Ethernet Module with DFC3CXL (Req. X2)
WS-X6704-10GE	4-port 10 Gigabit Ethernet Module (Req. XENPAKs)
WS-X6704-10GE=	4-port 10 Gigabit Ethernet Module (Req. XENPAKs)

Product Overview continued

CATALYST 6500 GIGABIT ETHERNET - TOP SELLERS

Product Number	Description
WS-X6408A-GBIC	6000 8-port Gigabit Ethernet Module, Enhanced QoS (Req. GBICs)
WS-X6516A-GBIC	6500 16-port Gigabit Ethernet Module, Fabric-enabled (Req. GBICs)
WS-X6724-SFP	6500 24-port Gigabit Ethernet Module, fabric-enabled (Req. SFPs)
WS-X6748-SFP	6500 48-port Gigabit Ethernet Module, Fabric-enabled (Req. SFPs)
WS-X6408A-GBIC=	6000 8-port Gigabit Ethernet Module, Enhanced QoS (Req. GBICs)
WS-X6516A-GBIC=	6500 16-port Gigabit Ethernet Module, Fabric-enabled (Req. GBICs)
WS-X6724-SFP=	6500 24-port Gigabit Ethernet Module, Fabric-enabled (Req. SFPs)
WS-X6748-SFP=	6500 48-port CEF720 Gigabit Ethernet Module, (Req. SFPs)

CATALYST 6500 10/100/1000 - TOP SELLERS

Product Number	Description
WS-X6148A-GE-TX	6500 48-port 10/100/1000 w/ Jumbo Frame, RJ-45
WS-X6148A-GE-45AF	6500 48-port PoE 802.3af 10/100/1000, w/ 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-X6148A-GE-TX=	6500 48-port 10/100/1000 w/ Jumbo Frame, RJ-45
WS-X6148A-GE-45AF=	6500 48-port PoE 802.3af 10/100/1000, w/ 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

CATALYST 6500 10/100 - TOP SELLERS

Product Number	Description
WS-X6148A-RJ-45	6500 48-port 10/100 w/TDR, Upgradable - PoE 802.3af
WS-X6148A-45AF	6500 48-port PoE 802.3af 10/100 Line Card w/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-X6148A-RJ-45=	6500 48-port 10/100 w/TDR, Upgradable - PoE 802.3af
WS-X6148A-45AF=	6500 48-port PoE 802.3af 10/100 Line Card w/TDR

Cisco Catalyst 6500 Series

Product Overview continued

CATALYST 6500 10/100 - TOP SELLERS continued

Product Number	Description
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

CATALYST 6500 100 BASE-X - TOP SELLERS

Product Number	Description
WS-X6148-FE-SFP	6500 48-port 100Base-X Module (Req. SFP)
WS-X6148-FE-SFP=	6500 48-port 100Base-X Module (Req. SFP)

CATALYST 6500 POLICY FTR CARDS/DIST FWD CARDS - TOP SELLERS

Product Number	Description
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-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-F6700-DFC3C=	6500 Dist Fwd Card for WS-X67xx Modules
WS-F6700-DFC3CXL=	6500 Dist Fwd Card- 3CXL, for WS-X67xx
WS-F6K-PFC3BXL=	SUP720 PFC-3BXL Plus 2x1Gig Mem
WS-F6K-PFC3B=	SUP720 Policy Feature Card-3B

CATALYST 6500 SERVICE MODULES - TOP SELLERS

Product Number	Description
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)

Product Overview continued

CATALYST 6500 SERVICE MODULES - TOP SELLERS continued

Product Number	Description
WS-SVC-ADM-1-K9	6500 Anomaly Detection Module
WS-SVC-AGM-1-K9	6500 Anomaly Guard Module
WS-SVC-WISM-1-K9=	Wireless Services Module (WiSM)
WS-X6066-SLB-S-K9	Content Switching Module with SSL Daughter Card
WS-X6066-SLB-APC	6000 Content Switching Module
WS-SVC-SSL-1-K9	SSL Module for 6500
WS-SVC-NAM-1	6500 Network Analysis Module-1
WS-SVC-NAM-2	6500 Network Analysis Module-2
WS-SVC-CMM	Communication Media Module
WS-SVC-CMM-6E1	6-port E1 Interface Port Adapter
WS-SVC-CMM-6T1	6-port T1 Interface Port Adapter
WS-SVC-CMM-BLANK	Communication Media Module Blank Panel Cover
WS-SVC-CMM-BLANK=	Communication Media Module Blank Panel Cover
WS-SVC-CMM-ACT	Adhoc Conferencing and Transcoding PA
WS-SVC-CMM-24FXS	24-port FXS Interface Port Adapter
WS-SVC-CSG-1	Content Services Gateway
WS-SVC-MWAM-1	Multi-Processor WAN Application Module
WS-SVC-PSD-1	Persistent Storage Device
WS-SVC-FWM-1-K9=	Firewall Blade for 6500 and 7600, VFW License Separate
WS-SVC-IDS2BUNK9=	600M IDSM-2 Module Spare
WS-SVC-WEBVPN-K9=	6500 SSL VPN Module
WS-SVC-WEBVPN-K9	6500 SSL VPN Module
7600-SSC-400=	7600 /6500 Services SPA Carrier Card
SPA-IPSEC-2G=	7600 /6500 IPSec VPN SPA - DES/3DES/AES
WS-SVC-ADM-1-K9=	6500 Anomaly Detection Module
WS-SVC-AGM-1-K9=	6500 Anomaly Guard Module
WS-X6066-SLB-S-K9=	Content Switching Module with SSL Daughter Card
WS-X6066-SLB-APC=	6500/7600 Content Switching Module
WS-SVC-SSL-1-K9=	6500 SSL Module
WS-SVC-NAM-1=	6500 Network Analysis Module-1
WS-SVC-NAM-2=	6500 Network Analysis Module-2

Cisco Catalyst 6500 Series

CATALYST 6500 SERVICE MODULES - TOP SELLERS continued

Product Number	Description
WS-SVC-CMM=	Communication Media Module
WS-SVC-CMM-6E1=	6-port E1 Interface Port Adapter
WS-SVC-CMM-6T1=	6-port T1 Interface Port Adapter
WS-SVC-CMM-ACT=	Adhoc Conferencing and Transcoding PA
WS-SVC-CMM-24FXS=	24-port FXS Interface Port Adapter
WS-SVC-CSG-1=	Content Services Gateway
WS-SVC-MWAM-1=	Multi-Processor WAN Application Module
WS-SVC-PSD-1=	Persistent Storage Device
WS-SVC-WISM-1-K9	Wireless Services Module (WiSM)
7600-SIP-200=	7600 Series SPA Interface Processor-200
7600-SIP-400=	7600 Series SPA Interface Processor-400
7600-SIP-600=	7600 Series SPA Interface Processor-600
SPA-2XOC3-ATM=	2-port OC-3c/STM-1 ATM Shared Port Adapter
SPA-2XOC3-POS=	2-port OC3/STM1 POS Shared Port Adapter
SPA-4XOC3-ATM=	4-port OC-3c/STM-1 ATM Shared Port Adapter
SPA-1XCHSTM1/OC3=	1-port Channelized STM-1/OC-3c to DS0 Shared Port Adapter
SPA-1XOC12-POS=	1-port OC12/STM4 POS Shared Port Adapter
SPA-1XOC12-ATM=	1-port OC-12c/STM-4 ATM Shared Port Adapter
SPA-1XOC48POS/RPR=	1-port OC48/STM16 POS/RPR Shared Port Adapter
SPA-2XOC48POS/RPR=	2-port OC48/STM16 POS/RPR Shared Port Adapter
SPA-2XT3/E3=	2-port Clear Channel T3/E3 Shared Port Adapter
SPA-4XT3/E3=	4-port Clear Channel T3/E3 Shared Port Adapter
SPA-4X1FE-TX-V2=	4-port Fast Ethernet (TX) Shared Port Adapter
SPA-2XCT3/DS0=	2-port Channelized T3 to DS0 Shared Port Adapter
SPA-4XCT3/DS0=	4-port Channelized T3 to DS0 Shared Port Adapter
SPA-4XOC48POS/RPR=	4-port OC48/STM16 POS/RPR Shared Port Adapter
SPA-1XOC48-ATM=	1-port OC-48c/STM-16 ATM Shared Port Adapter
SPA-1XTENGE-XFP=	1-port 10 Gigabit Ethernet Shared Port Adapter XFP-based
SPA-2X1GE=	2-port Gigabit Ethernet Shared Port Adapter
SPA-5X1GE=	5-port Gigabit Ethernet Shared Port Adapter
SPA-8XCHT1/E1=	8-port Channelized T1/E1 to DS0 Shared Port Adapter
SPA-8X1FE-TX-V2=	8-port Fast Ethernet (TX) Shared Port Adapter

CATALYST 6500 SERVICE MODULES - TOP SELLERS continued

Product Number	Description
SPA-10X1GE=	10-port Gigabit Ethernet Shared Port Adapter
SPA-OC192POS-LR=	1-port OC192/STM64 POS/RPR SMLR Optics
SPA-OC192POS-VSR=	1-port OC192/STM64 POS/RPR VSR Optics
SPA-OC192POS-XFP=	1-port OC192/STM64 POS/RPR XFP Optics

CATALYST 6500 802.3AF UPGRADES - TOP SELLERS

Product Number	Description
WS-F6K-48-AF=	C6500 802.3af PoE Daughter Card - 6x48x-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

CATALYST 6500 FLEXWAN/OSM - TOP SELLERS

Product Number	Description
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-X6582-2PA=	7600/6500 Enhanced FlexWAN, Fabric-enabled

CATALYST 6500 FLEXWAN/OSM - TOP SELLERS

Product Number	Description
WS-C6503-E-FAN	6503-E Chassis Fan Tray
FAN-C6524=	Spare Fan Tray for ME6524 Switch
FAN-MOD-4HS	High-speed Fan Module for 7604/6504-E
WS-C6506-E-FAN	6506-E Chassis Fan Tray
WS-C6509-E-FAN	6509-E Chassis Fan Tray
WS-C6K-13SLT-FAN2	High-speed Fan Tray for 6513 / 7613
FAN-MOD-09	Fan Module for 7609 and WS-C6509-NEB-A
WS-C6503-E-FAN=	6503-E Chassis Fan Tray
FAN-MOD-4HS=	High-speed Fan Module for 7604/6504-E Chassis
WS-C6506-E-FAN=	6506-E Chassis Fan Tray
WS-C6509-E-FAN=	6509-E Chassis Fan Tray
WS-C6K-13SLT-FAN2=	High-speed Fan Tray, Spare, for 6513 / 7613
FAN-MOD-09=	Fan Module 7609 (2 required)/6509-NEB-A (1 required)

