



Cisco Product Quick Reference Guide

Summer/Fall 2007

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Cisco Product Quick Reference Guide

Summer/Fall 2007

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Introduction

Cisco Systems, Inc. Overview

Cisco Systems, Inc. is the worldwide leader in networking for the Internet. Today, networks are an essential part of business, education, government and home communications, and Cisco Internet Protocol-based (IP) networking solutions are the foundation of these networks. Cisco hardware, software, and service offerings are used to create Internet solutions that allow individuals, companies, and countries to increase productivity, improve customer satisfaction and strengthen competitive advantage. The Cisco name has become synonymous with the Internet, as well as with the productivity improvements that Internet business solutions provide. At Cisco, our vision is to change the way people work, live, play and learn.

Cisco was founded in 1984 by a small group of computer scientists from Stanford University. Since the company's inception, Cisco engineers have been leaders in the development of Internet Protocol (IP)-based networking technologies. This tradition of IP innovation continues with industry-leading products in the core areas of routing and switching, as well as advanced technologies in areas such as: Home Networking, Optical, Storage Networking, IP Telephony, Network Security, and Wireless LAN. Today, with more than 34,000 employees worldwide, Cisco remains committed to creating networks that are smarter, thanks to built-in intelligent network services; faster, in their ability to perform at ever-increasing speeds; and more durable, with a generational approach to an evolutionary infrastructure.

Cisco Product Quick Reference Guide (QRG) Background

The Cisco Product Quick Reference Guide (QRG) is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for most of Cisco's products sold through our Channel partners. The Cisco Product QRG is primarily published to support Cisco partners, resellers, sales account teams, and even end-user customers who need a broad, high-level overview of Cisco products, but at that moment do not have access to Cisco's web site, Cisco.com at <http://www.cisco.com>.

For More Information

For questions, comments, and to register a copy of the Cisco Product QRG, visit <http://www.cisco.com/go/guide>

Cisco Documentation

Have a comprehensive library of Cisco product documentation anytime, anywhere by purchasing a copy of the Product Documentation DVD. The DVD is an excellent portable medium that will help you install, configure, maintain, and support and maintain your Cisco hardware and software. The DVD also contains an archive of field notices, alerts, troubleshooting tips, and much more. The DVD (Part Number DOC-DOCDVD=) is available as a single unit or one-year subscription.

For More Information

Visit the Product Documentation Store today at: www.cisco.com/go/marketplace/docstore
Find new and revised documents highlighted each month within the Cisco Product Documentation publication “What’s New” section:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Product Warranty Information

All Cisco hardware and software products are covered for a minimum of 90 days. Some products have a longer or more appropriate coverage. All Cisco warranties apply to the Customer or Original Owner (the individual who purchased the product for their own use) also referred to as the End User.

Warranty ¹	Entitlements Description
Cisco Standard 90-day Hardware Warranty, Software Warranty and License Agreement (78-5235-vvrr)	<ul style="list-style-type: none"> • Advance Replacement shipping within 10 business days from RMA Request Date within 90 Days of original shipment from Cisco or from Cisco Reseller • 90-Day Assurance that the SW Media is defect-free and the SW conforms to its published specifications • Guest Access to Cisco Connection Online (CCO)
90-Day Limited Hardware Warranty(78-5236-vvrr)	<ul style="list-style-type: none"> • Advance Replacement shipping within 10 business days from RMA Request Date within 90 Days of original shipment from Cisco or from Cisco Reseller • 90-Day Assurance that the SW Media is defect-free and the SW conforms to its published specifications • Guest Access to Cisco Connection Online (CCO)
One-Year Limited Hardware Warranty (78-10747-vvrr)	<ul style="list-style-type: none"> • Advance Replacement shipping within 10 business days from RMA Request Date within One Year of original shipment from Cisco or from Cisco Reseller • 90-Day Assurance that the SW Media is defect-free and the SW conforms to its published specifications • Guest Access to Cisco Connection Online (CCO)
Limited Lifetime Hardware Warranty (78-6310-vvrr)	<ul style="list-style-type: none"> • Advance Replacement shipping within 10 business days from RMA Request Date during supported life of the product, starting original ship date from Cisco or Cisco reseller. (Fan and power supply warranty limited to 5 years from ship-date) • 90-Day Assurance that the SW Media is defect-free and the SW conforms to its published specifications • Guest Access to Cisco Connection Online (CCO)
End-User Software License Agreement and Software Warranty (78-3621-vvrr)	<ul style="list-style-type: none"> • 90-Day Assurance that the SW Media is defect-free and the SW conforms to its published specifications • End User License Agreement terms • Guest Access to Cisco Connection Online (CCO)
5-Years Limited Hardware and 1-Year Limited Software Warranty (78-13712-vvrr)	<ul style="list-style-type: none"> • Replacement shipping within 15 business days from RTF Date within 5 Years from the original ship date from Cisco or Cisco reseller • One-Year Assurance that the SW Media is defect-free and the SW conforms to its published specifications • Guest Access to Cisco Connection Online (CCO)
5-Years Limited Hardware and 5-Year Limited Software Warranty² (78-13712-vvrr)	<ul style="list-style-type: none"> • Replacement shipping within 15 business days from RTF Date within 5 Years from the original ship date from Cisco or Cisco reseller • Five-Year Assurance that the SW Media is defect-free and the SW conforms to its published specifications • Guest Access to Cisco Connection Online (CCO)

1. “vv” and “rr” suffixes of the warranty document numbers represent the revision and version numbers respectively.
2. The Cisco Limited 5-Year Hardware and 5-Year Software Warranty is available only to qualified World Wide Service Providers which Cisco defines as owners and operators of the world’s collection of voice-oriented Public Switched Telephone Networks (PSTNs)

For More Information

See the Cisco Product Warranties Web site:

http://www.cisco.com/en/US/products/prod_warranties_listing.html

Partner and Customer Support

Pre- and Post-Sales Contact Information

Presales—Partner/Reseller Helpline	800 553-6387 (within U.S.) 408 526-7208 (outside U.S.) http://CiscoPartner.custhelp.com/
Post-Sales—Technical Assistance Center (TAC)	800 553-2447 (within U.S.) 32-2-704-5555 (Europe) 800-805 227 (Australia) 61-2-8448-7107 (Asia/Pacific) 408 526-7209 (All other areas) http://www.cisco.com/warp/customer/687/Directory/DirTAC.shtml

Technical Support Email Addresses

English / Spanish	tac@cisco.com
Hanzi (Chinese)	chinese-tac@cisco.com
Kanji (Japanese)	japan-tac@cisco.com
Hangul (Korean)	korea-tac@cisco.com
Service Support Center (SSC)	<ul style="list-style-type: none"> • Pre- and post sales-quoting assistance • contract registration and access • Tool Issues & Navigation • SCC/SMS3 Troubleshooting Help • Contract Mgmt Assistance • SCC Registration/Virtual Registration cs-support@cisco.com (e-mail) SSC: 1 800 447-9347 http://www.cisco.com/public/scc/

Distributor Smartnet Teams

COMSTOR	800-955-9590 x 5143 smartnetgroup@comstor.com D & H 800-340-1001 x 6780
INGRAM MICRO	800-456-8000 x 76471 opt2 Smartnetquote@ingrammicro.com
TECH DATA	800-237-8931 x 72105 smartnetquote@techdata.com

Helpful Cisco Web sites

Partner Resources

Channel Partner Tools Index	http://www.cisco.com/web/partners/tools/
Partner Registration	http://tools.cisco.com/WWChannels/IPA/welcome.do
Partner Self-Service	Tools for managing company data—including contacts, locations, and access. http://tools.cisco.com/WWChannels/GETLOG/login.do
Partner Locator	Locate a qualified channel partner identified on the basis of specific criteria http://tools.cisco.com/WWChannels/LOCATR/jsp/partner_locator.jsp
Channel Account Manager (CAM) Locator	Search for a CAM assigned to a specific partner http://tools.cisco.com/WWChannels/CAMLQC/jsp/cam_locator.jsp
Channel Partner Program	http://www.cisco.com/en/US/partners/pr11/index.shtml
Marketing Fund Builder (U.S. only)	Funding to partners for pre-approved activities including events, direct mail pieces, e-mail blasts, and advertising http://www.cisco.com/web/partners/market/funds/index.html
Market Cisco Technologies and Services	http://www.cisco.com/en/US/partners/pr61/marketing.shtml
Campaign Builder (Available in certain countries)	Create customizable e-mail blasts, postcards, ads, flyers and more to build customer awareness, while reducing time-to-market and overall costs. http://www.cisco.com/web/partners/market/campaign-builder/index.html
Partner Access onLine (PAL)	Provides free real-time partner-customized access to trend-tracking data and to a data-collection system. PAL helps identify areas for improvement, strengthens customer relationships, and builds long-term customer loyalty. http://www.cisco.com/en/US/partner/applicat/partacccs/applications_overview.html
Partner Business Planning	Helps you and channel account managers (CAMs) collaborate on strategic planning by identifying incremental revenue streams, aligning objectives, and optimizing market opportunities to help ensure mutual success. http://tools.cisco.com/WWChannels/UNIFY/welcome.jsp
Partner E-Learning Connection (PEC)	http://www.cisco.com/go/pec_publicredirect/
Partner Events	http://www.cisco.com/web/partners/pr47/events.html
Partner Help Online - Direct FAQ access	http://ciscopartner.custhelp.com/
Partner News@Cisco	http://www.cisco.com/web/partners/pr47/partners_whats_new.html
Partner Incentives and Promotions	http://www.cisco.com/en/US/partner/partners/pr61/pr73/partners_promotions_concept_home.shtml
ARM	http://www.cisco.com/web/partners/sell/promotions/services/arm/index.html

General Resources

End-of-Sale and End-of-Life Products	http://www.cisco.com/en/US/products/prod_end_of_life.html
RMA US and Canada Service Order Returns	Schedule an on-line return of your contracted Service RMA at Cisco's expense. http://www.cisco.com/warp/customer/708/GPSTools/RMAWebReturns/rma_web_based_returns.html
RMA/Service Order	With your open service request, request or view your order for replacement hardware. http://tools.cisco.com/serviceordertools/svosubmit/tools.do
Sales Resources	http://www.cisco.com/en/US/partners/pr61/partners_marketing_category_home.shtml
Distributor Locator	Locate a Cisco distributor in any country. http://tools.cisco.com/WWChannels/LOCATR/jsp/distributor_locator.jsp
Get Cisco.com Access	Register for a guest-level Cisco.com ID as a prerequisite for partner level access http://tools.cisco.com/RPF/register/register.do
Learning & Events	http://www.cisco.com/en/US/learning/



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Routing

Routing at a Glance

Product	Features	Page
Cisco 800 Series	Integrated services routers allow small offices to operate secure concurrent services, including 1-5 firewall, VPNs, and wireless LANs, at broadband speeds <ul style="list-style-type: none"> Wireless support—Optional IEEE 802.11 b/g on 850 and 870 Series Enhanced security features including stateful inspection firewall and hardware assisted encryption and QoS (Cisco 870 series) features for VoIP DMZ, Dial back up and out-of-band management (Cisco 870 series) SDM GUI tool for simple and advanced configuration 	1-5
Cisco 1800 Series	Modular and fixed architectures—Offers wide variety of LAN and WAN options; network interfaces on Cisco 1841 are field-upgradeable for flexibility and to accommodate future technologies <ul style="list-style-type: none"> Fixed configuration models offer 10/100 ethernet, ADSL over ISDN, ADSL over POTS, or G.SHDSL WAN interfaces with integrated ISDN BRI (1801, 1802, 1803, and 1812) or analog modem (1811) backup interfaces Wireless LAN access using IEEE 802.11 a/b/g is available for all models of the 1800 Series 	1-6
Cisco 2800 Series	Integrated services routers that are optimized for the secure, wire-speed delivery of concurrent 1-13 data, voice, and video services for small- to midsize business and enterprise branch routing <ul style="list-style-type: none"> Superior performance with multiple services enabled for 1-6 T1/E1 links Advanced security features including Stateful Firewall, IPS, VPN and NAC Built-in encryption using DES, 3DES, and AES Wireless support via integrated IEEE 802.11 a/b/g standalone access point HWICs 	1-13
Cisco 3800 Series	Integrated Services Routers <ul style="list-style-type: none"> Highest performance and densities with the ability to run concurrent data, security, voice, and advanced services at wire speed up to T3/E3 Higher availability and resiliency with Online Insertion and Removal (OIR); redundant system and inline power options High-speed WAN Interface Cards (HWICs) free up network module slots for other services Enhanced security Expanded default and maximum memory capacity with Error Correction Code (ECC) DDR SDRAM memory to detect and correct SDRAM errors without user intervention Wireless support via integrated IEEE 802.11 a/b/g standalone access point HWICs 	1-19
Cisco 7200 Series	Optimized OC3/GE WAN-edge router providing intelligent services, high modularity, high performance, investment protection, and scalability in a small form factor <ul style="list-style-type: none"> Modular, 1-RU or 4-RU Chassis 1-, 4-, or 6-slot models for Port/Service Adapters 1 I/O slot (for 4- and 6-slot model) Choice of system processors (NPE) for up to 2 Mpps performance (7201 comes with built in NPE) Built in Gigabit Ethernet connectivity—copper or fiber (3-ports on NPE-G2 or 4 ports on 7201) Wide variety of LAN and WAN options, including Ethernet, Fast Ethernet, Gigabit Ethernet, Token Ring, serial, ISDN, HSSI, ATM, and Packet over SONET as well as voice support including IP-to-IP Gateway (Session Border Controller) and Quality of Service (QoS).	1-26
Cisco 7300 Series	<ul style="list-style-type: none"> 7304—Network Edge router with high performance IP services delivered at optical speeds for 1-29 service providers and enterprise networks 7301—Broadband and WAN-edge router providing intelligent services, PA modularity, high performance, investment protection, and scalability in a 1-RU form factor 	1-29
Cisco 7600 Series	<ul style="list-style-type: none"> Consolidated WAN/MAN/LAN in a single platform Scalable backplane bandwidth from 32 Gbps to 720 Gbps and performance from 30 Mpps to over 400 Mpps with new Sup720 or RSP720 engine and distributed forwarding line cards High-volume aggregation of service-enabled Ethernet Wide range of WAN/MAN interfaces from NxDS0, T1, T3 to OC-192 with line rate services. Support technologies including Serial, High-speed Serial, Channelize, POS, ATM and Ethernet. Ideal for service provider edge, metropolitan area network, & triple-play deployments, and high-end enterprise solutions Also supports Catalyst 6500 series line cards and 7500/7200 port adapters Supports a broad range of advanced service modules, such as IPSec SPA, DDOS, FW5M, and ACE(Server Load Balancing) 	1-32

Product	Features	Page
Cisco 10700 Series	Service provider-class metro edge services router <ul style="list-style-type: none"> Optimized building block for the next generation metro Ethernet/IP access networks Equipped with either (24) 10/100 or 4 GbE and 8 FE ports for customer access and OC-48c/STM-16c dynamic packet transport/resilient packet ring (DPT/RPR) technology or Packet Over SONET (POS) for metro optical connectivity Supports IEEE 802.17 standard compliant RPR technology 	1-46
Cisco XR 12000/12000 Series	Service provider-class multiservice-edge router to enable customer to transition toward a converged IP Network Infrastructure <ul style="list-style-type: none"> Supports edge-optimized line cards maximizing the value of line-rate edge applications with 10G uplinks while sustaining line-rate performance Up to nine chassis options with new power supply and blower enhancements supporting a portfolio of SPAs and SIPs Extensive portfolio of line cards and SPAs that support POS, ATM, Ethernet, DPT/RPR and copper, channelized physical interfaces Service-related enhancements (L3VPN, L2VPN, QoS) that ensures traffic differentiation while meeting the strictest customer service-level agreements 	1-48
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco Routers Port Matrix

	800 Series	1800 Series	2800 Series	3800 Series	7100 Series	7200/7301 Series	7304 Series	7600 Series	10700 Series	12000 Series
Fixed Ports Only	X									
Fixed & Modular Ports		X	X	X	X	X	X	X		X
Modular Ports Only									X	
LAN Ports										
10-Mbps Ethernet					X	X		X	X	
10-Mbps Ethernet (fiber)					X	X		X		
100-Mbps Ethernet		X	X	X	X	X		X	X	X
100-Mbps Ethernet (fiber)				X	X	X	X	X	X	X
10/100-Mbps Ethernet	X	X	X	X	X	X	X	X	X	X
10/100 Mbps Switch Port	X	X	X	X				X		
Cable DOCSIS 2.0	X	X	X	X						
Token Ring				X	X	X	X ¹			
ATM			X	X		X	X			
Gigabit Ethernet			X ⁵	X	X	X	X	X	X	X
10 Gigabit Ethernet								X		X
Wireless LAN Access Point	X	X	X	X						
Wireless LAN										
Integrated Standalone Access Point		X	X	X	X					
Wireless LAN Controller				X	X					
WAN Ports										
Sync Serial		X	X	X		X	X	X		
Sync Serial w/ CSU		X	X	X						
ISDN BRI (S/T)	X	X	X	X	X	X				
ISDN BRI (U)		X	X	X	X	X				
ISDN PRI/Ch T1			X	X	X	X				
ISDN PRI w/ CSU			X	X		X				
Async		X	X	X						
Analog/POTS			X	X						
Integrated Modems		X	X	X						
Integrated Modem WICs		X	X	X						
HSSI				X	X	X	X	X		

	800 Series	1800 Series	2800 Series	3800 Series	7100 Series	7200/7301 Series	7304 Series	7600 Series	10700 Series	12000 Series
DS3			X ²	X	X	X	X	X		X
ATM OC-3					X	X	X	X		X
ATM OC-12							X	X		X
ATM			X	X		X	X	X		
ATM - T1/E1			X	X	X	X	X	X		
POS OC-x/STM-x					X	X	X	X		X
DPT/RPR OC-12/STM-4										X
DPT/RPR OC-48/STM-16								X	X	X
DPT/RPR OC-192/STM-64										X
ADSL, ADSL 2+, G.SHDSL	X	X	X	X						
ADSL over ISDN	X	X	X	X						
G.SHDSL	X	X	X	X						
IDSL		X	X	X						
DPT									X	X
Voice Over IP (VoIP)										
Analog Voice Interfaces			X	X						
Digital Voice Interfaces			X	X		X		X		
ISDN BRI Digital Voice Interfaces			X	X						
Integrated Switching										
Integrated 4-port Switch	X									
Integrated 8-port Switch		X ²								
Integrated 4-port Switch HWIC		X ³	X	X						
Integrated 9-port Switch HWIC			X	X						
Integrated 16-port Switching			X ⁴	X						
Integrated 24-port Switching			X ⁵	X						
Integrated 36-port Switching			X ⁶	X						
Integrated 48-port Switching			X ⁶	X						
Power over Ethernet (PoE)	X	X	X	X						
Content Acceleration										
Content Engine			X	X				X		
Security VPN										
IPS	X	X	X	X	X	X		X		
Hardware-based encryption	X	X	X	X						
Encryption Advanced Integration Modules		X ³	X	X				X		
Encryption Service Adapter						X ⁷	X ¹	X		

1. 7301 only
2. Except 1841
3. 1841 only
4. Cisco 2811, 2821, and 2851 only
5. Cisco 2821 and 2851 only
6. Cisco 2851 only
7. VAM2+ and VSA Supported

Memory Information for Routers

Router	Memory Type	Slots	Default Memory	Max Memory	Default Configuration (Notes)
815	Flash	1	32 MB	64 MB	
	DRAM	1		128 MB	
851, 857	Flash	1	20 MB	20 MB	20 MB On board
	DRAM	1	64 MB	64 MB	64 MB On board
871, 876, 877, 878	Flash	1	24 MB or 28 MB ¹	52 MB	20MB On board + 4MB or 8MB * Mini Flash
	DRAM	1	128 MB	256 MB	128 MB On board + 128MB DIMM module * Advanced IP Services image includes 28MB flash
1800 Series	Flash	1	32 MB	128 MB	External compact flash
	DRAM	1	128 MB	384 MB	128 MB on motherboard, plus one slot
2800 Series	DRAM (2801)		128 MB	384 MB	Slot 0 = 128 MB, Slot 1 = Empty
	DRAM (2811)		256 MB	768 MB	Slot 0 = 256MB, Slot 1 = Empty
	DRAM (2821)		256 MB	1 GB	Slot 0 = 256MB, Slot 1 = Empty
	DRAM (2851)		256 MB	1 GB	Slot 0 = 256MB, Slot 1 = Empty
	Compact Flash (2801)		64 MB	128 MB	Single 64 MB Compact Flash default
	Compact Flash (2811)		64 MB	256 MB	Single 64 MB Compact Flash default
	Compact Flash (2821)		64 MB	256 MB	Single 64 MB Compact Flash default
3800 Series	Flash (External Compact Flash)	1	64 MB	256 MB	Single 64 MB Compact Flash default
	DDR SDRAM (ECC)	2	256 MB	1 GB	Slot 0 = 256MB, Slot 1 = Empty
7100 Series	Flash (PCMCIA)	2	48 MB	110 MB	Slot 0 = 48 MB
	System SDRAM	2	64 MB	256 MB	Slot 0 = 64 MB
	Packet SDRAM		64 MB	64 MB	
7200 Series	Flash for 7201	1	256 MB	256 MB	
	Flash (PCMCIA) (for IO controller card; IO controller card required for NPE-225, NPE-400)	2	64 MB	128 MB	
	Flash for NPE-G1 (Compact Flash)	1	64 MB	256 MB	
	Flash for NPE-G2 (Compact Flash)	1	256 MB	256 MB	
	DRAM (NPE-225)	2	128 MB	256 MB	
	DRAM (NPE-400)	2	256 MB	512 MB	
	DRAM (NPE-G1)	2	256 MB	1 GB	
	DRAM (NPE-G2)	1	1 GB	2 GB	
	DRAM for 7201	1	1 GB	2 GB	
7301 Series	Flash (CFM)	1	64 MB	256 MB	
	DRAM	1	256 MB	1 GB	
7304 NSE-100	Flash (CFM)	1	256 MB	256 MB	
	DRAM	1	512 MB	512 MB	
7304 NPE-G100	Flash (CFM)	1	256 MB	256 MB	
	DRAM	1	1 GB	1 GB	
7304 NSE-150			2 GB	2 GB	
7600 Series	Flash (PCMCIA)	1	16 MB	512 MB	
	DRAM (Sup 2)	1	128 MB	512 MB	
	DRAM (MSFC2)	1	128 MB	512 MB	
	DRAM (PFC2)	1	128 MB	256 MB	
	DRAM (Sup720-3B)	1	512 MB	512 MB	
	DRAM (Sup720-3BXL)	1	1 GB	1 GB	
10700 Series	Flash (Internal)	1	64 MB	64 MB	Maximum memory is configured with No Option
	SDRAM RP	1	512 MB	512 MB	
	Packet Buffer	1	64 MB	64 MB	
XR 12000/12000 Series	Flash (PCMCIA)	2	48 MB	256 MB	
	SDRAM (PRP-1)	1	512 MB	1 GB	Route Memory
	SDRAM (PRP-2)	1	1 GB	4 GB	Route Memory
	DRAM (Line Cards)	1/2	128-256 MB	256 MB - 1 GB	

1. Advanced IP Services image includes 28MB flash

Cisco 800 Series

The Cisco 800 series router provides enhanced network security, wireless LAN, and proven reliability through Cisco IOS software, for small offices and telecommuters. It connects users to the Internet or to a corporate LAN via one ADSL, ADSL over ISDN, G.SHDSL, Cable DOCSIS 2.0, or with an Ethernet WAN port connected to an external broadband modem.



When to Sell

Sell This Product When a Customer Needs These Features

- Cisco 800 Series**
- Companies with Cisco IOS-based networks who want to add telecommuters or very small branch offices
 - Service providers who offer value-added services to small offices
 - VARs who are familiar with Cisco IOS software and want to profitably service small office customers
 - Ethernet LAN ports and variety of WAN connectivity, including: ISDN BRI, ADSL, G.SHDSL
 - Locations with advanced security and wireless LAN requirements

Key Features

- Fixed configuration support for several types of WAN connections
- Optional standalone IEEE 802.11 b/g wireless LAN access point for 850 and 870 Series
- Standard security with ACLs, PAT/NAT, PAP/CHAP, MS-CHAP, Lock and Key, and Generic Routing Encapsulation (GRE) tunneling
- Enhanced security with stateful inspection firewall, IPSec encryption (3DES and AES encryption on Cisco 850 and 870 Series). The Cisco 870 Series also includes security features like IPS, 802.1x, Dynamic Multipoint VPN (DMVPN), EasyVPN, and URL filtering
- Out-of-band management and dial backup with an external modem via aux/console port on the 870 series routers
- Dial backup via integrated ISDN port on the 876
- X.25 over D-channel support on 876
- DMZ interface on all 870 routers. Optional external power injector for Power Over Ethernet (PoE) on 870 routers
- Integrated 4-port 10/100 Ethernet Switch on Cisco 850 and 870 series
- Bandwidth optimization features such as compression, Bandwidth-on-Demand, Dial-on-Demand, Always-On-Dynamic-ISDN (AODI), and X.25 over D channel (Cisco 876)

Specifications

Feature	851	857	871	876	877	878
Fixed LAN Port Connections	4-port 10/100 Ethernet switch	4-port 10/100 Ethernet switch	4-port 10/100 Ethernet switch	4-port 10/100 Ethernet switch	4-port 10/100 Ethernet switch	4-port 10/100 Ethernet switch
Fixed WAN Port Connections	1-port 10/100 Ethernet	1-port ADSL, ADSL 2/2+	1-port 10/100 Ethernet	1-port ADSL-over-ISDN, 1-port ISDN S/T (ADSL, ADSL 2/2+)	1-port ADSL over POTS (ADSL, ADSL 2/2+)	1-port G.SHDSL
Wireless LAN	IEEE 802.11 b/g ("W" model)	IEEE 802.11 b/g ("W" model)	IEEE 802.11 b/g ("W" model)	IEEE 802.11 b/g ("W" model)	IEEE 802.11 b/g ("W" model)	IEEE 802.11 b/g ("W" model)
Wireless Antenna	Single fixed antenna	Single fixed antenna	Dual removable antennas	Dual removable antennas	Dual removable antennas	Dual removable antennas
Maximum VPN Tunnels	5	5	10	10	10	10
NAC	No	No	Yes	Yes	Yes	Yes
URL Filtering	No	No	Yes	Yes	Yes	Yes
Stateful Firewall	Yes	Yes	Yes	Yes	Yes	Yes
Inline IPS	No	No	Yes	Yes	Yes	Yes

Selected Part Numbers and Ordering Information¹

Cisco 800 Series Routers

CISCO815-VPN/K9	Cisco 815 ISR, NA D0SCIS Compliant, with Security
CISCO851-K9	Cisco 851 Ethernet to Ethernet Router
CISCO851W-G-A-K9	Cisco 851 Ethernet to Ethernet Wireless Router; Americas
CISCO851W-G-E-K9	Cisco 851 Ethernet to Ethernet Wireless Router; Europe
CISCO851W-G-J-K9	Cisco 851 Ethernet to Ethernet Wireless Router; Japan
CISCO857-K9	Cisco 857 ADSL Router
CISCO857W-G-A-K9	Cisco 857 ADSL Wireless Router; U.S. and Americas
CISCO857W-G-E-K9	Cisco 857 ADSL Wireless Router; Europe
CISCO871-K9	Cisco 871 Ethernet to Ethernet Router
CISCO871W-G-A-K9	Cisco 871 Ethernet to Ethernet Wireless Router; U.S./Americas
CISCO871W-G-E-K9	Cisco 871 Ethernet to Ethernet Wireless Router; Europe
CISCO871W-G-J-K9	Cisco 871 Ethernet to Ethernet Wireless Router; Japan
CISCO876-K9	Cisco 876 ADSL over ISDN Router
CISCO876W-G-E-K9	Cisco 876 ADSL over ISDN Wireless Router
CISCO877-K9	Cisco 877 ADSL Router
CISCO877W-G-A-K9	Cisco 877 ADSL Wireless Router: U.S./Americas
CISCO877W-G-E-K9	Cisco 877 ADSL Wireless Router; Europe
CISCO878-K9	Cisco 878 G.SHDSL Router
CISCO878W-G-A-K9	Cisco 878 G.SHDSL Wireless Router; U.S./Americas
CISCO878W-G-E-K9	Cisco 878 G.SHDSL Wireless Router; Europe

Cisco 800 Series Memory Options

MEM870-4F=	Cisco 870 Series 4 MB Flash spare
MEM870-8F=	Cisco 870 Series 8 MB Flash spare
MEM870-16F=	Cisco 870 Series 16 MB Flash spare
MEM870-32F=	Cisco 870 Series 32 MB Flash spare
MEM870-64D=	Cisco 870 Series 64 MB SDRAM spare
MEM870-128D=	Cisco 870 Series 128 MB SDRAM spare
MEM870-8F-IOSUPG	Cisco 870 Series 8 MB Flash and IOS Bundle

Cisco 800 Series Accessories

800-ILPM-4	4 port 802.3af capable Inline power module for 800 Routers
PWR-850-870-WW1=	Cisco 850/870 Series, AC Power Supply Spare

Cisco 800 Series Basic Maintenance

CON-SNT-PKG1	Cisco 800 Series SMARTnet Maintenance (8x5xNBD)
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1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco 800 Series Web site: <http://www.cisco.com/go/800>

Cisco 1800 Series

Cisco 1800 Series integrated services routers are the next evolution of the award-winning Cisco 1700 Series modular and fixed access routers. The Cisco 1800 Series is designed for secure data connectivity via frame relay, leased line, or broadband access, and wireless local area networks. It features secure, fast, and high-quality delivery of multiple, concurrent services for small-to-medium-sized businesses and small enterprise branch offices.



When to Sell

Sell This Product

Cisco 1801, 1802, 1803

When a Customer Needs These Features

- Secure data access via broadband DSL
- Primary WAN access via ADSL over POTS (1801), ADSL over ISDN (1802), or G.SHDSL (1803)
- ADSL 2/2+ capability on 1801 and 1802
- Backup WAN interface using ISDN BRI
- Integrated 8-port managed 10/100 Ethernet switch
- Integrated IEEE 802.11 a/b/g wireless LAN ("W" models)

Sell This Product

Cisco 1811, 1812

When a Customer Needs These Features

- Secure data access at broadband rates
 - Using 10/100 Ethernet as a WAN access connecting to external DSL or cable modem
 - Backup WAN interface using V.92 analog modem (1811) or ISDN BRI (1812)
 - Integrated 8-port managed 10/100 Ethernet switch
 - Integrated IEEE 802.11 a/b/g wireless LAN (“W” models)
- ### Cisco 1841
- Secure data access solution for customer environments up to T1/E1/xDSL WAN rates with services turned on
 - Modularity for flexibility in WAN configurations
 - Support for a broad array of WAN services
 - Comprehensive security features

Key Features

- Available with IEEE 802.11 a/b/g wireless access point (Cisco 1801-1812 “W” models, 1841 HWIC-AP part number)
- Modular Cisco 1841 provides flexibility with internal AIM slot designated for higher speed VPNs and future applications; Provides several slot types to add future connectivity and services on an “integrate-as-you-grow” basis
- Integrated 8-port 10/100 Ethernet switch with PoE on fixed configuration Cisco 1801-1812. Optional 4-port switch HWIC on Cisco 1841
- Supports the latest Cisco IOS Software-based QoS bandwidth management features
- Advanced device management—using Cisco Router and SDM
- High-performance processor—Supports concurrent deployment of high-performance, secure data services with headroom for future applications
- Integrated hardware-based encryption acceleration—Offers cryptography accelerator as standard integrated hardware that can be enabled with an optional Cisco IOS Software for 3DES and AES encryption support
- Security performance enhanced feature set; Offers intrusion prevention system (IPS), Network Admission Control (NAC), and firewall functions
- Allows LAN segmentation using Virtual LANs (VLANs)
- Integrated standard power supply—Easier router platform installation and management

Specifications

Feature	Cisco 1841 Series	Cisco 1800 Series Fixed-Configuration Routers
Form factor	Desktop, 1-rack-unit (1-RU) height (4.75 cm high with rubber feet)	Desktop, 1-rack-unit (1-RU) high (4.75-cm high with rubber feet)
Target Applications	Secure data with frame relay or leased line access (T1/E1)	Secure data with broadband access and backup WAN
Chassis	Metal	Metal
Wall-mountable	Yes	Yes
Rack-mountable	Yes (optional 19-in rackmount kit is required)	Yes (optional 19-in. rack-mount kit required)
Dimensions (W x D)	13.5 x 10.8 in. (34.3 x 27.4 cm); Height without rubber feet: 1.73 in. (4.39 cm); Height with rubber feet: 1.87 in. (4.75 cm)	12.74 x 9.7 in. (32.36 x 24.64 cm); Height without rubber feet: 1.75 in. (4.45 cm); Height with rubber feet: 1.89 in. (4.80 cm)
Weight	Maximum: 6.2 lb. (2.8 kg); with interface cards and modules; Minimum: 6.0 lb. (2.7 kg) (no interface cards and modules)	Maximum: 6.1 lb. (2.8 kg)
DRAM	Synchronous dual in-line memory module (DIMM) DRAM	Synchronous dual in-line memory module (DIMM) SDRAM (1 DIMM slot)
DRAM capacity	Default: 128 MB; Maximum: 384 MB	Default: 128 MB; Maximum: 384 MB
Flash memory	External removable compact Flash	External removable Compact Flash
Flash memory capacity	Default: 32 MB; Maximum: 128 MB	Default: 32 MB; Maximum: 128 MB
Modular slots - total	Two	None
Modular slots (WAN)	Two	None
Modular slots (HWICs)	Two	None
Modular slots (voice)	None: The Cisco 1841 does not support voice	None: The Cisco 1800 Series does not support voice

		Cisco 1800 Series Fixed-Configuration Routers
Feature	Cisco 1841 Series	
VoIP support	Voice-over-IP (VoIP) pass-through only	Same as 1841
ADSL Port	ADSL over POTS, ADSL over ISDN via WAN Interface Card	One ADSL over POTS port on Cisco 1801. One ADSL over ISDN on Cisco 1802. The Cisco 1801 supports ADSL over POTS standards G.992.1 G.DMT and ANSI T1.413 DMT Issue 2. The Cisco 1802 supports ADSL over ISDN standards ETSI 101-388, U-R2, and G.992.1 G.DMT. The Cisco 1801 is interoperable with the following DSLAMs: Cisco 6130 and Cisco 6260 IP DSL switches; Alcatel (ASAM 1000 and 7300); Lucent Stinger (24- and 72-port line cards); ECI HiFocus (16- and 32-port line cards); The Cisco 1802 is interoperable with the following DSLAMs: Cisco 6260; Alcatel (ASAM 1000 and 7300); Siemens (XpressLink 2.0 and XpressLink 2.1); Lucent Stinger (48-port line cards); ECI HiFocus (16- and 32-port line cards)
G.SHDSL Port	G.SHDSL 2- and 4-wire support via WAN Interface Card	One G.SHDSL port on Cisco 1803 supports either 2-wire mode or 4-wire mode. The Cisco 1803 supports the same standards as the Cisco G.SHDSL WIC and is based on ITU Recommendation G.991.2 (accepted worldwide).
G. SHDSL DSLAM Interoperability	The WIC-1SHDSL-V3 in 2-wire mode is interoperable with the following DSLAMs: Cisco 6000 Series IP DSL switches; Alcatel ASAM 7300 (12- and 24-port line cards); ECI HiFocus SAM 2401 (16-port Metalink-based line cards); Lucent Stinger FS (32- and 48-port line cards); CopperEdge 200 DSLAM (24-port line cards); The WIC-1SHDSL-V3 in 4-wire mode is interoperable with the following DSLAMs: Alcatel ASAM 7300 (12- and 24-port line cards); CopperEdge 200 DSLAM (24-port line cards)	The Cisco 1803 in 2-wire mode is interoperable with the following DSLAMs: Cisco 6000 Series IP DSL switches; Alcatel ASAM 7300 (12- and 24-port line cards); ECI HiFocus SAM 2401 (16-port Metalink-based line cards); Lucent Stinger FS (32- and 48-port line cards); CopperEdge 200 DSLAM (24-port line cards); The Cisco 1803 in 4-wire mode is interoperable with the following DSLAMs: Alcatel ASAM 7300 (12- and 24-port line cards); CopperEdge 200 DSLAM (24-port line cards)
Onboard Ethernet ports	Two 10/100	10/100BASE-T ports for WAN connection supporting DSL and cable modems and Ethernet access services. (One port is available on Cisco 1801, 1802, and 1803. Two ports are available on Cisco 1811 and
Integrated Ethernet Switch Ports	Optional via 4-port Ethernet switch HWIC, up to 15 VLANs	Eight 10/100BASE-T fully managed switch ports with 802.1Q VLAN and 802.3af PoE support. Up to 8 VLANs
Onboard USB ports	One (1.1)	Two (USB 2.0) on Cisco 1811 and 1812 only. The Cisco 1801, 1802, and 1803 do not offer USB support.
ISDN S/T BRI Port	Optional via WAN Interface Card	One ISDN S/T BRI port on Cisco 1801, 1802, 1803, and 1812
V.92 Analog Modem Port	Optional via WAN Interface Card (1 or 2 ports)	One analog modem port on Cisco 1811
Console port	One: up to 115.2 kbps	One—up to 115.2 kbps
Auxiliary port	One: up to 115.2 kbps	One—up to 115.2 kbps
Onboard AIM slots	One (internal)	None
Packet-voice-DSP-module (PVTM) slots on motherboard	None: The Cisco 1841 does not support voice	None: The Cisco 1800 Series does not support voice
Integrated H/W-based encryption on motherboard	Yes	Yes
Encryption support in software and hardware by default	DES, 3DES, AES 128, AES 192, AES 256	DES, 3DES, AES 128, AES 192, AES 256
IPSec Tunnels	100 with on-board encryption, 800 with VPN AIM	50
IPSec VPN Performance	40 Mbps 3DES @ 1400 byte packets	40 Mbps 3DES @ 1400 byte packets
Cisco IOS Firewall Performance	100 Mbps @ 1400 byte packets	100 Mbps @ 1400 byte packets
Wireless LAN Hardware	Optional IEEE 802.11 a/b/g or IEEE 802.11 b/g via HWIC	IEEE 802.11 a/b/g on wireless models
Wireless LAN features	IEEE 802.11a/b/g; Automatic rate selection for 802.11a/11b/11g; Field-replaceable antennae; External antenna; Antenna diversity; Wi-Fi Certified for WPA-Personal and WPA-Enterprise; Default antenna gain—2.2 dBi	IEEE 802.11a/b/g; Automatic rate selection for 802.11a/11b/11g; Field-replaceable antennae; External antenna; Antenna diversity; Wi-Fi Certified for WPA-Personal and WPA-Enterprise; Default antenna gain—2.2 dBi
Data Rates Supported	802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps; 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps	802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps; 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Range		Range—Indoor 1 Mbps at 320 ft.