Cisco Catalyst 6500 Series

CATALYST 6500 OPTICS - TOP SELLERS

Product Number	Description
GLC-FE-100FX=	100BASE-FX SFP for FE port
GLC-FE-100LX	100BASE-LX SFP for FE port
GLC-FE-100LX=	100BASE-LX SFP for FE port
GLC-FE-100BX-U	100BASE-BX10-U SFP
GLC-FE-100BX-U=	100BASE-BX10-U SFP
GLC-FE-100BX-D	100BASE-BX10-D SFP
GLC-FE-100BX-D=	100BASE-BX10-D SFP
GLC-FE-100EX	100BASE-EX SFP (40 km)
GLC-FE-100EX=	100BASE-EX SFP (40 km)
GLC-FE-100ZX	100BASE-ZX SFP (80 km)
GLC-FE-100ZX=	100BASE-ZX SFP (80 km)
GLC-LH-SM	GbE SFP, LC Connector LX/LH Transceiver
GLC-LH-SM=	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM	GbE SFP, LC Connector SX Transceiver
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver
GLC-ZX-SM	1000BASE-ZX SFP
GLC-ZX-SM=	1000BASE-ZX SFP
GLC-T	1000BASE-T SFP
GLC-T=	1000BASE-T SFP
GLC-T24	24 GLC-T SFP
WS-G5483=	1000BASE-T GBIC
WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode Only)
WS-G5484=	1000BASE-SX Short Wavelength GBIC (Multimode Only)
WS-G5486	1000BASE-LX/LH Long-haul GBIC (Single Mode or Multimode)
WS-G5486=	1000BASE-LX/LH Long-haul GBIC (Single Mode or Multimode)
WS-G5487	1000BASE-ZX Extended-reach GBIC (Single Mode)
WS-G5487=	1000BASE-ZX Extended-reach GBIC (Single Mode)
XENPAK-10GB-CX4	10GBASE-CX4 XENPAK Module
XENPAK-10GB-CX4=	10GBASE-CX4 XENPAK Module
XENPAK-10GB-ER+	10GBASE-ER XENPAK Module with DOM support
XENPAK-10GB-ER+=	10GBASE-ER XENPAK Module with DOM support
XENPAK-10GB-LR	10GBASE-LR XENPAK Module

CATALYST 6500 OPTICS - TOP SELLERS continued

Product Number	Description
XENPAK-10GB-LR=	10GBASE-LR XENPAK module
XENPAK-10GB-LX4	10GBASE-LX4 XENPAK Module
XENPAK-10GB-LX4=	10GBASE-LX4 XENPAK Module
XENPAK-10GB-SR	10GBASE-SR XENPAK Module
XENPAK-10GB-SR=	10GBASE-SR XENPAK Module
XENPAK-10GB-ZR	10GBASE-ZR XENPAK Module
XENPAK-10GB-ZR=	10GBASE-ZR XENPAK Module
XENPAK-10GB-LW	10GBASE-LW XENPAK Module
XENPAK-10GB-LW=	10GBASE-LW XENPAK Module
X2-10GB-SR	10GBASE-SR X2 Module
X2-10GB-SR=	10GBASE-SR X2 Module
X2-10GB-LR	10GBASE-LR X2 Module
X2-10GB-LR=	10GBASE-LR X2 Module
X2-10GB-ER	10GBASE-ER X2 Module
X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LX4	10GBASE-LX4 X2 Module
X2-10GB-LX4=	10GBASE-LX4 X2 Module
X2-10GB-CX4	10GBASE-CX4 X2 Module
X2-10GB-CX4=	10GBASE-CX4 X2 Module

CATALYST 6500 RACK MOUNT KITS - TOP SELLERS

Product Number	Description
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
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

Cisco Catalyst 6500 Series

CATALYST 6500 ACCESSORIES - TOP SELLERS

Product Number	Description
WS-F6K-48-AF=	802.3af PoE Daughter card - 6x48x-GbE-TX , 6148A-RJ-45
WS-F6K-48X2-SPLTR=	Spare Y-Type Splitter Bar for WS-X6148X2-RJ-45

CATALYST 6500 REMOVABLE STORAGE - TOP SELLERS

Product Number	Description
MEM-C6K-CPTFL128M	SUP720/SUP32 Compact Flash Mem 128MB
MEM-C6K-CPTFL256M	SUP720/SUP32 Compact Flash Mem 256MB
MEM-C6K-CPTFL512M	SUP720/SUP32 Compact Flash Mem 512MB
MEM-C6K-CPTFL128M=	SUP720/SUP32 Compact Flash Mem 128MB
MEM-C6K-CPTFL256M=	SUP720/SUP32 Compact Flash Mem 256MB
MEM-C6K-CPTFL512M=	SUP720/SUP32 Compact Flash Mem 512MB

CATALYST 6500 FLEXWAN - TOP SELLERS

Product Number	Description
WS-X6582-2PA	7600/6500 Enhanced FlexWAN, Fabric-enabled
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 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.

Cisco Service Modules continued

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 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 (10GbE) 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.

Cisco Security Service Modules continued

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 web site, 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.

Cisco Catalyst 4500 Series

Modular switches with Layer 2–4 intelligent network services offer enterprises, small- to medium-sized businesses, and service providers added investment protection.

The Cisco Catalyst 4500 Series are mid-range, medium-density modular chassis delivering robust Layer 2 – 4 intelligent services. The modular centralized architecture, media flexibility, and expandability of the Catalyst 4500 Series extends deployment life, while reducing the cost of ownership by minimizing recurring operational expenses and improving return on investment.

The Catalyst 4500 Series extend control to the network edge with intelligent network services, including sophisticated quality of service (QoS), predictable performance, advanced security, and comprehensive management. This series delivers advanced control with integrated resiliency in both hardware and software. This minimizes network downtime and helps to ensure workforce productivity, profitability, and customer success.

The Catalyst 4500 Series includes four chassis: the Catalyst 4510R (10 slots), the Catalyst 4507R (seven slots), Catalyst 4506 (six slots), and Catalyst 4503 (three slots). A choice of supervisor engines delivers up to 136 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 (PoE). The series also supports 10 Gigabit Ethernet (10GbE) uplink ports for high-density Gigabit Ethernet-to-the-desk as well as switch-to-switch applications.

Cisco Catalyst 4500 Series

Hardware Features: Catalyst 4500 Chassis

Chassis	WS-C4503	WS-C4506	WS-C4507R	WS-C4510R
Slots	3	6	7	10
Redundant Supervisor Option	No	No	Yes	Yes
Gigabit Ethernet GBIC/SFP Density	104	240	240	384
10 GbE X2 Port Density	2	2	2	2
10/100/1000 Density	108	240	240	384
10/100 Density	108	240	240	384
100BASE-FX, LX-10, BX-D Density	96	240	240	384
Max. Watt Power Consumption (redundant mode)				
AC Internal (redundant mode)	4,200	4,200	4,200	4,200
AC External Power Shelf (N+1)	8,500	8,500	8,500	8,500
DC Internal (redundant mode)	8,500	8,500	8,500	8.500
Max. Number of Class 3 Devices (15.4W) Max. Power Supplies				
AC Internal (redundant mode)	108	240	240	270
AC External Power Shelf (N+1)	108	240	240	364
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)	31.25 (14.18)	40.5 (18.37)	44.25 (20.07)	51.50 (23.36)

Hardware Features: Catalyst 4500 Supervisor Engines

Supervisor Engines	SUP V-10GbE WS-X4516-10GE	SUP V WS-X4516	SUP IV WS-X4515	SUP II Plus-10GbE WS-X4013 +10GE	SUP II-Plus WS-X4013+	SUP II-Plus-TS WS-X4013 +TS
Chassis Supported	All	All	4503, 4506, 4507R	4507R, 4506, 4503	4503, 4506, 4507R	4503
Enhanced Layer 3 Option	Yes	Yes	Yes	EIGRP Stub	EIGRP Stub	EIGRP Stub
Total Bandwidth (Gbps)	136	96	64	108	64	64
Packets per Second (Mpps)	102	72	48	81	48	48
Uplinks	2x10GbE + 4GbE	2GbE	2GbE	2x10GbE + 4GbE	2GbE	12 10/100/1000 PoE + 8 SFP
CPU MHz	800	400	333	667	266	266
NetFlow	Included	Option	Option	No	No	No
Onboard Memory (DRAM)	512MB	512MB	512MB	256MB (upgradable up to 512MB)	256MB	256MB

Supervisor V-10GE
- Highest performance L2/3/4
- Future proofing with 10GbE uplinks
- Built-in Netflow feature
- High-performance access layer
- Medium core/distribution

Supervisor V
- High-performance L2/3/4
- GbE uplinks
- Netflow card optional
- Access layer
- Medium core/distribution

Supervisor IV
- Entry level L2/3/4
- GbE uplinks
- Netflow card optional
- Access layer
- Small core/distribution

Supervisor II-Plus-10GE
- Highest performance L2
- Future proofing with 10GbE uplinks
- High-performance access layer

Supervisor II-Plus
- High-performance L2
- GbE uplinks
- Access layer

Supervisor II-Plus-TS
- Entry level, small business
- 12 10/100/1000 with PoE and 8 SFP ports
- Supported in 4503 chassis

Series Spotlight

Scalable, Resilient Architecture

The modular architecture of the Cisco Catalyst 4500 Series provides the scalability and flexibility to eliminate the need for multiplatform deployments and minimizes maintenance expenses. Network downtime is minimized with redundant supervisor engine (subsecond failover) capability (Catalyst 4507R and Catalyst 4510R switches), software-based fault tolerance, redundant fans, and 1+1 power-supply redundancy across the Cisco Catalyst 4500 Series. The scalable architecture allows for easy upgrade of all system ports to higher-layer switching functions by simply adding a new supervisor engine such as the Cisco Catalyst 4500 Series Supervisor Engines II-Plus, IV, V or V-10 GbE. Higher-layer functional enhancements such as NetFlow or Dynamic Buffer Limiting are possible on all system ports without replacing existing line cards and wiring.

Wire-speed Performance with all Services Enabled

The Cisco Catalyst 4500 Series offers up to 102 million packets per second (Mpps) wire-speed forwarding rate in hardware for Layer 2–4 traffic. Switching performance is independent of the number of route entries or advanced Layer 3 services enabled. This ensures exceptional performance on applications which are jitter and latency sensitive.

Product Overview

CATALYST 4500 - CHASSIS

Product Number	Description
WS-C4510R	4500 10-slot Chassis, Fan, no P/S, Red Sup Capable
WS-C4507R	4500 7-slot Chassis (7-Slot), Fan, no P/S, Red Sup Capable
WS-C4506	4500 6-slot Chassis (6-Slot), Fan, no P/S
WS-C4503	4500 3-slot Chassis (3-Slot), Fan, no P/S
WS-C4506-S2+96	4506 Bundle, 1x 1000AC, 1x S2+, 2x WS-X4148-RJ
WS-C4503-S2+48	4503 Bundle, 1x 1000AC, 1x S2+, 1x WS-X4148-RJ
WS-C4506-S4-AP25	4506 Bundle, 1x 1000AC, 1x S4, 1x WS-X4306-GB,1x4402-25
WS-C4506-S4-AP50	4506 Bundle, 1x 1000AC, 1x S4, 1x WS-X4306-GB, 1x4402-50

CATALYST 4500 POE ENABLED POWER SUPPLIES

Product Number	Description
PWR-C45-4200ACV	4500 4200W AC Dual Input Power Supply (Data + PoE)
PWR-C45-4200ACV/2	4500 4200W AC Dual Input Power Supply (Data + PoE)
PWR-C45-4200ACV=	4500 4200W AC Dual Input Power Supply (Data + PoE)

Product Overview continued

CATALYST 4500 POE ENABLED POWER SUPPLIES continued

Product Number	Description
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 w/ Int PEM
PWR-C45-1400DC-P=	4500 1400W DC Power Supply w/ Int PEM (Spare)
PWR-C45-1400DC-P/2	4500 1400W DC Power Supply Redundant w/Int PEM
WS-P4502-1PSU	4500 Aux. Power Shelf (2-slot), Includes 1 PWR-4502
PWR-4502	4500 Aux. Power Shelf Redundant Power Supply

CATALYST 4500 NON-POE POWER SUPPLIES

Product Number	Description
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 SUPERVISOR ENGINES

Product Number	Description
WS-X4516-10GE	4500 Supervisor V-10GE, 2x10GbE (X2) and 4x1GbE (SFP)
WS-X4516-10GE=	4500 Supervisor V-10GE, 2x10GbE (X2) and 4x1GbE (SFP)
WS-X4516-10GE/2	45xxR Supervisor V-10GE, 2x10GbE (X2) and 4x1GbE (SFP)
WS-X4516	4500 Supervisor V (2 GbE), Console (RJ-45)
WS-X4516=	4500 Supervisor V (2 GbE), Console (RJ-45) Spare
WS-X4516/2	45xxR Redundant Supervisor V (2 GbE), Console (RJ-45)
WS-X4515	4500 Supervisor IV (2 GbE), Console (RJ-45)

Cisco Catalyst 4500 Series

Product Overview continued

CATALYST 4500 SUPERVISOR ENGINES

Product Number	Description
WS-X4515=	4500 Supervisor IV, 2 GbE, Console (RJ-45) (Spare)
WS-X4515/2	4507R Redundant Supervisor IV, (2 GbE), Console (RJ-45)
WS-X4013+10GE	4500 Sup II+10GbE, 2x10GbE (X2) and 4x1GbE (SFP)
WS-X4013+10GE=	4500 Sup II+10GbE, 2x10GbE (X2) and 4x1GbE (SFP)
WS-X4013+10GE/2	4507R Sup II+10GbE, 2x10GbE (X2) and 4x1GbE (SFP)
WS-X4013+	4500 Supervisor II-Plus (IOS), 2 GbE, Console (RJ-45)
WS-X4013+=	4500 Supervisor II-Plus (IOS), 2 GbE, Console (RJ-45)
WS-X4013+/2	4507R Redundant Sup II-Plus, 2GbE, Console (RJ-45)
WS-X4013+TS	4503 SupII-Plus-TS, 12 10/100/1000 PoE+8 SFP slots
WS-X4013+TS=	4503 SupII-Plus-TS, 12 10/100/1000 PoE+8 SFP slots
WS-F4531	4500 NetFlow Services Card (Sup IV/V)
WS-F4531=	4500 NetFlow Services Card (Sup IV/V) (Spare)

CATALYST 4500 10/100 LINE CARDS

Product Number	Description
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-X4124-RJ45	4500 10/100 Module, 24-port (RJ45)
WS-X4124-RJ45=	4500 10/100 Module, 24-port (RJ45)
WS-X4148-RJ21	4500 10/100 Module, 48-port Telco (4xRJ21)
WS-X4148-RJ21=	4500 10/100 Module, 48-port Telco (4xRJ21)(spare)
WS-X4148-RJ45V	[EOS, See PB 4052] 4500 prestd PoE 10/100 48-port RJ45
WS-X4248-RJ21V	4500 PoE 802.3af 10/100, 48-port (RJ21)
WS-X4248-RJ21V=	4500 PoE 802.3af 10/100, 48-port (RJ21)
WS-X4248-RJ45V	4500 PoE 802.3af 10/100, 48-port (RJ45)
WS-X4248-RJ45V=	4500 PoE 802.3af 10/100, 48-port (RJ45)
WS-X4224-RJ45V	4500 10/100 PoE 802.3af 24-port (RJ45)
WS-X4224-RJ45V=	4500 PoE 802.3af 10/100 24-port (RJ45)
WS-X4232-GB-RJ	4500 32-10/100 (RJ-45), 2 GbE (GBIC)
WS-X4232-GB-RJ=	4500 32-10/100 (RJ-45), 2 GbE (GBIC)
WS-X4232-RJ-XX	4500 10/100 Module, 32-port (RJ45)+Modular uplinks
WS-X4232-RJ-XX=	4500 10/100 Module, 32-port (RJ45)+Modular uplinks

Product Overview continued

CATALYST 4500 10/100/1000 LINE CARDS

Product Number	Description
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-X4548-GB-RJ45V	4500 PoE 802.3af 10/100/1000, 48-port (RJ45)
WS-X4548-GB-RJ45V=	4500 PoE 802.3af 10/100/1000, 48-port (RJ45)
WS-X4524-GB-RJ45V	4500 PoE 802.3af 10/ 100/1000 24-port (RJ45)
WS-X4524-GB-RJ45V=	4500 PoE 802.3af 10/ 100/1000 24-port (RJ45)
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-X4448-GB-RJ45	4500 48-port 10/100/1000 Module (RJ45)
WS-X4448-GB-RJ45=	4500 48-port 10/100/1000 Module (RJ45)
WS-X4424-GB-RJ45	4500 24-port 10/100/1000 Module (RJ45)
WS-X4424-GB-RJ45=	4500 24-port 10/100/1000 Module (RJ45) (Spare)

CATALYST 4500 100 BASE-X FE LINE CARDS

Product Number	Description
WS-X4248-FE-SFP	4500 48-port 100BASE-X (SFPs Optional)
WS-X4248-FE-SFP=	4500 48-port 100BASE-X (SFPs Optional)
WS-X4124-FX-MT	4500 FE Switching Module, 24- 100FX (MTRJ)
WS-X4124-FX-MT=	4500 FE Switching Module, 24- 100FX (MTRJ) (Spare)
WS-X4148-FE-BD-LC	4500 FE Module, 48-port BX-D (LC) (1550)
WS-X4148-FE-BD-LC=	4500 FE Module, 48-port BX-D (LC) (1550) (Spare)
WS-X4148-FE-LX-MT	4500 FE module, 48-port 100LX SMF (MTRJ)
WS-X4148-FE-LX-MT=	4500 FE module, 48-port 100LX SMF (MTRJ)
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)
WS-U4504-FX-MT	4500 4-port 100FX (MTRJ) Uplink for WS-X4232-RJ-XX
WS-U4504-FX-MT=	4500 4-port 100FX (MTRJ) Uplink for WS-X4232-RJ-XX

CATALYST 4500 1000 BASE-X GBE LINE CARDS

Product Number	Description
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)

Cisco Catalyst 4500 Series

CATALYST 4500 1000 BASE-X GBE LINE CARDS continued

Product Number	Description
WS-X4302-GB	4500 Gigabit Ethernet Module, 2-port (GBIC)
WS-X4302-GB=	4500 Gigabit Ethernet Module, 2-port (GBIC)
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)

CATALYST 4500 TRANSCEIVER MODULES

Product Number	Description
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-T24	24 GLC-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-FE-100FX24	24 Units of GLC-FE-100FX
GLC-FE-100FX48	48 Units of GLC-FE-100FX
GLC-FE-100LX	100BASE-LX SFP for FE port
GLC-FE-100LX48	48 Units of GLC-FE-100LX
GLC-BX-D	1000BASE-BX SFP, 1490NM
GLC-BX-U	1000BASE-BX SFP, 1310NM
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

Product Overview continued

CATALYST 4500 1000 BASE-X GBE LINE CARDS continued

Product Number	Description
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
MEM-C4K-256-SDRAM=	256 DIMM DRAM for Supervisor II-Plus-10GbE
MEMC4K-U512D-SDRAM	512 DIM DRAM Factory Upgrade for Supervisor II-Plus-10GbE
MEMC4K-512D-SDRAM=	512 DIMM DRAM for Supervisor II-Plus-10GbE and V-10GbE

CATALYST 4500 ACCESSORIES

Product Number	Description
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)

Cisco Catalyst 4500 Series

CATALYST 4500 ACCESSORIES continued

Product Number	Description
C4K-UPLINK-CVR	4000 Uplink Cover
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 P/S
CAB-AC-2800W-6-20=	Non-Locking NEMA Cord For The 2800WAC PS
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 Int
CAB-I309-C19-INT=	IEC-309 to IEC-C19 13-foot Int
CAB-A3112-C19-AUS	AS-3112 to IEC-C19 14-foot Aus
CAB-A3112-C19-AUS=	AS-3112 to IEC-C19 14-foot Aus
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
BLANK-PWR-4502=	4500 Blank P/S Cover for Aux. Power Shelf
CAB-BS1363-C19-UK=	BS-1363 to IEC-C19 14-foot UK
CAB-4502-DC-2M	4500 2 meter DC Cable set for Aux. Power Shelf
CAB-4502-DC-2M=	4500 2 meter DC Cable set for Aux. Power Shelf
CAB-4502-DC-60CM	4500 60cm DC Cable set for Aux. Power Shelf

CATALYST 4500 ACCESSORIES continued

Product Number	Description
CAB-4502-DC-60CM=	4500 60cm DC Cable set for Aux. Power Shelf
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-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 Aux. 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)
BLANK-PWR-4502	4500 Blank P/S Cover for Aux. Power Shelf
WS-X4500-PS01=	Plastic cover for 4500 power shelf (WS-P4502-1)

CWDM GBIC SOLUTION FOR CATALYST 4500

Product Number	Description
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-GBIC-1610=	1000BASE-CWDM 1610 nm GBIC (Single Mode Only)
CWDM-MUX8A=	8-channel CWDM MUX/DEMUX Module
CWDM-OADM1-1470=	Dual Single-channel OADM Module (1470nm)

Product Overview continued

CWDM GBIC SOLUTION FOR CATALYST 4500 continued

Product Number	Description
CWDM-OADM1-1490=	Dual Single-channel OADM Module (1490nm)
CWDM-OADM1-1510=	Dual Single-channel OADM Module (1510nm)
CWDM-OADM1-1530=	Dual Single-channel OADM Module (1530nm)
CWDM-OADM1-1550=	Dual Single-channel OADM Module (1550nm)
CWDM-OADM1-1570=	Dual Single-channel OADM Module (1570nm)
CWDM-OADM1-1590=	Dual Single-channel OADM Module (1590nm)
CWDM-OADM1-1610=	Dual Single-channel OADM Module (1610nm)
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=	1300nm/1550nm WDM splitter cable
CWDM-CHASSIS-2=	2-slot Chassis for CWDM Mux Plug-in Modules
CWDM-MUX-4-SF1=	Single Fiber 4-channel Mux/Demux
CWDM-MUX-4-SF2=	Single Fiber 4-channel Mux/Demux

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-E, 3750, 3560-E, 3560, 2960, 2950, 2940, and Catalyst Express 500 Series switches offer an array of connectivity options, from Fast Ethernet to 10GbE. 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.

Cisco Catalyst 4900 Series

Fixed-configuration switches offering high-performance, rack-optimized server switching for organizations of all sizes.

The Cisco Catalyst 4900 Series is based on the proven hardware and software architecture of the Cisco Catalyst 4500 Series modular switches, but is distinguished by a 1-RU design that is ideal for top-of-rack server aggregation. The Catalyst 4900 Series includes two Layer 2 – 4 fixed-configuration switches.