		Cisco 1800 Series Fixed-Configuration Routers
Feature	Cisco 1841 Series	
Wireless LAN Software Features		Maximize throughput or maximize range option; Software-configurable transmit power; Support for Wi-Fi Multimedia (WMM); Quality of Service (QoS) for WLANs
Wireless LAN Security Features	IEEE 802.1X per-user, per-session mutual authentication with a variety of extensible authentication protocol (EAP) types including Cisco LEAP, Protected Extensible Authentication Protocol (PEAP), and EAP-Transport Layer Security (EAP-TLS). Preshared Key (PSK) Authentication; MAC authentication/filter encryption; WPA Temporal Key Integrity Protocol (TKIP) with support for per-packet key hashing, message integrity check; Static and dynamic wired equivalent privacy (WEP) keys of 40 bits and 128 bits; Additional security features: IEEE 802.1X local authentication; Configurable limit for the number of wireless clients; Configurable RADIUS accounting for wireless clients	IEEE 802.1X per-user, per-session mutual authentication with a variety of extensible authentication protocol (EAP) types including Cisco LEAP, Protected Extensible Authentication Protocol (PEAP), and EAP-Transport Layer Security (EAP-TLS). Preshared Key (PSK) Authentication; MAC authentication/filter encryption; WPA Temporal Key Integrity Protocol (TKIP) with support for per-packet key hashing, message integrity check; Static and dynamic wired equivalent privacy (WEP) keys of 40 bits and 128 bits; Additional security features: IEEE 802.1X local authentication; Configurable limit for the number of wireless clients; Configurable RADIUS accounting for wireless clients
SSIDs	8	8
Wireless LAN	Supported by CiscoWorks 2000, CiscoView and Router, and Security Device Management (SDM)	Supported by CiscoWorks 2000, CiscoView and Router, and Security Device Management (SDM)
Management Features	GUI-based network management for wireless interface is provided	GUI-based network management for wireless interface is provided
Cisco IOS Software default image	IP BASE -12.4(1)	12.3(8)YI
Cisco IOS Software default Image	IP Base (security and broadband bundles have image upgrades)	Advanced IP services (without voice services) except Cisco 1801 and 1802 which also come with Cisco IOS IP Broadband
User Support	Up to 50 users (recommended)	Up to 50 users (recommended)
Routing Protocols	BGP, EIGRP, OSPF, RIPv1, RIPv2	BGP, EIGRP, OSPF, RIPv1, RIPv2
Routed Protocols	IPv4, IPv6 unicast and multicast (Internetwork Packet Exchange [IPX], IBM SNA, AppleTalk supported with optional Advanced Enterprise Services Feature Set)	IPv4, IPv6 unicast and multicast (Internetwork Packet Exchange [IPX], IBM SNA, AppleTalk supported with optional Advanced Enterprise Services Feature Set)
QoS Protocols	Weighted Fair Queuing (WFQ), Class-Based WFQ (CBWFQ), Weighted Random Early Detection (WRED), Committed Access Rate (CAR), Resource Reservation Protocol (RSVP), Network-Based Application Recognition	Weighted Fair Queuing (WFQ), Class-Based WFQ (CBWFQ), Weighted Random Early Detection (WRED), Committed Access Rate (CAR), Resource Reservation Protocol (RSVP), Network-Based Application Recognition
Internal system power supply	Yes	Yes
Power over Ethernet (PoE) power supply	None	None
Redundant power supply	No	No
DC power support	No	No
AC input voltage	100 to 240 VAC	100 to 240 VAC
Frequency	50 to 60 Hz	50 to 60 Hz
AC input current	1.5A maximum	1.5A maximum
Output power	50W (maximum)	50W (maximum)
PoE Support	Not supported	Supported on 10/100 Ethernet switch ports with optional PoE kit
PoE Standards	None	IEEE 802.3af, Cisco Prestandard PoE
External PoE Power Supply	None	80W external power supply
System Power Dissipation	153 BTU/hr.	153 BTU/hr.
Operating temp	32 to 104°F (0 to 40°C)	32° to 104°F (0° to 40°C)
Operating humidity	10 to 85% non condensing operating; 5 to 95% non condensing, non operating	10 to 85 percent non condensing operating; 5 to 95 percent non condensing, non operating
Non operating Temp	-4 to 149°F (-25 to 65°C)	-4° to 149°F (-25 to 65°C)
Operating altitude	10,000 feet (3000 meters) @ 77°F (25°C)	10,000 ft. (3000m) at 77°F (25°C)
Noise level	Normal operating temperature: <78° F/25.6°C: 34 dBA; >78°F/25.6°C through; 104°F/40°C	<80°F (27°C): 34 dBA; >80°F (27°C) through <104°F (40°C): 36 dBA; >104°F (40°C): 42 dBA
Safety	UL60950-1; CAN/CSA 60950-1; AS 3260; EN60950-1	UL 60950; CAN/CSA C22.2 No. 60950; IEC 60950-1; EN 60950-1; AS/NZS 60950
EMI	EN 55022, 1998, class A; CISPR22, 1997, class A; CFR47, Part 15, Subpart B, 1995, class A; EN61000-3-2 Harmonic Current Emission (only for equipment >75W but <16A); EN61000-3-3 Voltage Fluctuation and Flicker (only for equipment £16A)	CFR 47 Part 15, Class A; ICES-003 Class A; EN55022 Class A; CISPR22 Class A; AS/NZS 3548; lass A; VCCI Class A; EN 300386; EN61000-3-2; EN61000-3-3

Feature	Cisco 1841 Series	Cisco 1800 Series Fixed-Configuration Routers
Immunity	CISPR24, 1997 ITE-Immunity characteristics, Limits and methods of measurement; EN 55024, 1998 ITE-Immunity characteristics, Limits and methods of measurement; EN50082-1, 1997 Electromagnetic compatibility Generic immunity standard, Part 1 EN 300 386, 1997 Telecommunications network equipment EMC requirements; The requirements are covered by the following standards: IEC 61000-4-2:1995 Immunity to Electrostatic Discharges; IEC 61000-4-3:1995 Immunity to Radio Frequency Electromagnetic Fields; IEC 61000-4-4:1995 Immunity to Electrical Fast Transients; IEC 61000-4-5:1995 Immunity to Power Line Transients (Surges); IEC 61000-4-6:1996 Immunity to Radio Frequency Induced Conducted Disturbances; IEC 61000-4-11:1995 Immunity to Voltage Dips, Voltage Variations, and Short Voltage Interruptions	EN300386; EN55024(CISPR24); EN61000-4-2; EN61000-4-3; EN41000-4-4; EN41000-4-5; EN41000-4-6; EN41000-4-8; EN41000-4-11; EN50082-1; EN61000-6-2; ITU-T K.21
Network homologation	USA: TIA-968-A, T1 TRQ.6-2001; Canada: CS-03; European Union: RTTE Directive 5/99; Argentina: CTR 21; Australia: AS/ACIF S002, S003, S016, S031, 3043; Brazil: 225-540-788, CTR3, 225-100-717 Edition 3, NET 001/92 1990; China: ITU-G 992.1, ITU-G 992.1, ITU-G 991.2, CTR3, ITU I 431 1993; Hong Kong: HKTA 2033, HKTA 2033, HKTA 2014, HKTA 2017, Issue 3 2003, HKTA 2011 Issue 1, HKTA 2011 Issue 2, HKTA 2013 Issue 1; India: DCA 18, 02, Jun. 99-99, S/ISN-01/02 Issue 1999 S/ISN-02 1 1998, IR/PRI-01/02 Issue 1 1998, S/INT-2W/02 MAY 2001, S/INT-2W/02 MAY 2001; Israel: U.S. approval accepted; Japan: Technical condition (DoC acceptance in process); Korea: U.S. approval accepted; Mexico: U.S. approval accepted; New Zealand: PTC 270/272, CTR 3, ACA 016 Revision 4 1997, PTC 200; Singapore: IDA TS ADSL1 Issue 1, IDA TS ADSL 2, IDA TS HDSL, IDA TS ISDN 1 Issue 1 1999, IDA TS ISDN 3 Issue 1 1999, IDA TS PSTN 1 Issue 4, IDA TS PSTN 1 Issue 4, IDA TS PSTN 1 Issue 4; South Africa: U.S. approval accepted; Taiwan: U.S. approval accepted	Telecom compliance standards depend upon country and interface type. Interfaces comply with FCC Part 68, CS-03, JATE Technical Conditions, European Directive 99/5/EC, and relevant Technical Basis for Regulation (TBRs). For specific information, refer to the data sheet for the specific interface card. Homologation requirements vary by country and interface type. For specific country information, refer to the online approvals database. Cisco 1801, 1802, 1803, and 1812 ISDN BRI S/T: TIA-968-A; IC CS-03 Part VI; JATE Technical Requirements; TBR3, S031

Selected Part Numbers and Ordering Information¹

Cisco 1841 Series (Modular) Integrated Services Routers

CISCO1841	Modular Router w/2xFE, 2 WAN slots, 32 FL/128 DR
CISCO1841-T1	1841 bundle w/WIC-1DSU-T1-V2, IP Base, 32FL/128DR

Cisco 1800 Series (Fixed) Integrated Services Routers

CISCO1801	ADSL/POTS router w/IOS IP Broadband
CISCO1801/K9	ADSL/POTS Router with Firewall/IPS and IPSEC 3DES
CISCO1801-M	ADSL over POTS Annex M Router
CISCO1801-M/K9	ADSL over POTS Annex M Router
CISCO1802	ADSL/POTS router w/IOS IP Broadband
CISCO1802/K9	ADSL/ISDN Router with Firewall/IPS and IPSEC 3DES
CISCO1803/K9	G.SHDSL Router with Firewall/IPS and IPSEC
CISCO1811/K9	Dual Ethernet Security Router with V.92 Modem Backup
CISCO1812/K9	Dual Ethernet Security Router with ISDN S/T Backup

Cisco 1800 Series (Fixed Wireless) Integrated Services Router

CISCO1801W-AG-B/K9	ADSL/POTS Router with 802.11a+g China Compliant and Security
CISCO1801W-AG-C/K9	ADSL/POTS Router with 802.11a+g China Compliant and Security
CISCO1801W-AG-E/K9	ADSL/POTS Router with 802.11a+g ETSI Compliant and Security
CISCO1801W-AG-N/K9	ADSL/POTS Router with 802.11a+g Australia/NZ Compliant and Security
CISCO1802W-AG-E/K9	ADSL/ISDN Router with 802.11a+g ETSI Compliant and Security
CISCO1803W-AG-B/K9	G.SHDSL Router with 802.11a+g FCC Compliant and Security
CISCO1803W-AG-E/K9	G.SHDSL Router with 802.11a+g ETSI Compliant and Security
CISCO1811W-AG-B/K9	Security Router with 802.11a+g FCC Compliant and Analog B/U
CISCO1811W-AG-C/K9	Security Router with 802.11a+g China Compliant and Analog B/U
CISCO1811W-AG-N/K9	Security Router with 802.11a+g Australia/NZ Compliant and Analog B/U
CISCO1812W-AG-C/K9	Security Router with 802.11a+g China Compliant and ISDN S/T
CISCO1812W-AG-E/K9	Security Router with 802.11a+g ETSI Compliant and ISDN S/T

Cisco 1800 Series (modular) Security bundles

CISCO1841-SEC/K9	1841 Security Bundle, Adv. Security, 64FL/256DR
CISCO1841-HSEC/K9	1841 Security bundle w/AIM-VPN, Adv. IP Svcs, 64FL/256DR
CISCO1841-T1SEC/K9	1841 Security Bundle w/ WIC-1DSU-T1-V2, Adv. Sec., 64FL, 256DR

Cisco 1800 Series (modular) Broadband bundles

CISCO1841-ADSL	1841 ADSLoPOTS Bdle, IP Broadband, 32FL/128DR
CISCO1841-ADSL-DG	1841 ADSLoPOTS w/dying gasp Bundle, IP Broadband, 32FL/128DR
CISCO1841-ADSLI	1841 ADSLoISDN Bundle, IP Broadband, 32FL/128DR
CISCO1841-SHDSL-V3	1841 G.shdsl 4-wire Bundle, includes WIC-1SHDSL-V3, IP Broadband, 32 MB flash/128 MB DRAM
CISCO1841-ADSL2	1841 bundle, HWIC-1ADSL, IP BB, 32F/128D

CISCO1841-ADSL2-B	1841 bundle, HWIC-ADSL-B/ST, IP BB, 32F/128D
CISCO1841-2SHDSL	1841 2-pair G.SHDSL bundle, HWIC-2SHDSL, IP Base, 64F/128D
CISCO1841-4SHDSL	1841 4-pair G.SHDSL bundle, HWIC-4SHDSL, IP Base, 64F/128D
Cisco 1841 WAN Interface Cards	
WIC-1T	1-Port Serial WAN Interface Card
WIC-2T	2-Port Serial WAN Interface Card
WIC-2A/S	2-Port Async/Sync Serial WAN Interface Card
WIC-1AM	One-port Analog Modem WAN Interface Card
WIC-2AM	Two-port Analog Modem WAN Interface Card
WIC-1DSU-56K4	1-port 4-WIRE 56/64 KBPS WAN INTERFACE CARD
WIC-1ADSL	1-port ADSL WAN Interface Card
WIC-1ADSL-DG	1-port ADSLoPOTS WIC with Dying Gasp
WIC-1ADSL-I-DG	1-port ADSLoISDN Wan Interface Card
WIC-1SHDSL-V3	1-Port G.SHDSL WIC with 2- and 4-wire support
WIC-1B-S/T-V3	1-Port ISDN WAN Interface Card (dial and leased line)
WIC-1B-U-V2	1-Port ISDN BRI NT-1 WIC
WIC-BLANK-PANEL=	Blank WAN Interface Card Panel
WIC-1DSU-T1-V2	Updated 1-Port T1/Fractional T1 DSU/CSU WAN Interface Card
Cisco 1841 High Speed WAN Interface Cards	
HWIC-1ADSL	1-port ADSLoPOTS HWIC
HWIC-1ADSLI	1-port ADSLoISDN HWIC
HWIC-ADSL-B/ST	2-port HWIC w/ 1-port ADSLoPOTS and 1-port ISDN BRI-S/T
HWIC-ADSLI-B/ST	2-port HWIC w/ 1-port ADSLoISDN and 1-port ISDN BRI-S/T
HWIC-4ESW	4-port 10/100 Ethernet switch interface card
HWIC-4A/S	4-Port Async/Sync Serial HWIC
HWIC-8A/S-232	8-Port Async/Sync Serial HWIC, EIA-232
HWIC-8A	8-Port Async HWIC
Cisco 1841 Wireless WAN HWIC	
HWIC-3G-GSM	3G WirelessWAN HWIC supporting GPRS/EDGE/UMTS/HSDPA (Global SKU)
HWIC-3G-CDMA-V	3G WirelessWAN HWIC supporting 1xRTT, EVDO Rev A/Rel 0 (Verizon SKU)
HWIC-3G-CDMA-S	3G WirelessWAN HWIC supporting 1xRTT, EVDO Rev A/Rel 0 (Sprint SKU)
Cisco 1841 Wireless HWICs and Accessories	
HWIC-AP-G-A	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for the Americas (FCC configuration)
HWIC-AP-G-E	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for Europe (ETSI configuration)
HWIC-AP-G-J	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for Japan (TELEC configuration)
HWIC-AP-AG-A	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for the Americas (FCC configuration)
HWIC-AP-AG-E	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Europe (ETSI configuration)
HWIC-AP-AG-J	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Japan (TELEC configuration)
AIR-ANT4941	2.2 dBi Cisco Aironet 2.4 GHz Swivel mount dipole
AIR-ANT5959	2 dBi Cisco Aironet 2.4 GHz Diversity omni-directional ceiling mount patch
AIR-ANT1728	5.2dBi Cisco Aironet 2.4 GHz Omni-directional ceiling mount
AIR-ANTM2050D-R	(2.2 dBi Cisco 2.4 Ghz and 5.0 dBi 5 GHz) Dual band Swivel mount dipole antenna
AIR-ANTM5560P-R	(5.5 dBi Cisco 2.4 Ghz and 6.0 dBi 5 GHz) Dual band Wall-mount patch antenna
AIR-ANTM4050V-R	(4.0 dBi Cisco 2.4 Ghz and 5.0 dBi 5 GHz) Dual band Diversity Ceiling-mount omnidirectional antenna
AIR-CAB020LL-R	20-ft. (6m) low-loss cable with RP-TNC connectors
AIR-CAB050LL-R	50-ft. (15m) low-loss cable with RP-TNC connectors
AIR-CAB100ULL-R	100 ft. (30m) ultra-low-loss cable with RP-TNC connectors
AIR-CAB150ULL-R	150-ft. (46m) ultra-low-loss cable with RP-TNC connector
Cisco 1841 Multiflex Voice/WAN Interface Cards	
VWIC-1MFT-E1	1-Port RJ-48 Multiflex Trunk - E1
VWIC-2MFT-E1	2-Port RJ-48 Multiflex Trunk - E1
VWIC-2MFT-E1-DI	2-Port RJ-48 Multiflex Trunk - E1 With Drop and Insert
VWIC-1MFT-T1	1-Port RJ-48 Multiflex Trunk - T1
VWIC-2MFT-T1	2-Port RJ-48 Multiflex Trunk - T1
VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert
VWIC-1MFT-G703	1-Port RJ-48 Multiflex Trunk - G.703
VWIC-2MFT-G703	2-Port RJ-48 Multiflex Trunk - G.703
VWIC2-1MFT-T1/E1	1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1
VWIC2-2MFT-T1/E1	2-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1
VWIC2-1MFT-G703	1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - G.703
VWIC2-2MFT-G703	2-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - G.703
Cisco 1841 Advanced Integration Modules	
AIM-VPN/BPII-PLUS	DES/3DES/AES VPN Encryption/Compression
AIM-VPN/SSL-1	DES/3DES/AES/SSL VPN Encryption/Compression

Cisco 1800 Series Flash Memory Options

MEM1800-32CF=	32MB Cisco 1800 Compact Flash spare
MEM1800-64CF=	64MB Cisco 1800 Compact Flash Memory spare
MEM1800-128CF=	128MB Cisco 1800 Compact Flash Memory spare
MEM1800-32U64CF	32 to 64MB Cisco 1800 Compact Flash factory upgrade
MEM1800-64U128CF	64 to 128 MB Cisco 1800 Compact Flash factory upgrade
MEM1800-32U128CF	32 to 128 MB Cisco 1800 Compact Flash factory upgrade

Cisco 1800 Series USB Memory Options

MEMUSB-64FT=	64MB USB Flash Token for Cisco 1800/2800/3800 series spare
MEMUSB-128FT=	128MB USB Flash Token for Cisco 1800/2800/3800 series spare
MEMUSB-256FT=	256MB USB Flash Token for Cisco 1800/2800/3800 series spare

Cisco 1800 Series DRAM Memory Options

MEM1841-64D=	64MB SODIMM DRAM for Cisco 1841 spare
MEM1841-128D=	128MB SODIMM DRAM for the Cisco 1841 spare
MEM1841-256D=	256MB SODIMM DRAM for the Cisco 1841 spare
MEM1841-128U192D	128 to 192MB SODIMM DRAM factory upgrade for the Cisco 1841
MEM1841-128U256D	128 to 256MB SODIMM DRAM factory upgrade for the Cisco 1841
MEM1841-128U384D	128 to 384MB SODIMM DRAM factory upgrade for the Cisco 1841
MEM1841-256U384D	256 to 384MB SODIMM DRAM factory upgrade for the Cisco 1841

Cisco 1800 Series Spares and Accessories

PWR-184X-AC=	Cisco 184X AC standard power supply spare
ACS-184X=	Accessory Kit for Cisco 184X spare
ACS-1841-RM-19=	Rackmount kit for 1841 spare
SW-CONFIG-1800-001	Configuration of software via CCO for 1800 series
CX-CUSTOM-BUILD	Please complete this P.O. via CX Tool

Cisco 1800 Series (modular) Software CD Feature Packs

CD18-AISK9=	CISCO 1841 ADVANCED IP SERVICES Feature Pack spare
CD18-ASK9=	CISCO 1841 ADVANCED SECURITY Feature Pack spare
CD18-AESK9=	CISCO 1841 ADVANCED ENTERPRISE SERVICES Feature Pack spare
CD18-BB=	CISCO 1841 IP Broadband Feature Pack spare
CD18-EB=	CISCO 1841 ENTERPRISE BASE Feature Pack spare
CD18-ESK9=	CISCO 1841 ENTERPRISE SERVICES Feature Pack spare
CD18-IPB=	CISCO 1841 IP BASE Feature Pack spare
CD18-SPSK9=	CISCO 1841 SP SERVICES Feature Pack spare
184-SW-SPARECD	Cisco 184X Series Software Spare CD

Cisco 1800 Series IOS Upgrade Licenses

FL18-AISK9-AESK9=	Cisco 1841 Adv IP Ser to Adv Ent Ser Upgrade SW feature lic spare
FL18-ASK9-AISK9=	Cisco 1841 Adv Sec to Adv IP Ser Upgrade SW feature lic spare
FL18-EB-ESK9=	Cisco 1841 Ent Base to Ent Ser Upgrade SW feature lic spare
FL18-ESK9-AESK9=	Cisco 1841 Ent Ser to Adv Ent Ser Upgrade SW feature lic spare
FL18-SPSK9-AISK9=	Cisco 1841 SP Ser to Adv IP Ser Upgrade SW feature lic spare
FL18-SPSK9-ESK9=	Cisco 1841 SP Ser to Ent Ser Upgrade SW feature lic spare
FL18-IPB-ASK9=	Cisco 1800 IP BASE to Adv Sec Upgrade SW feature lic spare
FL18-IPB-EB=	Cisco 1800 IP BASE to Ent Base Upgrade SW feature lic spare
FL18-CB=	Corvil Bandwidth Feature License for 1800 Series spare

Cisco 1800 (Fixed) Series DRAM Memory Options

MEM180X-128U256D	128 to 256MB SODIMM DRAM factory upgrade for the Cisco 180X
MEM181X-128U256D	128 to 256MB SODIMM DRAM factory upgrade for the Cisco 181X
MEM180X-128D=	128MB SODIMM DRAM for the Cisco 1841 spare
MEM181X-128D=	128MB SODIMM DRAM for the Cisco 181X spare

Cisco 1800 (Fixed) Series PoE Options

POE-180X=	802.3af PoE Module, 80W Power Supply and Cable spare
POE-181X=	802.3af PoE Module, 80W Power Supply and Cable spare

Cisco 1800 (Fixed) Series Rack Mount Kit

ACS-1800-RM-19=	19 inch Rack Mount Kit for Cisco 180X / 181X spare
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Cisco 1800 (fixed & mod)-802.11 a/g Antennae Options-Spares

AIR-ANTM2050D-R=	2.2dBi/2.4GHz,5.0dBi/5GHz DualBand Dipole Antenna spare
AIR-ANTM4050V-R=	4.0dBi/2.4GHz,5.0 dBi/5GHz Dual Band Ceiling Mount Antenna spare
AIR-ANTM5560P-R=	5.5 dBi/2.4GHz,6.0 dBi/5GHz Dual Band Wall Mount Antenna spare

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco 1800 Series Web site: <http://www.cisco.com/go/ISR>

Cisco 2800 Series



The Cisco 2800 Series Integrated Services Routers offer performance improvements, increased security and voice performance, new embedded service options, and increased slot performance and density. It maintains support for most existing interface cards and modules available for the Cisco 1700 Series and Cisco 2600 Series routers. Comprised of four platforms: the Cisco 2801, the Cisco 2811, the Cisco 2821, and the Cisco 2851 router, the Cisco 2800 Series features the ability to deliver multiple high-quality simultaneous services at wire speed at up to multiple T1/E1/xDSL connections. Wireless LAN Controller Modules are a component of the Cisco Unified Wireless Network.

When to Sell

Sell This Product

Cisco 2800

When a Customer Needs These Features

- Customer needs a solution that has a lower total cost of ownership compared to multiple separate devices
- Performance and densities for concurrent data, security, voice, and advanced services up to multiple T1/E1/xDSL connections
- VPN connections, or plan to migrate to them over time
- Integrated security services which enable network device protection, threat defense, secure connectivity, and endpoint protection and control
- Secure integrated call processing, voice mail, flexible telephony interfaces, redundancy for centralized call processing, or robust DSP support, including local conferencing and transcoding
- Wireless support via integrated IEEE 802.11 a/b/g standalone access point HWICs
- Integrated Layer 2 switching capability in densities from 4 port to 48 port and the ability to utilize Cisco StackWise connectivity.

Key Features

- Modular architecture—A wide variety of LAN and WAN options are available. Network interfaces can be upgraded in the field to accommodate future technologies; Several types of slots are available to add connectivity and services in the future on an “integrate-as-you-grow” basis
- Embedded security hardware acceleration—embedded hardware cryptography accelerators, which when combined with an optional Cisco IOS Software upgrade help enable WAN link security and VPN services
- Integrated dual Fast Ethernet or Gigabit Ethernet ports—Provides two 10/100 Ethernet ports on the Cisco 2801 and Cisco 2811 and two 10/100/1000 Ethernet ports on the Cisco 2821 and Cisco 2851
- HWIC slots with enhanced functions including wireless LAN access points; Dual AIM slots; Packet voice DSP module (PVDM) slots on motherboard
- IP Telephony solutions enable an all-in-one VoIP solution with Cisco Call Manager Express, telephony interfaces, and Cisco Unity Express for voice mail and auto-attendant functions
- On board hardware-based encryption for DES, 3DES, AES, and onboard slots for PVDMs, and they all include high-speed Ethernet interfaces
- Support for an optional dedicated security AIM
- EzVPN eases administration and management of point-to-point VPNs by pushing new security policies from a single headend to remote sites
- DSP modules deliver support for analog and digital voice, conferencing, transcoding, and secure Real-Time Transport Protocol (RTP) applications
- Network Admission Control (NAC)—A Cisco Self-Defending Network initiative seeks to dramatically improve the ability of networks to identify, prevent, and adapt to threats by allowing network access only to compliant and trusted endpoint devices
- Optional integrated power supply for distribution of PoE
- Real-time clock support

Competitive Products

- Juniper: J Series
- 3Com: SuperStack II NETbuilder SI and Pathbuilder S400, 5000 & 6000 Series
- Intel/Shiva: LanRover Family
- Motorola: Vanguard 645x/643x
- Nortel/Bay: Advanced Remote Node (ARN), Passport 4400 series
- Tasman: 2004, 1400
- Huawei: AR2800

Specifications

Feature	Cisco 2801	Cisco 2811	Cisco 2821	Cisco 2851
Fixed USB 1.1 ports	1	2	Same As Cisco 2811	Same As Cisco 2811
Onboard LAN ports	2 - 10/100	Same As Cisco 2801	2 - 10/100/1000	Same As Cisco 2821
Onboard AIM (internal) slot	2	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Interface card slots	4 slots; 2 slots support HWIC, WIC, VIC, or VWIC type modules 1 slot supports WIC, VIC, or VWIC type modules 1 slot supports VIC or VWIC type modules	4 slots, each slot can support HWIC, WIC, VIC, or VWIC type modules		
Network-module slot	No	1 slot, supports NM and NME type modules	1 slot, supports NM, NME and NME-X type modules	1 slot, supports NM, NME, NME-X, and NME-XD type modules
Extension Voice Module Slot	0	Same As Cisco 2801	1	Same As Cisco 2821
PVDM (DSP) slots on motherboard	2	Same As Cisco 2801	3	Same As Cisco 2821
Integrated hardware-based encryption	Yes	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Optional PoE	Yes, requires AC-IP system power supply	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Console port (up to 115.2 kbps)	1	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Auxiliary port (up to 115.2 kbps)	1	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Minimum Cisco IOS Software release	12.3(8)T4	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Rack mounting	Yes, 19-inch	Yes, 19- and 23-in. options	Same As Cisco 2811	Same As Cisco 2811
Wall mounting	No	Yes	Same As Cisco 2801	Same As Cisco 2801
AC input voltage	100 to 240 VAC	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
AC input frequency	47-63 Hz	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
AC input current	2A (110V); 1A (230V)	Same As Cisco 2801	3A (110V); 2A (230V)	Same As Cisco 2821
AC input surge current	50A maximum, one cycle (-48V power included)	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
AC-IP max in-line power distribution	120W	160W	240W	360W
AC-IP input current	4A (110V); 2A (230V)	Same As Cisco 2801	8A (110V); 4A (230V)	Same As Cisco 2821
AC-IP input surge current	50A maximum, one cycle (-48V power included)	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
DC input voltage	No DC Power Option available	24 to 60 VDC, autorunning positive or negative	Same As Cisco 2811	Same As Cisco 2811
DC input current	No DC Power Option available	8A (24V) 3A (60V) Startup current 5A<10 ms	12A (24V) 5A (60V) Startup current 50A<10 ms	Same As Cisco 2821
Power dissipation—AC 150W (511 BTU/hr.) without PoE support		170W (580 BTU/hr.)	280W (955 BTU/hr.)	Same As Cisco 2821
Power dissipation—AC 180W (612 BTU/hr.) with PoE-IP phones		160W (546 BTU/hr.)	240W (819 BTU/hr.)	Same As Cisco 2821
Power dissipation—DC Not applicable		180W (614 BTU/hr.)	300W (1024 BTU/hr.)	Same As Cisco 2821
Redundant Power Support (RPS)	No	External only, connector for RPS provided by default	Same As Cisco 2811	Same As Cisco 2811
Recommended RPS unit	No RPS option	Cisco RPS-675 Redundant Power System	Same As Cisco 2811	Same As Cisco 2811

Feature	Cisco 2801	Cisco 2811	Cisco 2821	Cisco 2851
Operating temp	32 to 104°F; (0 to 40°C)	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Operating humidity	10 to 85% non condensing	5 to 95%, non condensing	Same As Cisco 2811	Same As Cisco 2811
Non operating temp	N/A	-4 to 149°F (-20 to 65°C)	Same As Cisco 2811	Same As Cisco 2811
Dimensions (H x W x D)	1.72 x 17.5 x 16.5 in. (43.7 x 445 x 419 mm.)	1.75 x 17.25 x 16.4 in. (44.5 x 438.2 x 416.6 mm.)	3.5 x 17.25 x 16.4 in. (88.9 x 438.2 x 416.6 mm.)	Same As Cisco 2821
Rack height	1 rack unit (1-RU)	1 rack unit (1-RU)	2-RU	Same As Cisco 2821
Weight (configured)	13.7 lb. (6.2 kg)	14 lb. (6.4 kg)	25 lb. (11.4 kg)	Same As Cisco 2821
Noise level (min/max)	39 dBA for normal operating temperature (<90°F/32.2°C) 53.5 dBA (@ maximum fan speed)	47 dBA for normal operating temperature (<90°F/32.2°C) 57 dBA (@ maximum fan speed)	44 dBA for normal operating temperature (<90°F/32.2°C) 53 dBA (@ maximum fan speed)	
Safety	UL 60950 CAN/CSA C22.2 No. 60950 IEC 60950 EN 60950-1 AS/NZS 60950	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
Immunity	EN300386 EN55024/CISPR24 EN50082-1 EN61000-6-2	Same As Cisco 2801	Same As Cisco 2801	Same As Cisco 2801
EMC	FCC Part 15; ICES-003 Class A; EN55022 Class A; CISPR22 Class A; AS/NZS 3548 Class A; VCCI Class A EN 300386; EN61000-3-3; EN61000-3-2			
TELCOM	Telecom compliance standards depend upon country and interface type. Interfaces comply with FCC Part 68, CS-03, JATE Technical Conditions, European Directive 99/5/EC and relevant TBRs. See the datasheet for the specific interface card.			

Selected Part Numbers and Ordering Information¹

Cisco 2800 Series Router

CISCO2801	Integrated services router with AC power, 2FE, 4 Interface Card Slots, 2 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2801-AC-IP	Integrated services router with AC power including Inline power distribution capability, 2FE, 4 Interface Card Slots, 2 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2811	Integrated services router with AC power, 2FE, 1 NME, 4 HWICs, 2 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2811-16TS	Cisco 2811 With HWIC-16A Terminal Server Bundle
CISCO2811-AC-IP	Integrated services router with AC power including Inline power distribution capability, 2FE, 1 NME, 4 HWICs, 2 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2811-DC	Integrated services router with DC power, 2FE, 1 NME, 4 HWICs, 2 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2821	Integrated services router with AC power, 2GE, 1 NME-X, 1 EVM, 4 HWICs, 2 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2821-AC-IP	Integrated services router with AC power including inline power distribution capability, 2GE, 1 NME-X, 1 EVM, 4 HWICs, 3 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2821-DC	Integrated services router with DC power, 2GE, 1 NME-X, 1 EVM, 4 HWICs, 3 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2851	Dual Gigabit Ethernet integrated services router with AC power, 2GE, 1 NME-XD, 1 EVM, 4 HWICs, 3 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2851-AC-IP	Integrated services router with AC power including inline power distribution capability, 2GE, 1 NME-XD, 1 EVM, 4 HWICs, 3 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software
CISCO2851-DC	Integrated services router with DC power, 2GE, 1 NME-XD, 1 EVM, 4 HWICs, 3 PVDM slots, 2 AIMS, and Cisco IOS IP Base Software

Cisco 2800 Series Security Bundles

CISCO2801-SEC/K9	2801 Security Bundle, Adv Security, 64F/256D
CISCO2801-HSEC/K9	2801 Bundle w/ AIM-VPN/SSL-2, Adv. IP Serv, 10 SSL lic, 64F/256D
CISCO2811-SEC/K9	2811 Security Bundle, Adv Security, 64F/256D
CISCO2811-HSEC/K9	2811 Bundle w/ AIM-VPN/SSL-2, Adv. IP Serv, 10 SSL lic, 64F/256D
CISCO2821-SEC/K9	2821 Security Bundle, Adv Security, 64F/256D
CISCO2821-HSEC/K9	2821 Bundle w/ AIM-VPN/SSL-2, Adv. IP Serv, 10 SSL lic, 64F/256D
CISCO2851-SEC/K9	2851 Security Bundle, Adv Security, 64F/256D
CISCO2851-HSEC/K9	2851 Bundle w/ AIM-VPN/SSL-2, Adv. IP Serv, 10 SSL lic, 64F/256D

Cisco 2800 Series Voice Bundles

CISCO2801-V/K9	2801 Voice Bundle, PVDM2-8, SP Serv, 64F/256D
CISCO2801-CCME/K9	2801 Voice Bundle w/ PVDM2-8, FL-CCME-24, SP Serv, 64F/256D
CISCO2801-SRST/K9	2801 Voice Bundle w/ PVDM2-8, FL-SRST-24, SP Serv, 64F/256D
CISCO2811-V/K9	2811 Voice Bundle, PVDM2-16, SP Serv, 64F/256D
CISCO2811-CCME/K9	2811 Voice Bundle w/ PVDM2-16, FL-CCME-36, SP Serv, 64F/256D
CISCO2811-SRST/K9	2811 Voice Bundle w/ PVDM2-16, FL-SRST-36, SP Serv, 64F/256D
CISCO2821-V/K9	2821 Voice Bundle, PVDM2-32, SP Serv, 64F/256D

CISCO2821-CCME/K9	2821 Voice Bundle w/ PVDM2-32,FL-CCME-48,SP Serv,64F/256D
CISCO2821-SRST/K9	2821 Voice Bundle w/ PVDM2-32,FL-SRST-48,SP Serv,64F/256D
CISCO2851-V/K9	2851 Voice Bundle,PVDM2-48,SP Serv,64F/256D
CISCO2851-CCME/K9	2851 Voice Bundle w/ PVDM2-48,FL-CCME-96,SP Serv,64F/256D
CISCO2851-SRST/K9	2851 Voice Bundle w/ PVDM2-48,FL-SRST-96,SP Serv,64F/256D

Cisco 2800 Series Secure Voice Bundles

C2801-VSEC-CCME/K9	2801 VSEC Bundle w/PVDM2-8,FL-CCME-24,Adv IP Serv,64F/256D
C2801-VSEC-SRST/K9	2801 VSEC Bundle w/PVDM2-8,FL-SRST-24,Adv IP Serv,64F/256D
C2811-VSEC-CCME/K9	2811 VSEC Bundle w/PVDM2-16,FL-CCME-36,Adv IP Serv,64F/256D
C2811-VSEC-SRST/K9	2811 VSEC Bundle w/PVDM2-16,FL-SRST-36,Adv IP Serv,64F/256D
C2821-VSEC-CCME/K9	2821 VSEC Bundle w/PVDM2-32,FL-CCME-48,Adv IP Serv,64F/256D
C2821-VSEC-SRST/K9	2821 VSEC Bundle w/PVDM2-32,FL-SRST-48,Adv IP Serv,64F/256D
C2851-VSEC-CCME/K9	2851 VSEC Bundle w/PVDM2-48,FL-CCME-96,Adv IP Serv,64F/256D
C2851-VSEC-SRST/K9	2851 VSEC Bundle w/PVDM2-48,FL-SRST-96,Adv IP Serv,64F/256D
C2801-VSEC/K9	2801 Voice Security Bundle,PVDM2-8,Adv IP Serv,64F/256D
C2811-VSEC/K9	2811 Voice Security Bundle,PVDM2-16,Adv IP Serv,64F/256D
C2821-VSEC/K9	2821 Voice Security Bundle,PVDM2-32,Adv IP Serv,64F/256D
C2851-VSEC/K9	2851 Voice Security Bundle,PVDM2-48,Adv IP Serv,64F/256D
CISCO2801-V3PN/K9	2801 V3PN bdl,AIM-VPN,PVDM2-8,FL-CCME-24,Adv IPServ,64F/256D
CISCO2811-V3PN/K9	2811 V3PN bdl w/AIM-VPN,PVDM2-16,CCME-36,AdvIPServ,64F/256D
CISCO2821-V3PN/K9	2821 V3PN bdl w/AIM-VPN,PVDM2-32,CCME-48,AdvIPServ,64F/256D
CISCO2851-V3PN/K9	2851 V3PN bdl w/AIM-VPN,PVDM2-48,CCME-72,AdvIPServ,64F/256D
CISCO-FIPS-KIT=	Tamper Proof for 80/18/28/38/72/73 Routers and ASA
C2821-BIAB-24/K9	CISCO2821-AC-IP,24-port switch,AIM-CUE,PVDM2-32,AISK9

Cisco 2851/2800 WAN Optimization Bundles

CISCO2821-AA/K9	Cisco 2821 Basic Wan Optimization Bundle
C2811-WAE-302/K9	2811, NME-WAE-302-K9,WAAS Trans,IPBase,64F/256D
CISCO2811-WAE/K9	2811, NME-WAE-502-K9,WAAS Trans,IPBase,64F/256D
CISCO2821-WAE/K9	2821, NME-WAE-502/K9,WAAS Trans,IPBase,128F/256D
CISCO2851-WAE/K9	2851, NME-WAE-502-K9,WAAS Trans,IPBase,128F/256D
CISCO2821-SAA/K9	Cisco 2821 Secure Wan Optimization Bundle
CISCO2851-AA/K9	Cisco 2851 Basic Wan Optimization Bundle
CISCO2851-SAA/K9	Cisco 2851 Secure Wan Optimization Bundle

Ethernet Switching Network Modules

NME-16ES-1G	16-port EtherSwitch Service Mod 10/100T + 1 GE,IP Base
NME-16ES-1G-P	16-port EtherSwitch Service Mod 10/100T POE + 1 GE,IP Base
NME-X-23ES-1G	23-port EtherSwitch Service Mod 10/100T + 1 GE POE, IP Base
NME-X-23ES-1G-P	23-port EtherSwitch Service Mod 10/100T POE + 1 GE POE, IP Base
NM-16ESW	16-port 10/100 Cisco EtherSwitchE Network Module
NM-16ESW-1G1G	16-port 10/100 Cisco EtherSwitch Network Module with 1 Gigabit Ethernet (1000BASE-T) port
NM-16ESW-PWR	16-port 10/100 Cisco EtherSwitch Network Module with in-line power support
NM-16ESW-PWR-1G1G	16-port 10/100 Cisco EtherSwitch Network Module with in-line power and Gigabit Ethernet
NME-XD-24ES-1S-P	24-port EtherSwitch Service Mod 10/100 w/ POE + 1 SFP + Stackwise interfaces
NME-XD-48ES-2S-P	48-port EtherSwitch Service Mod 10/100 w/ POE + 2 SFP

Serial Connectivity Network Modules

NM-1T3/E3	1-port clear-channel T3/E3 network module
NM-1HSSI	1-port High-Speed Serial Interface (HSSI) network module
NM-4A/S	4-port asynchronous/synchronous serial network module
NM-8A/S	8-port asynchronous/synchronous serial network module
NM-16A/S	16-port asynchronous/synchronous serial network module
NM-16A	16-port asynchronous serial network module
NM-32A	32-port asynchronous serial network module

Channelized T1/E1 and ISDN Network Modules

NM-1CE1T1-PRI	1-port Channelized E1/T1/ISDN PRI network module
NM-2CE1T1-PRI	2-port Channelized E1/T1/ISDN PRI network module
NM-4B-S/T	4-port ISDN BRI network module (S/T interface)
NM-4B-U	4-port ISDN BRI network module with integrated Network Termination 1 (NT1) (U interface)
NM-8B-S/T	8-port ISDN BRI network module (S/T interface)
NM-8B-U	8-port ISDN BRI network module with integrated NT1 (U interface)

ATM Network Modules

NM-1A-T3	1-port DS-3 ATM network module
NM-1A-E3	1-port E3 ATM network module

Analog Dialup and Remote Access Network Modules

NM-8AM-V2	8-port analog modem network module with v.92
NM-16AM-V2	16-port analog modem network module with v.92

Voice Network Modules and Accessories

NM-HD-1V	1-slot IP Communications voice and fax network module
NM-HD-2V	2-slot IP Communications voice and fax network module
NM-HD-2VE	2-slot IP Communications enhanced voice and fax network module
NM-HDA-4FXS	High-density analog voice and fax network module with 4 FXS slots
NM-HDV2	IP Communications high-density voice and fax network module
NM-HDV2-1T1/E1	1-port T1/E1 IP Communications high-density voice and fax network module
NM-HDV2-2T1/E1	2-port T1/E1 IP Communications high-density voice and fax network module
NM-HDV=	High-density voice and fax network module (single VIC slot)

Application Network Modules

NME-WAE-302-K9	WAAS Network Module For 2800, 3800 ISR - 512 MB RAM, 80GB HDD
NME-WAE-502-K9	WAAS Network Module For 2800, 3800 ISR - 1GB RAM, 120GB HDD
NM-CE-BP-40G-K9	Cisco Content Engine Network Module, basic performance, 40-GB IDE hard disk
NM-CE-BP-80G-K9	Cisco Content Engine Network Module, basic performance, 80-GB IDE hard disk
NM-CIDS-K9	Cisco IDS Network Module
NM-CUE	Cisco Unity Express Voice-Mail Network Module; price includes 12-mailbox license
NM-CUE-EC	Cisco Unity Express Network Module Enhanced Capacity; price includes 12-mailbox license
NM-NAM	Cisco series Network Analysis Module Enhanced Network Module
NME-NAM-80S	Cisco Branch Routers Series Network Analysis Module
NM-AON-K9	Cisco 2800/3800 Series AON Enhanced Network Module
NM-AIR-WLC6-K9	6-AP WLAN Controller NM for Cisco 2800 and 3800 Series
NME-AIR-WLC8-K9	8-AP WLAN Controller NM for Cisco 2800 and 3800 Series
NME-AIR-WLC12-K9	12-AP WLAN Controller NM for Cisco 2800 and 3800 Series

Wireless LAN Controller Modules

NM-AIR-WLC6-K9	WLAN Controller Module for up to 6 lightweight access points 2800/3800 ISR
NME-AIR-WLC8-K9	WLAN Controller Module for up to 8 lightweight access points 2800/3800 ISR
NME-AIR-WLC12-K9	WLAN Controller Module for up to 12 lightweight access points 2800/3800 ISR

Circuit Emulation Service over IP (CESoIP) Network Modules

NM-CEM-4SER	4-port serial CESoIP network module
NM-CEM-4T1E1	4-port T1/E1 CESoIP network module

Extension Voice Modules

EVM-HD-8FXS/DID	High-density voice and fax extension module - 8 FXS or DID
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Ethernet Switching HWICs

HWIC-4ESW	4-port single-wide 10/100BASE-T Ethernet switch HWIC
HWIC-D-9ESW	9-port double-wide 10/100BASE-T Ethernet switch HWIC
HWIC-4ESW-POE	4-port Ethernet switch HWIC, PoE capable
HWIC-D-9-ESW-POE	9-port Ethernet switch HWIC, PoE capable

Ethernet HWICs

HWIC-1FE	1-port 10/100 Routed Port HWIC
HWIC-1GE-SFP	GigE High Speed WIC With One SFP Slot

Wireless LAN HWICs and Accessories

HWIC-3G-GSM	3GWWAN HWIC-HSDPA/UMTS/EDGE/GPRS-850/900/1800/1900/2100MHz
HWIC-3G-CDMA-V	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz
HWIC-3G-CDMA-S	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz
HWIC-AP-G-A	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for the Americas (FCC configuration)
HWIC-AP-G-E	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for Europe (ETSI configuration)
HWIC-AP-G-J	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for Japan (TELEC configuration)
HWIC-AP-AG-B	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for the Americas (FCC configuration)
HWIC-AP-AG-E	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Europe (ETSI configuration)
HWIC-AP-AG-P	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Japan (TELEC 5 GHz)
HWIC-AP-AG-N	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Japan (5Ghz Australia/NZ)
AIR-ANT4941	2.2 dBi Cisco Aironet 2.4 GHz Swivel mount dipole
AIR-ANT5959	2 dBi Cisco Aironet 2.4 GHz Diversity omni-directional ceiling mount patch
AIR-ANT1728	5.2dBi Cisco Aironet 2.4 GHz Omni-directional ceiling mount
AIR-ANTM2050D-R	(2.2 dBi Cisco 2.4 Ghz and 5.0 dBi 5 GHz) Dual band Swivel mount dipole antenna
AIR-ANTM5560P-R	(5.5 dBi Cisco 2.4 Ghz and 6.0 dBi 5 GHz) Dual band Wall-mount patch antenna
AIR-ANTM4050V-R	(4.0 dBi Cisco 2.4 Ghz and 5.0 dBi 5 GHz) Dual band Diversity Ceiling-mount omnidirectional antenna
AIR-CAB020LL-R	20-ft. (6m) low-loss cable with RP-TNC connectors
AIR-CAB050LL-R	50-ft. (15m) low-loss cable with RP-TNC connectors
AIR-CAB100ULL-R	100 ft. (30m) ultra-low-loss cable with RP-TNC connectors
AIR-CAB150ULL-R	150-ft. (46m) ultra-low-loss cable with RP-TNC connector
NM-1VSAT-GILAT	Cisco IP VSAT Satellite WAN Network Module

Wireless WAN HWIC

HWIC-3G-GSM	3G WirelessWAN HWIC supporting GPRS/EDGE/UMTS/HSDPA (Global SKU)
HWIC-3G-CDMA-V	3G WirelessWAN HWIC supporting 1xRTT, EVDO Rev A/Rel 0 (Verizon SKU)
HWIC-3G-CDMA-S	3G WirelessWAN HWIC supporting 1xRTT, EVDO Rev A/Rel 0 (Sprint SKU)

Serial WICs and HWICs

HWIC-4T	4-Port Serial HWIC
HWIC-4A/S	4-Port Async/Sync Serial HWIC
HWIC-8A/S-232	8-Port Async/Sync Serial HWIC, EIA-232
HWIC-8A	8-Port Async HWIC
HWIC-16A	16-Port Async HWIC
WIC-1T	1-port high-speed serial WIC
WIC-2T	2-port high-speed serial WIC
WIC-2A/S	2-port asynchronous/synchronous serial WIC

CSU/DSU WICs

WIC-1DSU-T1-V2	1-port T1/Fractional-T1 DSU/CSU WIC
WIC-1DSU-56K4	1-port 4-wire 56-/64-kbps CSU/DSU WIC

ISDN BRI WICs and HWICs

WIC-1B-U-V2	1-port ISDN BRI with integrated NT1 (U interface)
WIC-1B-S/T-V3	1-port ISDN BRI with S/T interface
HWIC-ADSL-B/ST	HWIC w/ADSLoPOTS and ISDN BRI ports
HWIC-ADSLI-B/ST	HWIC w/ADSLoISDN and ISDN BRI ports

DSL WICs and HWICs

WIC-1ADSL	1-port asymmetric DSL (ADSL) over basic-telephone-service WIC
WIC-1ADSL-DG	1-port ADSL over basic telephone service with dying-gasp WIC
WIC-1ADSL-I-DG	1-port ADSL over ISDN with dying-gasp WIC
HWIC-1ADSL	1-port ADSLoPOTS HWIC
HWIC-1ADSLI	1-port ADSLoISDN HWIC
HWIC-ADSL-B/ST	HWIC w/ADSLoPOTS and ISDN BRI ports
HWIC-ADSLI-B/ST	HWIC w/ADSLoISDN and ISDN BRI ports
HWIC-1ADSL-M	1 port ADSLoPOTS HWIC with Annex M mode capability
WIC-1SHDSL-V3	1-port G.shdsl WIC (two or four wire)
HWIC-2SHDSL	2-pair G.SHDSL HWIC
HWIC-4SHDSL	4-pair G.SHDSL HWIC w IMA
HWIC-CABLE-D-2	1-Port DOCSIS 2.0 Cable Modem HWIC
HWIC-CABLE-E/J-2	1-Port Euro DOCSIS 2.0 Cable HWIC

Analog Modem WICs

WIC-1AM-V2	1-port analog modem WIC
WIC-2AM-V2	2-port analog modem WIC

T1, E1, and G.703 Multiflex Trunk Voice Cards and WICs

VWIC2-1MFT-T1/E1=	1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1 spare
VWIC2-2MFT-T1/E1=	2-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1 spare
VWIC2-1MFT-G703=	1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - G.703 spare
VWIC2-2MFT-G703=	2-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - G.703 spare
EC-MFT-32=	32-Channel Multiflex Trunk Dedicated ECAN Module
EC-MFT-64=	64-Channel Multiflex Trunk Dedicated ECAN Module
VWIC-1MFT-T1	1-port RJ-48 multiflex trunk - T1
VWIC-2MFT-T1	2-port RJ-48 multiflex trunk - T1
VWIC-2MFT-T1-DI	2-port RJ-48 multiflex trunk - T1 with drop and insert
VWIC-1MFT-E1	1-port RJ-48 multiflex trunk - E1
VWIC-2MFT-E1	2-Port RJ-48 multiflex trunk - E1
VWIC-2MFT-E1-DI	2-Port RJ-48 multiflex trunk - E1 with drop and insert
VWIC-1MFT-G703	1-port RJ-48 multiflex trunk - G.703
VWIC-2MFT-G703	2-port RJ-48 multiflex trunk - G.703
VWIC-2T1/E1-RAN	2-Port RJ-48 T1/E1 Protection Switching RAN/ITP/SLT WIC

VICs

VIC-2DID	2-port DID voice and fax interface card
VIC-4FXS/DID	4-port FXS or DID VIC
VIC2-2FXS	2-port VIC - FXS
VIC2-2FXO	2-port VIC - FXO (universal)
VIC2-4FXO	4-port VIC - FXO (universal)
VIC2-2E/M	2-port VIC - E&M
VIC2-2BRI-NT/TE	2-port VIC card - BRI (NT and TE)

AIMs

AIM-ATM	High-performance ATM SAR AIM
AIM-ATM-4T1=	AIM-ATM with 2 VWIC-2MFT-T1 spare
AIM-ATM-4E1	AIM-ATM with 2 VWIC-2MFT-E1
AIM-CUE	Cisco Unity Express Voice-Mail AIM
AIM-VPN/EPII-PLUS	Enhanced-performance DES, 3DES, AES, and compression VPN encryption AIM
AIM-VPN/SSL-2	DES/3DES/AES/SSL VPN Encryption/Compression

PVDM Support on Motherboard Slots

PVDM2-8	8-channel fax and voice DSP module
PVDM2-16	16-channel fax and voice DSP module
PVDM2-32	32-channel fax and voice DSP module
PVDM2-48	48-channel fax and voice DSP module
PVDM2-64	64-channel fax and voice DSP module
PVDM2-12DM	12 Port Digital Modem Module
PVDM2-24DM	24 Port Digital Modem Module
PVDM2-36DM	36 Port Digital Modem Module

1. This is only a small subset of all parts available via URL listed under “For More Information”. Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco 2800 Series Web site: <http://www.cisco.com/go/2800>

Cisco 3800 Series

The Cisco 3800 Series is the flagship platform in a portfolio of next-generation routers that integrate advanced technologies, adaptive services, wireless support, and secure enterprise communications.

These new routers offer the performance and reliable packet delivery necessary to efficiently deliver mission-critical network capabilities, including real-time applications such as VoIP, business video, and collaborative communications. Architectural enhancements include embedded security processing, significant platform performance and memory improvements, and new high-density interface types. Wireless LAN Controller Modules are a component of the Cisco Unified Wireless Network.

**When to Sell****Sell this Product When a Customer Needs These Features****Cisco 3825**

- Medium- to large-sized branch offices and businesses with the ability to support concurrent data, security, voice, and advanced services at wire speed up to ½ T3/E3 rates
- Two onboard 10/100/1000, 4 HWIC slots and one SFP port
- Low density (up to 88 ports), integrated 10/100 switching; up to 360W Cisco Inline Power or PoE
- Integrated onboard security acceleration for IPSec for improved IPSec performance and an integral part of Cisco Self Defending Network, which enable network device protection, threat defense, secure connectivity, and endpoint protection and control
- Up to four integrated PVDMs slots, industry-leading call processing and autoattendant solutions, and high-density voice cards and modules that speed IP Communications and give customers a choice of telephony interface devices

Cisco 3845

Same features as above plus:

- Medium- to large-sized branch offices and businesses providing the highest performance and densities for concurrent data, security, voice, and advanced services with the ability to run at wire-speed up to T3/E3
- 4 Enhanced Network Module slots
- Up to 112 ports integrated 10/100 switching; up to 360W redundant Cisco in-line power or PoE
- Higher availability and resiliency, such as redundant system and inline power, online insertion and removable (OIR) components, and field replaceable components such as the cpu motherboard and fan assembly

Key Features

- Cisco IOS Software Firewall—Stateful, application-based filtering (context-based access control); Per-user authentication and authorization; Real-time alerts; Transparent firewall; IPv6 firewall
- VPN—Data Encryption Standard (DES), Triple DES (3DES), and Advanced Encryption Standard (AES) 128, 192, and 256 cryptology support; Embedded hardware-based VPN acceleration on the motherboard; Support for optional higher-performance AIM-based security acceleration with Layer 3 compression; Support for up to 1800 tunnels with VPN Module; Cisco Easy VPN remote and server support; DMVPN
- Multiprotocol Label Switching (MPLS) VPN support—Specific provider edge capabilities; Virtual routing and forwarding (VRF) firewall and VRF IPSec
- Onboard USB 1.1 port(s)—Future support for secure token and Flash memory

- IPS—More than 700 IPS signatures supported in Cisco IOS Software, with the ability to load and enable selected IPS signatures; More than 1000 IPS signatures with optional high-performance IDS Network Module
- URL filtering—Onboard with an optional content-engine network module; Local URL filtering in Cisco IOS Software based on external server
- Cisco Router and SDM—Comes standard on all Cisco 3800 Series routers
- IP phone support—Optional integrated power supply with inline power; 802.3af support—360W of inline power
- Analog voice support—Up to 88 FXS and 56 FXO ports; Digital voice support—Up to 720 calls; Packet voice digital signal processor (DSP) module (PVDM) slots on motherboard—4 PVDM slots on motherboard; Local conferencing and transcoding;
- Cisco CME—Up to 240 phones; SRST—Up to 720 phones
- Voice mail—Up to a 120 mailboxes using Cisco Unity Express network module
- Voice interfaces—FXS, FXO, Direct Inward Dial (DID), E&M, Centralized Automated Message Accounting (CAMA), BRI, T1, E1, J1, Primary Rate Interface (PRI), Q.SIG, channel associated signaling (CAS)

Specifications

Feature	Cisco 3825	Cisco 3845
Network Module Slots	2	4
Advanced Integration Module (AIM) Slots	2	Same As Cisco 3825
High speed WAN Interface Card (HWIC) Slots	4	Same As Cisco 3825
10/100/1000 GE Ports	2	Same As Cisco 3825
Small Form Pluggable (SFP) ports	1	Same As Cisco 3825
Onboard PVDM slots	4	Same As Cisco 3825
WAN Network Modules	Yes	Same As Cisco 3825
ATM AIM Modules	Yes	Same As Cisco 3825
Voice/Fax Network Modules	Yes	Same As Cisco 3825
WAN Interface Card (WIC) Modules	Yes	Same As Cisco 3825
Multiflex Voice/WAN Interface Cards	Yes	Same As Cisco 3825
Voice Interface Card (VIC) Modules	Yes	Same As Cisco 3825
Modem Modules	Yes	Same As Cisco 3825
EtherSwitch Modules	Yes, HWIC and Network Modules	Same As Cisco 3825
Performance with Services	Up to 14 T1/E1s	Up to T3
VPN/Security Advanced Integration Modules (AIM)	Yes, AIM-VPN/EPH-PLUS	Yes, AIM-VPN/EPH-PLUS
Content Engine Network Modules	Yes	Same As Cisco 3825
Flash Memory (External)	64 MB (default) -256 MB (optional)	Same As Cisco 3825
DRAM Memory	256 MB (default) - 1024 MB (max)	Same As Cisco 3825
Power Supply	AC, AC +POE, DC, external redundant AC	AC, DC, internal redundant AC + POE
Dimensions (H x W x D)	3.5 x 17.1 x 14.7 in.	5.25 x 17.25 x 16 in.

Selected Part Numbers and Ordering Information¹

Cisco 3800 Series Integrated Services Routers

CISCO3825	Cisco 3825 Integrated Services Router with 2 Gigabit Ethernet, 1 SFP, 2 NME, 4 HWIC, 2 AIM, Cisco IOS IP Base software, and AC power
CISCO3825-AC-IP	Cisco 3825 Integrated Services Router with 2 Gigabit Ethernet, 1 SFP, 2 NME, 4 HWIC, 2 AIM, Cisco IOS IP Base software, AC Power, and PoE
CISCO3825-DC	Cisco 3825 Integrated Services Router with 2 Gigabit Ethernet, 1 SFP, 2 NME, 4 HWIC, 2 AIM, Cisco IOS IP Base software, and DC power
CISCO3845	Cisco 3845 Integrated Services Router with 2 Gigabit Ethernet, 1 SFP, 4 NME, 4 HWIC, 2 AIM, Cisco IOS IP Base software, and AC power
CISCO3845-AC-IP	Cisco 3845 Integrated Services Router with 2 Gigabit Ethernet, 1 SFP, 4 NME, 4 HWIC, 2 AIM, Cisco IOS IP Base software, AC Power, and PoE
CISCO3845-DC	Cisco 3845 Integrated Services Router with 2 Gigabit Ethernet, 1 SFP, 2 NME, 4 HWIC, 2 AIM, Cisco IOS IP Base software, and DC power

Cisco 3800 Series WAN Optimization Bundles

CISCO3825-AA/K9	Cisco 3825 WAN Optimization Bundle, NM-CE-BP-80G-K9, AIM-COMPR4, IP Base, 64MB Flash, 256MB DRAM
CISCO3825-SAA/K9	Cisco 3825 WAN Optimization Bundle, NM-CE-BP-80G-K9, AIM-COMPR4, AIM-VPN/EP11-PLUS, IP Base, 64MB Flash, 256MB DRAM
CISCO3845-AA/K9	Cisco 3845 WAN Optimization Bundle, NM-CE-BP-80G-K9, AIM-COMPR4, IP Base, 64MB Flash, 256MB DRAM
CISCO3845-SAA/K9	Cisco 3845 WAN Optimization Bundle, NM-CE-BP-80G-K9, AIM-COMPR4, AIM-VPN/HP11-PLUS, IP Base, 64MB Flash, 256MB DRAM

Cisco 3800 Series Secure Voice Bundles

CISCO3845-V3PN/K9	Cisco 3845 V3PN Bundle with IOS Advanced IP Services, PVDM2-64, AIM-VPN/HP11-PLUS, FL-CCME (240 users), 64 MB Flash/256 MB DRAM
CISCO3825-V3PN/K9	Cisco 3825 V3PN Bundle with IOS Advanced IP Services, PVDM2-64, AIM-VPN/EP11-PLUS, FL-CCME (168 users), 128 MB Flash/512 MB DRAM
C3845-VSEC/K9	3845 Voice Security Bundle, PVDM2-64, Adv IP Services, 128MB Flash/512MB DRAM
C3825-VSEC/K9	3825 Voice Security Bundle, PVDM2-64, Adv IP Services, 128MB Flash/512MB DRAM
C3845-VSEC-CCME/K9	3845 VSEC Bundle, PVDM2-64, FL-CCME-240, Adv IP Services, 128MB Flash/512MB DRAM
C3825-VSEC-CCME/K9	3825 VSEC Bundle, PVDM2-64, FL-CCME-168, Adv IP Services, 128MB Flash/512MB DRAM
C3845-VSEC-SRST/K9	3845 VSEC Bundle, PVDM2-64, FL-SRST-240, Adv IP Services, 128MB Flash/512MB DRAM
C3825-VSEC-SRST/K9	3825 VSEC Bundle, PVDM2-64, FL-SRST-168, Adv IP Services, 128MB Flash/512MB DRAM
C3825-BIAB-24/K9	CISCO3825-AC-IP, 24-port EtherSwitch, AIM CUE, PVDM2-64, CCME-SMALL, SCUE-LIC-25CME, Adv IP Services, 128MB Flash/512MB DRAM
C3845-BIAB-24/K9	CISCO3845-AC-IP, 24-port EtherSwitch, NM CUE, PVDM2-64, CCME-SMALL, SCUE-LIC-25CME, Adv IP Services, 128MB Flash/512MB DRAM
C3845-BIAB-48/K9	CISCO3845-AC-IP, 48-port EtherSwitch, NM CUE, PVDM2-64, CCME-MEDIUM, SCUE-LIC-50CME, Adv IP Services, 128MB Flash/512MB DRAM

Cisco 3800 Series Security Bundles

CISCO3845-SEC/K9	Cisco 3845 Security Bundle with IOS Advanced Security, 64MB Flash/256 MB DRAM
CISCO3845-HSEC/K9	Cisco 3845 Security Bundle with IOS Advanced IP Services, AIM-VPN/HP11 Plus, 128MB Flash/512 MB DRAM
CISCO3825-SEC/K9	Cisco 3825 Security Bundle with IOS Advanced Security, 64MB Flash/256MB DRAM
CISCO3825-HSEC/K9	Cisco 3825 Security Bundle with IOS Advanced IP Services, AIM-VPN/EP11 Plus, 128MB Flash/512 MB DRAM

Cisco 3800 Series Voice Bundles

CISCO3845-V/K9	Cisco 3845 Voice Bundle with IOS SP Services, PVDM2-64, 64 MB Flash/256 MB DRAM
CISCO3845-SRST/K9	Cisco 3845 Voice Bundle with IOS SP Services, PVDM2-64, FL-SRST (240 users), 64 MB Flash/256 MB DRAM
CISCO3845-CCME/K9	Cisco 3845 Voice Bundle with IOS SP Services, PVDM2-64, FL-CCME (240 users), 64 MB Flash/256 MB DRAM
CISCO3825-V/K9	Cisco 3825 Voice Bundle with IOS SP Services, PVDM2-64, 64 MB Flash/256 MB DRAM
CISCO3825-SRST/K9	Cisco 3825 Voice Bundle with IOS SP Services, PVDM2-64, FL-SRST (168 users), 64 MB Flash/256 MB DRAM
CISCO3825-CCME/K9	Cisco 3825 Voice Bundle with IOS SP Services, PVDM2-64, FL-CCME (168 users), 64 MB Flash/256 MB DRAM

Cisco 3800 Series WAAS Optimization Bundles

CISCO3825-WAE/K9	3825, NME-WAE-502/K9, WAAS Trans, IPBase, 128F/512D
CISCO3845-WAE/K9	3845, NME-WAE-502/K9, WAAS Trans, IPBase, 128F/512D

Ethernet Switching Network Modules

NME-16ES-1G-P=	EtherSwitch Service Mod 16 10/100T POE + 1 GE, IP Base
NME-X-23ES-1G-P=	EtherSwitch Service Mod 23 10/100T POE + 1 GE POE, IP Base
NM-16ESW	16-port 10/100 Cisco EtherSwitch Network Module
NM-16ESW-1GIG	16-port 10/100 Cisco EtherSwitch Network Module with 1 Gigabit Ethernet (1000BASE-T) port
NM-16ESW-PWR	16-port 10/100 Cisco EtherSwitch Network Module with in-line power support
NM-16ESW-PWR-1GIG	16-port 10/100 Cisco EtherSwitch Network Module with in-line power and Gigabit Ethernet
NMD-36ESW	36-port 10/100 Cisco EtherSwitch High-Density Services Module (HDSM)
NMD-36ESW-2GIG	36-port 10/100 Cisco EtherSwitch HDSM with 1 Gigabit Ethernet (1000BASE-T) port
NMD-36ESW-PWR	36-port 10/100 Cisco EtherSwitch HDSM with in-line power support
NMD-36ESW-PWR-2G	36-port 10/100 Cisco EtherSwitch HDSM with in-line power and Gigabit Ethernet
NME-XD-24ES-1S-P	24 10/100 w/ POE + 1 SFP + Stackwise interfaces
NME-XD-48ES-2S-P	48 10/100 w/ POE + 2 SFP

Serial Connectivity Network Modules

NM-1T3/E3	1-port clear-channel T3/E3 network module
NM-1HSSI	1-port High-Speed Serial Interface (HSSI) network module
NM-4A/S	4-port asynchronous/synchronous serial network module
NM-8A/S	8-port asynchronous/synchronous serial network module
NM-16A/S	16-port asynchronous/synchronous serial network module
NM-16A	16-port asynchronous serial network module
NM-32A	32-port asynchronous serial network module
NM-4T	4-Port Serial Network Module

Channelized T1/E1 and ISDN Network Modules

NM-1CE1T1-PRI	1-port Channelized E1/T1/ISDN PRI network module
NM-2CE1T1-PRI	2-port Channelized E1/T1/ISDN PRI network module
NM-4B-S/T	4-port ISDN BRI network module (S/T interface)
NM-4B-U	4-port ISDN BRI network module with integrated Network Termination 1 (NT1) (U interface)
NM-8B-S/T	8-port ISDN BRI network module (S/T interface)
NM-8B-U	8-port ISDN BRI network module with integrated NT1 (U interface)

ATM Network Modules and Transceiver Modules

NM-1A-T3	1-port DS-3 ATM network module
NM-1A-E3	1-port E3 ATM network module
NM-1A-OC3-POM	ATM OC3 module with single POM (SFP) slot
SFP-OC3-MM	OC3/STM1 SFP, Multi-mode fiber
SFP-OC3-IR1	OC3/STM1 SFP, Single-mode fiber, Intermediate Reach
SFP-OC3-LR1	OC3/STM1 SFP, Single-mode fiber, Long Reach (40km)

Analog Dialup and Remote Access Network Modules

NM-8AM-V2	8-port analog modem network module with v.92
NM-16AM-V2	16-port analog modem network module with v.92

Digital Modem and Remote Access Network Modules

NM-6DM	6 Port Digital Modem Network Module
NM-12DM	12 Port Digital Modem Network Module
NM-18DM	18 Port Digital Modem Network Module
NM-24DM	24 Port Digital Modem Network Module
NM-30DM	30 Port Digital Modem Network Module
MICA-6MOD=	6 Port Digital Modem Module, Spare

LAN/WAN Mixed Media Network Modules

NM-1FE1R2W	1 10/100 Ethernet 1 4/16 Token-Ring 2 WAN Card Slot NM
NM-1FE2W-V2	1 10/100 Ethernet with 2 WAN Card Slot Network Module
NM-1FE2W-V2	2 10/100 Ethernet with 2 WAN Card Slot Network Module
NM-1GE	1 Port Gigabit Ethernet Network Module

Voice Network Modules and Accessories

NM-HD-1V	1-slot IP Communications voice and fax network module
NM-HD-2V	2-slot IP Communications voice and fax network module
NM-HD-2VE	2-slot IP Communications enhanced voice and fax network module
NM-HDA-4FXS	High-density analog voice and fax network module with 4 FXS slots
NM-HDV2	IP Communications high-density voice and fax network module
NM-HDV2-1T1/E1	1-port T1/E1 IP Communications high-density voice and fax network module
NM-HDV2-2T1/E1	2-port T1/E1 IP Communications high-density voice and fax network module
NM-HDV=	High-density voice and fax network module (single VIC slot)
NM-HDV-1T1-12	1-port 12-channel T1 voice and fax network module
NM-HDV-1T1-24	1-port 24-channel T1 voice and fax network module
NM-HDV-1T1-24E	Single-port 24-enhanced-channel T1 voice and fax network module
NM-HDV-2T1-48	2-port 48-channel T1 voice and fax network module
NM-HDV-1E1-12	1-port 12-channel E1 voice and fax network module
NM-HDV-1E1-30	1-port 30-channel E1 voice and fax network module
NM-HDV-1E1-30E	1-port 30-enhanced-channel E1 voice and fax network module
NM-HDV-2E1-60	2-port 60-channel E1 voice and fax network module
NM-HDV-1J1-30	1-port 30-channel J1 high-density voice network module
NM-HDV-1J1-30E	1-port 30-enhanced-channel J1 high-density voice network module
NM-HDV-FARM-C36	36-port transcoding and conferencing DSP farm
NM-HDV-FARM-C54	54-port transcoding and conferencing DSP farm
NM-HDV-FARM-C90	90-port transcoding and conferencing DSP farm

Application Network Modules

NME-WAE-302/K9	WAAS ISR NME (ONLY TRANSPORT SUPPORTED) 512MB RAM, 80GB HDD
NME-WAE-502/K9	WAAS Network Module For 2800, 3800 ISR - 1GB RAM, 120GB HDD
NM-CE-BP-40G-K9	Cisco Content Engine Network Module, basic performance, 40-GB IDE hard disk
NM-CE-BP-80G-K9	Cisco Content Engine Network Module, basic performance, 80-GB IDE hard disk
NM-CIDS-K9	Cisco IDS Network Module
NM-CUE	Cisco Unity Express Voice-Mail Network Module; price includes 12-mailbox license
NM-CUE-EC	Cisco Unity Express Network Module Enhanced Capacity; price includes 12-mailbox license
NM-NAM	Cisco series Network Analysis Module Network Module
NM-AON-K9	Cisco 2600/2800/3700/3800 Series AON Network Module
NM-AIR-WLC6-K9	WLAN controller Network Module for 28/38xx ISR

Wireless LAN Controller Modules

NM-AIR-WLC6-K9	WLAN Controller Module for up to 6 lightweight access points 2800/3800 ISR
NME-AIR-WLC8-K9	WLAN Controller Module for up to 8 lightweight access points 2800/3800 ISR
NME-AIR-WLC12-K9	WLAN Controller Module for up to 12 lightweight access points 2800/3800 ISR

Circuit Emulation Service over IP (CESoIP) Network Modules

NM-CEM-4SER	4-port serial CESoIP network module
NM-CEM-4T1E1	4-port T1/E1 CESoIP network module

Extension Voice Modules

EVM-HD-8FXS/DID	High-density voice and fax extension module - 8 FXS or DID
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Ethernet Switching HWICs

HWIC-4ESW	4-port single-wide 10/100BASE-T Ethernet switch HWIC
HWIC-D-9ESW	9-port double-wide 10/100BASE-T Ethernet switch HWIC
HWIC-4ESW-POE	4-port Ethernet switch HWIC, PoE capable
HWIC-D-9-ESW-POE	9-port Ethernet switch HWIC, PoE capable

Gigabit Ethernet HWICs

HWIC-1GE-SFP	GigE High Speed WIC With One SFP Slot
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Wireless WAN HWICs and Accessories

HWIC-3G-CDMA-S	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz
HWIC-CDMA-CDMA-V	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz
HWIC-3G-GSM	3GWWAN HWIC-HSDPA/UMTS/EDGE/GPRS-850/900/1800/1900/2100MHz
HWIC-AP-G-A	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for the Americas (FCC configuration)
HWIC-AP-G-E	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for Europe (ETSI configuration)
HWIC-AP-G-J	Cisco 802.11 B/G Access Point High Speed Wan Interface Card for Japan (TELEC configuration)
HWIC-AP-AG-A	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for the Americas (FCC configuration)
HWIC-AP-AG-E	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Europe (ETSI configuration)
HWIC-AP-AG-J	Cisco 802.11 A/B/G Access Point High Speed Wan Interface Card for Japan (TELEC configuration)
AIR-ANT4941	2.2 dBi Cisco Aironet 2.4 GHz Swivel mount dipole
AIR-ANT5959	2 dBi Cisco Aironet 2.4 GHz Diversity omni-directional ceiling mount patch
AIR-ANT1728	5.2dBi Cisco Aironet 2.4 GHz Omni-directional ceiling mount
AIR-ANTM2050D-R	(2.2 dBi Cisco 2.4 Ghz and 5.0 dBi 5 GHz) Dual band Swivel mount dipole antenna
AIR-ANTM5560P-R	(5.5 dBi Cisco 2.4 Ghz and 6.0 dBi 5 GHz) Dual band Wall-mount patch antenna
AIR-ANTM4050V-R	(4.0 dBi Cisco 2.4 Ghz and 5.0 dBi 5 GHz) Dual band Diversity Ceiling-mount omnidirectional antenna
AIR-CAB020LL-R	20-ft. (6m) low-loss cable with RP-TNC connectors
AIR-CAB050LL-R	50-ft. (15m) low-loss cable with RP-TNC connectors
AIR-CAB100ULL-R	100 ft. (30m) ultra-low-loss cable with RP-TNC connectors
AIR-CAB150ULL-R	150-ft. (46m) ultra-low-loss cable with RP-TNC connector