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

Cisco Catalyst 4900 Series

Hardware Features

	WS-C4948	WS-C4948-10GE
Forwarding Bandwidth per Box (Gbps)	96	136
Maximum Stack Members	0	0
Total Bandwidth of Stack (Gbps)	0	0
Packets per Second per Box (Mpps)	72	102
MAC Addresses Supported	32,768	55,000
Routes Supported	32,000	32,000
Onboard Memory (DRAM MB)	256	256
10 GbE Density	0	2
Gigabit Ethernet GBIC/SFP Density	4	0
10 GbE X2 Port Density	0	2
10/100/1000 Density	48	48
10/100 Density	0	0
100BASE-FX Density	0	0
Max. Watt Power Consumption	300	300
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0
AC/DC Support	Yes	Yes
Dimensions (H x W x D) Inches	1.71 x 17.3 x 16.1	1.71 x 17.3 x 16.1
Dimensions (H x W x D) Centimeters	4.4 x 43.9 x 40.9	4.4 x 43.9 x 40.9
Unit Weight Pounds (Kilograms)	16.5 (7.48)	16.5 (7.48)

Series Spotlight

Wire-speed Performance

The Cisco Catalyst 4900 Series delivers wire-speed throughput on all ports from 96 Gbps to 136 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

CATALYST 4948 SWITCHES

Product Number	Description
WS-C4948-S	4948, IPB S/W, 48-port 10/100/1000+4 SFP, 1 AC P/S
WS-C4948-E	4948, ES S/W 48-port 10/100/1000+4 SFP, 1 AC P/S
WS-C4948	4948, Optnl S/W, 48-port 10/100/1000+4 SFP, no P/S
WS-C4948-10GE	4948, Optnl S/W, 48-port 10/100/1000+2*10GbE (X2), no P/S
WS-C4948-10GE-S	4948, IPB S/W, 48-port 10/100/1000+2*10GbE (X2), 1 AC P/S
WS-C4948-10GE-E	4948, ES Image, 48-port 10/100/1000+2*10GbE (X2), 1 AC P/S

CATALYST 4948 TRANSCEIVER MODULES

Product Number	Description
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

CATALYST 4948 ACCESSORIES

Product Number	Description
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-X4991=	4948 Fan Tray (Spare)
C4948-ACC-KIT=	49xx Spare Accessory Kit
C4948-BKT-KIT=	49xx Front and Rear Mount Brackets

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 (10GbE) uplinks, Catalyst 3750-E Series help enhance worker productivity by enabling applications such as IP telephony, wireless, and video.

Key features include:
- TwinGig converter module for migrating uplinks from 1 Gigabit Ethernet (SFP) to 10GbE (X2)
- Configurations with up to 15.4 watts (Class 3) of PoE on all 48 ports
- 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 nonblocking 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

Cisco Catalyst 3750-E 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
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
Max. Watt Power Consumption 265W AC 265W DC 750W AC 1150W AC	331 379 882 1386	331 379 882 1386	331 379 882 1386	331 379 882 1386	331 379 882 1386
PoE: Max. 802.3af Class 3 Devices (15.4W)	24	48	24	48	48
PoE: Max. 802.3af Class 2 Devices (7.3W)	24	48	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
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

Series Spotlight

Cisco StackWise Plus Technology

A unique stacking architecture optimized for Gigabit and 10GbE, 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

CATALYST 3750-E SERIES 10/100/1000 GBE, 10GBE WORKGROUP SWITCH

Product Number	Description
WS-C3750E-24TD-S	3750E 24 10/100/1000 Ports + 2*10GbE (X2), 265W, IPB S/W
WS-C3750E-24TD-E	3750E 24 10/100/1000 Ports + 2*10GbE (X2), 265W, IPS S/W
WS-C3750E-48TD-S	3750E 48 10/100/1000 Ports + 2*10GbE (X2), 265W, IPB S/W
WS-C3750E-48TD-E	3750E 48 10/100/1000 Ports + 2*10GbE (X2), 265W, IPS S/W
WS-C3750E-24PD-S	3750E 24 10/100/1000 PoE Ports + 2*10GbE (X2), 750W, IPB S/W
WS-C3750E-24PD-E	3750E 24 10/100/1000 PoE Ports + 2*10GbE (X2), 750W, IPS S/W
WS-C3750E-48PD-S	3750E 48 10/100/1000 PoE Ports + 2*10GbE (X2), 750W, IPB S/W
WS-C3750E-48PD-E	3750E 48 10/100/1000 PoE Ports + 2*10GbE (X2), 750W, IPS S/W
WS-C3750E-48PD-SF	3750E 48 10/100/1000 PoE Ports + 2*10GbE (X2), 1150W, IPB S/W
WS-C3750E-48PD-EF	3750E 48 10/100/1000 PoE Ports + 2*10GbE (X2), 1150W, IPS S/W

Product Overview continued

CATALYST 3750-E SERIES PRODUCT ACTIVATION KEYS (3750E-PAK=)

Product Number	Description
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

Product Number	Description
C3K-BLWR-60CFM=	Fan Module for the 3750-E and 3560-E
C3K-PWR-265WAC=	3750-E / 3560-E 265WAC Power Supply (Spare)
C3K-PWR-265WDC=	3750-E / 3560-E 265WDC Power Supply (Spare)
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)

REDUNDANT POWER SUPPLIES FOR THE CATALYST 3750-E SERIES

Product Number	Description
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 750WAC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150WAC Power Supply (Spare)

Cisco Catalyst 3750-E Series

Product Transitions continued

TWINGIG CONVERTER MODULE FOR THE CATALYST 3750-E SERIES

Product Number	Description
CVR-X2-SFP	Cisco TwinGig Converter Module
CVR-X2-SFP=	Cisco TwinGig Converter Module

SFPS FOR THE CATALYST 3750-E SERIES

Product Number	Description
GLC-BX-D=	1000BASE-BX SFP, 1490NM
GLC-BX-U=	1000BASE-BX SFP, 1310NM
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

SFPS FOR THE CATALYST 3750-E SERIES

Product Number	Description
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 3750-E SERIES

Product Number	Description
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 Transitions continued

POWER CORDS FOR THE CATALYST 3750-E SERIES

Product Number	Description
CAB-AC	Power Cord, US
CAB-AC=	Power Cord, US
CAB-16AWG-AC	Power Cord, 16AWG
CAB-16AWG-AC=	Power Cord, 16AWG
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

CATALYST 3750-E RELICENSING FOR USED EQUIPMENT

Product Number	Description
CAB-AC	Power Cord,110V

RPS2300 FOR THE CATALYST 3750 SERIES

Product Number	Description
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 Transitions continued

RPS2300 FOR THE CATALYST 3750 SERIES continued

Product Number	Description
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 w/ 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)

CISCO STACKWISE CABLES FOR THE CATALYST 3750-E SERIES

Product Number	Description
CAB-STACK-50CM=	Cisco StackWise 50CM 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 50CM Non-Halogen Lead-free Stacking Cable
CAB-STACK-50CM-NH=	Cisco StackWise 50CM 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

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 (10GbE), 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

Hardware Features

	WS-C3750-24TS	WS-C3750-48TS	WS-C3750-24PS	WS-C3750-48PS	WS-C3750G-24WS	WS-C3750-24FS	WS-C3750G-24T	WS-C3750G-24TS-1U	WS-C3750G-48TS	WS-C3750G-24PS	WS-C3750G-48PS
Switching Fabric (Gbps)	32	32	32	32	32	32	32	32	32	32	32
Maximum Stack Members	9	9	9	9	4	9	9	9	9	9	9
Total Bandwidth of Stack (Gbps)	32	32	32	32	32	32	32	32	32	32	32
Packets per Second per Box (Mpps)	6.5	13.1	6.5	13.1	38.7	6.5	35.7	38.7	38.7	38.7	38.7
MAC Addresses Supported	12,000	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	11,000
Onboard Memory (DRAM MB)	128	128	128	128	128	128	128	128	128	128	128
10 GbE Density	0	0	0	0	1	0	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	2	4	2	4	0	2	0	4	4	4	4
10 GbE XENPAK/X2 Port Density	0	0	0	0	1	0	0	0	0	0	0
10/100/1000 Density	0	0	0	0	16	0	24	24	48	24	48
10/100 Density	24	48	24	48	0	0	0	0	0	0	0
100BASE-FX Density	0	0	0	0	0	24	0	0	0	0	0
Max. Watt Power Consumption	50	75	495	540	255	125	165	100	160	540	590
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0	24	24	24	0	0	0	0	24	24
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0	24	48	24	0	0	0	0	24	48
AC/DC Support	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only
Dimensions (H x W x D) Inches	1.73 x 17.5 x 11.8	1.73 x 17.5 x 11.8	1.73 x 17.5 x 11.8	1.73 x 17.5 x 14.9	3.5 x 17.5 x 14.5	1.73 x 17.5 x 11.8	1.73 x 17.5 x 12.8	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
Dimensions (H x W x D) Centimeters	4.4 x 44.5 x 30.1	4.4 x 44.5 x 30.1	4.4 x 44.5 x 30.1	4.4 x 44.5 x 37.8	8.9 x 44.5 x 38.6	4.4 x 44.5 x 30.1	4.4 x 44.5 x 32.6	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
Unit Weight Pounds (Kilograms)	8 (3.6)	9.1 (4.1)	11.3 (5.1)	13.2 (6.0)	21 (9.5)	9.15 (4.15)	10 (4.6)	12 (5.5)	14 (6.4)	13.5 (6.1)	15.5 (7.0)

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 Series		

Hardware Features continued

	WS-C3750G-12S	WS-C3750G-12S-SD
Switching Fabric (Gbps)	32	32
Maximum Stack Members	9	9
Total Bandwidth of Stack (Gbps)	32	32
Packets per Second per Box (Mpps)	17.8	17.8
MAC Addresses Supported	12,000	12,000
Routes Supported	20,000	20,000
Onboard Memory (DRAM MB)	128	128
10 GbE Density	0	0
Gigabit Ethernet GBIC/SFP Density	12	12
10 GbE XENPAK/X2 Port Density	0	0
10/100/1000 Density	0	0
10/100 Density	0	0
100BASE-FX Density	0	0
Max. Watt Power Consumption	120	72
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0
AC/DC Support	AC only	DC only
Dimensions (H x W x D) Inches	1.73 x 17.5 x 12.8	1.73 x 17.5 x 12.8
Dimensions (H x W x D) Centimeters	4.4 x 44.5 x 32.6	4.4 x 44.5 x 32.6
Unit Weight Pounds (Kilograms)	10 (4.6)	9 (4.08)

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.

Product Overview

CATALYST 3750 SERIES 10/100/1000, GBE, 10GBE WORKGROUP SWITCH

Product Number	Description
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 Std Multilayer; 1.5-RU
WS-C3750G-24TS-E	3750 24-port 10/100/1000 + 4 SFP Enhcd Multilayer; 1.5-RU
WS-C3750G-24TS-S1U	3750 24-port 10/100/1000 + 4 SFP Std Multilayer; 1-RU
WS-C3750G-24TS-E1U	3750 24-port 10/100/1000 + 4 SFP Enh 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 w/o 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-16TD-S	3750 16-port 10/100/1000BT+ 10GbE (req XENPAK) Standard Image

Cisco Catalyst 3750 Series

Product Overview continued

CATALYST 3750 SERIES 10/100/1000, GBE, 10GBE WORKGROUP SWITCH continued

Product Number	Description
WS-C3750G-16TD-E	3750 16-port 10/100/1000BT+10GbE (req. XENPAK) 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
SWLC3750-50-K9	IP Base w/o Crypto with Web-based Device Manager

CATALYST 3750 SERIES 10/100 WORKGROUP SWITCHES

Product Number	Description
WS-C3750-24FS-S	3750 24-port 100BaseFX + 2 SFP Standard Multilayer Image
WS-C3750-24PS-S	3750 24-port 10/100 PoE + 2 SFP Standard Image
WS-C3750-24PS-E	3750 24-port 10/100 PoE + 2 SFP Enhanced Image
WS-C3750-24TS-S	3750 24-port 10/100 + 2 SFP Standard Multilayer Image
WS-C3750-24TS-E	3750 24-port 10/100 + 2 SFP Enhanced Multilayer Image
WS-C3750-48PS-S	3750 48-port 10/100 PoE + 4 SFP Standard Image
WS-C3750-48PS-E	3750 48-port 10/100 PoE + 4 SFP Enhanced Image
WS-C3750-48TS-S	3750 48-port 10/100 + 4 SFP Standard Multilayer Image
WS-C3750-48TS-E	3750 48-port 10/100 + 4 SFP Enhanced Multilayer Image