Serial WICs and HWICs

HWIC-4T	4-Port Serial HWIC
HWIC-4A/S	4-Port Async/Sync Serial HWIC
HWIC-8A/S-232	8-Port Async/Sync Serial HWIC, EIA-232
HWIC-8A	8-Port Async HWIC
HWIC-16A	16-Port Async HWIC
WIC-1T	1-port high-speed serial WIC
WIC-2T	2-port high-speed serial WIC
WIC-2A/S	2-port asynchronous/synchronous serial WIC

CSU/DSU WICs

WIC-1DSU-T1-V2	1-port T1/Fractional-T1 DSU/CSU WIC
WIC-1DSU-56K4	1-port 4-wire 56-/64-kbps CSU/DSU WIC

ISDN BRI WICs

WIC-1B-U-V2	1-port ISDN BRI with integrated NT1 (U interface)
WIC-1B-S/T-V3	1-port ISDN BRI with S/T interface

DSL and Cable WICs and HWICs

WIC-1ADSL	1-port asymmetric DSL (ADSL) over basic-telephone-service WIC
WIC-1ADSL-DG	1-port ADSL over basic telephone service with dying-gasp WIC
WIC-1ADSL-I-DG	1-port ADSL over ISDN with dying-gasp WIC
HWIC-1ADSL	1-port ADSLoPOTS HWIC
HWIC-1ADSLI	1-port ADSLoISDN HWIC
WIC-1SHDSL-V3	1-port G.shdsl WIC (two or four wire)
HWIC-2SHDSL	2-pair G.SHDSL HWIC
HWIC-4SHDSL	4-pair G.SHDSL HWIC w IMA
HWIC-CABLE-D-2	1-Port DOCSIS 2.0 Cable HWIC
HWIC-CABLE-E/J-2	1-Port Euro DOCSIS 2.0 Cable HWIC

Analog Modem WICs

WIC-1AM	1-port analog modem WIC
WIC-2AM	2-port analog modem WIC

T1, E1, and G.703 Multiflex Trunk Voice Cards and WICs

VWIC2-1MFT-T1/E1=	1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1 spare
VWIC2-2MFT-T1/E1=	2-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1 spare
VWIC2-1MFT-G703=	1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - G.703 spare
VWIC2-2MFT-G703=	2-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - G.703 spare
EC-MFT-32=	32-Channel Multiflex Trunk Dedicated ECAN Module spare
EC-MFT-64=	64-Channel Multiflex Trunk Dedicated ECAN Module spare
VWIC-1MFT-T1	1-port RJ-48 multiflex trunk - T1
VWIC-2MFT-T1	2-port RJ-48 multiflex trunk - T1
VWIC-2MFT-T1-DI	2-port RJ-48 multiflex trunk - T1 with drop and insert
VWIC-1MFT-E1	1-port RJ-48 multiflex trunk - E1
VWIC-1MFT-G703	1-port RJ-48 multiflex trunk - G.703
VWIC-2MFT-E1	2-port RJ-48 multiflex trunk - E1
VWIC-2MFT-E1-DI	2-port RJ-48 multiflex trunk - E1 with drop and insert
VWIC-2MFT-G703	2-port RJ-48 multiflex trunk - G.703

VICs

VIC-2DID	2-port DID voice and fax interface card
VIC-1J1	1-port digital VIC (J1) for Japan
VIC-4FXS/DID	4-port FXS or DID VIC
VIC2-2FXS	2-port VIC - FXS
VIC2-2FXO	2-port VIC - FXO (universal)
VIC2-4FXO	4-port VIC - FXO (universal)
VIC2-2E/M	2-port VIC - E&M
VIC2-2BRI-NT/TE	2-port VIC card - BRI (NT and TE)

AIMs

AIM-ATM	High-performance ATM SAR AIM
AIM-ATM-1T1=	High Performance ATM AIM/T1 Bundle AIM-ATM spare
AIM-ATM-1E1=	High Performance ATM AIM/E1 Bundle AIM-ATM spare
AIM-ATM-4T1=	AIM-ATM with 2 VWIC-2MFT-T1 spare
AIM-ATM-4E1	AIM-ATM with 2 VWIC-2MFT-E1
AIM-COMPR4	Data-compression AIM
AIM-CUE	Cisco Unity Express Voice-Mail AIM
AIM-VPN/EPII-PLUS	Enhanced-performance DES, 3DES, AES, and compression VPN encryption AIM
AIM-VPN/SSL-3	DES/3DES/AES/SSL VPN Encryption/Compression

PVDM Support on Motherboard Slots

PVDM2-8	8-channel fax and voice DSP module
PVDM2-16	16-channel fax and voice DSP module
PVDM2-32	32-channel fax and voice DSP module
PVDM2-48	48-channel fax and voice DSP module
PVDM2-64	64-channel fax and voice DSP module

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the Distribution Product Reference Guide at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco 3800 Series Web site: <http://www.cisco.com/go/3800>

Cisco 7000 Series Port Adapter Compatibility Matrix

Port Adapter	7201	7204VXR	7206VXR	7301	7304 Carrier Card	7600
ATM Port Adapters						
PA-A3-8T1IMA 8-port ATM inverse Mux T1 port adapter	•	•	•	•	•	•
PA-A3-8E1IMA: 8-port ATM inverse Mux E1 (120 ohm) port adapter	•	•	•	•	•	•
PA-A3-0C3-MM/SML: 1-port ATM-enhanced OC-3c/STM1 multimode intermediate and long range port adapter	•	•	•	•	•	• (Native)
PA-A3-T3/E3: 1-port ATM-enhanced DS3 port adapter	•	•	•	•	•	• (Native)
PA-A6-0C3MM/SML: 1-port ATM OC-3 multimode, intermediate and long range port adapter	•	•	•	•	• Support in 12.2(31)SB	•
PA-A6-T3 or E3: 1-port ATM DS3 (E3) port adapter	•	•	•	•	• Support in 12.2(31)SB	•
Ethernet Port Adapters						
PA-2FE-TX/FX: 2-port Fast Ethernet 100Base-TX/FX port adapter	•	•	•	•	•	•
PA-4E: 4-port Ethernet 10Base-T port adapter	—	•	•	•	•	—
PA-8E: 8-port Ethernet 10Base-T port adapter	•	•	•	•	•	—
PA-GE: Gigabit Ethernet port adapter	•	•	•	—	•	—
Serial Port Adapters						
PA-4E1G/75: 4-port E1 G.703 serial port adapter (120 ohm/balanced)	•	•	•	•	•	—
PA-4E1G/120: 4-port E1 G.703 serial port adapter (120 ohm/balanced)	•	•	•	•	•	•
PA-4T+: 4-port serial port adapter, enhanced	•	•	•	•	•	• (Native)
PA-8T-XXX: 8-port serial, 232, V.35, X.21 port adapter	—	•	•	•	•	• (Native)
High-speed Serial Port Adapters						
PA-H: 1-port HSSI port adapter	•	•	•	•	•	• (Native)
PA-2H: 2-port HSSI port adapter	•	•	•	•	•	• (Native)
PA-E3: 1-port E3 serial port adapter with E3 DSU	•	•	•	•	•	• (Native)
PA-2E3: 2-port E3 serial port adapter with E3 DSUs	•	•	•	•	•	• (Native)
PA-T3+: 1-port T3 serial port adapter, enhanced	•	•	•	•	•	• (Native)
PA-2T3+: 2-port T3 serial port adapter, enhanced	—	•	•	•	•	• (Native)
Multichannel Serial Port Adapters						
PA-4B-U	—	•	•	•	—	—
PA-8B-S/T: 8-port BRI port adapter, S/T interface	—	•	•	•	—	—
PA-MC-2T(1): 2-port multichannel T1 port adapter with integrated CSU/DSUs	•	•	•	•	•	—
PA-MC-4T(1): 4-port multichannel T1 port adapter with integrated CSU/DSUs	•	•	•	•	•	•
PA-MC-8TE1+: 8-port multichannel T1/E1 8PRI port adapter	•	•	•	•	•	•
PA-MC-2E1/120: 2-port multichannel E1 port adapter with G.703 120 ohm interface	•	•	•	•	•	•
PA-MC-E3: 1-port multichannel E3 port adapter	•	•	•	•	•	•

Port Adapter	7201	7204VXR	7206VXR	7301	7304 Carrier Card	7600
PA-MC-T3: 1-port multichannel T3 port adapter	•	•	•	•	•	•
PA-MC-2T3+: 2-port multichannel T3 port adapter	•	•	•	•	•	•
PA-MC-STM-1MM: 1-port multichannel STM-1 multimode port adapter	•	•	•	•	•	•
PA-MC-STM-1SMI: 1-port multichannel STM-1 single mode port adapter	•	•	•	•	•	•
PA-MCX-2TE(1): 2-port MIX-enabled multichannel T1/E1 with CSU/DSU	•	•	•	—	—	—
PA-MCX-4TE(1): 4-port MIX-enabled multichannel T1/E1 with CSU/DSU	•	•	•	—	—	—
PA-MCX-8TE(1): 8-port MIX-enabled multichannel T1/E1 with CSU/DSU	•	•	•	—	—	—
SONET Port Adapters						
PA-POS-2OC3: 2-port OC-3/STM1 POS port adapter	•	•	•	•	•	•
PA-POS-1OC3: 1 Port Packet/SONET OC3/STM1 port adapter	•	•	•	•	•	•
Other Port Adapters and Service Adapters						
PA-4C-E: 1-port-enhanced ESCON channel port adapter	—	•	•	—	—	—
C7200-VSA: VPN Services Adapter for the Cisco 7200—	—	•	•	•	—	—
SA-VAM2+: VPN acceleration module 2+	• (12.4 (6th release)T)	•	•	—	—	—
PA-VXC-2TE1+: 2-port T1/E1 high-capacity enhanced-voice PA	—	•	•	•	—	—
PA-VXB-2TE1+: 2-port T1/E1 moderate-capacity enhanced-voice PA	—	•	•	•	—	—
PA-VXA-1TE1-24+: 1-port T1/E1 digital voice port adapter with 24 channels	—	•	•	—	—	—
PA-VXA-1TE1-30+: 1-port T1/E1 digital voice port adapter with 30 channels	—	•	•	—	—	—
PA-4R-DTR: 4-port dedicated Token Ring, 4/16 Mbps, — HDX/FDX	—	•	•	—	—	—

Cisco 7200 Series

The Cisco 7200 Series routers—Cisco 7201, Cisco 7204VXR, and Cisco 7206VXR—deliver an exceptional price to performance ratio, versatility, and feature-richness in a compact form factor. The Cisco 7200 is an optimized integrated services aggregation OC3/GE edge router ideal as a WAN aggregator for the Service Provider (small POP) or enterprise edge, an enterprise WAN gateway, a high-end managed CPE, for IBM data center connectivity or as a small core router. With the hardware supported IPsec encryption module as well as robust firewall and VRF aware IPSec/NAT support, the Cisco 7200 series is ideal for integrated security service. The Cisco 7200 series also supports Gatekeeper and IP-to-IP Gateway functionality. Modularity combined with a low initial price point guarantees both investment protection and maximum return on investment, allowing the customer to upgrade and/or redeploy their Cisco 7200 series as their network needs change.



When to Sell

Sell This Product

Cisco 7201

When a Customer Needs These Features

- 1-slot chassis
- Built-in NPE-G2 with up to 2 Mpps
- WAN Services aggregation (e.g. MPLS PE traffic segmentation)
- Integrated Edge Services (e.g. Integrated Security)
- IP-to-IP Gateway - highest capacity of call support in Cisco router portfolio
- MIX-enabled bus for data/voice/video applications

Cisco 7204VXR

- 4-slot chassis
- Modular processor: 225 kpps, 400 kpps, 1 Mpps, or 2 Mpps (NPE-225, NPE-400, NPE-G1, NPE-G2)
- 1.8 Gbps backplane (with NPE-G2)
- WAN Services aggregation (e.g. MPLS PE traffic segmentation)
- Integrated Edge Services (e.g. Integrated Security)
- IP-to-IP Gateway - highest capacity of call support in Cisco router portfolio
- MIX-enabled bus for data/voice/video applications

Cisco 7206VXR

- 6-slot chassis
- Modular processor: 400 kpps, 1 Mpps, or 2 Mpps (NPE-400, NPE-G1, NPE-G2)
- 1.8 Gbps backplane (with NPE-G2)
- WAN Services aggregation (e.g. MPLS PE traffic segmentation)
- IP-to-IP Gateway - highest capacity of call support in Cisco router portfolio
- MIX-enabled bus for data/voice/video applications

Key Features

- Compact Form Factor—Up to six port adapters in a fully modular 3-RU form factor; seven port adapters with a port adapter jacket card; choice of a 1-slot, 1-RU chassis with 2 Mpps of power built in
- Modularity—A choice of 1-, 4-, and 6-slot chassis, a selection of processors providing up to 2 Mpps, an extensive range of LAN and WAN interfaces with up to 48 ports per chassis, and single or dual power supplies; Chassis expandable to an additional slot by utilizing I/O Slot as a port/service adapter slot through the use of the port adapter jacket card
- Exceptional Value—Offers superior price to performance ratio supporting high-speed media and high-density configurations with up to 2 million packets per second processing at a competitive price point
- Feature Rich—Full support for Cisco IOS® software and enhancements for high-performance network services; offers industry-leading network services, including: MPLS, Route Reflector, broadband aggregation, Intelligent Services Gateway, QoS, Service Management router, IBM data center, Storage Area Network application, security, and voice/video/data support, Gatekeeper and IP-to-IP Gateway (Session Border Controller) support
- Connectivity/Flexibility—Provides high port density and an extensive range of LAN and WAN media
- Common port adapters—Port adapters are shared with the Cisco 7300 and 7600 series (with FlexWAN Module), which simplifies sparing and protects customer investment in interfaces

Competitive Products

• Juniper: M7i, M10i

• Redback: SMS-1800, SmartEdge 100

Specifications

Feature	Cisco 7201	Cisco 7204VXR	Cisco 7206VXR
Fixed Ports	4 GEs	0	0
Expansion Slots	1	4 (5 with port adapter jacket card ¹ utilizing the I/O slot)	6 (7 with port adapter jacket card ¹ utilizing the I/O slot)
WAN Port Adapters	DS0 to OC-3	DS0 to OC-3	Same as 7204VXR

Cisco 7200 Series1-27

Feature	Cisco 7201	Cisco 7204VXR	Cisco 7206VXR
Forwarding Rate	Up to 2 Mpps	Up to 1 Mpps	Same as 7204VXR
Backplane Capacity	N/A	1.8 Gbps (with NPE-G2)	Same as 7204VXR
Flash (Compact) Memory	256 MB (default and max.)	For NPE-G2: 256 MB (default and max.) For NPE-G1: 64 MB (expandable to 256 MB)	Same as 7204VXR
Flash (PCMCIA) Memory (I/O Controller Card required for NPE-225, NPE-400)	N/A	64 MB (expandable to 128 MB)	Same as 7204VXR
System DRAM Memory	1 GB (default); 2 GB (max.)	NPE-G2: 1 GB (default); 2 GB (max.) NPE-G1: 256 MB (default); 1 GB (max.) NPE-225: 128 MB (default); 256 MB (max.) NPE-400: 256 MB (default); 512 MB (max.)	Same as 7204VXR
Minimum Cisco IOS Release	12.4(4)XD7 12.2(31)SB4	NPE-G2: 12.4(4)XD (based on 2nd release of 12.4T), fifth release of 12.4T (and later), fourth release of 12.2SB (and later), first release of 12.5 mainline (and later) NPE-G1: 12.2(4)BW, 12.2(15)B, 12.2(14)S, 12.2(14)SU, 12.2(15)T, 12.1(14)E, 12.3(1), 12.3(2)T, 12.0(28)S, 12.3(1a)B (and later) NPE-400: 12.0(14)S, 12.1(3)E, 12.1(5)T, 12.2(1)T, 12.2(1) (and later) NPE-225: 12.0(5)XE6, 12.0(7)XE1, 12.0(9)S, 12.1(1) (and later)	Same as 7204VXR
Internal Power Supply	Dual AC or Dual DC – By default	AC or DC, dual option	Same as 7204VXR
Redundant Power Supply	Yes, Dual AC or DC by default	Yes, for AC or DC	Same as 7204VXR
Chassis Height	1-RU	3-RU	Same as 7204VXR
Rack Mountable	Yes	Yes, up to 16 per rack	Same as 7204VXR
Dimensions (H x W x D)	1.75 x 19 x 16.9 in.	5.25 x 16.8 x 17 in.	Same as 7204VXR

1. Jacket Card part number: C7200-JC-PA

Selected Part Numbers and Ordering Information¹

Cisco 7200 Series Chassis

CISCO7201	Cisco 7201 router, with built-in dual power supplies, NPE-G2, and IP Software
CISCO7204VXR	Cisco 7204VXR, 4-slot chassis, 1 AC Supply w/IP Software
CISCO7206VXR	Cisco 7206VXR, 6-slot chassis, 1 AC Supply w/IP Software

Cisco 7200 Series Processors

NPE-G2=	Cisco 7200 Network Processing Engine NPE-G2 including 1 GB default DRAM and 256 MB default flash memory, Spare
NPE-G1=	Cisco 7200 Network Processing Engine NPE-G1 including 256 MB default DRAM and 64 MB default flash memory, Spare
NPE-400=	Cisco 7200 Network Processing Engine NPE-400 including 256 MB default DRAM and 64 MB default flash memory, Spare

Cisco 7200 Series Input/Output Controller

C7200-I/O-2FE/E=	Cisco 7200 Input/Output Controller with Dual 10/100 Ethernet, Spare
C7200-I/O-GE+E=	Cisco 7200 Input/Output Controller with GE and Ethernet, Spare
C7200-I/O=	Cisco 7200 Input/Output Controller, Spare

Cisco 7201 Memory

MEM-7201-1GB=	Cisco 7201 Series 1GB Memory Spare
MEM-7201-2GB=	Cisco 7201 Series 2GB Memory Spare
MEM-7201-FLD256=	Cisco 7201 Compact Flash Disk, 256 MB Spare

Cisco 7200 Memory: NPE-G2

MEM-NPE-G2-2GB=	2 GB memory module for the Cisco 7200 Network Processing Engine NPE-G2, Spare
MEM-NPE-G2-FLD256=	256 MB Compact Flash for the Cisco 7200 Network Processing Engine NPE-G2, Spare

Cisco 7200 Processor Memory: NPE-G1

MEM-NPE-G1-256MB=	Two 128MB memory modules (256MB total) for the Cisco 7200 Network Processing Engine NPE-G1, Spare
MEM-NPE-G1-512MB=	Two 256MB memory modules (512MB total) for the Cisco 7200 Network Processing Engine NPE-G1, Spare
MEM-NPE-G1-1GB=	Two 512MB memory modules (1GB total) for the Cisco 7200 Network Processing Engine NPE-G1, Spare
MEM-NPE-G1-FLD64=	64MB Compact Flash Disk for the Cisco 7200 Network Processing Engine NPE-G1, Spare
MEM-NPE-G1-FLD128=	128MB Compact Flash Disk for the Cisco 7200 Network Processing Engine NPE-G1, Spare
MEM-NPE-G1-FLD256=	256MB Compact Flash Disk for the Cisco 7200 Network Processing Engine NPE-G1, Spare

Cisco 7200 Memory: NPE-400

MEM-NPE-400-256MB= 256MB Memory for NPE-400 in 7200 Series, Spare

MEM-NPE-400-512MB= 512MB Memory for NPE-400 in 7200 Series, Spare

Cisco 7200 Memory: NPE-225

MEM-SD-NPE-128MB= 128MB Memory Upgrade Kit for NPE-300/NPE-225/NPE-175, Spare

Cisco 7200 NPE Bundles

7206VXR/NPE-G2 7206VXR with NPE-G2 includes 3GigE/FE/E Ports and IP SW

7206VXR/NPE-G1 7206VXR with NPE-G1 includes 3GigE/FE/E Ports and IP SW

C7206VXR/400/GE 7206VXR with NPE-400 and GE+E I/O controller

C7206VXR/400/2FE 7206VXR with NPE-400 and I/O Controller with 2 FE/E Ports

Cisco 7200 MPLS/IPv6 Bundles

7206-IPV6/ADSVK/K9 Cisco 7206VXR IPv6/Adv. Ent. Services with NPE-G2

Cisco 7200 Security Bundles

7206VXR62/VSAPVKN9 7206VXR Chassis, NPE-G2, C7200-VSA Security Module, 256 MB Flash, 1GB DRAM, IOS ADVANCED SECURITY, SDM

7206VXR62/2+VPKN9 7206VXR Chassis, NPE-G2, SA-VAM2+ Security Module, Port Adapter Jacket Card, 256 MB Flash, 1 GB DRAM, IOS ADVANCED SECURITY, SDM

7206VXR61/2+VPKN9 7206VXR, NPE-G1, SA-VAM2+, AC pwr, 512 sys mem, SDM

7206VXR400/2+VPKN9 7206VXR, NPE-400, SA-VAM2+, AC pwr, 512 sys mem, SDM

Cisco 7200 Voice Bundles

C7206VXR/VOICE/400 7206VXR w/ NPE-400, Voice PA (PA-VXC-2TE1+), I/O contrl w/ 2FE

Cisco 7200 Broadband Bundles

CISC07206-BB Cisco 7206 Broadband Bundle NPE-G1 includes 3GigE/FE/E Ports

Cisco 7200 CPE Bundle

7204VXR/CPE 7204VXR w/ NPE-225, 2 FE I/O, choice of specified WAN PA

Cisco 7200 Channel Bundles

CISC07204VXR-CH Cisco 7204VXR, 4-slot chassis, 1 AC Supply w/ IP Software

CISC07206VXR-CH Cisco 7206VXR, 6-slot chassis, 1 AC Supply w/ IP Software

Cisco 7200 Series Accessories

RCKMNT-7201= Rack Mount kit for Cisco 7201 Spare

ACS-7200-RMK= Cisco 7200 Rackmount Kit and Cable Management Bracket

IO-CONTROLR-BLANK= 7200 IO Controller Blank for use with NPE-G1 or NPE-G2

MAS-7200-CBLMGMT= Cisco NPE-G1/NPE-G2 Cable Management Bracket

MAS-7200PSCOVER= Cisco 7200 Redundant Power Supply Cover

MAS-72KBLANK= Cisco 7200 Series Blank Card Carrier

MAS-72KSLOTDIV= Cisco 7200 Series Port Adapter Divider (Spare)

PKG-7200= Cisco 7200 Spare System Packaging Material

C7200-PKG-JC= 7200VXR Jacket Card Packaging, Spare

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco 7200 Series Web site: <http://www.cisco.com/go/7200>

Cisco 7300 Series

The Cisco 7300 Series Routers are optimized for flexible, high performance IP/MPLS services at the network-, WAN-, and Broadband-edge, where service providers and enterprises link together. The Cisco 7304 Series Router is ideally applied as a high-end CPE or as an Internet Gateway router. Designed for network high availability and multi-protocol support, it supports the broad set of existing Cisco 7000 Series Port Adapters with the Cisco 7304 Port Adapter Carrier Card while also supporting the new Shared Port Adapters with the Cisco 7304 Multiservice Carrier Card (MSC). The Cisco 7301 Series Router is targeted at principal application areas within a Service provider network in a compact single rack form factor coupled with a broad set of interfaces and Cisco IOS software features. It packs high performance of up to 1 Mpps in a space and power efficient form factor that includes a single 7000 Series port adapter slot, and 3 on-board Gigabit Ethernet (copper or optical)/Fast Ethernet ports.



When to Sell

Sell This Product

Cisco 7301

- Compact, power efficient 1-RU form factor
- Three times the performance increase over the Cisco 7401
- Single 7000 Series Port Adapter Slot

Cisco 7304

- Highly modular price and performance optimized platform, rich in IP services
- High performance connectivity—DS-1 through OC48/STM16 with 3.5 Mpps performance
- Built-in Gigabit Ethernet connectivity
- Support for Shared Port Adapters
- Multiprotocol routing: IP, IPX, AppleTalk, DLSw
- Compact size, high availability and optimal cooling

When a Customer Needs These Features

Key Features

- Cisco 7301—Offers up to 1 Mpps processing performance
 - Pluggable Gigabit Ethernet optics (SFPs); 3 fixed 10/100/1000-Mbps ports (RJ-45 or SFP optics) directly on the processor
 - Full Cisco IOS feature support
 - Up to 1GB of available DRAM; Up to 256MB of removable compact flash memory
 - Front-back airflow and single sided management
- Cisco 7304—Compact modular form factor with 4-RU with four port adapter slots per chassis
 - Targeted toward Broadband aggregation, IPv6 gateway, Managed services, Switching-customer edge (MPLS-CE), Cost-effective route reflector, Enterprise network, Secure Internet gateway, Large-branch-office router, and Network-appliance router principal application areas within a Service provider networks
 - Comes with a choice of 3 route processors: NSE-100, NSE-150 and NPE-G100; NSE-100 and NSE-150 offer PXF-based performance
 - Hardware-accelerated services such as Cisco Express Forwarding (CEF), NetFlow v8, and Turbo ACL
 - Offers up to 3.5 Mpps performance for PXF-accelerated services with the NSE-100, NSE-150 Network Services Forwarding Engine
 - Two Gigabit Ethernet ports per NSE-100; Four On-board Gigabit Ethernet Interfaces per NSE-150; Three Gigabit Ethernet Interfaces per NPE-G100 and offers up to 1Mpps performance
 - System redundancy—optional dual processors and dual AC or DC power supplies increases network availability
 - NSE-150 engine offers unmatched price/performance: Parallel Express Forwarding (PXF) technology delivers hardware-accelerated network services with up to 3.5-Mpps forwarding rate; Improved performance and scalability with 800-MHz microprocessor and 2Gb main memory; High platform port density with up to 4 onboard Gigabit Ethernet ports

Competitive Products

- Cisco 7301—Juniper: ERX310, ERX700; Redback: SE100Cisco

- Cisco 7304—Juniper: M7i, M10i, ERX1400; Huawei: N20-2/4/8; Redback: SE400

Specifications

Feature	Cisco 7301	Cisco 7304
Fixed Ports	Three Gigabit Ethernet ports	NSE-100: 2 Gigabit Ethernet Ports NPE-G100: 3 Gigabit Ethernet Ports NSE-150: 4 Gigabit Ethernet Ports
Expansion Slots	1	4
WAN Interface Range	DS-1 to OC-3	DS-1 to OC-48
Forwarding Rate	Up to 1 Mpps	NSE-100: Up to 3.5 Mpps NSE-150: Up to 3.5Mpps NPE-G100: Up to 1 Mpps
Backplane Capacity	1.2 Gbps	16 Gbps
Flash PCMCIA Memory	64 MB (expandable to 256 MB)	NSE-100: 256 MB NPE-G100: 256 MB NSE-150: 256MB
System DRAM Memory	256 MB (expandable to 1 GB)	NSE-100: 512 MB NPE-G100: 1 GB NSE-150: 2 GB
Min Cisco IOS Release	12.2(11)YZ	NSE-100: 12.2(28)SB NPE-G100: 12.2(28)SB NSE-150: 12.2(31)SB2
Internal Power Supply	AC or DC	Same as 7301
RPS Support	Yes, for AC or DC	Same as 7301
Chassis Height	1-RU	4-RU
Rack Mountable	Yes, up to 40 per rack	Yes, up to 11 per rack
Dimensions (H x W x D)	1.73 x 17.3 x 13.87 in. (4.39 x 43.94 x 35.23 cm.)	7 x 17.2 x 20.5 in. (17.78 x 43.69 x 52.07 cm.)

Selected Part Numbers and Ordering Information¹

Cisco 7304 System

CISCO7304=	Cisco 7300, 4-slot chassis
CISCO7304-CH	Channel bundle: chassis, NSE-100,PWR-AC, MEM512,CFM-254,IOS,FAN
CISCO7304-G100	4-slot chassis, NPE-G100, 1 Power Supply
CISCO7304-G100-CH	Channel bundle:chassis,G100,PWR-AC, MEM-1GB,CFM-256,IOS,FAN
CISCO7304-NSE-150	4-slot chassis, NSE-150, 1 Power Supply, 2GB Memory
CISCO7304CH-NSE150	Channel bundle:chassis,NSE-150,PWR-AC, IOS IP PLUS,FAN

Cisco 7304 Processors

7300-NSE-100=	Cisco 7304 NSE-100 w/512MB SDRAM, 256MB Flash, (2)GE (Spare)
7300-NSE-100/2	Redundant Cisco 7304 NSE-100
7304-NPE-G100=	Cisco 7304 NPE-G100 w/1GB SDRAM, 256MB Flash, (3)GE/FE/E
7304-NPE-G100/2	Redundant 7304 NPE-G100 w/1GB SDRAM, 256MB Flash, (3)GE/FE/E
7300-NSE-150/2	Redundant Cisco 7304 NSE-150 w/2GB SDRAM, 256MB Flsh, (4)GE
7300-NSE-150	Cisco 7304 NSE-150 w/2GB SDRAM, 256MB Flsh, (4)GE
7300-NSE-150=	Cisco 7304 NSE-150 w/2GB SDRAM, 256MB Flsh, (4)GE

Cisco 7304 Power Supplies

7300-PWR-DC=	Cisco 7304 DC Power Supply Spare
7300-PWR-AC=	Cisco 7304 AC Power Supply Spare
7300-PWR/2-DC	Cisco 7304 Redundant DC Power Supply Option
7300-PWR/2-AC	Cisco 7304 Redundant AC Power Supply Option

Cisco 7304 Memory Options

7300-MEM-512=	512MB SDRAM for 7304 NSE-100, spare
7304-MEM-G100-1GB=	1GB SDRAM for NPE-G100, spare

Cisco 7304 Series Compact Flash Options

7304-I/O-CFM-256M=	Cisco 7304 Compact Flash Memory, 256MB
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Cisco 7304 Line Cards

7300-10C48POS-SMI=	1-port OC48 POS line card for Cisco 7304 w/ Single-mode IR
7300-20C3ATM-MM=	2-port OC3 ATM line card for Cisco 7304 w/ Multi-mode
7300-20C3ATM-SMI=	2-port OC3 ATM line card for Cisco 7304 w/ Single-mode IR
SPA-4FE-7304=	4-port 10/100 Fast Ethernet Shared Port Adapter
SPA-2GE-7304=	2-port Half-Height Gigabit Ethernet Shared Port Adapter
7300-10C12ATM=	1xOC12 ATM Line Card

Cisco 7304 Carrier Cards

7300-CC-PA=	7304 Carrier Card for 7200 Series Port Adapters
7304-MSC-100=	Cisco 7304 SPA Modular Services Carrier Card
ATTEN-KIT-PA=	Port Adapter Attenuator Kit, 75 ohm, 3 to 20db

Cisco 7304 Accessories

7300-HALFSLOTBLNK=
7300-4RU/RCKBRKT=
7300-CNTR-SPTUM=

Cisco 7304 Half-slot Blank card, spare
Cisco 7304 Chassis Rackmount Bracket Spare
Cisco 7304 Center Septum Spare

Cisco 7304 Cables

CAB-SC=

MT-RJ to SC Duplex Single Mode Converter Cable

Cisco 7301 System

CISCO7301=
CISCO7301-BB
CISCO7301-BB-8K
CISCO7301BB-1G
CISCO7301BB-8K-1G
CISCO7301/ITP/BUN
CISCO7301-2AC=
CISCO7301-2DC48=
CISCO7301/2+VPNK9

Cisco 7301 chassis, 256MB memory, A/C power, 64MB Flash
Cisco 7301, 512MB Mem, 16K license, 64MB Flash, A/C power, IP/IOS
7301, 256M SDRAM, 8K Sub Broadband Feature License
7301, 1 G Mem, 64MB Fl, AC Pwr, IP IOS, up to 16k sub BBA lic
7301, 1 G Mem, 64MB Fl, AC Pwr, IP IOS, up to 8k sub BBA lic
ITP Signaling Gateway Bundle
Cisco 7301 Chassis with Dual AC Power Supply-Spare
Cisco 7301 Chassis with Dual DC 48 Power Supply Spare
7301, VAM2+, AC pwr, 512 sys mem, SDM

Cisco 7301 Power Supplies

PWR-7301-AC
PWR-7301/2-AC
PWR-7301/2-DC48

Cisco 7301 AC Power Supply Option
Cisco 7301 Dual AC Power Supply Option
Cisco 7301 Dual DC48 Power Supply Option

Cisco 7301 Memory Options

MEM-7301-1GB=
MEM-7301-512MB=
MEM-7301-256MB=

1GB memory upgrade for 7301-Spare
512MB memory upgrade for 7301-Spare
256MB memory upgrade for Cisco 7301-Spare

Cisco 7301 Series Compact Flash Options

MEM-7301-FLD64=
MEM-7301-FLD128=
MEM-7301-FLD256=

Compact Disk Flash for 7301, 64MB option-Spare
Compact Disk Flash for 7301, 128MB option-Spare
Compact Disk Flash for 7301, 256MB Option-Spare

Cisco 7301 Accessories

RCKMNT-7301=

Rack mount kits for 7301

For More Information

See the Cisco 7300 Series Web site: <http://www.cisco.com/go/7300>

Cisco 7600 Series

The Cisco 7600 Series combines optical WAN/MAN networking and high-volume Ethernet aggregation with a focus on the delivery of high-touch services for the IP and MPLS edge. It combines Layer 2 and Layer 3 networking capabilities with a high-bandwidth, high-performance architecture including hardware-based forwarding of MPLS, IPv4, & IPv6. Cisco 7600 series form factors include the Cisco 7604, 7606, 7609, and 7613. Each router can deliver DS0 to OC-192 WAN and nx10-Mbps Ethernet to nx10-Gigabit Ethernet connectivity into service provider edge, metropolitan-area and enterprise networks for a variety of triple-play and aggregation solutions.

**When to Sell****Sell This Product**

Cisco 7603-S

• 3 slot (horizontal) chassis; 240 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

Cisco 7604

• 4 slot (horizontal) chassis; 320 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

Cisco 7606

• 6 slot (horizontal) chassis; 480 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

Cisco 7606-S

• 6 slot (horizontal) chassis; 480 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

Cisco 7609

• 9 slot (vertical) chassis; 720 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

Cisco 7609-S

• 9 slot (vertical) chassis; 720 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

Cisco 7613

• 13 slot (horizontal) chassis; 720 Gbps backplane bandwidth¹; 30 Mpps forwarding rate¹; NEBs Compliant

1. Bandwidth & forwarding rate numbers assume Sup720 Engine

Key Features

- Up to 30 Mpps central or up to 400 Mpps distributed forwarding with hardware accelerated IPv4, IPv6, & MPLS
- Modular and scalable from 32 Gbps to 720 Gbps switch fabric
- One of the widest, most complete ranges of WAN interfaces in the industry, with DS0 to OC-192 connectivity
- Leveraging the Enhanced FlexWAN Module, 7x00 port adapters are shared with the Cisco 7200, 7300, 7400, and 7500 which simplifies sparing and protects customer investment in interfaces
- Support Catalyst 6500 LAN interfaces, offering nx10 Mbps Ethernet to 10 Gbps

Competitive Products

• Alcatel: 7450, 7750

• Juniper: M10i, M20, M40e, M320

Specifications

Feature	Cisco 7603-S	Cisco 7604	Cisco 7606 Cisco 7606-S	Cisco 7609 Cisco 7609-S	Cisco 7613
Fixed Ports	SFP & 10/100/1000 (Sup720)	SFP & 10/100/1000 (Sup720)	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
Expansion Slots	3 (horizontal)	4 (horizontal)	6 (horizontal)	9 (vertical)	13 (horizontal)
WAN Interface Range	DS0 to OC-192	DS0 to OC-192	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
Processor	Supervisor720-3B, Supervisor720-3BXL, Supervisor 32, RSP720-3C-GE, RSP720-3CXL-GE	Supervisor720-3B, Supervisor720-3BXL, Supervisor 32	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
Forwarding Rate	Up to 30 Mpps	Up to 30 Mpps	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
Backplane Capacity	240 Gbps	320 Gbps	480 Gbps	720 Gbps	720 Gbps
Flash PCMCIA Memory	up to 512MB	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
System DRAM Memory	512MB on Sup720-3B, 1G on Sup720-3BXL, 2G on RSP720-3CXL	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
Internal Power Supply	DC	AC or DC	Same as Cisco 7604	Same as Cisco 7604	Same as Cisco 7604
RPS Support	Yes	Yes	Same as Cisco 7603-S	Same as Cisco 7603-S	Same as Cisco 7603-S
Chassis Height	4-RU	5-RU	7-RU	20-RU	18-RU
Rack Mountable	Yes, up to 11 per rack	Yes, up to 9 per rack	Yes, up to 6 per rack	Yes, up to 2 per rack	Yes, up to 2 per rack
Dimensions (H x W x D)	7 x 17.37 x 20.3 in.	8.75 x 17.5 x 21.75 in.	12.25 x 17.37 x 21.75 in.	36.75 x 17.2 x 20.7 in.	33.3 x 17.2 x 18.1 in.

Selected Part Numbers and Ordering Information¹

Cisco 7609 Systems

7609-RSP720C-P	Cisco 7609 Chassis,9-slot,RSP720-3C,PS
7609-RSP720C-R	Cisco 7609 Chassis,9-slot,Redundant System,2RSP720-3C,2PS
7609-RSP720CXL-P	Cisco 7609 Chassis,9-slot,RSP720-3CXL,PS
7609-RSP720CXL-R	Cisco 7609 Chassis,9-slot,Redundant System,2RSP720-3CXL,2PS
7609S-RSP720C-P	Cisco 7609S Chassis,9-slot,RSP720-3C,PS
7609S-RSP720C-R	Cisco 7609S Chassis,9-slot,Redundant System,2RSP720-3C,2PS
7609S-RSP720CXL-P	Cisco 7609S Chassis,9-slot,RSP720-3CXL,PS
7609S-RSP720CXL-R	Cisco 7609S Chassis,9-slot,Redundant System,2RSP720-3CXL,2PS
7609S-S32-10G-B-P	Cisco 7609S Chassis,9-slot,SUP32-2X10GE-3B,PS
7609S-S32-10G-B-R	Cisco 7609S Chassis,9-slot,Redundant SUP32-2X10GE-3B,PS
7609S-S32-8G-B-P	Cisco 7609S Chassis,9-slot,SUP32-8GE-3B,PS
7609S-S32-8G-B-R	Cisco 7609S Chassis,9-slot,Redundant SUP32-8GE-3B,PS
7609S-SUP720B-P	Cisco 7609S Chassis,9-slot,SUP720-3B,PS
7609S-SUP720B-R	Cisco 7609S Chassis,9-slot,Redundant System,2SUP720-3B,2PS
7609S-SUP720BXL-P	Cisco 7609S Chassis,9-slot,SUP720-3BXL,PS
7609S-SUP720BXL-R	Cisco 7609S Chassis,9-slot,Redundant System,2SUP720-3BXL,2PS
CISCO7609	Cisco 7609 Chassis

CISCO7609-S	Cisco 7609-S Chassis
CISCO7609-S=	Cisco 7609-S Chassis
CISCO7609/EHA1	Bundle: Cisco Enhanced Home Agent R1 for 7609 (300k Sessions)
CISCO7609=	Cisco 7609 Chassis Spare
7609-S323B-8G-P	Cisco 7609 Chassis, 9-slot, SUP32-8GE-3B, PS
7609-S323B-8G-R	Cisco 7609 Chassis, 9-slot, Redundant SUP32-8GE-3B and PS
7609-S323B-10G-P	Cisco 7609 Chassis, 9-slot, SUP32-2X10GE-3BB, PS
7609-S323B-10G-R	Cisco 7609 Chassis, 9-slot, Redundant SUP32-2X10GE-3B and PS
7609-SUP720XL-PS	Cisco 7609 9-slot, SUP720-3BXL and PS
7609-2SUP720XL-2PS	Cisco 7609 9-slot, Redundant System, 2 SUP720-3BXL and 2 PS
7609-SUP7203B-PS	Cisco 7609 Chassis, 9-slot, SUP7203B, Power Supply
7609-2SUP7203B-2PS	Cisco 7609 Chassis, 9-slot, 2 SUP7203B, 2 Power Supply
7609-VPN+-K9	Cisco 7609 IPsec VPN System Bundle
Cisco 7606 Systems	
7606-RSP720C-P	Cisco 7606 Chassis, 6-slot, RSP720-3C, PS
7606-RSP720C-R	Cisco 7606 Chassis, 6-slot, Redundant System, 2RSP720-3C, 2PS
7606-RSP720CXL-P	Cisco 7606 Chassis, 6-slot, RSP720-3CXL, PS
7606-RSP720CXL-R	Cisco 7606 Chassis, 6-slot, Redundant System, 2RSP720-3CXL, 2PS
CISCO7606=	Cisco 7606 Chassis
7606-S323B-8G-P	Cisco 7606 Chassis, 6-slot, SUP32-8GE-3B, PS
7606-S323B-8G-R	Cisco 7606 Chassis, 6-slot, Redundant SUP32-8GE-3B and PS
7606-S323B-10G-P	Cisco 7606 Chassis, 6-slot, SUP32-2X10GE-3B, PS
7606-S323B-10G-R	Cisco 7606 Chassis, 6-slot, Redundant SUP32-2X10GE-3B and PS
7606-SUP720XL-PS	Cisco 7606 6-slot, SUP720-3BXL and PS
7606-2SUP720XL-2PS	Cisco 7606 6-slot, Redundant System, 2 SUP720-3BXL and 2 PS
7606-SUP7203B-PS	Cisco 7606 Chassis, 6-slot, SUP7203B, Power Supply
7606-2SUP7203B-2PS	Cisco 7606 Chassis, 6-slot, 2 SUP7203B, 2 Power Supply
CISCO7606=	7606 chassis spare
CISCO7606-CHASS	Cisco 7606 Chassis
7606-VPN+-K9	Cisco 7606 IPsec VPN System Bundle
Cisco 7604 Systems	
CISCO7604	Cisco 7604 Chassis
7604-RSP720C-P	Cisco 7604 Chassis, 4-slot, RSP720-3C, PS
7604-RSP720C-R	Cisco 7604 Chassis, 4-slot, Redundant System, 2RSP720-3C, 2PS
7604-RSP720CXL-P	Cisco 7604 Chassis, 4-slot, RSP720-3CXL, PS
7604-RSP720CXL-R	Cisco 7604 Chassis, 4-slot, Redundant System, 2RSP720-3CXL, 2PS
CISCO7604=	Cisco 7604 Chassis Spare
7604-S323B-8G-P	Cisco 7604 Chassis, 4-slot, SUP32-8GE-3B, PS
7604-S323B-8G-R	Cisco 7604 Chassis, 4-slot, Redundant SUP32-8GE-3B and PS
7604-S323B-10G-P	Cisco 7604 Chassis, 4-slot, SUP32-2X10GE-3B, PS
7604-S323B-10G-R	Cisco 7604 Chassis, 4-slot, Redundant SUP32-2X10GE-3B and PS
7604-SUP7203B-PS	Cisco 7604 Chassis, 4-slot, SUP720-3B, PS
7604-2SUP7203B-2PS	Cisco 7604 Chassis, 4-slot, 2 SUP720-3B, 2 PS
7604-SUP720XL-PS	Cisco 7604 chassis, 4-slot, SUP720-3BXL, PS
7604-2SUP720XL-2PS	Cisco 7604 Chassis, 4-slot, 2SUP720-3BXL, 2 PS
7604-VPN+-K9	Cisco 7604 IPsec VPN System Bundle
Cisco 7603 Systems	
7603S-S32-8G-B-P	Cisco 7603S Chassis, 3-slot, SUP32-2X10GE-3B, PS
7603S-S32-8G-B-P	Cisco 7603S Chassis, 3-slot, SUP32-8GE-3B, PS
CISCO7603-S	Cisco 7603-S Chassis
CISCO7603-S=	Cisco 7603-S Chassis Spare
Cisco 7613 Systems	
7613-RSP720C-P	Cisco 7613 Chassis, 13-slot, RSP720-3C, PS
7613-RSP720C-R	Cisco 7613 Chassis, 13-slot, Redundant System, 2RSP720-3C, 2PS
7613-RSP720CXL-P	Cisco 7613 Chassis, 13-slot, RSP720-3CXL, PS
7613-RSP720CXL-R	Cisco 7613 Chassis, 13-slot, Redundant System, 2RSP720-3CXL, 2PS
CISCO7613	Cisco 7613 Chassis
CISCO7613/EHA1	Bundle: Cisco Enhanced Home Agent R1 for 7613 (600k Sessions)
CISCO7613=	Spare CISC07613 Chassis, equipped with High-speed FAN2
7613-S323B-8G-P	Cisco 7613 Chassis, 13-slot, SUP32-8GE-3B, PS
7613-S323B-8G-R	Cisco 7613 Chassis, 13-slot, Redundant SUP32-8GE-3B and PS
7613-S323B-10G-P	Cisco 7613 Chassis, 13-slot, SUP32-2X10GE-3B, PS
7613-S323B-10G-R	Cisco 7613 Chassis, 13-slot, Redundant SUP32-2X10GE-3B and PS
7613-SUP720XL-PS	Cisco 7613 13-slot, SUP720-3BXL and PS
7613-2SUP720XL-2PS	Cisco 7613 13-slot, Redundant System, 2 SUP720-3BXL and 2 PS
7613-SUP7203B-PS	Cisco 7613 Chassis, 13-slot, SUP7203B, Power Supply
7613-2SUP7203B-2PS	Cisco 7613 Chassis, 13-slot, 2 SUP7203B, 2 Power Supply
7613-VPN+-K9	Cisco 7613 IPsec VPN System Bundle
Cisco 7600 Ethernet Services Modules	

7600-ES20-GE3C
7600-ES20-GE3C=
7600-ES20-GE3CX
7600-ES20-GE3CX=
7600-ES20-10G3C
7600-ES20-10G3C=
7600-ES20-10G3CX=
7600-ES20-10G3CX

Cisco 7600 Shared Port Adapters and SPA Interface

7600-SIP-200
SPA-24CHT1-CE-ATM
SPA-1CHOC3-CE-ATM=
7600-SIP-200=
SPA-24CHT1-CE-ATM=
7600-SIP-400
7600-SIP-400=
7600-SIP-600
7600-SIP-600=
7600-SSC-400
7600-SSC-400=
SPA-2XOC3-ATM
SPA-2XOC3-ATM=
SPA-2XOC3-POS
SPA-2XOC3-POS=
SPA-4XOC3-ATM
SPA-4XOC3-ATM=
SPA-1XCHSTM1/OC3
SPA-1XCHSTM1/OC3=
SPA-1XOC12-POS
SPA-1XOC12-POS=
SPA-1XOC12-ATM
SPA-1XOC12-ATM=
SPA-1XOC48POS/RPR
SPA-1XOC48POS/RPR=
SPA-2XOC48POS/RPR
SPA-2XOC48POS/RPR=
SPA-2X1GE-V2
SPA-2X1GE-V2=
SPA-2XT3/E3
SPA-2XT3/E3=
SPA-4XT3/E3
SPA-4XT3/E3=
SPA-4X1FE-TX-V2
SPA-4X1FE-TX-V2=
SPA-2XCT3/DS0
SPA-2XCT3/DS0=
SPA-4XCT3/DS0
SPA-4XCT3/DS0=
SPA-4XOC48POS/RPR
SPA-4XOC48POS/RPR=
SPA-1XOC48-ATM
SPA-1XOC48-ATM=
SPA-1XTENGE-XFP
SPA-1XTENGE-XFP=
SPA-2X1GE
SPA-2X1GE=
SPA-5X1GE
SPA-5X1GE=
SPA-5X1GE-V2
SPA-5X1GE-V2=
SPA-8XCHT1/E1
SPA-8XCHT1/E1=
SPA-8X1FE-TX-V2
SPA-8X1FE-TX-V2=
SPA-10X1GE
SPA-10X1GE=
SPA-IPSEC-2G
SPA-IPSEC-2G=
SPA-BLANK

7600 ES20 Line Card, 20xGE SFP with DFC 3C
7600 ES20 Line Card, 20xGE SFP with DFC 3C
7600 ES20 Line Card, 20xGE SFP with DFC 3CX
7600 ES20 Line Card, 20xGE SFP with DFC 3CX
7600 ES20 Line Card, 2x10GE XFP with DFC 3C
7600 ES20 Line Card, 2x10GE XFP with DFC 3C
7600 ES20 Line Card, 2x10GE XFP with DFC 3CX
7600 ES20 Line Card, 2x10GE XFP with DFC 3CX

Cisco 7600 Series SPA Interface Processor-200
24 Port Channelized T1/E1/J1 ATM and Circuit Emulation SPA
1 Port Channelized OC3/STM-1 ATM and Circuit Emulation SPA
Cisco 7600 Series SPA Interface Processor-200
24 Port Channelized T1/E1/J1 ATM and Circuit Emulation SPA
Cisco 7600 Series SPA Interface Processor-400
Cisco 7600 Series SPA Interface Processor-400
Cisco 7600 Series SPA Interface Processor-600
Cisco 7600 Series SPA Interface Processor-600
Cisco 7600 / Catalyst 6500 Services SPA Carrier Card
Cisco 7600 / Catalyst 6500 Services SPA Carrier Card
2-port OC-3c/STM-1 ATM Shared Port Adapter
2-port OC-3c/STM-1 ATM Shared Port Adapter
2-port OC3/STM1 POS Shared Port Adapters
2-port OC3/STM1 POS Shared Port Adapters
4-port OC-3c/STM-1 ATM Shared Port Adapter
4-port OC-3c/STM-1 ATM Shared Port Adapter
1-port Channelized STM-1/OC-3c to DS0 Shared Port Adapter
1-port Channelized STM-1/OC-3c to DS0 Shared Port Adapter
1-port OC12/STM4 POS Shared Port Adapters
1-port OC12/STM4 POS Shared Port Adapters
1-port OC-12c/STM-4 ATM Shared Port Adapter
1-port OC-12c/STM-4 ATM Shared Port Adapter
1-port OC48/STM16 POS/RPR Shared Port Adapters
1-port OC48/STM16 POS/RPR Shared Port Adapters
2-port OC48/STM16 POS/RPR Shared Port Adapters
2-port OC48/STM16 POS/RPR Shared Port Adapters
Cisco 2-Port Gigabit Ethernet Shared Port Adapter
Cisco 2-Port Gigabit Ethernet Shared Port Adapter
2-port Clear Channel T3/E3 Shared Port Adapter
2-port Clear Channel T3/E3 Shared Port Adapter
4-port Clear Channel T3/E3 Shared Port Adapter
4-port Clear Channel T3/E3 Shared Port Adapter
Cisco 4-Port Fast Ethernet (TX) Shared Port Adapter
Cisco 4-Port Fast Ethernet (TX) Shared Port Adapter
2-port Channelized T3 to DS0 Shared Port Adapter
2-port Channelized T3 to DS0 Shared Port Adapter
4-port Channelized T3 to DS0 Shared Port Adapter
4-port Channelized T3 to DS0 Shared Port Adapter
4-port OC48/STM16 POS/RPR Shared Port Adapters
4-port OC48/STM16 POS/RPR Shared Port Adapters
Cisco 1-port OC-48c/STM-16 ATM Shared Port Adapter
Cisco 1-port OC-48c/STM-16 ATM Shared Port Adapter
1-port 10Gigabit Ethernet Shared Port Adapter XFP based
1-port 10Gigabit Ethernet Shared Port Adapter XFP based
Cisco 2-port Gigabit Ethernet Shared Port Adapter
Cisco 2-port Gigabit Ethernet Shared Port Adapter
5-port Gigabit Ethernet Shared Port Adapter
5-port Gigabit Ethernet Shared Port Adapter
Cisco 5-Port Gigabit Ethernet Shared Port Adapter
Cisco 5-Port Gigabit Ethernet Shared Port Adapter
8-port Channelized T1/E1 to DS0 Shared Port Adapter
8-port Channelized T1/E1 to DS0 Shared Port Adapter
Cisco 8-Port Fast Ethernet (TX) Shared Port Adapter
Cisco 8-Port Fast Ethernet (TX) Shared Port Adapter
10-port Gigabit Ethernet Shared Port Adapter
10-port Gigabit Ethernet Shared Port Adapter
Cisco 7600 / Catalyst 6500 IPsec VPN SPA - DES/3DES/AES
Cisco 7600 / Catalyst 6500 IPsec VPN SPA - DES/3DES/AES
Blank Cover for regular SPA

SPA-BLANK=
 SPA-OC192POS-LR
 SPA-OC192POS-LR=
 SPA-OC192POS-VSR
 SPA-OC192POS-VSR=
 SPA-OC192POS-XFP
 SPA-OC192POS-XFP=
 SFP-OC48-IR1
 SFP-OC48-LR2
 SFP-OC48-SR

Cisco 7600 Common Equipment

RSP720-3C-GE=
 RSP720-3CXL-GE=
 WS-SUP32-GE-3B
 WS-SUP32-GE-3B=
 WS-SUP32-10GE-3B
 WS-SUP32-10GE-3B=
 WS-SUP720-3B
 WS-SUP720-3B=
 WS-SUP720-3BXL
 WS-SUP720-3BXL=
 WS-F6700-DFC3BXL
 WS-F6700-DFC3BXL=
 WS-F6700-DFC3B
 WS-F6700-DFC3B=
 WS-F6K-DFC3B
 WS-F6K-DFC3B=
 WS-F6K-DFC3BXL
 WS-F6K-DFC3BXL=
 WS-F6K-PFC3B
 WS-F6K-PFC3B=
 WS-F6K-PFC3BXL
 WS-F6700-DFC3C
 WS-F6700-DFC3CXL

Cisco 7600 Optical Services Modules (OSMs)

OSM-1CHOC12/T1-SI
 OSM-1CHOC12/T1-SI=
 OSM-12CT3/T1
 OSM-12CT3/T1=
 OSM-1CHOC12/T3-SI
 OSM-1CHOC12/T3-SI=
 OSM-20C48/1DPT-SS
 OSM-20C48/1DPT-SS=
 OSM-20C48/1DPT-SI
 OSM-20C48/1DPT-SI=
 OSM-20C48/1DPT-SL
 OSM-20C48/1DPT-SL=
 OSM-10C48-POS-SS+
 OSM-10C48-POS-SS+=
 OSM-10C48-POS-SI+
 OSM-10C48-POS-SI+=
 OSM-10C48-POS-SL+
 OSM-10C48-POS-SL+=
 OSM-2+4GE-WAN+
 OSM-2+4GE-WAN+=
 OSM-2+4GE-5PACK+

Cisco 7600 FlexWAN Module*

PA-POS-10C3-2PAK=
 WS-X6582-2PA
 WS-X6582-2PA=
 PA-4T+
 PA-4T+=
 PA-8T-V35
 PA-8T-V35=
 PA-8T-232
 PA-8T-232=
 PA-8T-X21
 PA-8T-X21=
 PA-H

Blank Cover for regular SPA
 1-port OC192/STM64 POS/RPR SMLR Optics
 1-port OC192/STM64 POS/RPR SMLR Optics
 1-port OC192/STM64 POS/RPR VSR Optics
 1-port OC192/STM64 POS/RPR VSR Optics
 1-port OC192/STM64 POS/RPR XFP Optics
 1-port OC192/STM64 POS/RPR XFP Optics
 OC-48c/STM-16c
 OC-48c/STM-16c SFP, Long Reach (80km)
 OC-48c/STM-16c SFP, Short Reach

Cisco 7600 Route Switch Processor 720Gbps fabric, PFC3C, GE
 Cisco 7600 Route Switch Processor 720Gbps fabric, PFC3CXL, GE
 Catalyst 6500 Supervisor 32 with 8 GE uplinks and PFC3B
 Catalyst 6500 Supervisor 32 with 8 GE uplinks and PFC3B
 Cat 6500 Supervisor 32 with 2 ports 10GbE and PFC3B
 Cat 6500 Supervisor 32 with 2 ports 10GbE and PFC3B
 Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B
 Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B
 Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3BXL
 Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3BXL
 Catalyst 6500 Dist Fwd Card- 3BXL, for WS-X67xx
 Catalyst 6500 Dist Fwd Card- 3BXL, for WS-X67xx
 Catalyst 6500 Dist Fwd Card, 256K Routes for WS-X67xx
 Catalyst 6500 Dist Fwd Card, 256K+ Routes for WS-X67xx
 Catalyst 6500 Dist Fwd Card-3B for 65xx, 6816 modules
 Catalyst 6500 Dist Fwd Card-3B for 65xx, 6816 modules
 Catalyst 6500 Dist Fwd Card-3BXL for 65xx, 6816 modules
 Catalyst 6500 Dist Fwd Card-3BXL for 65xx, 6816 modules
 Catalyst 6500 Sup720 Policy Feature Card-3B
 Catalyst 6500 Sup720 Policy Feature Card-3B
 Sup720 PFC-3BXL Plus 2x1Gig Mem
 Catalyst 6500 Dist Fwd Card for WS-X67xx modules
 Catalyst 6500 Dist Fwd Card- 3CXL, for WS-X67xx

1-port CHOC-12/CHSTM-4 (SM-IR), to DS0 and T1/E1, w/4GE
 1-port CHOC-12/CHSTM-4 OSM IR, to DS0 and T1/E1, w/4GE
 12-port Channelized DS-3 to DS-1/DS-0
 12-port Channelized DS-3 to DS-1/DS-0
 1-port CHOC-12/CHSTM-4 OSM, to T3/E3, SM-IR, with 4 GE
 1-port CHOC-12/CHSTM-4 OSM, to T3/E3, SM-IR, with 4 GE
 2-port OC-48/STM-16 POS/DPT OSM, SM-SR, with 4 GE
 2-port OC-48/STM-16 POS/DPT OSM, SM-SR, with 4 GE
 2-port OC-48/STM-16 POS/DPT OSM, SM-IR, with 4 GE
 2-port OC-48/STM-16 POS/DPT OSM, SM-IR, with 4 GE
 2-port OC-48/STM-16 POS/DPT OSM, SM-LR, with 4 GE
 2-port OC-48/STM-16 POS/DPT OSM, SM-LR, with 4 GE
 Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-SR, w/ 4 GE
 Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-SR, w/ 4 GE
 Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-IR, w/ 4 GE
 Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-IR, w/ 4 GE
 Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-LR, w/ 4 GE
 Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-LR, w/ 4 GE
 Enhanced OSM with 4 GE WAN ports and 2 GE LAN ports
 Enhanced OSM with 4 GE WAN ports and 2 GE LAN ports, Spare
 5 Pack of OSM-2+4GE-WAN+

Packet over Sonet OC3 2 PACK Bundle
 Cisco7600/Catalyst6500 Enhanced FlexWAN, Fabric-enabled
 Cisco7600/Catalyst6500 Enhanced FlexWAN, Fabric-enabled
 4 Port Serial Port Adapter, Enhanced
 4-Port Serial Port Adapter, Enhanced
 8-Port Serial, V.35 Port Adapter
 8-Port Serial, V.35 Port Adapter
 8-Port Serial, 232 Port Adapter
 8-Port Serial, 232 Port Adapter
 8-Port Serial, X.21 Port Adapter
 8-Port Serial, X.21 Port Adapter
 1-Port HSSI Port Adapter

PA-H=
PA-H=
PA-2H
PA-2H=
PA-2H=
PA-A3-8E1IMA
PA-A3-8E1IMA=
PA-A3-8T1IMA
PA-A3-8T1IMA=
PA-A6-OC3MM
PA-A6-OC3MM=
PA-A6-OC3SML
PA-A6-OC3SML=
PA-A6-T3
PA-A6-T3=
PA-A6-E3
PA-A6-E3=
PA-E3
PA-E3=
PA-2E3
PA-2E3=
PA-T3+
PA-T3+=
PA-2T3+
PA-2T3+=
PA-MC-E3
PA-MC-E3=
PA-MC-T3
PA-MC-T3=
PA-MC-2E1/120
PA-MC-2E1/120=
PA-MC-2T3+
PA-MC-2T3+=
PA-MC-2T1
PA-MC-2T1=
PA-MC-4T1
PA-MC-4T1=
PA-POS-10C3
PA-POS-10C3=
PA-POS-20C3
PA-POS-20C3=
PA-MC-STM-1MM
PA-MC-STM-1MM=
PA-MC-STM-1SMI
PA-MC-STM-1SMI=
PA-MC-8TE1+
PA-MC-8TE1+=

Cisco 7600 Ethernet Modules

WS-X6548V-GE-TX
WS-X6548V-GE-TX=
WS-X6548-GE-TX
WS-X6548-GE-TX=
WS-X6548-GE-45AF
WS-X6548-GE-45AF=
WS-X6524-100FX-MM
WS-X6524-100FX-MM=
WS-X6408A-GBIC
WS-X6408A-GBIC=
WS-X6196-RJ-21
WS-X6196-RJ-21=
WS-X6196-21AF
WS-X6196-21AF=
WS-X6148X2-RJ-45
WS-X6148X2-RJ-45=
WS-X6148X2-45AF
WS-X6148X2-45AF=
WS-X6148V-GE-TX
WS-X6148V-GE-TX=
WS-X6148-RJ45V

1-Port HSSI Port Adapter, Spare
1-Port HSSI Port Adapter, Spare
2-Port HSSI Port Adapter
2-Port HSSI Port Adapter, Spare
2-Port HSSI Port Adapter, Spare
8-port ATM Inverse Mux E1 (120 Ohm) Port Adapter
8-port ATM Inverse Mux E1 (120 Ohm) Port Adapter, Spare
8-port ATM Inverse Mux T1 Port Adapter
8-port ATM Inverse Mux T1 Port Adapter, Spare
1 Port Enh ATM OC3c/STM1 Multimode Port Adapter
1 Port Enh ATM OC3c/STM1 Multimode Port Adapter
1 Port Enh ATM OC3c/STM1 Singlemode(LR)Port Adapter
1 Port Enh ATM OC3c/STM1 Singlemode(LR)Port Adapter
1Port Enh ATM DS3 Port Adapter
1Port Enh ATM DS3 Port Adapter
1Port Enh ATM E3 Port Adapter
1Port Enh ATM E3 Port Adapter
1 Port E3 Serial Port Adapter with E3 DSU
1 Port E3 Serial Port Adapter with E3 DSU
2 Port E3 Serial Port Adapter with E3 DSUs
2 Port E3 Serial Port Adapter with E3 DSUs
1 Port T3 Serial Port Adapter Enhanced
1 Port T3 Serial Port Adapter Enhanced
2 Port T3 Serial Port Adapter Enhanced
2 Port T3 Serial Port Adapter Enhanced, Spare
1 port Multi-Channel E3 port adapter
1 port Multi-Channel E3 port adapter
1 port multichannel T3 port adapter
1 port multichannel T3 port adapter
2 port multichannel E1 port adapter with G.703 120ohm interf
2 port multichannel E1 port adapter with G.703 120ohm interf
2 port multichannel T3 port adapter
2 port multichannel T3 port adapter
2 port multichannel T1 port adapter with integrated CSU/DSUs
2 port multichannel T1 port adapter with integrated CSU/DSUs
4 port multichannel T1 port adapter with integrated CSU/DSUs
4 port multichannel T1 port adapter with integrated CSU/DSUs
1 Port Packet/SONET OC3c/STM1 Port Adapter
1 Port Packet/SONET OC3c/STM1 Port Adapter
2 Port Packet/SONET OC3c/STM1 Port Adapter
2 Port Packet/SONET OC3c/STM1 Port Adapter
1 port multichannel STM-1multimode port adapter
1 port multichannel STM-1multimode port adapter
1 port multichannel STM-1 single mode port adapter
1 port multichannel STM-1 single mode port adapter
8 port multichannel T1/E1 8PRI port adapter
8 port multichannel T1/E1 8PRI port adapter

Catalyst 6500 48-port fab-enabled 10/100/1000 inline pwr mod
Catalyst 6500 48-port fab-enabled 10/100/1000 inline pwr mod
Catalyst 6500 48-port fabric-enabled 10/100/1000 Module
Catalyst 6500 48-port fabric-enabled 10/100/1000 Module
Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card
Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card
Catalyst 6500 24-port 100FX, MT-RJ, fabric-enabled
Catalyst 6500 24-port 100FX, MT-RJ, fabric-enabled
Catalyst 6000 8-port GE, Enhanced QoS (Req. GBICs)
Catalyst 6000 8-port GE, Enhanced QoS (Req. GBICs)
Catalyst 6500 96-Port 10/100 Upgradable - PoE 802.3af
Catalyst 6500 96-Port 10/100 Upgradable - PoE 802.3af
Cat6500 96-Port, PoE 802.3af 10/100 - RJ-21
Cat6500 96-Port, PoE 802.3af 10/100 - RJ-21
Cat6500 96-Port 10/100 (RJ45), Upgradable to PoE 802.3af
Cat6500 96-Port 10/100 (RJ45), Upgradable to PoE 802.3af
Cat6500 PoE 802.3af 10/100, 96-Port (RJ-45) line card
Cat6500 PoE 802.3af 10/100, 96-Port (RJ-45) line card
Catalyst 6500 48-port 10/100/1000 Inline Power Module, RJ-45
Catalyst 6500 48-port 10/100/1000 Inline Power Module, RJ-45
Catalyst 6500 48-port 10/100 Inline Power, RJ-45

WS-X6148-RJ45V=	Catalyst 6500 48-port 10/100 Inline Power, RJ-45
WS-X6148-RJ-45	Catalyst 6500 48-Port 10/100, Upgradable to Voice, RJ-45
WS-X6148-RJ-45=	Catalyst 6500 48-Port 10/100, Upgradable to Voice, RJ-45
WS-X6148-RJ21V	Catalyst 6500 48-port 10/100 Inline Power Module, RJ-21
WS-X6148-RJ21V=	Catalyst 6500 48-port 10/100 Inline Power Module, RJ-21
WS-X6148-RJ-21	Catalyst 6500 48-Port 10/100 Upgradable to Voice, RJ-21
WS-X6148-RJ-21=	Catalyst 6500 48-Port 10/100 Upgradable to Voice, RJ-21
WS-X6148-GE-TX	Catalyst 6500 48-port 10/100/1000 GE Mod., RJ-45
WS-X6148-GE-TX=	Catalyst 6500 48-port 10/100/1000 GE Mod., RJ-45
WS-X6148-GE-45AF	Cat6500 PoE 802.3af 10/100/1000, 48 port(RJ45)line card
WS-X6148-GE-45AF=	Cat6500 PoE 802.3af 10/100/1000, 48 port (RJ45) line card
WS-X6148-FE-SFP	Catalyst 6500 48 port 100Base-X module (require SFP)
WS-X6148-FE-SFP=	Catalyst 6500 48 port 100Base-X module (require SFP)
WS-X6148A-RJ-45	Catalyst 6500 48-Port 10/100 w/TDR, Upgradable - PoE 802.3af
WS-X6148A-RJ-45=	Catalyst 6500 48-Port 10/100 w/TDR, Upgradable - PoE 802.3af
WS-X6148A-GE-TX	Catalyst 6500 48-port 10/100/1000 w/Jumbo Frame, RJ-45
WS-X6148A-GE-TX=	Catalyst 6500 48-port 10/100/1000 w/Jumbo Frame, RJ-45
WS-X6148A-GE-45AF	Catalyst 6500 48-Port PoE 802.3af 10/100/1000, w/Jumbo Frame
WS-X6148A-GE-45AF=	Catalyst 6500 48-Port PoE 802.3af 10/100/1000, w/Jumbo Frame
WS-X6148A-45AF	Catalyst 6500 48-Port PoE 802.3af 10/100, card w/TDR
WS-X6148A-45AF=	Catalyst 6500 48-Port PoE 802.3af 10/100, card w/TDR
WS-X6148-45AF	Catalyst 6500 PoE 802.3af 10/100, 48 port(RJ45) line card
WS-X6148-45AF=	Catalyst 6500 PoE 802.3af 10/100, 48 port(RJ45) line card
WS-X6148-21AF	Cat6500 PoE 802.3af 10/100, 48 port (RJ21) line card
WS-X6148-21AF=	Cat6500 PoE 802.3af 10/100, 48 port (RJ21) line card
WS-F6K-DFC	Dist Fwd Card for 65xx, 6816 Modules used with SUP2
WS-F6K-DFC=	Dist Fwd Card for 65xx, 6816 Modules used with SUP2
WS-X6516A-GBIC	Catalyst 6500 16-port GigE Mod, fabric-enabled (Req. GBICs)
WS-X6516A-GBIC=	Catalyst 6500 16-port GigE Mod, fabric-enabled (Req. GBICs)
WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3)
WS-X6816-GBIC=	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3)
WS-X6548-RJ-21	Catalyst 6500 48-port 10/100, RJ-21, fabric-enabled
WS-X6548-RJ-21=	Catalyst 6500 48-port 10/100, RJ-21, fabric-enabled
WS-X6548-RJ-45	Catalyst 6500 48-port 10/100, RJ-45, x-bar
WS-X6548-RJ-45=	Catalyst 6500 48-port 10/100, RJ-45, x-bar
WS-X6516-GE-TX	Catalyst 6500 16-port 10/100/1000 GE Module, Cross-Bar
WS-X6516-GE-TX=	Catalyst 6500 16-port 10/100/1000 GE Module, Cross-Bar, spare
WS-X6748-GE-TX	Cat6500 48-port 10/100/1000 GE Mod: fabric enabled, RJ-45
WS-X6748-GE-TX=	Cat6500 48-port 10/100/1000 GE Mod: fabric enabled, RJ-45
WS-X6724-SFP	Catalyst 6500 24-port GigE Mod: fabric-enabled (Req. SFPs)
WS-X6724-SFP=	Catalyst 6500 24-port GigE Mod: fabric-enabled (Req. SFPs)
WS-X6748-SFP	Catalyst 6500 48-port GigE Mod: fabric-enabled (Req. SFPs)
WS-X6748-SFP=	Catalyst 6500 48-port CEF720 GigE Module (Req. SFPs)
WS-X6704-10GE	Cat6500 4-port 10 Gigabit Ethernet Module (req. XENPAKs)
WS-X6704-10GE=	Cat6500 4-port 10 Gigabit Ethernet Module (req. XENPAKs)
Cisco 7600 Services Modules	
SPA-IPSEC-2G	Cisco 7600 / Catalyst 6500 IPSec VPN SPA - DES/3DES/AES
SPA-IPSEC-2G=	Cisco 7600 / Catalyst 6500 IPSec VPN SPA - DES/3DES/AES
SPA-IPSEC-SSC400-1	Cisco 6500/7600 IPSec VPN SPA Bundle 1 (system only)
SPA-IPSEC-SSC400-2	Cisco 6500/7600 IPSec VPN SPA Bundle 2 (system only)
WS-SVC-ADM-1-K9	Catalyst 6500 Cisco Anomaly Detection Module
WS-SVC-ADM-1-K9=	Catalyst 6500 Cisco Anomaly Detection Module
WS-SVC-AGM-1-K9	Catalyst 6500 Cisco Anomaly Guard Module
WS-SVC-AGM-1-K9=	Catalyst 6500 Cisco Anomaly Guard Module
WS-SVC-CMM	COMMUNICATION MEDIA MODULE
WS-SVC-CMM-24FXS	24-Port FXS Interface Port Adapter
WS-SVC-CMM-24FXS=	24-Port FXS Interface Port Adapter
WS-SVC-CMM-6E1	6-PORT E1 INTERFACE PORT ADAPTER
WS-SVC-CMM-6E1=	6-PORT E1 INTERFACE PORT ADAPTER
WS-SVC-CMM-6T1	6-PORT T1 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-ACT=	Adhoc Conferencing and Transcoding PA
WS-SVC-CMM-BLANK	CMM module Blank Panel Cover
WS-SVC-CMM-BLANK=	CMM module Blank Panel Cover
WS-SVC-CMM=	COMMUNICATION MEDIA MODULE
WS-SVC-IDS2-BUN-K9	600M IDSM-2 Mod for Cat
WS-SVC-IDS2BUNK9=	600M IDSM-2 Mod Spare
WS-SVC-FWM-1-K9	Firewall blade for 6500 and 7600, VFW License Separate

WS-SVC-FWM-1-K9=	Firewall blade for 6500 and 7600, VFW License Separate
WS-SVC-NAM-1	Catalyst 6500 Network Analysis Module-1
WS-SVC-NAM-1=	Catalyst 6500 Network Analysis Module-1
WS-SVC-NAM-2	Catalyst 6500 Network Analysis Module-2
WS-SVC-NAM-2=	Catalyst 6500 Network Analysis Module
WS-SVC-PSD-1	Persistent Storage Device
WS-SVC-PSD-1=	Persistent Storage Device
WS-X6066-SLB-APC	Catalyst 6000 Content Switching Module
WS-X6066-SLB-APC=	Catalyst 6500/7600 Content Switching Module
WS-X6066-SLB-S-K9	Content Switching Module with SSL daughter card
WS-X6066-SLB-S-K9=	Content Switching Module with SSL daughter card
WS-SVC-SSL-1-K9	SSL Module for Catalyst 6500
WS-SVC-SSL-1-K9=	SSL Module for Catalyst 6500
WS-SVC-SSL-CSM-K9=	Catalyst 6500 SSL and CSM Bundle
WS-SVC-MWAM-1	Multi-Processor WAN Application Module
WS-SVC-MWAM-1=	Multi-Processor WAN Application Module
WS-SVC-CSG-1	Content Services Gateway
WS-SVC-CSG-1=	Content Services Gateway
WS-SVC-WEBVPN-K9	SSL VPN Module for Catalyst 6500
WS-SVC-WEBVPN-K9=	SSL VPN Module for Catalyst 6500
SC-ADM-4.0-K9	Cisco Traffic Anomaly Detector Module MVP-OS R4.0 Software
SC-SBC-NAP-CSG1-1	No App Image For WS-SVC-CSG-1=
Cisco 7600 GBICs, Optics and Xenpaks	
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 (singlemode or multimode)
WS-G5486=	1000BASE-LX/LH long haul GBIC (singlemode or multimode)
WS-G5487	1000Base-ZX extended reach GBIC(singlemode)
WS-G5487=	1000Base-ZX extended reach GBIC(singlemode)
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
XENPAK-10GB-CX4	Cisco 10GBASE-CX4 XENPAK Module
XENPAK-10GB-LR	10GBASE-LR XENPAK Module
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
GLC-LH-SM	GE SFP, LC connector LX/LH transceiver
GLC-LH-SM=	GE SFP,LC connector LX/LH transceiver
GLC-SX-MM	GE SFP, LC connector SX transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-SX-MM24	24 GLC-SX-MM SFP
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