CATALYST 3750 SERIES OADM MODULES

Product Number	Description
CWDM-OADM1-1470=	Dual Single-channel OADM Module (1470nm)
CWDM-OADM1-1490=	Dual Single-channel OADM Module (1490nm)
CWDM-OADM1-1510=	Dual Single-channel OADM Module (1510nm)
CWDM-OADM1-1530=	Dual Single-channel OADM Module (1530nm)
CWDM-OADM1-1550=	Dual Single-channel OADM Module (1550nm)
CWDM-OADM1-1570=	Dual Single-channel OADM Module (1570nm)
CWDM-OADM1-1590=	Dual Single-channel OADM Module (1590nm)
CWDM-OADM1-1610=	Dual Single-channel OADM Module (1610nm)
CWDM-OADM4-1=	4-channels CWDM OADM Module (1470, 1490, 1510, 1530)
CWDM-OADM4-2=	4-channels CWDM OADM Module (1550, 1570, 1590, 16100)
WDM-1300-1550-S=	1300nm/1550nm WDM Splitter Cable

Product Overview continued

CISCO STACKWISE CABLES FOR THE CATALYST 3750*

Product Number	Description
CAB-STACK-50CM=	Cisco StackWise 50CM 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 50CM Non-Halogen Lead-free Stacking Cable
CAB-STACK-50CM-NH=	Cisco StackWise 50CM 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

Product Number	Description
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

XENPAKS FOR THE CATALYST 3750

Product Number	Description
C3-XENPAK10GB-LR=	10GBASE-LR XENPAK Module

Cisco Catalyst 3750 Series

Product Overview continued

LC TO SC CABLES FOR THE CATALYST 3750

Product Number	Description
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

Product Number	Description
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

Product Number	Description
PWR675-AC-RPS-N1=	675W Redundant Power Supply with 1 Connector Cable
CAB-RPS-1614=	1 RPS 675 connector cable 16/14
CAB-16AWG-AC	AC Power cord, 16AWG
CAB-16AWG-AC=	AC Power cord, 16AWG

SPARE RACK MOUNT KITS FOR THE CATALYST 3750

Product Number	Description
RCKMNT-1RU=	1-RU Rack Mount Kit for 3750, 3560, 3550, 2900-LRE-XL
RCKMNT-3550-1.5RU=	1.5-RU Rack Mount Kit for 3550
RCKMNT-REC-1.5RU=	Recessed 1.5-RU Rack Mount For 3550, 3750
RCKMNT-REC-1RU=	Recessed 1-RU Rack Mount For 3550, 3560, 3750

Notes

CATALYST 3750 RELICENSING FOR USED EQUIPMENT

Product Number	Description
LL-3750-SMI=	Standard Multilayer SW Image License for 3750 10/100 models
LL-3750-EMI=	Enhanced Multilayer SW Image License for 3750 10/100 models
LL-3750G-SMI=	Standard Multilayer SW Image License for 3750 GbE models
LL-3750G-EMI=	Enhanced Multilayer SW Image License for 3750 GbE models

CATALYST 3750 METRO SERIES SWITCHES

Product Number	Description
ME-C3750-24TE-M	ME 3750 24-port 10/100 + 2SFP + 2SFP ES (no pwr): Std ME SW Img
ME-C3750-24TE-M=	ME 3750 24-port 10/100 + 2SFP + 2SFP ES (no pwr): Std ME SW Img

CATALYST 3750 METRO SERIES SWITCHES

Product Number	Description
ME3750-ADVIP-LIC	Advanced IP Feature License for 3750 Metro
ME3750-ADVIP-LIC=	Advanced IP Feature License for 3750 Metro
ME3750-IPBASE-LIC	IP Base Feature License For 3750 Metro
ME3750-IPSVC-LIC	IP Services Feature License for 3750 Metro
ME3750-IPSVC-LIC=	IP Services Feature License for 3750 Metro
ME3750-UPGRD-LIC=	ME-3750 Metro IP Services to Advanced IP upgrade License

CONFIGURABLE POWER SUPPLIES FOR THE CATALYST 3750 METRO

Product Number	Description
PWR-ME3750-AC	Configurable ME-C3750 AC Power Supply
PWR-ME3750-DC	Configurable ME-C3750 DC Power Supply
PWR-ME3750-AC-R	3750 Metro redundant AC Power Supply (Configurable)
PWR-ME3750-DC-R	3750 Metro redundant DC Power Supply (Configurable)

SPARE POWER SUPPLIES FOR THE CATALYST 3750 METRO

Product Number	Description
PWR-ME3750-AC=	3750 Metro AC Power Supply (Spare)
PWR-ME3750-DC=	3750 Metro DC Power Supply (Spare)

SFPS FOR THE CATALYST 3750 METRO

Product Number	Description
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

LC TO SC CABLES FOR THE CATALYST 3750 METRO

Product Number	Description
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

Product Number	Description
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

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 (10GbE), these switches enhance worker productivity by enabling applications such as IP telephony, wireless, and video.

Key features include:
- TwinGig converter module for migrating uplinks from 1 Gigabit Ethernet (SFP) to 10GbE (X2)
- Configurations with up to 15.4 watts (Class 3) of PoE on all 48 ports
- Field-replaceable and upgradable power supplies and fan
- Wire-rate performance with a 68 Gbps nonblocking switching fabric
- Multicast routing, IPv6 routing, and access control list in hardware
- Out-of-band Ethernet management port along with RS-232 console port

Cisco Catalyst 3560-E Series

Hardware Features

	WS-C3560E-24TD	WS-3560E-48TD	WS-3560E-24PD	WS-3560E-48PD	WS-3560E-48PD-F
Switching Fabric (Gbps)	64	64	64	64	64
Maximum Stack Members	0	0	0	0	0
Total Bandwidth of Stack (Gbps)	0	0	0	0	0
Packets per Second per Box (Mpps)	65.5	65.5	101.2	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
Max. Watt Power Consumption 265W AC 265W DC 750W AC 1150W AC	331 379 882 1386	331 379 882 1386	331 379 882 1386	331 379 882 1386	331 379 882 1386
PoE: Max. 802.3af Class 3 Devices (15.4W)	24	48	24	48	48
PoE: Max. 802.3af Class 2 Devices (7.3W)	24	48	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
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	1.73 x 17.5 x 21.7
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 49	4.4 x 44.5 x 50
Unit Weight Pounds (Kilograms)	17.9 (8.1)	18.3 (8.3)	18.8 (8.6)	19.2 (8.75)	20.9 (9.5)

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

CATALYST 3560-E SERIES 10/100/1000 GBE, 10GBE WORKGROUP SWITCH

Product Number	Description
WS-C3560E-24TD-S	3560-E 24-port 10/100/1000+2 10GbE(X2), 265W, IPB S/W
WS-C3560E-24TD-E	3560-E 24-port 10/100/1000+2 10GbE (X2), 265W, IPS S/W
WS-C3560E-48TD-S	3560-E 48-port 10/100/1000+2 10GbE (X2), 265W, IPB S/W
WS-C3560E-48TD-E	3560-E 48-port 10/100/1000+2 10GbE (X2), 265W, IPS S/W
WS-C3560E-24PD-S	3560-E 24-port 10/100/1000 PoE+2 10GbE (X2), 750W, IPB S/W

Product Overview continued

CATALYST 3560-E SERIES 10/100/1000 GBE, 10GBE WORKGROUP SWITCH continued

Product Number	Description
WS-C3560E-24PD-E	3560-E 24 10/100/1000 PoE+2 10GbE (X2), 750W, IPS S/W
WS-C3560E-48PD-S	3560-E 48 10/100/1000 PoE+2 10GbE (X2), 750W, IPB S/W
WS-C3560E-48PD-E	3560-E 48 10/100/1000 PoE+2 10GbE (X2), 750W, IPS S/W
WS-C3560E-48PD-SF	3560-E 48 10/100/1000 PoE+2 10GbE (X2),1150W, IPB S/W
WS-C3560E-48PD-EF	3560-E 48 10/100/1000 PoE+2 10GbE (X2),1150W, IPS S/W

CATALYST 3560-E SERIES PRODUCT ACTIVATION KEYS (3560-E-PAK=)

Product Number	Description
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 (the 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

Product Number	Description
C3K-BLWR-60CFM=	Fan Module for the 3750-E and 3560-E Series
C3K-PWR-265WAC=	3750-E / 3560-E 265WAC Power Supply (Spare)
C3K-PWR-265WDC=	3750-E / 3560-E 265WDC Power Supply (Spare)
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)

RPS 2300

Product Number	Description
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 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

Cisco Catalyst 3560-E Series

Product Overview continued

RPS 2300 continued

Product Number	Description
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

Product Number	Description
CVR-X2-SFP	Cisco TwinGig Converter Module
CVR-X2-SFP=	Cisco TwinGig Converter Module

SFPS FOR THE CATALYST 3560-E SERIES

Product Number	Description
GLC-BX-D=	1000BASE-BX SFP, 1490NM
GLC-BX-U=	1000BASE-BX SFP, 1310NM
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

Product Number	Description
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

Product Overview continued

LC TO SC CABLES FOR THE CATALYST 3560-E SERIES

Product Number	Description
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 3560-E SERIES

Product Number	Description
CAB-AC	Power Cord, US
CAB-AC=	Power Cord, US
CAB-16AWG-AC	Power Cord, 16AWG
CAB-16AWG-AC=	Power Cord, 16AWG
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

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

Hardware Features

	WS-C3560-24TS	WS-C3560-48TS	WS-C3560-24PS	WS-C3560-48PS	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
Maximum Stack Members	0	0	0	0	0	0	0	0	0
Total Bandwidth of Stack (Gbps)	0	0	0	0	0	0	0	0	0
Packets per Second per Box (Mpps)	6.5	13.1	6.5	13.1	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
Routes Supported	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
10 GbE Density	0	0	0	0	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	2	4	2	4	4	4	4	4	1
10 GbE XENPAK/X2 Port Density	0	0	0	0	0	0	0	0	0
10/100/1000 Density	0	0	0	0	24	48	24	48	1
10/100 Density	24	48	24	48	0	0	0	0	8
100BASE-FX Density	0	0	0	0	0	0	0	0	0
Max. Watt Power Consumption	45	65	485	530	100	160	540	590	204
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0	24	24	0	0	24	24	8
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0	24	48	0	0	24	48	8
AC/DC Support	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only
Dimensions (H x W x D) Inches	1.73 x 17.5 x 11.8	1.73 x 17.5 x 11.8	1.73 x 17.5 x 11.8	1.73 x 17.5 x 14.9	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 44.5 x 30.1	4.4 x 44.5 x 30.1	4.4 x 44.5 x 30.1	4.4 x 44.5 x 37.8	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)	8.5 (3.9)	9.1 (4.1)	11.3 (5.1)	13.2 (6.0)	12 (5.4)	13.5 (6.1)	14 (6.4)	15.5 (7.0)	5 (2.3)

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.