SFP-GE-L	1000BASE-LX/LH SFP (DOM)
SFP-GE-L=	1000BASE-LX/LH SFP (DOM)
SFP-GE-S	1000BASE-SX SFP (DOM)
SFP-GE-S=	1000BASE-SX SFP (DOM)
SFP-GE-Z	1000BASE-ZX Gigabit Ethernet SFP (DOM)
SFP-GE-Z=	1000BASE-ZX Gigabit Ethernet SFP (DOM)
SFP-OC3-IR1	OC3/STM1 SFP, Single-mode fiber, Intermediate Reach
SFP-OC3-IR1=	OC3/STM1 SFP, Single-mode fiber, Intermediate Reach
SFP-OC3-LR1	OC3/STM1 SFP, Single-mode fiber, Long Reach (40km)
SFP-OC3-LR1=	OC3/STM1 SFP, Single-mode fiber, Long Reach (40km)
SFP-OC3-LR2	OC3/STM1 SFP, Single-mode fiber, Long Reach (80km)
SFP-OC3-LR2=	OC3/STM1 SFP, Single-mode fiber, Long Reach (80km)
SFP-OC12-IR1	OC-12/ STM-4 SFP, Intermediate Reach (15km)
SFP-OC12-IR1=	OC-12/ STM-4 SFP, Intermediate Reach (15km)
SFP-OC12-LR1	OC-12/ STM-4 SFP, Long Reach (40km)
SFP-OC12-LR1=	OC-12/ STM-4 SFP, Long Reach (40km)
SFP-OC12-LR2	OC-12/ STM-4 SFP, Long Reach (80km)
SFP-OC12-LR2=	OC-12/ STM-4 SFP, Long Reach (80km)
SFP-OC48-IR1	OC-48c/STM-16c
SFP-OC48-IR1=	OC-48c/STM-16c
SFP-OC48-SR	OC-48c/STM-16c SFP, Short Reach
SFP-OC48-SR=	OC-48c/STM-16c SFP, Short Reach
XFP-10GLR-OC192SR	Multirate XFP module for 10GBASE-LR and OC192 SR-1
XFP-10GLR-OC192SR=	Multirate XFP module for 10GBASE-LR and OC192 SR-1
XFP-10GZR-OC192LR	10GBASE-ZR and OC192 LR2 XFP Module
XENPAK-10GB-LW	10GBASE-LW XENPAK Module
XENPAK-10GB-LW=	10GBASE-LW XENPAK Module
Cisco 7600 Spares and Accessories	
12-MINISMB/BNC-M	12 pair (12Tx/12Rcv) 10ft. Mini-SMB to BNC-Male
CABLE-24T1E1J1	Cable for 24 Port CH T1/E1/J1 ATM and Circuit Emulation SPA
CABLE-24T1E1J1=	Cable for 24 Port CH T1/E1/J1 ATM and Circuit Emulation SPA
12-MINISMB/BNC-F	12 pair (12Tx/12Rcv) 10 ft. Mini-SMB to BNC female
12-MINISMB/OPEN	12 pair (12Tx/12Rcv) 25 meter Mini-SMB to Open-Ended cable
MINISMB/BNC-M=	One Pair (1Tx/1Rcv) 10ft. Mini-SMB to BNC-Male
MINISMB/BNC-F=	One Pair (1Tx/1Rcv) Mini-SMB to BNC-Female Cables
MINISMB/OPEN=	One Pair (1Tx/1Rcv) 25 meter Mini-SMB to Open ended cable
CVPN6500FIPS/KIT=	Kit (instructions, labels, shield) to config 6500 for FIPS
DC-LUGS-4=	DC power supply lugs for #4 AWG wire size
DC-LUGS-6=	DC power supply lugs for #6 AWG wire size
CAB-AC15A-90L-US	15A AC Pwr Cord, left-angle (United States) (bundle option)
CAB-AC15A-90L-US=	Spare 15A AC Pwr Cord, left-angle (US)
CAB-AC10A-90L-UK	10A AC Pwr Cord, left-angle (United Kingdom) (bundle option)
CAB-AC10A-90L-UK=	Spare 10A AC Pwr Cord, left-angle (UK)
CAB-AC10A-90L-IT	10a AC Pwr Cord, left-angle (Italy) (bundle option)
CAB-AC10A-90L-IT=	Spare 10A AC Pwr Cord, left-angle (Italy)
CAB-AC10A-90L-EU	10A AC Pwr Cord, left-angle (Europe) (bundle option)
CAB-AC10A-90L-EU=	Spare 10A AC Pwr Cord, left-angle (Europe)
CAB-AC16A-CH	16A AC Power Cord For China
CAB-AC16A-CH=	16A AC Power Cord For China
CAB-AC10A-90L-AU	10A AC Pwr Cord, left-angle (Australia) (bundle option)
CAB-AC10A-90L-AU=	Spare 10A AC Pwr Cord, left-angle (Australia)
FAN-MOD-6HS	High Speed Fan Module for CISC07606 Chassis
FAN-MOD-6HS=	High Speed Fan Module for CISC07606 Chassis
FAN-MOD-09=	Fan Mod CISC07609 (2 required) / Cat6509-NEB-A (1 required)
WS-C6K-13SLT-FAN2=	High Speed Fan Tray, Spare, for Catalyst 6513 / Cisco 7613
KIT-MNTG-CG-6=	Mounting Kit and Cable Guide For CISC07606
KIT-MNTG-CG-4=	Mounting Kit and Cable Guide For CISC0 7604 and 6504-E
KIT-MNTG-09=	Mounting Kit For CISC07609/Cat6509-NEB-A chassis
PWR-1500-DC	7603S 1500W DC Power Supply
PWR-1500-DC=	7603S 1500W DC Power Supply
PWR-1900-AC/6	1900W AC Power Supply for CISC07606
PWR-1900-AC/6=	1900W AC Power Supply for C7606
PWR-1900-AC/6/2	Redundant 1900W AC Pwr Sup CISC07606
PWR-1900-DC	1900W DC Power Supply for Cisco7606
PWR-1900-DC/2	Redun.1900W DC Power Supply for Cisco7606
PWR-1900-DC=	1900W DC Power Supply for Cisco7606
WS-CDC-2500W	Catalyst 6000 2500W DC Power Supply
WS-CDC-2500W=	Catalyst 6000 2500W DC Power Supply, Spare
WS-CAC-3000W	Catalyst 6500 3000W AC power supply

WS-CAC-3000W=	Catalyst 6500 3000W AC power supply (spare)
WS-CAC-4000W-INT	4000W AC PowerSupply, International (cable included)
WS-CAC-4000W-INT=	4000W AC PowerSupply, International (cable included)
WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)
WS-CAC-4000W-US=	4000Watt AC Power Supply for US (cable attached)
WS-CAC-6000W	Cat6500 6000W AC Power Supply
WS-CAC-6000W=	Cat6500 6000W AC Power Supply
PEM-DC	DC Power Entry Module Cisco7606
PEM-DC=	Spare DC Power Entry Module for Cisco7606
PEM-DC/2	Redun. DC Power Entry Module for Cisco7606
PEM-03S-CVR	Power Entry Module Blank Cover for 7603-S
PEM-03S-CVR=	Power Entry Module Blank Cover for 7603-S
PEM-20A-AC	Power Entry Module for CISC07606 (1900W Pwr Sup)
PEM-20A-AC=	Power Entry Module CISC07606
PEM-20A-AC/2	Redun. AC Power Entry Module for CISC07606 (1900W PS)
PEM-1500W-DC/03S	7603S Power Entry Module
PEM-1500W-DC/03S=	7603S Power Entry Module
7606-PEM-CVR	Cisco 7606 PEM Cover
CAB-GSR16-US=	Cisco 12016 GSR AC Power Supply Cord, US Spare
CAB-GSR16-EU=	Cisco 12016 GSR AC Power Supply Cord, Europe Spare
CAB-AC-C6K-TWLK	Power Cord, 250Vac 16A, twist lock NEMA L6-20 plug, US
CAB-AC-C6K-TWLK=	Power Cord, 250Vac 16A, twist lock NEMA L6-20 plug, US
CAB-AC-2500W-EU	Power Cord, 250Vac 16A, Europe
CAB-AC-2500W-EU=	Power Cord, 250Vac 16A, Europe
CAB-AC-2500W-INT=	Power Cord, 250Vac 16A, INTL
CAB-AC-2500W-ISRL	Power Cord,250VAC,16A,Israel
CAB-AC-2500W-ISRL=	Power Cord,250VAC,16A,Israel
WS-C6509-NEB-FAN2	Catalyst 6509-NEB High Speed Fan Tray
WS-C6509-NEB-RACK=	Catalyst C6509-NEB chassis Rack Mount and Cable Org., Spare
WS-C6K-VTT=	Catalyst 6000 VTT Module, Spare
WS-C6K-VTT-E=	Catalyst 6500 E-series VTT Modules
CAB-AC16A-90L-IN=	16A AC right angle pwr cord -International
CLK-7600=	Spare Clock card for CISC07603, CISC07606 or CISC07609 (FRU)
WS-X6K-SLOT-CVR=	Catalyst 6000 Blank Line Card Slot Cover
WS-X6K-SLOT-CVR-E=	Catalyst 6500 Enhanced chassis line card slot cover
CABLETRAY-09=	Cable Tray Assembly for CISC07609/Cat6509-NEB-A
PWR-03S-CVR	Power Supply Blank Cover for 7603-S
PWR-03S-CVR=	7603S Power Supply Blank Cover
1900W-DC	1900 W DC Option for 7606 Bundle
2700W-AC	2700 W AC Power Supply for 7604
2700W-AC/6	2700 W AC Power Supply for 7606
2700W-DC/6	2700 W DC Power Supply for 7606
PWR-2700-AC	2700W AC power supply for CISC07606
PWR-2700-AC=	2700W AC power supply for CISC07606
4000W-AC-INT	4000W AC PowerSupply, International (cable attached)
4000W-DC	4000W DC PS for 7609/7613Chassis -Not orderable as spare
PWR-4000-DC	4000W DC PS for CISC07609-S/CISC07609/13, Cat6509/13 chassis
PWR-4000-DC=	4000W DC Pwr Supply for CISC07609/13 and Cat 6509/13
CVR-4000DC-TERM=	Terminal Cover Kit for PWR-4000-DC
FLTRASSM-09=	Filter cage assm CISC07609/WS-C6509-NEB-A, no filter inserts
FLTRINSERTS-09=	Set -five (5) replacement Filter inserts for FLTRASSM-09=
INTAKEPNL-09=	air intake panel (rqd for 7609/6509-NEB-A air filter)
PWR-2700-DC	2700W DC power supply for CISC07606
PWR-2700-DC=	2700W DC power supply for CISC07606
2700W-DC	2700 W DC Power Supply for 7604
3000W-AC	3000W AC Power Supply (select cable)
CVPN7600FIPS/KIT=	Kit (instructions, labels, shield) to config 7600 for FIPS
7600-SLOT-CVR	Cisco 7600 Line Card Slot Cover
7600-SLOT-CVR=	Cisco 7600 Line Card Slot Cover
PWR-2700-AC/4	2700W AC Power Supply for Cisco 7604/6504-E
PWR-2700-AC/4=	2700W AC Power Supply for Cisco 7604/6504-E
PWR-2700-DC/4	2700W DC Power Supply for Cisco 7604/6504-E
PWR-2700-DC/4=	2700W DC Power Supply for Cisco 7604/6504-E
FAN-MOD-4HS=	High-Speed Fan Module for Cisco 7604/6504-E Chassis
7600-SIP-200	Cisco 7600 Series SPA Interface Processor-200
7600-SIP-200=	Cisco 7600 Series SPA Interface Processor-200
6000W-AC	6000 W AC Power Supply for Cisco 7609/7613
6000W-DC	6000W DC Power Supply for 7609/7609-S/7613
PWR-6000-DC	6000W DC Power Supply for Cisco7609/7609S/7613

PWR-6000-DC=
 FAN-MOD-9SHS=
 THERM-7609S=
 INTAKEPNL-09S=
 PWR-09S-CVR=
 6000W DC Power Supply for Cisco7609/7609S/7613
 High Speed Fan Module for CISC07609-S Chassis
 Thermistor Module for 7609-S
 Air intake panel (rqd for 7609-S)
 7609S Power Supply Blank Cover

Cisco 7600 Memory Options

MEM-RSP720-CF512M
 MEM-S2-256MB=
 MEM-S2-512MB
 MEM-S2-512MB=
 MEM-MSFC2-512MB
 MEM-MSFC2-512MB=
 MEM-OSM-64M=
 MEM-OSM-128M
 MEM-OSM-128M=
 MEM-OSM-256M
 MEM-OSM-256M=
 MEM-OSM-512M
 MEM-OSM-512M=
 MEM-C6K-WAN-64M
 MEM-C6K-WAN-128M=
 MEM-DFC-128MB
 MEM-DFC-128MB=
 MEM-DFC-256MB
 MEM-DFC-256MB=
 MEM-DFC-512MB
 MEM-DFC-512MB=
 MEM-C6K-ATA-1-64M=
 MEM-C6K-FLC16M=
 MEM-C6K-FLC24M=
 MEM-C6K-CPTFL128M
 MEM-C6K-CPTFL128M=
 MEM-C6K-CPTFL256M
 MEM-C6K-CPTFL256M=
 MEM-C6K-CPTFL512M
 MEM-C6K-CPTFL512M=
 MEM-CC-WAN-512M
 MEM-CC-WAN-512M=
 MEM-CC-WAN-256M
 MEM-CC-WAN-256M=
 MEM-SIP-200-512M
 MEM-SIP-200-512M=
 MEM-SIP-200-1G
 MEM-SIP-200-1G=
 MEM-MWAM-512MB
 MEM-MWAM-1GB
 MEM-RSP720-CF256M
 MEM-RSP720-2G
 C7600 RSP720 Compact Flash memory
 Catalyst 6500 256MB DRAM on the Supervisor (SUP2), Spare
 Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP720)
 Catalyst 6500 512MB DRAM on the Supervisor(SUP2 or 720)Spare
 Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC3
 Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC3, Spare
 64MB ECC Memory for Optical Services Modules
 128 MB ECC Memory for Optical Services Modules
 128 MB ECC Memory for Optical Services Modules
 256 MB ECC Memory for Optical Services Modules
 256 MB ECC Memory for Optical Services Modules
 512 MB ECC Memory for Optical Services Modules
 512 MB ECC Memory for Optical Services Modules
 FlexWAN Module Memory for Cisco 7600/Cat 6500, 64MB
 FlexWAN Module Memory for Cisco 7600/Cat 6500, 128MB, Spare
 Catalyst 6500 128MB DRAM for DFC
 Catalyst 6500 128MB DRAM for DFC, Spare
 Catalyst 6500 256MB DRAM for DFC
 Catalyst 6500 256MB DRAM for DFC, Spare
 Catalyst 6500 512MB DRAM for DFC
 Catalyst 6500 512MB DRAM for DFC, Spare
 Cat6500 Sup2, ATA Type1 Flash Mem Card, 64MB Spare
 Cat6500 Sup1/Sup1A/Sup2, PCMCIA Flash Mem Card, 16MB Spare
 Cat6500 Sup1/Sup1A/Sup2, PCMCIA Flash Mem Card, 24MB Spare
 Cat6500 Sup720/Sup32 Compact Flash Mem 128MB
 Cat6500 Sup720/Sup32 Compact Flash Mem 128MB
 Cat6500 Sup720/Sup32 Compact Flash Mem 256MB
 Cat6500 Sup720/Sup32 Compact Flash Mem 256MB
 Catalyst 6500 Sup720/Sup32 Compact Flash Mem 512MB
 Catalyst 6500 Sup720/Sup32 Compact Flash Mem 512MB
 Two 512 MB Memory modules for the two Enhanced FlexWAN Bays
 512MB memory for Enhanced FlexWAN Module
 256 MB Memory for Enhanced FlexWAN Module
 256 MB Memory Module for Enhanced FlexWAN Module
 512MB Memory for 7600 SIP-200
 512MB Memory for 7600 SIP-200
 1 GB Memory for 7600 SIP-200
 1 GB Memory for 7600 SIP-200
 MWAM 512MB Memory Option
 MWAM 1GB Memory Option
 C7600 RSP720 Compact Flash Memory
 C7600 RSP 720 1G to 2G Memory Upgrade

Cisco 7600 Series Software for Supervisor 720

S763AEK9-12218SXF
 S763AIK9-12218SXF
 S763AIK9-12233SRA
 S763ISK9-12218SXF
 S763IS-12218SXF
 S763ISK9-12233SRA
 S763IS-12233SRA
 S763AEK9-12233SRA
 S763AESK9-12218SXE
 S763AISK9-12218SXE
 S763IPSK9-12218SXE
 S763AK9H-12218SXD
 S763Z-12218SXD
 S763ZK9-12218SXD
 S763ZK9M-12218SXD
 S763AK9H-12217SXB
 S763AK9H-12217SXB=
 S763Z-12217SXB
 S763Z-12217SXB=
 S763ZK9-12217SXB
 Cisco 7600-SUP720 IOS ADVANCED ENTERPRISE SERVICES SSH
 Cisco 7600-SUP720 IOS ADVANCED IP SERVICES SSH
 Cisco 7600-SUP720 IOS ADVANCED IP SERVICES SSH
 Cisco 7600-SUP720 IOS IP SERVICES SSH
 Cisco 7600-SUP720 IOS IP SERVICES
 Cisco 7600-SUP720 IOS IP SERVICES SSH
 Cisco 7600-SUP720 IOS IP SERVICES
 Cisco 7600-SUP720 IOS ADVANCED ENTERPRISE SERVICES SSH
 Cisco 7600-SUP720 IOS ADVANCED ENTERPRISE SERVICES SSH
 Cisco 7600-SUP720 IOS ADVANCED IP SERVICES SSH
 Cisco 7600-SUP720 IOS IP SERVICES SSH
 Cisco 7600-SUP720 IOS ENT FW W/MPLS/IPV6/SSH/3DES
 Cisco 7600-SUP720 IOS IP
 Cisco 7600-SUP720 IOS IP W/SSH/3DES
 Cisco 7600-SUP720 IOS ADV IP W/MPLS/IPV6/SSH/3DES
 Cisco 7600-SUP720 IOS ENT FW W/MPLS/IPV6/SSH/3DES
 Cisco 7600-SUP720 IOS ENT FW W/MPLS/IPV6/SSH/3DES
 Cisco 7600-SUP720 IOS IP
 Cisco 7600-SUP720 IOS IP
 Cisco 7600-SUP720 IOS IP W/SSH/3DES

S763ZK9-12217SXB=	Cisco 7600-SUP720 IOS IP W/SSH/3DES
S763ZK9M-12217SXB	Cisco 7600-SUP720 IOS ADV IP W/MPLS/IPV6/SSH/3DES
S763ZK9M-12217SXB=	Cisco 7600-SUP720 IOS ADV IP W/MPLS/IPV6/SSH/3DES
7600-SW-SPARECD	Cisco 7600 Series Software Spare CD
Cisco 7600 Series Software for Supervisor 32	
S7632AEK9-12233SRB	Cisco 7600-SUP32 IOS ADVANCED ENTERPRISE SERVICES SSH
S7632AIK9-12233SRB	Cisco 7600-SUP32 IOS ADVANCED IP SERVICES SSH
S7632IS-12233SRB	Cisco 7600-SUP32 IOS IP SERVICES
S7632ISK9-12233SRB	Cisco 7600-SUP32 IOS IP SERVICES SSH
S763AEK9-12233SRB	Cisco 7600-SUP720 IOS ADVANCED ENTERPRISE SERVICES SSH
S763AIK9-12233SRB	Cisco 7600-SUP720 IOS ADVANCED IP SERVICES SSH
S763IS-12233SRB	Cisco 7600-SUP720 IOS IP SERVICES
S763ISK9-12233SRB	Cisco 7600-SUP720 IOS IP SERVICES SSH
S764AEK9-12233SRB	Cisco 7600-RSP720 IOS ADVANCED ENTERPRISE SERVICES SSH
S764AIK9-12233SRB	Cisco 7600-RSP720 IOS ADVANCED IP SERVICES SSH
S764IS-12233SRB	Cisco 7600-RSP720 IOS IP SERVICES
S764ISK9-12233SRB	Cisco 7600-RSP720 IOS IP SERVICES SSH
S7632AEK9-12218SXF	Cisco 7600-SUP32 IOS ADVANCED ENTERPRISE SERVICES SSH
S7632AIK9-12218SXF	Cisco 7600-SUP32 IOS ADVANCED IP SERVICES SSH
S7632ISK9-12218SXF	Cisco 7600-SUP32 IOS IP SERVICES SSH
S7632IS-12218SXF	Cisco 7600-SUP32 IOS IP SERVICES
S7632AEK9-12233SRA	Cisco 7600-SUP32 IOS ADVANCED ENTERPRISE SERVICES SSH
S7632AIK9-12233SRA	Cisco 7600-SUP32 IOS ADVANCED IP SERVICES SSH
S7632IS-12233SRA	Cisco 7600-SUP32 IOS IP SERVICES
S7632ISK9-12233SRA	Cisco 7600-SUP32 IOS IP SERVICES SSH
Cisco 7600 Series Software for Supervisor 2	
S76IPV-12412	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12412=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12412	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12412=	Cisco 7600-CMM IOS IP VOICE
S76VGK9-12412	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12412=	Cisco 7600-CMM IOS IP VOICE BASE
S76IPV-12410	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12410=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12410	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12410=	Cisco 7600-CMM IOS IP VOICE
S76VGK9-12410	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12410=	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12410	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12410=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12412	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12412=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S763AEK9-12218SXF	Cisco 7600-SUP720 IOS ADVANCED ENTERPRISE SERVICES SSH
S763AIK9-12218SXF	Cisco 7600-SUP720 IOS ADVANCED IP SERVICES SSH
S763ISK9-12218SXF	Cisco 7600-SUP720 IOS IP SERVICES SSH
S763IS-12218SXF	Cisco 7600-SUP720 IOS IP SERVICES
S762AK9H-12217SXB=	Cisco 7600-SUP2/MSFC2 IOS ENT FW W/MPLS/IPV6/SSH/3DES
S762Z-12217SXB=	Cisco 7600-SUP2/MSFC2 IOS IP
S762ZK9-12217SXB=	Cisco 7600-SUP2/MSFC2 IOS IP W/SSH/3DES
S762ZK9M-12217SXB=	Cisco 7600-SUP2/MSFC2 IOS ADV IP W/MPLS/IPV6/SSH/3DES + BGP
S76AK2-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE W/VIP SSH 3DES
S76AK2-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE W/VIP SSH 3DES
S76AK2H-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE WITH FW/VIP 3DES
S76AK2H-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE WITH FW/VIP 3DES
S76AV-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE W/VIP
S76AV-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE W/VIP
S76AVH-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE WITH FW/VIP
S76AVH-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE WITH FW/VIP
S76BV-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS DESKTOP W/VIP
S76BV-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS DESKTOP W/VIP
S76DV-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS IP/IPX W/VIP
S76DV-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS IP/IPX W/VIP
S76ZK2-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS SP W/VIP SSH 3DES
S76ZK2-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS SP W/VIP SSH 3DES
S76ZK2H-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS SP WITH FW/VIP 3DES
S76ZK2H-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS SP WITH FW/VIP 3DES
S76ZV-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS SERVICE PROVIDER W/VIP
S76ZV-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS SERVICE PROVIDER W/VIP
S76ZVH-12126E	Cisco 7600-SUP2/MSFC2 Ser IOS SP WITH FW/VIP

S76ZVH-12126E=	Cisco 7600-SUP2/MSFC2 Ser IOS SP WITH FW/VIP
S6S22ALK2-12113E	Catalyst 6000 SUP2/MSFC2 IOS ENTERPRISE SSH 3DES LAN ONLY
S6S22ALV-12113E	Catalyst 6000 SUP2/MSFC2 IOS ENTERPRISE LAN ONLY
S6S22DV-12113E	Catalyst 6000 SUP2/MSFC2 IOS IP/IPX W/VIP
S6S22LV-12113E	Catalyst 6000 SUP2/MSFC2 IOS SERVICE PROVIDER LAN ONLY
S762IPS-12218SXE	Cisco 7600-SUP2 IOS IP SERVICES
S762IPSK9-12218SXE	Cisco 7600-SUP2 IOS IP SERVICES SSH
7600-SW-SPARECD	Cisco 7600 Series Software Spare CD
S76AK2-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE W/VIP SSH 3DES
S76AK2H-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE WITH FW/VIP 3DES
S76AV-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE W/VIP
S76AVH-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS ENTERPRISE WITH FW/VIP
S76BV-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS DESKTOP W/VIP
S76DV-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS IP/IPX W/VIP
S76ZK2-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS SP W/VIP SSH 3DES
S76ZK2H-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS SP WITH FW/VIP 3DES
S76ZV-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS SERVICE PROVIDER W/VIP
S76ZVH-12127E=	Cisco 7600-SUP2/MSFC2 Ser IOS SP WITH FW/VIP
S76IPV-12407=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12407=	Cisco 7600-CMM IOS IP VOICE
S76VGK9-12407=	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12407=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76ITPK9-12218IXA	Cisco 7600 Series IOS IP TRANSFER POINT (ITP)
S76ITPK9-12218IXB	Cisco 7600 Series IOS IP TRANSFER POINT (ITP)
S76VGK9-12409T	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12409T	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12409T=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76IPV-12409T	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12409T=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12411T	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12411T=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12409T	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12409T=	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12411T	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12411T=	Cisco 7600-CMM IOS IP VOICE
S76IPV-12408	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12408=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12408	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12408=	Cisco 7600-CMM IOS IP VOICE
S76VGK9-12408	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12408=	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12407	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12408	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12408=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12407	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76IPV-12407	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12407	Cisco 7600-CMM IOS IP VOICE
S76IPV-12406T	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12406T=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12406T	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12406T=	Cisco 7600-CMM IOS IP VOICE
S76VGK9-12411T	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12411T=	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12411T	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12411T=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGK9-12406T	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12406T=	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12406T	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12406T=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76IPV-12405	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPV-12405=	Cisco 7600-CMM IOS IP VOICE W/O CRYPTO
S76IPVK9-12405	Cisco 7600-CMM IOS IP VOICE
S76IPVK9-12405=	Cisco 7600-CMM IOS IP VOICE
S76VGK9-12405	Cisco 7600-CMM IOS IP VOICE BASE
S76VGK9-12405=	Cisco 7600-CMM IOS IP VOICE BASE
S76VGMS-12405	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76VGMS-12405=	Cisco 7600-CMM IOS IP VOICE BASE WITHOUT CRYPTO
S76ITPK9-12218IXC	Cisco 7600 Series IOS IP TRANSFER POINT (ITP)

Cisco 7600 Services Module Software

SC-SVC-SSL-1.1-K9
 SC-SVC-FWM-3.1-K9
 SC-SVC-FWM-2.2-K9
 SC-SVC-FWM-2.2-K9=
 SC-SVC-FWM-1.4-K9
 SC-SVC-IDSM-5.0-K9
 SC6K-4.1.1-CSM
 SC6K-4.1.4-CSM
 SC6K-4.1.5-CSM
 SC6K-4.1.7-CSM
 SC6K-4.2.2-CSM
 SC6K-3.2.2-CSM
 SC6K-3.2.1-CSM
 SC6K-3.1.6-CSM
 SC6K-3.1.10-CSM
 SC-SVC-CSG-B-5.0
 SC-SVC-CSG-B-5.0=
 SC-SVC-CSG-B-6.0
 SC-SVC-CSG-B-6.0=
 SC-SVC-CSG-B-7.0
 SC-SVC-CSG-B-7.0=
 SC-SVC-CSG-EP-7.0
 SC-SVC-CSG-EP-7.0=
 SC-SVC-CSG-P-5.0=
 SC-SVC-CSG-P-6.0
 SC-SVC-CSG-P-6.0=
 SC-SVC-CSG-P-7.0
 SC-SVC-CSG-P-7.0=
 SC-SVC-CSG-U-5.0=
 SC-SVC-CSG-U-6.0=
 SC-SVC-CSG-UB-5.0=
 SC-SVC-CSG-UB-6.0=
 SC-SVC-CSG-UB-7.0=
 SC-SVC-CSG-UE-7.0=
 SC-SVC-CSG-UP-5.0=
 SC-SVC-CSG-UP-6.0=
 SC-SVC-IDSM-5.1-K9

Cisco 7600 Feature Licenses

FL-CSG-5K=
 FL-MWHA-5K=
 FL-PDSN-5K=
 76-ES20-ADVIP-LIC
 76-ES20-ADVIP-LIC=
 76-ES20-BASIC-LIC
 FR-BRE-7600
 FR-C6FW
 FR-C6FW=
 FR-IRC6
 FR-IRC6=
 FR76-MPLS-IPV6=
 FR-IOSSLB
 FR-IOSSLB=
 FR-SVC-FWM-VC-T1
 FR-SVC-FWM-VC-T1=
 FR-SVC-FWM-VC-T2
 FR-SVC-FWM-VC-T2=
 FR-SVC-FWM-VC-T3
 FR-SVC-FWM-VC-T3=
 FR-SVC-FWM-UPGR1=
 FR-SVC-FWM-UPGR2=
 SC6K-4.2.1-CSM
 SC6K-3.2.3-CSM
 SC6K-3.1.8-CSM
 FL-CSG-BASIC-50K
 FL-CSG-BASIC-NL
 FL-CSG-BASIC-UPG=
 FL-CSG-PREM-50K
 FL-CSG-PREM-NL

Software for SSL Module for Catalyst 6500
 Firewall Module Software 3.1 for 6500 and 7600, 2 free VFW
 Firewall Module Software 2.2 for 6500, 2 free VFW
 Firewall Module Software 2.2 for 6500, 2 free VFW
 Firewall Module Software 1.1(4) for Catalyst 6500
 IPSv5.0 for IDSM-2
 CSM 4.1(1) Software Release
 CSM 4.1(4) Software Release
 CSM 4.1(5) Software Release
 CSM 4.2(1) Software Release
 CSM 4.2.2 Software Release
 CSM 3.2(2) Software Release
 CSM 3.2.1 Software Release
 CSM 3.1(6) Software Release
 CSM 3.1.10 Software Release
 CSG R5 SW For Basic Billing Support
 CSG R5 SW For Basic Billing Support
 CSG R6 SW For Basic Billing Support
 CSG R6 SW For Basic Billing Support
 CSG R7 SW Basic L3/L4 and Noncommercial Billing Support
 CSG R7 SW Basic L3/L4 and Noncommercial Billing Support
 CSG R7 SW Enhanced Premium Billing Support
 CSG R7 SW Enhanced Premium Billing Support
 CSG R5 SW For Premium Billing Support
 CSG R6 SW For Premium Billing Support
 CSG R6 SW For Premium Billing Support
 CSG R7 SW Premium L7 Billing and Filtering Support
 CSG R7 SW Premium L7 Billing and Filtering Support
 CSG R5 SW Upgrade (B to P)
 CSG R6 SW Upgrade (B to P)
 CSG R5 SW Upgrade from R4 - B
 CSG R6 SW Upgrade from R5 - B
 CSG R7 SW Upgrade from R6 - Basic
 CSG R7 SW Upgrade from R6 - Premium to Enhanced Premium
 CSG R5 SW Upgrade from R4 - P
 CSG R6 SW Upgrade from R5 - P
 IPSv5.1 for IDSM-2

Cisco CSG 7604/Sup32 Bundle - 5K Subscriber RTU
 Cisco MW Home Agent 7604/Sup32 Bundle - 5K Subscriber RTU
 Cisco PDSN 7604/Sup32 Bundle - 5K Subscriber RTU
 ES20 Adv License: With MVPN, IPv6, 6VPE, and L3 IP/MPLS VPN.
 ES20 Adv License: With MVPN, IPv6, 6VPE, and L3 IP/MPLS VPN.
 ES20 Basic License: No MVPN, IPv6, 6VPE, and L3 IP/MPLS VPN.
 Bridged Routed Encapsulation License on Cisco 7600
 Catalyst 6000 family IOS Firewall Feature Set
 Catalyst 6000 family IOS Firewall Feature Set
 Catalyst 6000 Family InterDomain Routing Feature License
 Catalyst 6000 Family InterDomain Routing Feature License
 Cisco 7600 MPLS/IPv6 Upgrade License
 Catalyst 6000 Supervisor IOS SLB Feature License
 Catalyst 6000 Supervisor IOS SLB Feature License
 Catalyst 6500 and 7600 virtual FW licensing for 20 VF
 Catalyst 6500 and 7600 virtual FW licensing for 20 VF
 Catalyst 6500 and 7600 virtual FW licensing for 50 VF
 Catalyst 6500 and 7600 virtual FW licensing for 50 VF
 Catalyst 6500 and 7600 virtual FW licensing for 100 VF
 Catalyst 6500 and 7600 virtual FW licensing for 100 VF
 Catalyst 6500 and 7600 virtual FW upgrade from 20 to 50
 Catalyst 6500 and 7600 virtual FW upgrade from 50 to 100
 CSM 4.2(1) Software Release
 CSM 3.2.3 Software Release
 CSM 3.1(8) SOFTWARE RELEASE
 CSG 50K User License F/ Basic Billing Support
 CSG No Limit User License F/ Basic Billing Support
 Upgrade - FL-CSG-BASIC-50K To FL-CSG-BASIC-NL
 CSG 50K User License F/ Premium Billing Support
 CSG No Limit User License F/ Premium Billing Support

FL-CSG-BASIC-50K=	CSG 50K User License F/ Basic Billing Support
FL-CSG-BASIC-NL=	CSG No Limit User License F/ Basic Billing Support
FL-CSG-PREM-NL=	CSG No Limit User License F/ Premium Billing Support
FL-CSG-PREM-NLB=	CSG No Limit 2 Unit License F/ Premium Billing Support
FL-CSG-PREM-UPG=	Upgrade - FL-CSG-PREM-50K To FL-CSG-PREM-NL
FL-CSG-UPG-50K=	Upgrade - FL-CSG-BASIC-50K To FL-CSG-PREM-50K
FL-CSG-UPG-NL=	Upgrade - FL-CSG-BASIC-NL To FL-CSG-PREM-NL
FR-ITP-7600-MLR	Advanced multi-layer routing license
FR-ITP-7600-MLR=	Advanced multi-layer routing license
FR-ITP-7600-MVAR	Multi-variant and/or multi-NI conversion license
FR-ITP-7600-MVAR=	Multi-variant and/or multi-NI conversion license
FR-ITP-ATMHSL-EFW	ATM-based SS7 HSL license per eFW bay
FR-ITP-ATMHSL-EFW=	ATM-based SS7 HSL license per eFW bay
FR-ITP-M2PA-EFW	enhanced FlexWAN per bay M2PA license
FR-ITP-M2PA-EFW=	enhanced FlexWAN per bay M2PA license
FR-ITP-M3UA-EFW	enhanced FlexWAN per bay M3UA license
FR-ITP-M3UA-EFW=	enhanced FlexWAN per bay M3UA license
FR-ITP-SUA-EFW	enhanced FlexWAN per bay SUA license
FR-ITP-SUA-EFW=	enhanced FlexWAN per bay SUA license

Cisco 7600 Network Management

EMS-7600-31KIT-DK9	Cisco 7600 Internet Router Mgr v3.1 DEMO Media Kit
EMS-CIRM-3.2D	CEMF Element Manager for Cisco 7600 Router - Demo Lic
EMS-CIRM--KIT-3.2	CEMF Element Manager for Cisco 7600 Router - Media Kit
EMS-CIRM-3.2	CEMF Element Manager for Cisco 7600 Router - RTU
EMS-CIRM-3.2U	CEMF Element Manager for Cisco 7600 Router-Upg from V3.1

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco 7600 Series Web site: <http://www.cisco.com/go/7600>

Cisco 10700 Series

The Cisco 10700 series includes the Cisco 10720 Internet Router is a high-performance router and a principle building block in the metro IP network. It enables service providers to offer innovative and differentiated IP services to their customers at optical speeds.

When to Sell

Sell This Product When a Customer Needs These Features

Cisco 10700 Series

- High-performance IP services as part of their business strategy by extending IP further out into the network
- Simple, scalable, reliable features of DPT technology while maximizing fiber usage
- Any customer already using DPT technology in their network, most likely with DPT cards on the 12000 Internet Router
- Metro Ethernet Services such as L2 and L3 VPN with FE/GE hand off to the Customer and 50ms restoration over dark fiber using DPT
- IEEE 802.17-standard-compliant RPR technology

Key Features

- Support for IP, MPLS and L2TPv3 features at 2MPPS; L2 VPN—L2TPv3 and EoMPLS; L3 VPN MPLS VPN and MPLS VPN over IP
- Security—ACLs, uRPF, Control Plane Policing and BFD
- SRP or 802.17 RPR with <50 ms restoration time
- Multicast support including PIM SM, PIM DM, MBGP; QoS—Modular QoS CLI, 8 queues per port
- Ethernet—MDI-MDI-X support, 10/100 speed auto-negotiation, HDX-FDX negotiation and time delay reflectometry (TDR) for 10/100BaseTX
- Hot Standby Routing Protocol (HSRP)/Multiple Hot Standby Routing Protocol (MHSRP)
- Optical receive power monitoring support on OC-48/STM-16 Interface and GE
- Management information bases (MIBs)—SNMP, SRP, SONET, Etherlike, OSPF

- Suitable for other applications—Internet data center applications, intra-POP aggregation, cable multisystem operator (MSO) internetworking, and VoIP aggregation

Specifications

Feature	Cisco 10700 Series
Security Features	Including AAA, RADIUS authentication, TACACS+, and encrypted passwords
Management	Cisco IOS CLI; TACACS+ and RADIUS; Configuration and administration features including Telnet and Cisco Discovery Protocol (CDP); Serial (aux) and console ports for local and remote administration; Remote software download via TFTP and RCP; IP over DCC for remote management of the Cisco ONS 15104 OC-48/STM-16 Optical Regenerator, where applicable
Physical Interfaces	<p>Uplink Modules: 2-port single-mode OC-48c/STM16c DPT (SR 2 km (1.2 miles), IR 15 km (9.3 miles), LR1 40km (24 miles) and LR2 80km (50miles)</p> <p>Interface Modules—The Cisco 10720 Internet Router has two dedicated slots for interface modules—modules are not interchangeable or hot swappable:</p> <ul style="list-style-type: none"> • Upper slot is dedicated for DPT or POS Uplink module equipped with two physical ports of OC-48c/STM16c that provide an aggregate bandwidth of approximately 5 Gbps. The cards are available in two four versions of optics, short reach (SR) and intermediate reach (IR), Long Reach1 (LR1) and Long Reach2 (LR2) with two small form-factor OC-48 ports with LC connectors. • A third option for the upper slot is the CON-AUX module, which is a depopulated uplink card equipped with Console and Auxiliary ports only; this allows the configuration of the 10720 as an “Ethernet Router” allowing the use of one or more of the Ethernet ports in the lower slot for network connectivity • New Uplink module that supports 2XOC48/STM16 RPR/DPT with pluggable optics. This is Cisco’s first IEEE 802.17-compliant RPR module. This module can be optionally configured in SRP mode, thus making it backward compatible with existing DPT deployments • Lower slot is dedicated for 24-port Fast Ethernet module—available in TX (100 m reach), FX-MM (2 km reach) or FX-SM (15 km reach). The TX module is equipped with RJ-45 connectors while the FX-SM and FX-MM modules are equipped with MT-RJ connectors. • Also available is a combination 4 Gigabit Ethernet with Small Form Factor Plug-able (SFP) Optics available in SX 550m, LH 10km, ZH 70km and Copper plus an additional 8 Ports of Fast Ethernet 10/100 TX Copper ports.
Dimensions (H x W x D)	3.5 x 17.25 x 18.25 in. (8.9 x 43.81 x 46.35 cm)

Selected Part Numbers and Ordering Information¹

Cisco 10700 Series

CISCO10720-AC-A	Cisco 10720 Internet Router with dual AC power supply
CISCO10720-DC-A	Cisco 10720 Internet Router with dual DC Power Supply
10720-FE-TX	24-port 10/100 Ethernet Access ModuleRJ45 connectors
10720-GE-FE-TX-B	4-port 100Mbps SFP GE with 8-ports of 10/100 Ethernet TX-RJ45
SFP-GE-S	GE SFP - Short Reach 550M LC connectors
SFP-GE-L	GE SFP - Intermediate Reach 10KM LC connectors
CWDM-SFP-1470	Longwave 1470 nm laser, single mode - Gray
CWDM-SFP-1490	Longwave 1490 nm laser, single mode - Violet
CWDM-SFP-1510	Longwave 1510 nm laser, single mode - Blue
CWDM-SFP-1530	Longwave 1530 nm laser, single mode - Green
CWDM-SFP-1550	Longwave 1550 nm laser, single mode - Yellow
CWDM-SFP-1570	Longwave 1570 nm laser, single mode - Orange
CWDM-SFP-1590	Longwave 1590 nm laser, single mode - Red
CWDM-SFP-1610	Longwave 1610 nm laser, single mode - Brown
SFP-GE-T	GE SFP - 1000BaseT
10720-LR2-LC-POS	OC-48c/STM-16c SRP Long Reach 2 (80km) Uplink Module-LC connectors
10720-MEM-512=	512MB RP Memory
10720-RPR-SFP	OC-48c/STM-16c RPR/SRP Uplink Module supporting SFPs
SFP-OC48-SR	OC-48c/STM-16c Short Reach (2KM) pluggable SFP
SFP-OC48-IR1	OC-48c/STM-16c Intermediate Reach1 (15KM) pluggable SFP
SFP-OC48-LR2	OC-48c/STM-16c Long Reach2 (80KM) pluggable SFP

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco 10720 Internet Router Web site: <http://www.cisco.com/go/10700>

Cisco XR 12000 and 12000 Series

The Cisco XR 12000 Series and Cisco 12000 Series routers compose a portfolio of intelligent routing solutions that scale from 2.5G to n x10 Gbps capacity per slot, enabling carrier-class IP/MPLS networks and accelerating the evolution to IP Next-Generation Networks.



Key Features

- Delivers up to 1.28 Tbps switching capacity with wire-speed feature performance, scalability, and graceful hardware and software upgrade paths
- Offers full forward compatibility for all line cards and portfolio of SPAs and SIPs.
- Scales to the edge, supporting backbone- or edge-optimized line cards in the same chassis
- Maximizes the value of line-rate edge applications with 10G uplinks.
- IP QoS and congestion control implementation—Enables real-time services such as VoIP and video; Priority based congestion control, dedicated low latency queuing, and virtual output queuing eliminates head of line blocking and maintain packet sequence integrity under all conditions
- Non-service impacting online insertion and removal (OIR) of components (including switch fabric cards) and front accessibility reduce downtime and simplify maintenance
- Offers Cisco NSF and Cisco Stateful Switchover (SSO) eliminate single points of failure, help maintain system performance, and prevent service interruption; packet forwarding remains uninterrupted before, during and after a route processor switchover.

Competitive Products

• Juniper: T640, T320, M320

• Avici: Stackable Switch Router (SSR)

Specifications

Feature	Cisco XR 12000/ 12000	Cisco XR 12000/ 12000 Series 10-Slot Chassis	Cisco XR 12000/ 12000 Series 6-Slot Chassis	Cisco XR 12000/ 12000 Series 4-Slot Chassis
Slot Capacity	16 slots	10 slots	6 slots	4 slots
Aggregate Switching Capacity	12016: 80 Gbps; 12416: 320 Gbps; 12816: 1280 Gbps	12010: 50 Gbps; 12410: 200 Gbps; 12810: 800 Gbps	12006: 30 Gbps; 12406: 120 Gbps	12404: 80 Gbps
Full-Duplex Throughput Per	12016: 2.5 Gbps/slot 12416: 10 Gbps/slot 12816: 40 Gbps/slot	12010: 2.5 Gbps/slot 12410: 10 Gbps/slot 12810: 40 Gbps/slot	12006: 2.5 Gbps/slot 12406: 10 Gbps/slot	12404: 10 Gbps/slot
Dimensions (H x W x D)	71.5 x 17.25 x 22.0 in. (181.6 x 184.2 ¹ x 55.9 cm) 72.5 x 18.75 x 24.0 in. ² (43.8 x 47.6 x 61.0 cm) ³	37.5 x 19 x 22.0 in. (95.25 x 48.26 x 55.9 cm); 24.0 in. (61.0 cm) ³	18.5 in. (47.0 cm) width: 17.3 in. (43.9 cm) 18.9 in. (48.0 cm) ² depth: 28.0 in. (71.1 cm)	8.75 in. (22.23 cm) width: 17.38 in. (44.15 cm) 18.9 in. (48.01 cm) ² depth: 27.5 in. (69.85 cm)
Weight	140 lb. (64 kg) ⁴ ; 390 lb. (177 kg) ⁵	125 lb. (57 kg) ⁴ ; 275 lb. (125 kg) ⁵	140 lb. (64 kg) ⁴ ; 205 lb. (94 kg) ⁵	73 lb. (33.18 kg) ⁴ ; 103 lb. (46.82 kg) ⁵
Chassis Per Rack	1	2	4	8
Software Components (Per Base System)	Cisco IOS XR or Cisco IOS Software Operating System; Cisco Express Forwarding for distributed packet forwarding			
Compatibility	12800: Line cards that support 2.5-, 10-, or 20-Gbps capability; 12400: Line cards that support 2.5- or 10-Gbps capability; 12000: Line cards that support 2.5-Gbps capability			
Protocols	IPv4, MPLS, BGPv4, IS-IS, OSPFv2, RIPv2, IGMP, DVMRP, and PIM DX/SX			
Connectivity	Packet over SONET/SDH (POS), Ethernet, ATM, copper (DS-3/E3), Channelized (CT3, ChOC-3/CHSTM1, ChOC-12/CHSTM4, ChOC-48/CHSTM16); see Cisco IOS XR Software release notes for specific connectivity support on the Cisco XR 12000 Series			

1. With AC input power shelf or DC input power shelf, front covers installed
2. Including chassis rack-mount flanges
3. Including cable-management system and front cover
4. Chassis only, including power shelf for 16-slot chassis
5. Chassis fully configured, using all card slots, AC or DC power shelf for 16-slot chassis, and AC or DC input power supplies

Selected Part Numbers and Ordering Information¹

Cisco XR 12000 16-Slot Systems

XR-12416/320-AC	Cisco XR 12000 16-slot Chassis with 3 AC power supplies, 320-Gbps fabric (2 CSC and 3 SFC cards), 2
XR-12416/320-AC4	Cisco XR 12000 16-slot Chassis with 4 AC power supplies, 320-Gbps fabric (2 CSC and 3 SFC cards), 2
XR-12416/320-DC	Cisco XR 12000 16-slot Chassis with 4 DC power supplies, 320-Gbps fabric (2 CSC and 3 SFC cards), 2

Cisco 12000 16-Slot Systems

GSR16/80-AC-8R	Cisco 12000 16-slot Chassis with 3 AC power supplies, 80-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2
GSR16/320-AC	Cisco 12000 16-slot Chassis with 3 AC power supplies, 320-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2
12816/1280-AC3	Cisco 12000 16-slot Chassis with 3 AC power supplies, 1280-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2 alarms, and 1 PRP-1
GSR16/80-AC4-8R	Cisco 12000 16-slot Chassis with 4 AC power supplies, 80-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2
GSR16/320-AC4	Cisco 12000 16-slot Chassis with 4 AC power supplies, 320-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2
12816/1280-AC4	Cisco 12000 16-slot Chassis with 4 AC power supplies, 1280-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2 alarms, and 1 PRP-1
GSR16/80-DC-8R	Cisco 12000 16-slot Chassis with 4 DC power supplies, 80-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2
GSR16/320-DC	Cisco 12000 16-slot Chassis with 4 DC power supplies, 320-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2
12816/1280-DC	Cisco 12000 16-slot Chassis with 4 DC power supplies, 1280-Gbps fabric (2 CSC and 3 SFC cards), 2 blowers, 2 alarms, and 1 PRP-1

Cisco XR 12000 10-Slot Systems

XR-12410/200-AC	Cisco XR 12000 10-slot Chassis with 2 AC power supplies, 200-Gbps fabric (2 CSC and 5 SFC cards), 1
XR-12410/200-DC	Cisco XR 12000 10-slot Chassis with 2 DC power supplies, 200-Gbps fabric (2 CSC and 5 SFC cards), 1

Cisco 12000 10-Slot Systems

12010-AC	Cisco 12000 10-slot Chassis with 2 AC power supplies, 50-Gbps fabric (2 CSC and 5 SFC cards), 1 blower, 2
12010-DC	Cisco 12000 10-slot Chassis with 2 DC power supplies, 50-Gbps fabric (2 CSC and 5 SFC cards), 1 blower, 2
GSR10/200-AC	Cisco 12000 10-slot Chassis with 2 AC power supplies, 200-Gbps fabric (2 CSC and 5 SFC cards), 1 blower, 2
GSR10/200-DC	Cisco 12000 10-slot Chassis with 2 DC power supplies, 200-Gbps fabric (2 CSC and 5 SFC cards), 1 blower, 2
12810/800-AC	Cisco 12000 10-slot Chassis with 2 AC power supplies, 800-Gbps fabric (2 CSC and 5 SFC cards), 1 blower, 2
12810/800-DC	Cisco 12000 10-slot Chassis with 2 DC power supplies, 800-Gbps fabric (2 CSC and 5 SFC cards), 1 blower, 2

Cisco XR 12000 6-Slot Systems

XR-12406/120-AC	Cisco XR 12000 6-slot Chassis with 1 AC power supply, 120-Gbps fabric (1 CSC and 3 SFC cards), 1 blower, 2
XR-12406/120-DC	Cisco XR 12000 6-slot Chassis with 1 DC power supply, 120-Gbps fabric (1 CSC and 3 SFC cards), 1 blower, 2

Cisco 12000 6-Slot Systems

12006-AC	Cisco 12000 6-slot Chassis with 2 AC power supplies, 30-Gbps fabric (2 CSC and 3 SFC cards), 1 blower, 2
12006-DC	Cisco 12000 6-slot Chassis with 2 DC power supplies, 30-Gbps fabric (2 CSC and 3 SFC cards), 1 blower, 2
GSR6/120-AC	Cisco 12000 6-slot Chassis with 1 AC power supply, 120-Gbps fabric (1 CSC and 3 SFC cards), 1 blower, 2
GSR6/120-DC	Cisco 12000 6-slot Chassis with 1 DC power supply, 120-Gbps fabric (1 CSC and 3 SFC cards), 1 blower, 2

Cisco XR 12000 4-Slot Systems

XR-12404/80-AC	Cisco XR 12000 4-slot Chassis with 2 AC power supply, 80-Gbps fabric (consolidated switch fabric, clock scheduler, and alarm card), 1 blower, and 1 PRP-2
XR-12404/80-DC	Cisco XR 12000 4-slot Chassis with 2 DC power supply, 80-Gbps fabric (consolidated switch fabric, clock scheduler, and alarm card), 1 blower, and 1 PRP-2

Cisco 12000 4-Slot Systems

GSR4/80-AC	Cisco 12000 4-slot Chassis with 2 AC power supply, 80-Gbps fabric (consolidated switch fabric, clock scheduler, and alarm card), 1 blower, and 1 PRP-1
GSR4/80-DC	Cisco 12000 4-slot Chassis with 2 DC power supply, 80-Gbps fabric (consolidated switch fabric, clock scheduler, and alarm card), 1 blower, and 1 PRP-1

Cisco 12000 Series Line Cards

12DS3-SMB	DS3 line card, 12 ports
12E3-SMB	E3 line card, 12 ports
160C3X/POS-I-LC-B	16 PORT OC3 WITH EXTENDED FEATURES RELEASE B
160C3X/POS-M-MJ-B	GSR 16-port OC3/POS MM Eng3 release B
1X10GE-ER-SC	Cisco 12000 1-Port 10GE Card, 1550nm serial, 40km, SC
1X10GE-LR-SC	Cisco 12000 1-Port 10GE Card, 1310nm serial, 10km, SC
2CHOC3/STM1-IR-SC	Channelized OC3/STM1 -> DS1/E1, 2 ports Intermediate Reach
20C192/POS-IR-SC	Cisco Two-port OC192c/STM64c POS Line Card 1550nm IR, SC
20C192/POS-SR-SC	Cisco Two-port OC192c/STM64c POS Line Card 1310 nm SR, SC
20C192/POS-VSR	Cisco Two-port OC192c/STM64c POS Line Card 850nm VSR, MTP
4CHOC12/DS3-I-SCB	4 PORT CHANNELIZED OC12 B
4GE-SFP-LC	4 port-GE line card for Cisco 12000
40C12X/ATM-IR-SC	4-port OC12/STM4 ATM SM-IR ISE LC with SC connector
40C12X/ATM-MM-SC	4-port OC12/STM4 ATM MM ISE LC with SC connector
40C12X/POS-I-SC-B	4 PORT OC12 POS B
40C12X/POS-M-SC-B	4-port OC12/POS Eng3 Multi-mode
40C12X/SRP-IR-LC	4 port OC-12c/STM-4c SRP ISE Line Card, 1310nm IR, LC
40C12X/SRP-XR-LC	4 port OC-12c/STM-4c SRP ISE Line Card, 1550nm XR, LC
40C3X/ATM-IR-SC	4-port OC3/STM1 ATM SM-IR ISE LC with SC connector
40C3X/ATM-MM-SC	4-port OC3/STM1 ATM MM ISE LC with SC connector
40C3X/POS-IR-LC-B	GSR 4-port OC3/POS IR Eng3 release B
40C3X/POS-LR-LC-B	GSR 4-port OC3/POS LR Eng3 release B
40C3X/POS-MM-MJ-B	GSR 4-port OC3/POS MM Eng3 release B
40C48E/POS-LR-SC	Edge 4 Port OC-48c/STM-16c SONET/SDH LR with SC
40C48E/POS-SR-SC	Edge 4 Port OC-48c/STM-16c SONET/SDH SR with SC
40C48/SRP-SFP	4 Port OC48c/STM16c SRP Linecard, SFP Optics
6CT3-SMB	Channelized T3 for the GSR
6DS3-SMB-B	6DS3-SMB-B w/ ECC
6E3-SMB	E3 line card, 6 ports

8FE-FX-SC-B	GSR 8-port 100baseFX, SC connector, version B
8FE-TX-RJ45-B	8-port 100baseTX, RJ45 connector type, version B
80C3X/POS-IR-LC-B	GSR 8-port OC3/POS IR Eng3 release B
80C3X/POS-MM-MJ-B	GSR 8-port OC3/POS MM Eng3 release B
CH0C12/DS1-IR-SC	GSR12000 Channelized OC12/STM4 to DS1 (Engine3 based)
CH0C48/DS3-SR-SC	1 port Channelized OC-48 to DS3
EPA-3GE-SX/LH-LC	Cisco 12000 3-Port GE Port Adapter for EPA-GE/FE-BBRD
EPA-GE/FE-BBRD	Cisco 12000 Modular GE Baseboard w/ 1GE and 3 EPA Slots
LC-10C12/ATM-MM	1 port OC12/STM4 ATM Line Card, Multi-Mode
LC-10C12/ATM-SM	1 port OC12/STM4 ATM Line Card, Single-Mode
LC-10C12/POS-MM	1 port OC12/STM4 Packet Over SONET/SDH Line Card, Multi-Mode
LC-10C12/POS-SM	1port OC12/STM4 Packet Over SONET/SDH Line Card, Single-Mode
OC192E/POS-IR-SC	1 Port OC192c/STM64c POS Edge Card, 1550nm IR, SC
OC192E/POS-LR-SC	OC192/STM64 Packet over Sonet Long Reach with SC
OC192E/POS-SR-SC	1 Port OC192c/STM64c POS Edge Card, 1310nm SR, SC
OC192E/POS-VSR	1 Port OC192c/STM64c POS Edge Card, VSR Optics
OC192/SRP-IR-PR	Two OC192/SRP-IR-SC Linecards With One CBL-SRP-OC192 Cable
OC192/SRP-IR-SC	1 Port OC192c/STM64c SRP Linecard, 1550nm IR, SC
OC192/SRP-SR-PR	Two OC192/SRP-SR-SC Linecards With One CBL-SRP-OC192 Cable
OC192/SRP-SR-SC	1 Port OC192c/STM64c SRP Linecard, 1310nm SR, SC
OC192/SRP-VSR	1 Port OC192c/STM64c SRP Linecard, 850nm VSR, MTP
OC192/SRP-VSR-PR	Two OC192/SRP-VSR Linecards With One CBL-SRP-OC192 Cable
OC48/SRP-LR-B-PR	Two OC48/SRP-LR-SC-B Line Cards with MATE Cable
OC48/SRP-LR-SC-B=	OC48 SRP Rev-B Line Card, Single Mode, Long Reach
OC48/SRP-SR-B-PR	Two OC48/SRP-SR-SC-B Line Cards with MATE Cable, GSR
OC48/SRP-SR-SC-B=	OC48 SRP Rev-B Line Card, Single Mode, Short Reach, GSR
OC48X/POS-LR-SC	CONCATENATED OC48 WITH EXTENDED FEATURES LONG REACH
OC48X/POS-SR-SC	1 port OC48 POS Extended features
12000-SIP-400	Cisco 12000 Series SPA Interface Processor-400
12000-SIP-400=	Cisco 12000 Series SPA Interface Processor-400, spare

1. Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco XR 12000 and 12000 Series Web site: <http://www.cisco.com/go/12000>



LAN Switching

LAN Switching Products at a Glance

Fixed Configuration Products		
Product	Features	Page
Catalyst Express 500 Series	<ul style="list-style-type: none">• Standalone Layer 2 switches• Fast Ethernet and Gigabit Ethernet connectivity• Up to 24 10/100 ports with optional Power-over-Ethernet (PoE) or 12 10/100/1000 ports	2-3
Catalyst 2950 Series	<ul style="list-style-type: none">• Layer 2/3/4 based services: Advanced QoS, Security, High availability and STP enhancements• Wire-speed performance• GBIC based uplink ports for media flexibility	2-5
Catalyst 2960 Series	<ul style="list-style-type: none">• Layer 2 switches with intelligent Layer 2 through 4 services for the network edge• Fast Ethernet and Gigabit Ethernet connectivity• Up to 48 10/100 ports or 10/100/1000 ports	2-8
Catalyst 3560 Series	<ul style="list-style-type: none">• 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 4 small form-factor pluggable (SFP) ports	2-10
Catalyst 3560-E Series	<ul style="list-style-type: none">• 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 2 upgradeable 1 GbE to 10 GbE ports per stackable switch• Field replaceable and upgradeable power supplies and fan tray• Configurations with up to 15.4 watts (Class 3) of PoE on all 48 ports	2-13
Catalyst 3750 Series	<ul style="list-style-type: none">• Stackable, fixed-configuration switches with Cisco StackWise™ technology and a 32-Gbps 2-16 interconnect for a unified, resilient system of up to nine switches• Layer 2-4 switching and intelligent services with dynamic IP routing and IPv6• Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet connectivity• Up to 48 10/100/1000 ports plus 4 SFP ports per stackable switch• Integrated wireless LAN controller supporting 25 or 50 access points per switch and up to 4 switches per stack for a total of 200 access points	2-19
Catalyst 3750-E Series	<ul style="list-style-type: none">• Stackable, fixed-configuration switches with Cisco StackWise™ Plus technology and a 64-Gbps interconnect for a unified, resilient system of up to nine switches• Layer 2-4 switching and intelligent services with dynamic IP routing and IPv6• Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet connectivity• Up to 48 10/100/1000 ports plus 2 upgradeable 1 GbE to 10 GbE ports per stackable switch• Field replaceable and upgradeable power supplies and fan tray• Full backward compatibility with the Catalyst 3750 Series	2-22
Catalyst 4948 Series	<ul style="list-style-type: none">• Layer 2 - 4 switching and intelligent services with dynamic IP routing• Up to 48 10/100/1000 ports with 4 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	

Modular Switching Products

Product	Features	Page
Catalyst 4500 Series	<ul style="list-style-type: none"> Integrated intelligent Layer 2-Layer 4 services for converged networks in enterprise LAN Access, Layer2/Layer3 distribution, SMB and branch office Up to 384 ports of Fast Ethernet or Gigabit Ethernet over Fiber or Copper with wire-speed 10 Gigabit Ethernet Uplinks High performance, Layer 2/3/4 switching up to 136 Gbps and 102 Mpps Advanced network control with predictable performance, granular QoS, advanced security and web-based network management 	2-23
Catalyst 6500 Series	<ul style="list-style-type: none"> Highest levels of Layer 2 - Layer 7 services scalability included integrated deep packet inspection Highest port density for 10 Gb, 1 Gb, and fast Ethernet and PoE ports Scalable up to 720 Gbps of switching capacity with packet throughput scalable to 425 Mpps IPv4 (200 Mpps IPv6) Multi-gigabit service modules for integrated security, network management, and layer 4-7 switching Integrated wireless LAN controller supporting up to 300 access points per module and up to 5 modules for a total of 1500 access points 	2-29

Helpful Resources

Cisco Catalyst Switching Competitive Reference Guide	Download the latest edition: http://www.cisco.com/web/partners/sell/technology/switching/advantage.html
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml

Cisco LAN and MAN Products Port Matrix

	Fixed Switches								Modular Switches	
	Catalyst Express 500	Catalyst 2950	Catalyst 2960	Catalyst 3560	Catalyst 3560-E	Catalyst 3750	Catalyst 3750-E	Catalyst 4948	Catalyst 4500	Catalyst 6500
Fixed Ports Only	X	X	X	X				X		
Fixed and Modular Ports					X	X	X		X	
Modular Ports Only										X
10BASE-T Switched	X	X	X	X	X	X	X	X	X	X
10BASE-FL Switched										X
100BASE-T Switched	X	X	X	X	X	X	X	X	X	X
100BASE-FX Switched		X	X	X	X	X	X		X	X
10/100 Autosensing Switched	X	X	X	X	X	X	X	X	X	X
10/100/1000BaseT	X	X	X	X	X	X	X	X	X	X
Gigabit Ethernet	X	X	X	X	X	X	X	X	X	X
10 Gigabit Ethernet					X	X	X	X	X	X
Integrated PoE	X			X	X	X	X		X	X
Integrated Service Modules: Firewall, IDS, Network Analysis (NAM), Wireless (WiSM), Voice Gateway (CMM), Content Switching/SSL, Anomaly Detection, IPSec VPN, SSL VPN, AON)										X
WAN Modules: SIP/SPA, OSM, Enhanced FlexWAN										X

Cisco Catalyst Express 500 Series

The Cisco Catalyst Express 500 Series switches are custom-built for growing small- and medium-sized businesses (SMBs), providing an easy-to-manage, secure network foundation optimized for data, wireless, and IP Communications for organizations with up to 250 employees.



When to Sell

Sell This Product

Catalyst Express 500 Series

When a Customer Needs These Features

- Deploying switching solutions in networks with less than 250 users
- Deploying wireless networks or IP Communications
- Power-over-Ethernet (PoE) ports

Key Features

- **Power over Ethernet (PoE)**—4-port and 24-port PoE configurations provide full 15.4W simultaneously on all ports and can power connected IP phones, wireless access points, IP video cameras, and other devices directly over the Ethernet connection, simplifying deployment and eliminating the need and cost of installing separate power supplies for connected end points.
- **Robust Network Security**—provide security at the device level with Secure Socket Layer (SSL) and Simple Network Management Protocol (SNMP) encryption, and at the network level with the Cisco Network Assistant security slider, which offers three pre-configured security levels.
- **Optimized QoS with Cisco Smartports**—Cisco Smartports technology match the appropriate class-of-service (CoS) and differentiated services code point (DSCP) values to the specific Cisco device connected to the Cisco Catalyst Express switch. This simplifies the deployment of IP communications and wireless LAN solutions by automatically detecting these applications and optimizing network QoS and security settings to support them.
- **Easy Installation and Configuration**—The embedded Device Manager and the freely downloadable Cisco Network Assistant provide easy-to-use GUIs and Cisco Smartports technology to eliminate the complexity that typically accompanies configuration and simplify the management, troubleshooting, and ongoing optimization of the solutions.
- **Central management of Cisco foundation, IP telephony and WLAN solutions**—Allows centralized management of a SMB network, including Cisco Catalyst switches, integrated services routers (ISRs) and Cisco Unified IP Phones, using a single IP address. Management can be done locally or remotely, using a secure SSL connection
- **High Performance**—The solutions provide non-blocking, wire-speed switching on all ports to increase network availability and bandwidth, as well as features to manage port congestion and preserve performance
- **Limited lifetime hardware warranty**

Competitive Products

- 3Com—SuperStack, 2200-PWR, 2800, 4200, 4500, 5500, 5500G,
- ProCurve—2400, 2500, 2600, 2600-PWR, 2800, 3400, 4000M, 6100, 6400,
- Netgear—FS7xxx, GS7xxx FSM7xxx, GSM7xxx
- D-Link—DESxxxx, DGSxxxx, DXSxxx
- Nortel—ES 325, BPS 2000, BayStack Models: 325, 350, 380, 420, 425, 450, 460T, 470, 3510, 5500,
- Huawei—Quidway 2000
- Dell—PowerConnect

Specifications

Feature	CE500-24TT	CE500-24LC	CE500-24PC	CE500G-12TC
Forwarding bandwidth (Gbps)	8.8	8.8	8.8	24
Packets per second (Mpps)	6.6	6.6	6.6	18
MAC addresses supported	8,000	8,000	8,000	8,000
Onboard memory (DRAM MB)	32	32	32	32
Gigabit Ethernet GBIC/SFP density	0	2	2	4
10/100/1000 density	2	2	2	12
10/100 density	24	24	24	0
Max. watt power consumption	30	110	460	45
PoE: Max. 802.3af Class 3 devices (15.4W)	0	4	24	0
PoE: Max. 802.3af Class 2 devices (7.3W)	0	4	24	0
AC/DC support	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 9.9 in. (4.39 x 44.45 x 25.15 cm.)	1.73 x 17.5 x 9.9 in. (4.39 x 44.45 x 25.15 cm.)	1.73 x 17.5 x 14.4 in. (4.39 x 44.45 x 36.58 cm.)	1.73 x 17.5 x 9.9 in. (4.39 x 44.45 x 25.15 cm.)
Unit weight	8 lbs. (3.7 kgs.)	8 lbs. (3.7 kgs.)	12 lbs. (5.5 kgs.)	8 lbs (3.7 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst Express 500 Series

WS-CE500-24TT-K9	24 10/100 and 2 10/100/1000BT uplinks, GUI software
WS-CE500-24LC-K9	24 10/100 (4 PoE) and 2 10/100/1000BT or SFP uplinks, GUI
WS-CE500-24PC-K9	24 10/100 (24PoE) and 2 10/100/1000BT or SFP uplinks, GUI sw
WS-CE500G-12TC-K9	8 10/100/1000BT and 4 10/100/1000BT or SFPs, GUI software

SFPs

GLC-GE-100FX=	100FX SFP on GE SFP ports
GLC-FE-100FX	100BASE-FX SFP for FE port
GLC-LH-SM=	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-FE-100LX	100BASE-LX SFP for FE port
GLC-FE-100BX-U	100BASE-BX10-U SFP
GLC-FE-100BX-D	100BASE-BX10-D SFP

RPS

PWR675-AC-RPS-N1=	675W Redundant Power Supply with 1 connector cable
CAB-RPS-1614=	1 RPS 675 connector cable 16/14

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Catalyst Express 500 Web site: <http://www.cisco.com/go/catalystexpress500>

Cisco Catalyst 2950 Series Intelligent Ethernet Switches



The Catalyst 2950 Series with Intelligent Ethernet Switches are fixed-configuration, standalone and stackable models that provide wire-speed Fast Ethernet and Gigabit Ethernet connectivity for small, mid-sized, service provider and industrial networks. When a Catalyst 2950 Switch is combined with a Catalyst 3550 Series Switch, the solution is capable of enabling IP routing from the edge to the core of the network. These Intelligent Ethernet Switches come with Enhanced Image (EI) software configuration only.

In addition to the range of Intelligent Ethernet switches, the Catalyst 2950 Series also includes switches with Standard Image (SI) software configuration only and are standalone, fixed-configuration, managed 10/100 switches with Gigabit uplinks (2950SX-48, 2950T-48, and 2950SX-24 only) providing user connectivity for small to mid-sized networks. These wire-speed desktop switches come with Standard Image (SI) software features and offer Cisco IOS functionality for basic data, video and voice services at the edge of the network.

When to Sell

Sell This Product

When a Customer Needs These Features

Catalyst 2950 Series Intelligent Ethernet Switches with Enhanced Image (EI)

Layer 2/3/4 based services: Advanced QoS, Security, High availability and STP enhancements
Wire-speed performance
Advanced QoS, Security, High availability and STP enhancements
CNA
Stackable
GBIC based uplink ports for media flexibility

Catalyst 2950G-48-EI

Ideal for desktop connectivity
High Port Density

Catalyst 2950G-24-EI

Ideal for desktop connectivity
Medium Port Density

Catalyst 2950G-24-EI-DC

Ideal for Telco/DCN environments
NEBS compliant
Medium Port Density

Catalyst 2950G-12-EI

Ideal for desktop connectivity
Low Port density

Catalyst 2950T-48

High port density
High speed uplink connectivity with 2 fixed 10/100/1000BASE-T ports

Catalyst 2950T-24

High speed uplink connectivity with 2 fixed 10/100/1000BASE-T ports
Low price per port

Catalyst 2950C-24

High speed uplink connectivity over extended distances with 2 fixed 100BASE-FX connections using MT-RJ connectors
Low price per port

Catalyst 2950 Series with Standard Image (SI)

Wire speed, high performance switches for delivering 10/100 Mbps speed connectivity to desktop PCs, servers and other systems
Layer 2-based QoS and Security features
CNA
Ideal for desktop connectivity.

Catalyst 2950-12

Low Port density

Catalyst 2950-24

Medium port density

Catalyst 2950SX-48

High port density
High speed uplink connectivity with 2 fixed 1000BASE-SX ports

Catalyst 2950SX-24

High speed uplink connectivity with 2 fixed 1000BASE-SX ports
Medium port density

Catalyst 2950SX-48

High speed uplink connectivity with 2 fixed 1000BASE-SX ports
Medium port density

Key Features

- Network Management—CNA offers centralized management and configuration of Cisco networks to simplify deployment and ongoing maintenance by leveraging Cisco Smartports technology. CNA is a PC-based network management application optimized for networks with 20 devices or less.
- Wire-speed performance in connecting end-stations to the LAN
- Provides intelligent services such as advanced quality of service, rate-limiting, security filters, and multicast management, to the network edge-while maintaining the simplicity of traditional LAN switching
- Ideal for small- and mid-sized networks
- Sophisticated Multicast Management via IGMP Snooping
- Scalability and high availability features
- Support for Cisco Redundant Power System 675 (RPS 675)

Competitive Products

- Hewlett Packard—Procurve 2500 /2650
- Nortel—BPS 2000/450T/420T
- 3 Com—Superstack 3300/4300/4400/4400SE/4200 series
- Extreme—Summit 24 e2e3
- Dell—Powerconnect 3024/3048/3248
- Hirshchmann
- GarretCom
- Sixnet

Specifications

Feature	2950G-48-EI	2950G-24-EI	2950G-24-EI-DC	2950G-12-EI	2950T-24
Fixed Ports	48 port 10/100 autosensing & 2 GBIC-based Gigabit Ethernet ports	24 port 10/100 autosensing & 2 GBIC ports	24 port 10/100 autosensing & 2 GBIC ports and DC Power	12 port 10/100 autosensing & 2 GBIC ports	26-port (24 10/100 autosensing & 2 ports 1000BaseT)
Forwarding Bandwidth	13.6 Gbps	8.8 Gbps	8.8Gbps	6.4Gbps	8.8 Gbps
Forwarding Rate	10.1 Mpps	6.6 Mpps	6.6 Mpps	4.8 Mpps	6.6 Mpps
Full-Duplex Capabilities	All Ports	All Ports	All Ports	All Ports	All Ports
VLAN Maximum	250-port-based VLANs	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
FEC	Yes	Yes	Yes	Yes	Yes
802.1Q	Yes	Yes	Yes	Yes	Yes
Security	Port Security, with MAC aging, Private VLAN Edge, ACL, 802.1x, IBNS, SSH, RADIUS, TACACS+, SNMPv3 (crypto), BPDU Guard, BPDU Scheduling, SPAN for Intrusion Detection, Spanning Tree Root Guard	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
Multicast	IGMP Snooping, IGMP filtering, Multicast VLAN Registration	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
QoS	802.1P, 4 egress queues, Weighted Round Robin, Strict Priority Scheduling, Expedite Queueing, Policing, Marking, Layer 3 and 4 Services, Auto QoS	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
Management Capabilities	Express Setup, SPAN for Intrusion Detection, L2 Trace Route, VLAN 1 minimization, Auto configuration, SNMP, Telnet, RMON, CWSI, (CLI)-based out-of-band, embedded CMS, RSPAN	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
Software Image	Enhanced Image (EI)	Enhanced Image (EI)	Enhanced Image (EI)	Enhanced Image (EI)	Enhanced Image (EI)
Flash Memory	8 MB	8 MB	8 MB	8 MB	8 MB
CPU DRAM	16 MB	16 MB	16 MB	16 MB	16 MB
Embedded RMON	History, Events, Alarms, Statistics	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
Dimensions (H x W x D)	1.72 x 17.5 x 13 in.	1.72 x 17.5 x 9.52 in.	1.72 x 17.5 x 9.52 in.	1.72 x 17.5 x 9.52 in.	1.75 x 17.5 x 16 in.

Feature	2950T-48	2950-24	2950-12	2950SX-12	2950SX-48
Fixed Ports	50-port (48 10/100 autosensing & 2 ports 10/100/1000BASE-T) T-12: 2 fixed 10/100/1000BASE-T uplink ports	24-port 10/100 autosensing	12-port 10/100 autosensing	26-port (24 10/100 autosensing & 2 ports 1000BaseSX) C-12: 2 fixed 100BASE-FX multimode uplink ports; S-12: 2 fixed 100BASE-LX single-mode uplink ports	50-port (48 10/100 autosensing & 2 ports 1000BASE-SX) 12 10/100 ports
Forwarding Bandwidth	13.6 Gbps	4.8 Gbps	2.4 Gbps	8.8 Gbps	13.6 Gbps
Forwarding Rate	13.6 Mpps	3.6 Mpps	1.8 Mpps	6.6 Mpps	13.6 Mpps
Full-Duplex Capabilities	All Ports	All Ports	All Ports	All Ports	All Ports
VLAN Maximum	64-port-based VLANs	64-port-based VLANs	64-port-based VLANs	64-port-based VLANs	64-port-based VLANs
FEC	Yes	Yes	Yes	Yes	Yes
802.1Q	Yes	Yes	Yes	Yes	Yes
Security	Port Security, with MAC aging, Private VLAN Edge, 802.11x, RADIUS, TACACS+, BPDU Guard, BPDU Scheduling, SPAN for Intrusion Detection, Spanning Tree Root Guard	Same as 2950T-48	Same as 2950T-48	Same as 2950T-48	Same as 2950T-48
Multicast	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
QoS	802.1P, 4 egress queues, WRR, Strict Priority Scheduling	Same as 2950T-48	Same as 2950T-48	Same as 2950T-48	Same as 2950T-48
Management Capabilities	Express Setup, SPAN for Intrusion Detection, L2 Trace Route, VLAN 1 minimization, Auto configuration, SNMP, Telnet, RMON, CWSI, (CLI)-based out-of-band, embedded CMS	SNMP, Telnet, RMON, CWSI, (CLI)-based out-of-band, embedded CMS	Same as 2950-24	Same as 2950-24	Same as 2950-24
Software Image	Standard Image (SI)	Standard Image (SI)	Standard Image (SI)	Standard Image (SI)	Standard Image (SI)
Flash Memory	8 MB	8 MB	8 MB	8 MB	8 MB
CPU DRAM	16 MB	16 MB	16 MB	16 MB	16 MB
Embedded RMON	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI	Same as 2950G-48-EI
Dimensions (H x W x D)	1.75 x 17.5 x 13 in.	1.75 x 17.5 x 11.8 in.	1.75 x 17.5 x 9.52 in.	1.75 x 17.5 x 9.52 in.	1.75 x 17.5 x 13 in.