Product Overview

CATALYST 3560 SERIES 10/100/1000 WORKGROUP SWITCHES

Product Number	Description
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 3560 SERIES 10/100 WORKGROUP SWITCHES

Product Number	Description
WS-C3560-8PC-S	3560 8 10/100 PoE + 1 T/SFP, Standard Image
WS-C3560-48PS-S	3560 48-port 10/100 PoE + 4 SFP, Standard Image
WS-C3560-48PS-E	3560 48-port 10/100 PoE + 4 SFP, Enhanced Image
WS-C3560-24PS-S	3560 24-port 10/100 PoE + 2 SFP, Standard Image
WS-C3560-24PS-E	3560 24-port 10/100 PoE + 2 SFP, Enhanced Image
WS-C3560-48TS-S	3560 48-port 10/100 + 4 SFP, Standard Image

Product Overview continued

CATALYST 3560 SERIES 10/100 WORKGROUP SWITCHES continued

Product Number	Description
WS-C3560-48TS-E	3560 48-port 10/100 + 4 SFP, Enhanced Image
WS-C3560-24TS-S	3560 24-port 10/100 + 2 SFP, Standard Image
WS-C3560-24TS-E	3560 24-port 10/100 + 2 SFP, Enhanced Image

SFPS FOR THE CATALYST 3560

Product Number	Description
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

LC TO SC CABLES FOR THE CATALYST 3560

Product Number	Description
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

Product Number	Description
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

Cisco Catalyst 3560 Series

Product Overview continued

RIGHT ANGLE POWER CORDS FOR THE CATALYST 3560 continued

Product Number	Description
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

RIGHT ANGLE POWER CORDS FOR THE CATALYST 3560 continued

Product Number	Description
PWR675-AC-RPS-N1=	675W Redundant Power Supply with 1 Connector Cable
CAB-RPS-1614=	RPS 675 Connector Cable 16/14

SPARE RACK MOUNT KITS FOR THE CATALYST 3560

Product Number	Description
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

CATALYST 3560 RELICENSING FOR USED EQUIPMENT

Product Number	Description
LL-3560-SMI=	Standard Multilayer SW Image License for 3560 10/100 Models
LL-3560-EMI=	Enhanced Multilayer SW Image License for 3560 10/100 Models
LL-3560G-SMI=	Standard Multilayer SW Image License for 3560 GbE Models
LL-3560G-EMI=	Enhanced Multilayer SW Image License for 3560 GbE Models

CABLE GUARD FOR THE CATALYST 3560 COMPACT SWITCH

Product Number	Description
CBLGRD-C3560-8PC=	Cable Guard for the Catalyst 3560-8PC Compact Switch

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.

Cisco Catalyst 2960 Series combine Fast Ethernet and Gigabit Ethernet desktop connectivity with advanced intelligent services, enabling organizations to extend the operational benefits of increased security, availability, resiliency, and scalability to the network edge. The Catalyst 2960 Series compact silent models 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.

The Catalyst 2960 Series is available in the LAN Base software image. The LAN Base feature set includes a rich Layer 2+ suite of intelligent services, including advanced quality of service, rate limiting, and access control lists (ACLs). These switches are also equipped with a robust set of features that increase network scalability and availability. These include multicast filtering as well as a complete suite of Spanning Tree Protocol enhancements designed to maximize availability in a Layer 2 network.

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

Hardware Features

	WS-C2960-8TC-L	WS-C2960-24TC-L	WS-C2960-24TT-L	WS-C2960-48TC-L	WS-C2960-48TT-L	WS-C2960G-24TC-L	WS-C2960G-48TC-L	WS-C2960G-8TC-L
Switching Fabric (Gbps)	16	16	16	32	32	32	32	32
Maximum Stack Members	0	0	0	0	0	0	0	0
Total Bandwidth of Stack (Gbps)	0	0	0	0	0	0	0	0
Packets per Second per Box (Mpps)	2.7	6.6	6.6	10.1	10.1	35.7	39.0	11.9
MAC Addresses Supported	8000	8000	8000	8000	8000	8000	8000	8000
Routes Supported	0	0	0	0	0	0	0	0
Onboard Memory (DRAM MB)	64	64	64	64	64	64	64	64
10 GbE Density	0	0	0	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	1*	2	0	2	0	4	4	1*
10 GbE XENPAK/X2 Port Density	0	0	0	0	0	0	0	0
10/100/1000 Density	1	2*	2	2*	2	24	48	8
10/100 Density	8	24	24	48	48	0	0	0
100BASE-FX Density	0	0	0	0	0	0	0	0
Max. Watt Power Consumption	20	30	30	45	45	75	140	30.
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0	0	0	0	0	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0	0	0	0	0	0	0
AC/DC Support	AC only	AC only	AC only	AC only	AC only	AC only	AC only	AC only
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	1.73 x 17.5 x 12.9	1.73 x 17.5 x 12.9	1.73 x 10.6 x 8.1
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	4.4 x 44.5 x 32.8	4.4 x 44.5 x 32.8	4.4 x 27 x 20.5
Unit Weight Pounds (Kilograms)	3 (1.4)	8 (3.6)	8 (3.6)	8 (3.6)	8 (3.6)	10 (4.5)	12 (5.4)	3 (1.4)

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

Cisco Catalyst 2960 Series

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.

Product Overview

CATALYST 2960 WORKGROUP SWITCHES

Product Number	Description
WS-C2960-8TC-L	2960 8-port 10/100 + 1 T/SFP, LAN Base Image
WS-C2960-24TC-L	2960 24-port 10/100 + 2 T/SFP, LAN Base Image
WS-C2960-24TT-L	2960 24-port 10/100 + 2 1000BT, LAN Base Image
WS-C2960-48TC-L	2960 48-port 10/100 + 2 T/SFP, LAN Base Image
WS-C2960-48TT-L	2960 48-port 10/100 + 2 1000BT, LAN Base Image
WS-C2960G-8TC-L	2960 8-port 10/100/1000 + 1 T/SFP, LAN Base
WS-C2960G-24TC-L	2960 24-port 10/100/1000 + 4 T/SFP, LAN Base Image
WS-C2960G-48TC-L	2960 48-port 10/100/1000 + 4 T/SFP, LAN Base Image

RPS2300 FOR THE CATALYST 2960 SERIES

Product Number	Description
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

Product Overview continued

RPS2300 FOR THE CATALYST 2960 SERIES continued

Product Number	Description
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)

SPARE RACK MOUNT KITS FOR THE CATALYST 2960

Product Number	Description
RCKMNT-1RU=	Rack Mount Kit for 1-RU 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

RPS FOR THE CATALYST 2960

Product Number	Description
PWR675-AC-RPS-N1=	675W Redundant Power Supply with 1 Connector Cable
CAB-RPS-1614=	1 RPS 675 Connector Cable 16/14

RIGHT ANGLE POWER CORDS FOR THE CATALYST 2960

Product Number	Description
CAB-AC-RA=	Power Cord, 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

SFPS FOR CATALYST 2960

Product Number	Description
GLC-BX-D=	1000BASE-BX SFP, 1490NM
GLC-BX-U=	1000BASE-BX SFP, 1310NM
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

Cisco Catalyst 2960 Series

Product Overview continued

SFPS FOR CATALYST 2960 continued

Product Number	Description
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver
GLC-FE-100LX	100BASE-LX SFP for FE Port
GLC-FE-100BX-U	100BASE-BX10-U SFP
CWDM-SFP-1470=	CWDM 1470 NM SFP Gigabit Ethernet and 1G/2G FC
GLC-FE-100BX-D	100BASE-BX10-D SFP
GLC-ZX-SM=	1000BASE-ZX SFP
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

Product Number	Description
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

Product Number	Description
LL-C2960G=	Software License for 2960 Gigabit Ethernet Switches
LL-C2960=	Software License for 2960 Fast Ethernet Switches

Notes

Cisco Catalyst 2950 Series

Fixed-configuration switches offering Fast Ethernet and Gigabit Ethernet connectivity for branch offices, small wiring closets, and industrial deployments.

The Cisco Catalyst 2950 Series are fixed-configuration switches that provide wire-speed Fast Ethernet and Gigabit Ethernet connectivity. These switches offer two distinct sets of software features and a range of configurations to allow small, mid-market, and enterprise branch offices and industrial environments to select the right combination for the network edge.

Standard Image Software (SI) offers Cisco IOS Software functions for basic data, voice, and video services. For networks with requirements for additional security, advanced quality of service (QoS), and high availability, Enhanced Image Software (EI) delivers intelligent services such as rate limiting and security filtering for deployment at the network edge.

By adding intelligent services to their networks, companies gain the availability required to accommodate time-critical needs, the scalability needed to accommodate growth, the advanced security essential to protecting confidential information, and the ability to differentiate and control traffic flows to optimize network operations.

Cisco Catalyst 2950 Series

Hardware Features

	WS-C2950-12	WS-C2950-24	WS-C2950-SX-24	WS-C2950-C-24	WS-C2950G-24-EI-DC	WS-C2950SX-48-SI	WS-C2955S-12	WS-C2955C-12	WS-C2955T-12
Forwarding Bandwidth per Box (Gbps)	2.4	4.8	8.8	5.2	8.8	13.6	2.8	2.8	6.4
Maximum Stack Members	0	0	0	0	0	0	0	0	0
Total Bandwidth of Stack (Gbps)	0	0	0	0	0	0	0	0	0
Packets per Second per Box (Mpps)	1.8	3.6	6.6	3.9	6.6	10.1	2	2	4.8
MAC Addresses Supported	8000	8000	8000	8000	8000	8000	8000	8000	8000
Routes Supported	0	0	0	0	0	0	0	0	0
Onboard Memory (DRAM MB)	16	16	16	16	16	32	32	32	32
10 GbE Density	0	0	0	0	0	0	0	0	0
Gigabit Ethernet GBIC Density	0	0	0	0	2	0	0	0	0
10 GbE XENPAK/X2 Port Density	0	0	0	0	0	0	0	0	0
10/100/1000 Density	0	0	2 (1000BASE-SX)	0	0	2 (1000BASE-SX)	0	0	2
10/100 Density	12	24	24	24	24	48	12	12	12
100BASE-FX Density	0	0	0	2	0	0	0	2	0
Max. Watt Power Consumption	30	30	30	30	30	45	23	23	23
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0	0	0	0	0	0	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0	0	0	0	0	0	0	0
AC/DC Support	AC only	AC only	AC only	AC only	DC only	AC only			
Dimensions (H x W x D) Inches	1.73 x 17.5 x 9.52	1.73 x 17.5 x 9.52	1.73 x 17.5 x 9.52	1.73 x 17.5 x 9.52	1.73 x 17.5 x 9.52	1.73 x 17.5 x 13	3.78 x 8.07 x 5.03	3.78 x 8.07 x 5.03	3.78 x 8.07 x 5.03
Dimensions (H x W x D) Centimeters	4.4 x 44.5 x 24.18	4.4 x 44.5 x 24.18	4.4 x 44.5 x 24.18	4.4 x 44.5 x 24.18	4.4 x 44.5 x 24.18	4.4 x 44.5 x 33.02	9.60 x 20.5 x 12.78	9.60 x 20.5 x 12.78	9.60 x 20.5 x 12.78
Unit Weight Pounds (Kilograms)	6.5 (3.0)	6.5 (3.0)	6.5 (3.0)	6.5 (3.0)	6.5 (3.0)	10 (4.5)	3 (1.4)	3 (1.4)	3 (1.4)

Cisco Catalyst 2950 Series

Simplified Management

Like many other Cisco fixed-configuration switches, the Catalyst 2950 Series feature embedded Graphical User Interface (GUI)-based Device Manager, enabling network managers to quickly and easily configure their switches. With Cisco Network Assistant, a PC-based software application, customers can also simultaneously configure and troubleshoot multiple Cisco Catalyst switches using a standard Web browser. Cisco Network Assistant provides configuration wizards that greatly simplify the implementation of converged networks and intelligent network services.

Specialized Models

Cisco Catalyst 2950 Series include special models that extend intelligent Ethernet services to far-flung locations and harsh environments. The Catalyst 2955 Series feature industrial-grade components designed to withstand extreme vibrations, shocks, and temperatures (-40˚ to 140˚ F), enabling manufacturers to extend Ethernet to the factory floor to improve communication and increase productivity.

Product Overview

CATALYST 2950 WORKGROUP SWITCHES

Product Number	Description
WS-C2950-12	12 10/100 Ports, Standard Image
WS-C2950-24	24 10/100 Ports, Standard Image
WS-C2950C-24	24 10/100 Ports with 2 100BASE-FX Uplinks, Enhanced Image
WS-C2950G-24-EI-DC	24 10/100 Ports + 2 GBIC Slots, Enhanced Image, DC Version
WS-C2950SX-24	24 10/100 Ports + 2 1000BASE-SX Ports, Standard Image
WS-C2950SX-48-SI	48 10/100 Ports and 2 1000BASE-SX Uplink Ports, Standard Image
WS-C2955C-12	12 TX Ports with MM Uplinks
WS-C2955S-12	12 TX Ports with Single Mode Uplinks
WS-C2955T-12	12 TX Ports with Copper Uplinks

GBICS FOR THE CATALYST 2950

Product Number	Description
WS-X3500-XL	GigaStack Stacking GBIC and 50cm cable
WS-G5487=	1000Base-ZX Extended-reach GBIC (Single Mode)
WS-G5486=	1000BASE-LX/LH Long-haul GBIC (Single Mode or Multimode)
WS-G5484=	1000BASE-SX Short Wavelength GBIC (Multimode Only)
WS-G5483=	1000BASE-T GBIC

CWDM GBIC SOLUTION FOR CATALYST 2950

Product Number	Description
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-GBIC-1610=	1000BASE-CWDM 1610 nm GBIC (Single Mode Only)
CWDM-MUX8A=	8-channels CWDM MUX/DEMUX Module
CWDM-OADM1-1470=	Dual Single-channel OADM Module (1470nm)
CWDM-OADM1-1490=	Dual Single-channel OADM Module (1490nm)
CWDM-OADM1-1510=	Dual Single-channel OADM Module (1510nm)
CWDM-OADM1-1530=	Dual Single-channel OADM Module (1530nm)
CWDM-OADM1-1550=	Dual Single-channel OADM Module (1550nm)
CWDM-OADM1-1570=	Dual Single-channel OADM Module (1570nm)
CWDM-OADM1-1590=	Dual Single-channel OADM Module (1590nm)
CWDM-OADM1-1610=	Dual Single-channel OADM Module (1610nm)
CWDM-OADM4-1=	4-channels CWDM OADM Module (1470, 1490, 1510, 1530)
CWDM-OADM4-2=	4-channels CWDM OADM Module (1550, 1570, 1590, 16100)
WDM-1300-1550-S=	1300nm/1550nm WDM Splitter Cable
CWDM-CHASSIS-2=	2 Slot Chassis for CWDM Mux Plug-in Modules
CWDM-MUX-4-SF1=	Single Fiber 4-channel Mux/Demux
CWDM-MUX-4-SF2=	Single Fiber 4-channel Mux/Demux

CABLES FOR THE CATALYST 2950

Product Number	Description
CAB-GS-1M	1-meter Cable for GigaStack GBIC
CAB-GS-50CM	50-centimeter Cable for GigaStack GBIC

RPS FOR THE CATALYST 2950

Product Number	Description
PWR675-AC-RPS-N1=	675W Redundant Power Supply with Connector Cable
CAB-RPS-1614=	1 RPS 675 Connector Cable 16/14

Cisco Catalyst 2950 Series

Product Overview continued

POWER OPTIONS FOR THE CATALYST 2950

Product Number	Description
PWR-2955-AC=	AC to 24 V DC Din Rail Power Brick

SOFTWARE RELICENSES FOR USED 2950 EQUIPMENT

Product Number	Description
LLC2950	2950 Series Family Standard Image Software License
LLC2950C	2950C Series Family Enhanced Image Software License
LLC2950G	2950G Series Family Enhanced Image Software License
LLC2950T	2950T Series Family Enhanced Image Software License

ACCESSORIES FOR THE CATALYST 2950

Product Number	Description
STK-RACKMNT-2955=	19-inch Rack Mount Kit for 2955

RPS2300 FOR THE CATALYST 2950 SERIES

Product Number	Description
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/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)

Notes

Cisco Catalyst 2940 Series

Compact fixed-configuration switches delivering
Fast Ethernet connectivity for workgroup,
conference room, and classroom deployments.

The Cisco Catalyst 2940 Series are small, standalone, managed switches with
eight Fast Ethernet ports and a single integrated Fast Ethernet or Gigabit
Ethernet uplink. These switches are designed for deployments outside the wiring
closet in the end-user workspace, such as classrooms or conference rooms.

They feature a durable metal shell, no fan for silent operation, a magnet for easy
wall or under-the-desk mounting, a security lock slot to prevent theft, and an
available cable guard to lock down cables and help prevent theft. The Catalyst
2940 Series run Cisco IOS Software with comprehensive security and
manageability, delivering network intelligence all of the way to the network edge.

Easy to install and manage, built to last, and receiving periodic software updates
for life, these switches provide outstanding investment protection and the lowest
total cost of ownership in their product class.

In addition, Cisco offers Catalyst 3560 Series and Catalyst 2960 Series Compact
Switches which integrate Power over Ethernet, and additional intelligent services
into a similar form-factor as the Catalyst 2940 Series. The Catalyst 3560 Series and
Catalyst 2960 Series Compact Switches enable services such as Cisco Unified
Communications, wireless, and advanced security to be deployed in office
workspaces, classrooms, and other space and wiring constrained environments.

Cisco Catalyst 2940 Series

Hardware Features

	WS-C2940-8TT-S	WS-C2940-8TF-S
Forwarding Bandwidth per Box (Gbps)	3.6	3.6
Maximum Stack Members	0	0
Total Bandwidth of Stack (Gbps)	0	0
Packets per Second per Box (Mpps)	2.7	2.7
MAC Addresses Supported	8,192	8,192
Routes Supported	0	0
Onboard Memory (DRAM MB)	16	16
10 GbE Density	0	0
Gigabit Ethernet GBIC/SFP Density	0	1
10 GbE XENPAK/X2 Port Density	0	0
10/100/1000 Density	1	0
10/100 Density	8	8
100BASE-FX Density	0	1
Max. Watt Power Consumption	15	15
PoE: Max. 802.3af Class 3 Devices (15.4W)	0	0
PoE: Max. 802.3af Class 2 Devices (7.3W)	0	0
AC/DC Support	AC only	AC only
Dimensions (H x W x D) Inches	1.55 x 10.6 x 6.42	1.55 x 10.6 x 6.42
Dimensions (H x W x D) Centimeters	3.94 x 26.9 x 16.3	3.94 x 26.9 x 16.3
Unit Weight Pounds (Kilograms)	3 (1.36)	3 (1.36)

Series Spotlight

Comprehensive Management

The Cisco Catalyst 2940 Series has robust SNMP Management Information Base (MIB) support and is fully manageable by the CiscoWorks suite of network management tools. The Catalyst 2940 Series feature an embedded Graphical User Interface (GUI)-based Device Manager, enabling network managers to quickly and easily configure their switches. With Cisco Network Assistant, a PC-based software application, customers can also simultaneously configure and troubleshoot multiple Cisco Catalyst switches using a standard Web browser. Cisco Network Assistant provides configuration wizards that greatly simplify the implementation of converged networks and intelligent network services.

Investment Protection

In contrast to low-end unmanaged switches that often have high failure rates and do not stay current with new technologies, the Catalyst 2940 Series is engineered for long-term value. A durable all-metal shell, an exceptionally high meantime between failure (MTBF) of over 70 years, and a Limited Lifetime Warranty all help to ensure that this switch will outlast most deployment time frames.

Finally, the switches provide a smooth migration to Gigabit Ethernet uplinks.

Product Overview

CATALYST 2940 SERIES WORKGROUP SWITCHES

Product Number	Description
WS-C2940-8TF-S	8 10/100 Ethernet Ports and 1 100BASE-FX Ethernet Port
WS-C2940-8TT-S	8 10/100 Ethernet Ports and 1 10/100/1000 Ethernet Port

CATALYST 2940 SERIES ACCESSORIES

Product Number	Description
CABLEGUARD-C2940=	Cable Guard for the Catalyst 2940 Series
RACKMOUNT-C2940=	Rack Mount for 2940

SFPS FOR THE CATALYST 2940

Product Number	Description
GLC-LH-SM=	GbE SFP, LC Connector LX/LH Transceiver
GLC-SX-MM=	GbE SFP, LC Connector SX Transceiver

MT-RJ TO SC OR ST FIBER PATCH CABLES FOR THE CATALYST 2940

Product Number	Description
CAB-MTRJ-SC-MM-1M=	MT-RJ MM to SC Duplex MM,1 meter
CAB-MTRJ-ST-MM-1M=	MT-RJ MM to ST Duplex MM, 1 meter
CAB-MTRJ-SC-MM-3M=	MT-RJ MM to SC Duplex MM, 3 meter
CAB-MTRJ-ST-MM-3M=	MT-RJ MM to ST Duplex MM, 3 meter
CAB-MTRJ-SC-MM-5M=	MT-RJ MM to SC Duplex MM, 5 meter
CAB-MTRJ-ST-MM-5M=	MT-RJ MM to ST Duplex MM, 5 meter

CATALYST 2940 SPARE RIGHT ANGLE POWER CORDS

Product Number	Description
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

CATALYST 2940 ACCESSORIES

Product Number	Description
CAB-MTRJ-SC-MM-1M=	MT-RJ MM to SC Duplex MM, 1 meter

Cisco Catalyst Express 500 Series

Cisco-class switches that make advanced network services and IP Communications easy to manage for businesses from 20 to 250 employees.

The Cisco Catalyst Express 500 Series Switches are a family of fixed-configuration, Layer 2 managed Ethernet devices that provide the reliability, security, scalability, and rich feature set that growing businesses need in an affordable, easy-to-use platform.

The Catalyst 500 Express Series offer nonblocking, 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 embedded GUI-based Device Manager simplifies and streamlines setting up, running, and troubleshooting a network. With Cisco Smartports technology, 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 500 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.

Cisco Catalyst Express 500 Series

Hardware Features

	WS-CE500-24TT	WS-CE500-24LC	WS-CE500-24PC	WS-CE500G-12TC	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)	32	32	32	32	64
10 GbE Density	0	0	0	0	0
Gigabit Ethernet GBIC/SFP Density	0	2*	2*	4*	1
10 GbE XENPAK/X2 Port Density	0	0	0	0	0
10/100/1000 Density	2	2*	2*	12	0
10/100 Density	24	24	24	0	8
100BASE-FX Density	0	0	0	0	0
Max. 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 44.45 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	4.4 x 27x 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.

Simplified Deployments

The Cisco Catalyst Express 500 Series switches are designed for ease-of-use.

The Catalyst Express 500 Series is initialized through the Device Manager with its user-friendly GUI—no console cable or terminal emulation application is needed. 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 500 Series raises antivirus and overall security protection to the next level.

Product Overview

CATALYST EXPRESS 500 SERIES

Product Number	Description
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 (24PoE) + 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

CATALYST EXPRESS 520 SERIES

Product Number	Description
WS-CE520-8PC-K9	8 10/100 PoE + 1 GbE Combo Port

RPS FOR CATALYST EXPRESS 500-24PC

Product Number	Description
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 500

Product Number	Description
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

Cisco Catalyst Express 500 Series

Product Overview continued

RIGHT ANGLE POWER CORDS FOR THE CATALYST EXPRESS 500

Product Number	Description
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 500

Product Number	Description
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 750WAC Power Supply (Spare)
C3K-PWR-1150WAC=	3750-E/3560-E/RPS 2300 1150WAC Power Supply (Spare)

SPARE RACK MOUNT KITS FOR THE CATALYST EXPRESS 500

Product Number	Description
RCKMNT-CATEXP=	Rack Mount Kit for Catalyst Express 500

Notes

Cisco Optics

Cisco offers a wide variety of pluggable transceiver modules across Cisco switches and router 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.

Cisco 10 Gigabit Modules

Cisco offers a range of XENPAK, X2, and XFP modules for 10 Gigabit Ethernet (10GbE) deployments. These Cisco transceivers meet Cisco specifications and are compliant with industry standards. Cisco XENPAK, X2, and XFP offer a convenient and cost-effective solution for the adoption of 10GbE in data center, campus, metropolitan area access, and ring networks. XENPAKs are offered for several reaches and transmission media and are supported on the Catalyst 6500, 3750 Series switches, and Cisco 7600 and CRS-1 routers today.

X2s are also offered for several reaches and transmission media and are supported on the Catalyst 4500, 4948-10GE, 3750-E and 3560-E Series switches today. The Cisco XFP Module offers customers a dual rate interface for 10GbE and Packet-over-SONET/SDH (POS) connectivity. XFPs are currently supported on Cisco routers based on Shared Port Adapter (SPA).

Cisco Gigabit Ethernet 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.

Cisco Fast Ethernet SFP Modules

Cisco offers a range of Fast Ethernet SFP Interface Transceivers. The product portfolio includes 100BASE-FX 100BASE-LX, and 100BASE-BX SFPs.

- 100BASE-FX: SFP operates on ordinary multimode fiber optic link spans of up to 2 km in length.
- 100BASE-LX: SFP operates on ordinary single-mode fiber optic link spans of up to 10 km in length.
- 100BASE-BX: SFP operates on ordinary single-mode SINGLE STRAND fiber optic link spans of up to 10 km in length. A 100BASE-BX-D and a 100BASE-BX-U SFP is needed for the single strand deployment.

Cisco offers four types of 100M SFP:

- 100M SFP for Fast Ethernet (FE) SFP Port. The SFP product name contains "FE".
- 100M SFP for Gigabit Ethernet SFP Port. The SFP product name contains "GE".

Cisco CWDM Modules

Cisco Course 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/MUX and an eight-channel MUX along with a CWDM rack-mountable chassis.

Cisco DWDM Transceiver Modules

The Cisco Dense Wave Division Multiplexing (DWDM) XENPAKs allow users to integrate WDM transport directly with Cisco 10GbE switches and routers. The DWDM XENPAKs and DWDM optical filter and amplifier products (Cisco ONS15216 series) enable the design of a flexible and highly available multiservice network. The DWDM XENPAKs support 100GHZ ITU grid and match the 4-skip-1 channel plan of Cisco ONS 100GHZ products. The DWDM XENPAKs can be used for unamplified and amplified designs to transmit up to 320 Gigabits over the same pair of SMF.

The Cisco Dense Wave Division Multiplexing (DWDM) GBICs allow users to integrate WDM transport directly with Cisco Gigabit Ethernet switches and routers. Just like DWDM XENPAK, the DWDM GBICs interoperate with the same ONS equipment. They can be used for unamplified and amplified designs to transmit up to 32 Gigabits over the same pair of SMF.

General Overview

OPTICS	CABLE TYPE						
Speed	Copper	MMF		SMF			
Fast Ethernet (FE)							
Optics Type		100BASE-FX		100BASE-LX	100BASE-BX-D/U		
Max. Distance		2 km		10 km	10 km		
Form Factor		SFP		SFP	SFP		
Gigabit Ethernet (GbE)							
Optics Type	1000BASE-T	1000BASE-SX		1000BASE-LX	1000BASE-BX-D/U	1000BASE-ZX	1000BASE-CWDM	1000BASE-DWDM
Max. Distance	100 m	550 m		10 km	10 km	~70 km	~70 to 100 km	~70 to 100 km
Form Factor	SFP/GBIC	SFP/GBIC		SFP/GBIC	SFP	SFP/GBIC	SFP/GBIC	GBIC
10 Gigabit Ethernet (10GbE)								
Optics Type	10GBASE-CX4	10GBASE-SR	10GBASE-LX4	10GBASE-LR		10GBASE-ER	10GBASE-ZR	10GBASE-DWDM
Max. Distance	15 m	26 to 300 m	300 m	10 km		40 km	~80 km	~80 km
Form Factor	XENPAK/X2	XENPAK/X2	XENPAK/X2	XENPAK/X2		XENPAK	XENPAK	XENPAK

Cisco Optics: PRODUCT OVERVIEW

Model	Description	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
		Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3560-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
Fast Ethernet (FE)												
GLC-GE-100FX=	100BASE-FX SFP for GbE port			•	•	•	•	•	•			•
GLC-FE-100FX	100BASE-FX SFP for FE port	•	•						•			•
GLC-FE-100LX	100BASE-LX SFP for FE port	•	•						•			•
GLC-FE-100BX-U	100BASE-BX10-U SFP for FE port	•	•						•			•
GLC-FE-100BX-D	100BASE-BX10-D SFP for FE port	•	•						•			•
GLC-FE-100EX	100BASE-EX SFP for FE port	•										
GLC-FE-100ZX	100BASE-ZX SFP for FE port	•										
Gigabit Ethernet (GbE)												
GLC-LH-SM	1000BASE-LX/LH SFP (no DOM)	•	•	•	•	•	•	•	•		•	•
GLC-SX-MM	1000BASE-SX SFP (no DOM)	•	•	•	•	•	•	•	•		•	•
GLC-ZX-SM	1000BASE-ZX SFP (no DOM)	•	•	•	•	•	•	•	•			
GLC-T	1000BASE-T SFP	•	•	•	•	•	•	•				
GLC-BX-D=*	1000BASE-BX-D SFP (DOM)	•	•	•	•	•	•	•	•			
GLC-BX-U=*	1000BASE-BX-U SFP (DOM)	•	•	•	•	•	•	•	•			
WS-G5483	1000BASE-T GBIC	•	•							•		
WS-G5484	1000BASE-SX GBIC	•	•							•		
WS-G5486	1000BASE-LX/LH GBIC	•	•							•		
WS-G5487	1000BASE-ZX GBIC	•	•							•		
CWDM-SFP-1470=	CWDM 1470 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1490=	CWDM 1490 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1510=	CWDM 1510 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1530=	CWDM 1530 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1550=	CWDM 1550 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1570=	CWDM 1570 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1590=	CWDM 1590 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-SFP-1610=	CWDM 1610 nm SFP GbE and 1G/2G FC	•	•	•	•	•	•	•	•			
CWDM-GBIC-1470=	1000BASE-CWDM 1470 nm GBIC	•	•							•		
CWDM-GBIC-1490=	1000BASE-CWDM 1490 nm GBIC	•	•							•		
CWDM-GBIC-1510=	1000BASE-CWDM 1510 nm GBIC	•	•							•		
CWDM-GBIC-1530=	1000BASE-CWDM 1530 nm GBIC	•	•							•		
CWDM-GBIC-1550=	1000BASE-CWDM 1550 nm GBIC	•	•							•		
CWDM-GBIC-1570=	1000BASE-CWDM 1570 nm GBIC	•	•							•		
CWDM-GBIC-1590=	1000BASE-CWDM 1590 nm GBIC	•	•							•		
CWDM-GBIC-1610=	1000BASE-CWDM 1610 nm GBIC	•	•							•		

*2960, 3560, and 3750 support optics but not DOM.

Model	Description	MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
		Catalyst 6500	Catalyst 4500	Catalyst 4900	Catalyst 3750-E	Catalyst 3750	Catalyst 3560-E	Catalyst 3560	Catalyst 2960	Catalyst 2950	Catalyst 2940	Catalyst Express 500
Gigabit Ethernet (GbE) continued												
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-MUX8A=	8-channel CWDM MUX/DMX Module	▪	▪	▪		▪		▪	▪	▪		
CWDM-OADM4-1=	4-channel CWDM OADM Module (1470, 1490, 1510, 1530)	▪	▪	▪		▪		▪	▪	▪		
CWDM-OADM4-2=	4-channel CWDM OADM Module (1550, 1570, 1590, 16100)	▪	▪	▪		▪		▪	▪	▪		
CWDM-MUX-4-SF1=	Single Fiber 4-Channel MUX/DMX	▪	▪	▪		▪		▪	▪	▪		
CWDM-MUX-4-SF2=	Single Fiber 4-Channel MUX/DMX	▪	▪	▪		▪		▪	▪	▪		
WDM-1300-1550-S=	1300 nm/1550 nm WDM Splitter Cable	▪	▪	▪		▪		▪	▪	▪		
CWDM-CHASSIS-2=	2-slot Chassis for CWDM MUX Plug-in Modules	▪	▪	▪		▪		▪	▪	▪		
EWDM-MUX8A=	8-channels MUX/DEMUX	▪	▪	▪		▪		▪	▪	▪		
EWDM-OADM4=	4-channels OADM	▪	▪	▪		▪		▪	▪	▪		
EWDM-OADM2=	2-channels OADM	▪	▪	▪		▪		▪	▪	▪		
EWDM-OA=	Optical Amplifier	▪	▪	▪		▪		▪	▪	▪		
10 Gigabit Ethernet (10 GbE)												
XENPAK-10GB-CX4	10GBASE-CX4 XENPAK Module	▪										
XENPAK-10GB-SR	10GBASE-SR XENPAK Module	▪										
XENPAK-10GB-ER	10GBASE-ER XENPAK Module	▪				▪						
XENPAK-10GB-ER+	10GBASE-ER XENPAK Module (with DOM)											
XENPAK-10GB-LX4	10GBASE-LX4 XENPAK Module	▪										
XENPAK-10GB-LR	10GBASE-LR XENPAK Module	▪										
XENPAK-10GB-LR+	10GBASE-LR XENPAK Module											
XENPAK-10GB-ZR	10GBASE-ZR XENPAK Module (with DOM)	▪										
XENPAK-10GB-LW	10BASE-LW XENPAK Module	▪										
C3-XENPAK10GB-LR	10GBASE-LR XENPAK Module for Catalyst 3750	▪				▪						
X2-10GB-CX4	10GBASE-CX4 X2 Module	▪	▪	▪								

Cisco Optics: **PRODUCT OVERVIEW**

		MODULAR SWITCHES		FIXED-CONFIGURATION SWITCHES								
Model	**Description**	**Catalyst 6500**	**Catalyst 4500**	**Catalyst 4900**	**Catalyst 3750-E**	**Catalyst 3750**	**Catalyst 3560-E**	**Catalyst 3560**	**Catalyst 2960**	**Catalyst 2950**	**Catalyst 2940**	**Catalyst Express 500**
Gigabit Ethernet (GbE) continued												
X2-10GB-ER	10GBASE-ER X2 Module	▪	▪	▪	▪							
X2-10GB-SR	10GBASE-SR X2 Module	▪	▪	▪	▪							
X2-10GB-LR	10GBASE-LR X2 Module	▪	▪	▪	▪							
X2-10GB-LX4	10GBASE-LX4 X2 Module	▪	▪	▪								
DWDM-XENPAK-xx.xx=	10GBASE-DWDM XENPAK xx.xx wavelength (see datasheet)	▪										
WDM-XENPAK-REC=	Receive-only WDM XENPAK	▪										

Notes

Notes