Feature	2950C-24
Fixed Ports	26-port (24 10/100 autosensing & 2 ports 100BaseFX)
Forwarding Bandwidth	5.2 Gbps
Forwarding Rate	3.9 Mpps
Full-Duplex Capabilities	All Ports
VLAN Maximum	250-port-based VLANs
FEC	Yes
802.1Q	Yes
Security	Port Security, with MAC aging, Private VLAN Edge, ACL, 802.11x, IBNS, SSH, RADIUS, TACACS+, SNMPv3 (crypto), BPDU Guard, BPDU Scheduling, SPAN for Intrusion Detection, Spanning Tree Root Guard
Multicast	Same as 2950G-48-EI
QoS	802.1P, 4 egress queues, Weighted Round Robin, Strict Priority Scheduling,
Management Capabilities	Express Setup, SPAN for Intrusion Detection, L2 Trace Route, VLAN 1 minimization, Auto configuration, SNMP, Telnet, RMON, CWSI, (CLI)-based out-of-band, embedded CMS, RPSAN
Software Image	Enhanced Image (EI)
Flash Memory	8 MB
CPU DRAM	16 MB
Embedded RMON	Same as Catalyst 2950G-48-EI
Dimensions (H x W x D)	1.75 x 17.5 x 11.8 in.

Selected Part Numbers and Ordering Information¹

Catalyst 2950 Series Switches¹

WS-C2950G-48-EI	Catalyst 2950G-48 switch with 48 10/100 ports and 2 Gigabit Interface Converter (GBIC)-based GE ports, Enhanced Image
WS-C2950G-24-EI	Catalyst 2950G-24 switch with 24 10/100 ports and 2 GBIC ports, Enhanced Image
WS-C2950G-24-EI-DC	Catalyst 2950G-24-DC switch with 24 10/100 ports, 2 GBIC ports and DC Power, Enhanced Image
WS-C2950G-12-EI	Catalyst 2950G-12 switch with 12 10/100 ports and 2 GBIC ports, Enhanced Image
WS-C2950T-24	Catalyst 2950C-24T switch with 24 10/100 ports and two fixed 1000BaseT Uplink ports, Enhanced Image
WS-C2950C-24	Catalyst 2950C-24 switch with 24 10/100 ports and two fixed 100BaseFX Uplink ports, Enhanced Image
WS-C2950SX-48-SI	Catalyst 2950SX-48 switch with 48 10/100 ports and two fixed 1000BASE-SX Uplink ports, Standard Image
WS-C2950T-48-SI	Catalyst 2950T-48 switch with 48 10/100 ports and two fixed 10/100/1000BASE-T Uplink ports, Standard Image
WS-C2950SX-24	Catalyst 2950SX-24 switch with 24 10/100 ports and two fixed 1000BaseSX Uplink ports, Standard Image
WS-C2950-24	Catalyst 2950-24 switch with 24 10/100 ports, Standard Image
WS-C2950-12	Catalyst 2950-12 switch with 12 10/100 ports, Standard Image

Gigabit Interface Converters (GBICs)

WS-X3500-XL	GigaStack GBIC Gigabit Ethernet stacking GBIC and 50 cm cable
WS-G5484=	1000BaseSX GBIC short wavelength GBIC (multimode fiber only)
WS-G5486=	1000BaseLX/LH GBIC long wavelength/long haul GBIC (single or multimode fiber)
WS-G5487=	1000BaseZX GBIC extended-reach GBIC (single mode fiber only)
WS-G5483=	1000BaseT GBIC- Gigabit-Ethernet-over-copper GBIC

Redundant Power System (RPS)

PWR675-AC-RPS-N1=	675W Redundant Power Supply with 1 connector cable
VAB-RPS-1414=	1.2 meter cable for Cisco RPS 300 to external device connection

Cables/Accessories

CAB-RPS-1614=	1 RPS 675 connector cable 16/14
CAB-GS-50CM	50 centimeter cable for GigaStack GBIC
STK-RACKMOUNT-1RU=	Rack mount kit for 1 RU versions of Catalyst 2950, 3500 XL, 2900 XL, 1900, and FastHub 400 switches

Packaged SMARTnet 8x5xNBD Maintenance Contract

CON-SNT-PKG3	Packaged SMARTnet 8x5xNBD Maintenance for the Catalyst 2950G-12, 2950-24 and 2950-12
CON-SNT-PKG4	Packaged SMARTnet 8x5xNBD Maintenance for the Catalyst 2950G-24 and 2850G-24-DC
CON-SNT-PKG6	Packaged SMARTnet 8x5xNBD Maintenance for the Catalyst 2950G-48

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Catalyst 2950 Series Web site: <http://www.cisco.com/go/catalyst2950>

Cisco Catalyst 2960 Series



The Cisco Catalyst 2960 Series Switches are fixed-configuration switches offering Fast Ethernet and Gigabit Ethernet connectivity with enhanced LAN services for mid-market wiring closet and small branch office networks.

Two compact models offer small footprint and silent operation yet deliver the complete LAN-based feature set and are ideal for applications outside the wiring closet such as office workspaces, classrooms, and micro branch offices where space is a premium.

When to Sell

Sell This Product

Catalyst 2960 Series

When a Customer Needs These Features

- Deploy intelligent services at entry-level functionality
- Deploy QoS, enhanced security, and availability
- Deploy and easily manage their networks
- Deploy where space is a constraint

Key Features

- Security—Network security is enabled through a wide range of authentication methods, data encryption technologies, and NAC based on users, ports, and MAC addresses
- Availability—802.1S/W enables standards-based fault tolerance, load balancing, and rapid recovery; Flexlink provides sub 100msec convergence; Per VLAN Spanning Tree Plus (PVST+) increases available bandwidth by allowing traffic on redundant links
- QoS—Network control and bandwidth optimization through advanced QoS, granular rate limiting, access control lists (ACLs), and multicast services
- Management—Cisco Network Assistant is a GUI-based management tool for configuration management, and troubleshooting; Smartports automatically detects connected Cisco devices and recommends preset configurations for the switch port connected to the device
- Limited Lifetime Hardware Warranty
- Software updates at no additional charge
- Supports enhanced L2+ security
- Simplify migration from non-intelligent hubs and unmanaged switches to a fully scalable managed network with the LAN Lite software image,

Competitive Products

- 3Com—3200, 3800, 4200, SS3 4400, 4500
- ProCurve—2500, 2600, 2800
- Huawei—H3C S5100, H3C 3100
- Extreme—Summit 200, 300
- Nortel—ES325, ES 425, ES470, ERS2500
- Foundry—Edgeline, FastIron Workgroup Edge X

Specifications

Features	WS-C2960-8TC-L	WS-C2960-24TC-L	WS-C2960-24TT-L	WS-C2960-48TC-L
Forwarding bandwidth (Gbps)	16	16	16	32
Packets per second (Mpps)	2.7	6.6	6.6	10.1
MAC addresses supported	8,000	8,000	8,000	8,000
Onboard memory (DRAM)	64 MB	64 MB	64 MB	64 MB
Gigabit Ethernet GBIC/SFP density	1	2	0	2
10/100/1000 density	1	2	2	2
10/100 density	8	24	24	48
100BASE-FX density	0	0	0	0
Max. watt power consumption	20	30	30	45
AC/DC support	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 10.6 x 6.4 in. (4.4 x 27 x 16.3 cm)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)
Unit weight	3 lbs. (1.4 kgs.)	8 lbs. (3.6 kgs.)	8 lbs. (3.6 kgs.)	8 lbs. (3.6 kgs.)

Features	WS-C2960-48TT-L	WS-C2960G-8TC-L	WS-C2960-48TT-L	WS-C2960G-24TC-L
Forwarding bandwidth (Gbps)	16	32	32	32
Packets per second (Mpps)	10.1	11.9	10.1	35.7
MAC addresses supported	8,000	8,000	8,000	8,000
Onboard memory (DRAM)	64 MB	64 MB	64 MB	64 MB
Gigabit Ethernet GBIC/SFP density	0	1	0	4
10/100/1000 density	2	8	2	24
10/100 density	48	0	48	0
100BASE-FX density	0	0	0	0
Max. watt power consumption	45	30	45	75

Features	WS-C2960-48TT-L	WS-C2960G-8TC-L	WS-C2960-48TT-L	WS-C2960G-24TC-L
AC/DC support	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)	1.73 x 10.6 x 8.1 in. (4.4 x 27 x 20.5 cm)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)	1.73 x 17.5 x 12.9 in. (4.4 x 44.5 x 32.8 cm.)
Unit weight	8 lbs. (3.6 kgs.)	3 lbs. (1.4 kgs.)	8 lbs. (3.6 kgs.)	10 lbs. (4.5 kgs.)

Features	WS-C2960G-48TC-L	WS-C2960-24-S	WS-C2960-24TC-S	WS-C2960-48TC-S
Forwarding bandwidth (Gbps)	32	16	16	16
Packets per second (Mpps)	39	3.6	6.5	10.1
MAC addresses supported	8,000	8,000	8,000	8,000
Onboard memory (DRAM)	64 MB	64 MB	64 MB	64 MB
Gigabit Ethernet GBIC/SFP density	4	0	2	2
10/100/1000 density	48	0	2	2
10/100 density	0	24	24	48
100BASE-FX density	0	0	0	0
Max. watt power consumption	140	30	30	45
AC/DC support	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 12.9 in. (4.4 x 44.5 x 32.8 cm.)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)	1.73 x 17.5 x 9.3 in. (4.4 x 44.5 x 23.6 cm.)
Unit weight	12 lbs. (5.4 kgs.)	8 lbs. (3.6 kgs.)	8 lbs. (3.6 kgs.)	8 lbs. (3.6 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst 2960 Series Workgroup Switches

WS-C2960-24-S	24 10/100 LAN Lite Image
WS-C2960-24TC-S	24 10/100 + 2T/SFP LAN Lite Image
WS-C2960-48TC-S	48 10/100 + 2T/SFP LAN Lite Image
WS-C2960-8TC-L	8 10/100 + 1T/SFP Compact form-factor LAN Base Image
WS-C2960-24TT-L	24 10/100 + 2 1000BT LAN Base Image
WS-C2960-24TC-L	24 10/100 + 2T/SFP LAN Base Image
WS-C2960-48TT-L	48 10/100 + 2 1000BT LAN Base Image
WS-C2960-48TC-L	48 10/100 + 2 T/SFP LAN Base Image
WS-C2960G-8TC-L	7 10/100/1000 + 1 T/SFP Compact form-factor LAN Base Image
WS-C2960G-24TC-L	20 10/100/1000 + 4 T/SFP LAN Base Image
WS-C2960G-48TC-L	44 10/100/1000 + 4 T/SFP LAN Base Image

SFPs

GLC-BX-D=	1000BASE-BX SFP, 1490NM
GLC-BX-U=	1000BASE-BX SFP, 1310NM
GLC-FE-100BX-D=	100BASE-BX10-D SFP
GLC-FE-100BX-U=	100BASE-BX10-U SFP
GLC-FE-100FX=	100BASE-FX SFP for FE port
GLC-FE-100LX=	100BASE-LX SFP for FE port
GLC-GE-100FX=	100FX SFP on GE SFP ports
GLC-LH-SM=	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 NM SFP Gigabit Ethernet and 1G/2G FC

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels.

For More Information

See the Catalyst 2960 Series Web site: <http://www.cisco.com/go/catalyst2960>

Cisco Catalyst 3560 Series



The Cisco Catalyst 3560 Series switches are fixed-configuration switches combining Gigabit Ethernet connectivity and PoE for small enterprise LAN access and branch office deployments.

When to Sell

Sell This Product

Catalyst 3560 Series

When a Customer Needs These Features

- Enhance business productivity, resiliency, security, and scalability
- Quickly deploy and easily manage their networks
- Deploy IP telephony, wireless, or Gigabit-to-the-Desktop (GTTD)

Catalyst 3560-24TS

Low-density access, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560-48TS

Medium-density access, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560-8PC

Compact switch with magnet and no fan, PoE, Layer 2+ or L3 features, and one dual-purpose 10/100/1000 or SFP uplink

Catalyst 3560-24PS

Low-density access, PoE, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560-48PS

Medium-density access, PoE, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560G-24TS

Low-density 10/100/1000 access, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560G-24PS

Low-density 10/100/1000 access, PoE, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560G-48TS

Medium-density 10/100/1000 access, Layer 2+ or L3 features, and one or more fiber uplinks

Catalyst 3560G-48PS

Medium-density 10/100/1000 access, PoE, Layer 2+ or L3 features, and one or more fiber uplinks

Key Features

- Availability—Fault tolerance, load balancing, and rapid recovery; Increased available bandwidth with PVST+ by allowing traffic on redundant link; Sub-100-millisecond convergence with Flexlink
- PoE—370W PoE simplifies IP telephony, wireless, and video surveillance deployments; intelligent power management features; PoE combined with Fast Ethernet or Gigabit Ethernet
- Layer 3—Advanced routing protocols such as Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), and Policy Based Routing (PBR) increase network scale; equal cost routing as well as multicast routing such as Protocol Independent Multicast (PIM); Virtual Route Forwarding Lite (VRFLite) secures traffic; IPv6
- QoS—Traffic Shaping smooths a sudden traffic flow outburst without dropping packets; shaped Round Robin guarantees bandwidth to mission critical applications; Scavenger Queueing protects against worms overloading resources
- Management—Cisco Smartports quicken and simplify configuration of advanced Cisco Catalyst intelligent capabilities; express setup enables quick and easy setup through a Web interface; resource templates help tailor switch resources for the application
- Security—Dynamic Host Configuration Protocol (DHCP) snooping allows only trusted ports to relay DHCP messages, eliminating rogue DHCP servers; Network Access Control (NAC) prevents the propagation of costly worms and viruses; Dynamic ARP inspection and IP Source Guard prevent against man-in-the-middle attacks; 802.1x and Identity-based Network Services allow only authorized persons on the network; port security prevents MAC address flooding attacks

Competitive Products

- 3Com—4500G, 55xx 10/100, 55xxG 10/100/1000, 55xx FX, 55xxG SFP
- Extreme—Summit, 400, x450
- Foundry—EdgeIron 24GS and 48GS
- Huawei—Quidway 3900, 5000
- Nortel—ERS 5000
- ProCurve—2900, 3400c, 3500

Specifications

Features	WS-C3560-24TS	WS-C3560-48TS	WS-C3560-8PC	WS-C3560-24PS	WS-C3560-48PS
Forwarding bandwidth (Gbps)	32	32	32	32	32
Packets per second (Mpps)	6.5	13.1	2.7	6.5	13.1
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/Flash)	128/32 MB	128/32 MB	128/32 MB	128/16 MB	128/16 MB
Gigabit Ethernet GBIC/SFP 2 density		4	1	2	4
10/100/1000 density	0	0	1	0	0
10/100 density	24	48	8	24	48
PoE: Max. 802.3af Class 3 devices (15.4W)	0	0	8	24	24
PoE: Max. 802.3af Class 2 devices (7.3W)	0	0	8	24	48
AC/DC support	AC only	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)	1.73 x 10.6 x 9.1 in. (4.4 x 27 x 23 cm)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)	1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm.)
Unit weight	8.5 lbs. (3.9 kgs.)	9.1 lbs. (4.1 kgs.)	5 lbs. (2.3 kgs.)	11.3 lbs. (5.1 kgs.)	13.2 lbs. (6.0 kgs.)

Features	WS-C3560G-24TS	WS-C3560G-48TS	WS-C3560G-24PS	WS-C3560G-48PS
Forwarding bandwidth (Gbps)	32	32	32	32
Packets per second (Mpps)	38.7	38.7	38.7	38.7
MAC addresses supported	12,000	12,000	12,000	12,000
Routes supported	11,000	11,000	11,000	11,000
Onboard memory (DRAM/Flash)	128/32 MB	128/32 MB	128/32 MB	128/32 MB
Gigabit Ethernet GBIC/SFP density	4	4	4	4
10/100/1000 density	24	48	24	48
10/100 density	0	0	0	0
PoE: Max. 802.3af Class 3 devices (15.4W)	0	0	24	24
PoE: Max. 802.3af Class 2 devices (7.3W)	0	0	24	48
Dimensions (H x W x D)	1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm.)	1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm.)	1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm.)	1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm.)
Unit weight	12 lbs. (5.4 kgs.)	13.5 lbs. (6.1 kgs.)	14 lbs. (6.4 kgs.)	15.5 lbs. (7.0 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst 3560 Series 10/100/1000 Workgroup Switches²

WS-C3560G-48PS-S	48 10/100/1000T PoE + 4 SFP Standard Image
WS-C3560G-48PS-E	48 10/100/1000T PoE + 4 SFP Enhanced Image
WS-C3560G-24PS-S	24 10/100/1000T PoE + 4 SFP Standard Image
WS-C3560G-24PS-E	24 10/100/1000T PoE + 4 SFP Enhanced Image
WS-C3560-8PC-S	8 10/100 PoE + 1 T/SFP Compact form-factor Standard Image
WS-C3560G-48TS-S	48 10/100/1000T + 4 SFP Standard Image
WS-C3560G-48TS-E	48 10/100/1000T + 4 SFP Enhanced Image
WS-C3560G-24TS-S	24 10/100/1000T + 4 SFP Standard Image
WS-C3560G-24TS-E	24 10/100/1000T + 4 SFP Enhanced Image

Catalyst 3560 Series 10/100 Workgroup Switches

WS-C3560-48PS-S	48 10/100 PoE + 4 SFP Standard Image
WS-C3560-48PS-E	48 10/100 PoE + 4 SFP Enhanced Image
WS-C3560-24PS-S	24 10/100 PoE + 2 SFP Standard Image
WS-C3560-24PS-E	24 10/100 PoE + 2 SFP Enhanced Image
WS-C3560-48TS-S	48 10/100 + 4 SFP Standard Image
WS-C3560-48TS-E	48 10/100 + 4 SFP Enhanced Image
WS-C3560-24TS-S	24 10/100 + 2 SFP Standard Image

WS-C3560-24TS-E	24 10/100 + 2 SFP Enhanced Image
IOS Upgrades	
CD-3560-EMI=	Enhanced Multilayer Image upgrade for 3560 10/100 models
CD-3560G-EMI=	Enhanced Multilayer Image upgrade for 3560 GE models
3560-AISK9-LIC-B=	Advanced IP Services for 3560 FE models running SMI
3560-AISK9-LIC-S=	Advanced IP Services upgrade for 3560 FE models running EMI
3560G-AISK9-LIC-B=	Advanced IP Services upgrade for 3560 GE models running SMI
3560G-AISK9-LIC-S=	Advanced IP Services upgrade for 3560 GE models running EMI
SFPs	
GLC-GE-100FX=	100FX SFP on GE SFP ports
GLC-LH-SM=	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 NM SFP Gigabit Ethernet and 1G/2G FC
CAB-SFP-50CM=	Catalyst 3560 SFP Interconnect Cable, 50cm
RPS 2300	
PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, No Power Supply 3
C3K-PWR-1150WAC	Catalyst 3750-E / 3560-E / RPS 2300 1150WAC power supply
C3K-PWR-750WAC	Catalyst 3750-E / 3560-E / RPS 2300 750WAC power supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300=	Spare RPS Cable for Cisco Redundant Power System 2300
CAB-RPS2300-E=	Spare RPS Cable RPS 2300 Cat 3750E/3560E Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300

1. Some parts have restricted access. For latest part number and pricing info: <http://www.cisco.com/dprg>
2. S=IP Base; E=IP Services

For More Information

See the Catalyst 3560 Series Web site: <http://www.cisco.com/go/catalyst3560>

Cisco Catalyst 3560-E Series



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 1 Gigabit Ethernet to 10 Gigabit Ethernet, these switches enhance worker productivity by enabling applications such as IP telephony, wireless, and video.

When to Sell

Sell This Product

Catalyst 3560-E Series

When a Customer Needs These Features

- Enhance business productivity, resiliency, security, and scalability
- Quickly deploy and easily manage their networks
- Deploy IP telephony, wireless, or Gigabit-to-the-Desktop (GTDD)
- 1GbE to 10 GbE upgradeable uplinks

Catalyst 3560E-24TD

Low-density access, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks

Catalyst 3560E-48TD

Medium-density access, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks

Catalyst 3560E-24PD

Low-density access, PoE, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks

Catalyst 3560E-48PD

Medium-density access, PoE, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks

Catalyst 3560E-48PD Full Power

Medium-density 10/100/1000 access, Full 15.4W of PoE on every port, Layer 2+ or L3 features, PoE, and 1 or more 10 GbE fiber uplinks

Catalyst 3560E-48TD

Medium-density access, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks

Catalyst 3560E-24PD	Low-density access, PoE, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks
Catalyst 3560E-48PD	Medium-density access, PoE, Layer 2+ or L3 features, and one or more 10 GbE fiber uplinks

Key Features

- Availability—Fault tolerance, load balancing, and rapid recovery; Increased available bandwidth with PVST+ by allowing traffic on redundant link; Sub-100-millisecond convergence with Flexlink
- PoE—1150W PoE simplifies IP telephony, wireless, and video surveillance deployments; intelligent power management features; PoE combined with Fast Ethernet or Gigabit Ethernet
- Layer 3—Advanced routing protocols such as Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), and Policy Based Routing (PBR) increase network scale; equal cost routing as well as multicast routing such as Protocol Independent Multicast (PIM); Virtual Route Forwarding Lite (VRFLite) secures traffic; IPv6
- QoS—Traffic Shaping smooths a sudden traffic flow outburst without dropping packets; shaped Round Robin guarantees bandwidth to mission critical applications; Scavenger Queueing protects against worms overloading resources
- Management—Cisco Smartports quicken and simplify configuration of advanced Cisco Catalyst intelligent capabilities; express setup enables quick and easy setup through a Web interface; resource templates help tailor switch resources for the application
- Security—Dynamic Host Configuration Protocol (DHCP) snooping allows only trusted ports to relay DHCP messages, eliminating rogue DHCP servers; Network Access Control (NAC) prevents the propagation of costly worms and viruses; Dynamic ARP inspection and IP Source Guard prevent against man-in-the-middle attacks; 802.1x and Identity-based Network Services allow only authorized persons on the network; port security prevents MAC address flooding attacks
- Field replaceable and upgradable power supplies and fan
- TwinGig converter module for migrating uplinks from 1 Gigabit Ethernet (SFP) to 10 Gigabit Ethernet (X2)

Competitive Products

- 3Com: 4500G, , 55xxG 10/100/1000, , 55xxG SFP
- Extreme: 400, 450 series
- Foundry: FastIron Edge X, Fast Iron Workgroup X
- Huawei: Quidway, 5000, 5600
- Nortel: 5xxx
- ProCurve: 2900, 3400, 3500

Specifications

Features	WS-C3560E-24TD	WS-C3560E-48TD	WS-C3560E-24PD	WS-C3560E-48PD	WS-C3560-48PD Full Power
Forwarding bandwidth (Gbps)	64	64	64	64	64
Packets per second (Mpps)	6.5	13.1	6.5	13.1	13.1
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/Flash)	128/32 MB	128/32 MB	128/16 MB	128/16 MB	128/16 MB
10/100/1000 density	24	48	24	48	48
10/100 density	24	48	24	48	48
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	AC and DC	AC and DC	AC and DC	AC and DC

Dimensions (H x W x D)	1.73 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.73 x 17.5 x 18.1 in. (4.5 x 44.5 x 46.0 cm.)	1.73 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.73 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.73 x 17.5 x 21.7 in. (4.45 x 44.5 x 55.2 cm.)
Unit weight	17.9 lbs. (8.1 kgs.)	18.8lbs. (8.6kgs.)	18.3 lbs. (8.3kgs.)	19.2 lbs. 8.75kgs.)	20.9 lbs. (9.5 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst 3560-E Series 10/100/1000 Workgroup Switches ²

WS-C3560E-24TD-S	Catalyst 3560E 24 10/100/1000+2*10GE(X2),265W,IPB s/w
WS-C3560E-24TD-S	Catalyst 3560E 24 10/100/1000+2*10GE(X2),265W,IPB s/w
WS-C3560E-24TD-E	Catalyst 3560E 24 10/100/1000+2*10GE(X2),265W,IPS s/w
WS-C3560E-48TD-S	Catalyst 3560E 48 10/100/1000+2*10GE(X2),265W,IPB s/w
WS-C3560E-48TD-E	Catalyst 3560E 48 10/100/1000+2*10GE(X2),265W,IPS s/w
WS-C3560E-24PD-S	Catalyst 3560E 24 10/100/1000 PoE+2*10GE(X2),750W,IPB s/w
WS-C3560E-24PD-E	Catalyst 3560E 24 10/100/1000 PoE+2*10GE(X2),750W,IPS s/w
WS-C3560E-48PD-S	Catalyst 3560E 48 10/100/1000 PoE+2*10GE(X2),750W,IPB s/w
WS-C3560E-48PD-E	Catalyst 3560E 48 10/100/1000 PoE+2*10GE(X2),750W,IPS s/w
WS-C3560E-48PD-SF	Catalyst 3560E 48 10/100/1000 PoE+2*10GE(X2),1150W,IPB s/w
WS-C3560E-48PD-EF	Catalyst 3560E 48 10/100/1000 PoE+2*10GE(X2),1150W,IPS s/w

Power Supplies

C3K-PWR-265WAC=	Catalyst 3750-E/3560-E 265WAC power supply
C3K-PWR-265WDC=	Catalyst 3750-E/3560-E 265WDC power supply
C3K-PWR-750WAC=	Catalyst 3750-E/3560-E/RPS 2300 750WAC power supply
C3K-PWR-1150WAC=	Catalyst 3750-E/3560-E/RPS 2300 1150WAC power supply
C3K-BLWR-60CFM=	Fan Module for the Catalyst 3750-E/3560-E

RPS 2300

PWR-RPS2300	Cisco Redundant Power System 2300 and Blower,No Power Supply 3
C3K-PWR-1150WAC	Catalyst 3750-E / 3560-E / RPS 2300 1150WAC power supply
C3K-PWR-750WAC	Catalyst 3750-E / 3560-E / RPS 2300 750WAC power supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300=	Spare RPS Cable for Cisco Redundant Power System 2300
CAB-RPS2300-E=	Spare RPS Cable RPS 2300 Cat 3750E/3560E Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300

TwinGig Converter Module

CVR-X2-SFP=	TwinGig Converter Module
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SFPs

GLC-GE-100FX=	100FX SFP on GE SFP ports
GLC-LH-SM=	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
GLC-BX-D=	1000BASE-BX SFP, 1490NM
GLC-BX-U=	1000BASE-BX SFP, 1310NM
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

X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LR=	10GBASE-LR X2 Module
X2-10GB-SR=	10GBASE-SR X2 Module

LC to SC Cables

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

1. Some parts have restricted access. For latest part number and pricing info: <http://www.cisco.com/dprg>
2. S=IP Base; E=IP Services

For More Information

See the Catalyst 3560-E Series Web site: <http://www.cisco.com/go/catalyst3560E>

Cisco Catalyst 3750 Series

The Cisco Catalyst 3750 Series Switch is an innovative product for midsize organizations and enterprise branch offices. Featuring Cisco StackWise technology, the switch improves LAN operating efficiency by combining ease of use and the highest resiliency available for stackable switches.



When to Sell

Sell This Product

Catalyst 3570 Series

When a Customer Needs These Features

- Enhance business productivity, resiliency, security, and scalability
- Quickly deploy and easily manage their networks
- Deploy IP telephony, wireless, or GTTD

Catalyst 3750-24TS

Low-density access with switch stacking capability, Layer 2+ or L3 features, and 1 or more fiber uplinks

Catalyst 3750-24PS

Low-density access with switch stacking capability, Layer 2+ or L3 features, PoE, and 1 or more fiber uplinks

Catalyst 3750-48TS

Medium-density access with switch stacking, Layer 2+ or L3 features, and 1 or more fiber uplinks

Catalyst 3750-48PS

Medium-density access with switch stacking capability, Layer 2+ or L3 features, PoE, and 1 or more fiber uplinks

Catalyst 3750G-24T

Low-density Layer 2+ or L3 GTTD or Ethernet aggregation with stacking capability without any uplinks

Catalyst 3750G-24TS-1U

Low-density Layer 2+ or L3 GTTD or Ethernet aggregation with stacking capability and fiber uplinks in a 1RU form factor

Catalyst 3750G-24TS

Low-density Layer 2+ or L3 GTTD or Ethernet aggregation with stacking capability and fiber uplinks in a 1.5RU form factor

Catalyst 3750G-24PS

Low-density Layer 2+ or L3 GTTD or Ethernet aggregation with stacking capability, PoE, and fiber uplinks

Catalyst 3750G-48TS

Medium-density Layer 2+ or L3 GTTD or Ethernet aggregation with stacking capability and fiber uplinks

Catalyst 3750G-48PS

Medium-density Layer 2+ or L3 GTTD or Ethernet aggregation with stacking capability, PoE, and fiber uplinks

Catalyst 3750G-16TD

Low-density L2+ or L3 GTTD or Ethernet aggregation with stacking capability and a 10 GE uplink

Catalyst 3750G-12S/SD

For aggregation of wiring closet switches with optical connectivity and stacking

Catalyst 3750-24FS

Low-density access using 100BASE-FX fiber connections with switch stacking capability, basic Layer 3 features, and one or more fiber uplinks

Catalyst

WS-C3750G-24WS-S25

Integrated wireless LAN controller functions into Cisco Catalyst 3750G series. Supports 25 access points

Key Features

The same features as the Cisco Catalyst 3560 plus,

- Cisco StackWise™ Technology—One IP address and one command-line interface (CLI) simplify management; a 32-Gbps resilient architecture speeds convergence; 1:N stack master redundancy and Layer 3 uplink resilience as well as cross-stack Cisco EtherChannel® technology and QoS increase availability; auto configuration and Cisco IOS® Software version check and update accelerate deployment; hot add and delete of switches keep the stack running
- Wireless—Integrated wireless LAN controller delivers centralized security policies, intrusion protection, RF management, QoS and Layer 3 fast secure roaming for Wireless LANs (WLANs) and is part of the Cisco Unified Wireless Network

Competitive Products

- 3Com—55xx 10/100, 55xxG 10/100/1000, 55xx FX, 55xxG SFP, 7700
- Extreme—Summit 400, x450
- Foundry—Edge Iron 24GS and 48GS
- Huawei—Quidway 5600
- Nortel—ERS 5500
- ProCurve—2900, 3400, 3500

Specifications

Features	WS-C3750-24TS	WS-C3750-48TS	WS-C3750-24PS	WS-C3750-48PS	WS-C3750-24FS
Forwarding bandwidth (Gbps)	32	32	32	32	32
Maximum stack members	9	9	9	9	9
Total stack bandwidth (Gbps)	32	32	32	32	32
Packets per second (Mpps)	6.5	13.1	6.5	13.1	6.5
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
10 GbE density	0	0	0	0	0
Gigabit Ethernet GBIC/SFP density	2	4	2	4	2
10 GbE XENPAK/X2 port density	0	0	0	0	0
10/100/1000 density	0	0	0	0	0
10/100 density	24	48	24	48	0
100BASE-FX density	0	0	0	0	24
Max. watt power consumption	50	75	495	540	125
PoE: Max. 802.3af Class 3 devices (15.4W)	0	0	24	24	0
PoE: Max. 802.3af Class 2 devices (7.3W)	0	0	24	48	0
AC/DC support	AC only	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)	1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm.)	1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30.1 cm.)
Unit weight	8 lbs. (3.6 kgs.)	9.1 lbs. (4.1 kgs.)	11.3 lbs. (5.1 kgs.)	13.2 lbs. (6.0 kgs.)	9.15 lbs. (4.15 kgs.)

Features	WS-C3750G-24T	WS-C3750G-24TS-1U	WS-C3750G-48TS	WS-C3750G-24PS	WS-C3750G-48PS
Forwarding bandwidth (Gbps)	32	32	32	32	32
Maximum stack members	9	9	9	9	9
Total stack bandwidth (Gbps)	32	32	32	32	32
Packets per second (Mpps)	35.7	38.7	38.7	38.7	38.7
MAC addresses supported	12,000	12,000	12,000	12,000	12,000
Routes supported	11,000	11,000	11,000	11,000	11,000
10 GbE density	0	0	0	0	0
Gigabit Ethernet GBIC/SFP density	0	4	4	4	4
10 GbE XENPAK/X2 port density	0	0	0	0	0
10/100/1000 density	24	24	48	24	48
10/100 density	0	0	0	0	0
100BASE-FX density	0	0	0	0	0
PoE: Max. 802.3af Class 3 devices (15.4W)	0	0	0	24	24
PoE: Max. 802.3af Class 2 devices (7.3W)	0	0	0	24	48
AC/DC support	AC only	AC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 12.8 in. (4.4 x 44.5 x 32.6 cm.)	1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm.)	1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm.)	1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm.)	1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm.)
Unit weight	10 lbs. (4.6 kgs.)	12 lbs. (5.5 kgs.)	14 lbs. (6.4 kgs.)	13.5 lbs. (6.1 kgs.)	15.5 lbs. (7.0 kgs.)

Features	WS-C3750G -12S	WS-C3750G -12S-SD	WS-C3750G -16TD	WS-C3750G -24WS-S25	WS-C3750G -24WS-S50
Forwarding bandwidth (Gbps)	32	32	32	32	32
Maximum stack members	9	9	9	9	9
Total stack bandwidth (Gbps)	32	32	32	32	32
Packets per second (Mpps)	17.8	17.8	35.7	38.7	38.7
MAC addresses supported	12,000	12,000	12,000	12,000	12,000
Routes supported	20,000	20,000	11,000	11,000	11,000
Onboard memory (DRAM)	128 MB	128 MB	128 MB	128 MB	128 MB
10 GbE density	0	0	1	0	0
Gigabit Ethernet GBIC/SFP density	12	12	0	2	2
10 GbE XENPAK/X2 port density	0	0	1	0	0
10/100/1000 density	0	0	16	24	24
10/100 density	0	0	0	0	0
Max. watt power consumption	120	72	180	255	255
AC/DC support	AC only	DC only	AC only	AC only	AC only
Dimensions (H x W x D)	1.73 x 17.5 x 12.8 in. (4.4 x 44.5 x 32.6 cm.)	1.73 x 17.5 x 12.8 in. (4.4 x 44.5 x 32.6 cm.)	1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm.)	2.59 x 17.5 x 11.6 in. (6.6 x 44.5 x 29.5 cm)	2.59 x 17.5 x 11.6 in. (6.6 x 44.5 x 29.5 cm)
Unit weight	10 lbs. (4.6 kgs.)	9 lbs. (4.08 kgs.)	12.5 lbs. (5.7 kgs.)	21 lbs. (9.5 kgs.)	21 lbs. (9.5 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst 3750 Series Ethernet Switches

WS-C3750G-24T-S	24 10/100/1000T Standard Multilayer Image
WS-C3750G-24T-E	24 10/100/1000T Enhanced Multilayer Image
WS-C3750G-24TS-S	24 10/100/1000 + 4 SFP Std Multilayer; 1.5RU
WS-C3750G-24TS-E	24 10/100/1000 + 4 SFP Enhcd Multilayer; 1.5RU
WS-C3750G-24TS-S1U	24 10/100/1000 + 4 SFP Std Multilayer; 1RU
WS-C3750G-24TS-E1U	24 10/100/1000 + 4 SFP Enh Multilayer; 1RU
WS-C3750G-24PS-S	24 10/100/1000T PoE + 4 SFP Standard Image
WS-C3750G-24PS-E	24 10/100/1000T PoE + 4 SFP Enhanced Image
SWLC3750-25-K9	IP BASE W/O CRYPTO WITH WEB BASED DEV MGR

Wireless LAN

WS-C3750G-24WS-S25	24 Ethernet 10/100/1000 ports with Power over Ethernet (PoE) and 2 SFP ports with support for up to 25 access points
WS-C3750G-24WS-S50	24 Ethernet 10/100/1000 ports with Power over Ethernet (PoE) and 2 SFP ports with support for up to 50 access points

Ethernet Switches

WS-C3750G-48TS-S	48 10/100/1000T + 4 SFP Standard Multilayer
WS-C3750G-48TS-E	48 10/100/1000T + 4 SFP Enhanced Multilayer
WS-C3750G-48PS-S	48 10/100/1000T PoE + 4 SFP Standard Image
WS-C3750G-48PS-E	48 10/100/1000T PoE + 4 SFP Enhanced Image
WS-C3750G-16TD-S	16 10/100/1000BT+ 10GbE (req XENPAK) Std Image
WS-C3750G-16TD-E	16 10/100/1000BT+ 10GbE (req XENPAK) Enh Image
WS-C3750G-12S-S	12 SFP Standard Multilayer Image

Catalyst 3750 Series 10/100 Workgroup Switches

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

Catalyst 3750 Series OADM Modules

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)

Chapter 2

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

IOS Upgrades

CD-3750-EMI=	Enhanced Multilayer Image upgrade for 3750 FE models
CD-3750G-EMI=	Enhanced Multilayer Image upgrade for 24-port 3750 GE models
CD-3750G-48EMI=	Enhanced Multilayer Image upgrade for 48-port 3750 GE models
3750-AISK9-LIC-B=	Advanced IP Services upgrade for 3750 FE models running SMI
3750-AISK9-LIC-S=	Advanced IP Services upgrade for 3750 FE models running EMI
3750G-AISK9-LIC-B=	Advanced IP Services upgrade for 3750 GE models running SMI
3750G-AISK9-LIC-S=	Advanced IP Services upgrade for 3750 GE models running EMI
3750G48-AISK9LC-B=	Advanced IP Services upgrade for 3750G-48 running SMI
3750G48-AISK9LC-S=	Advanced IP Services upgrade for 3750G-48 running EMI

SFPs

GLC-GE-100FX=	100FX SFP on GE SFP ports
GLC-LH-SM=	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
CWDM-SFP-1470=	CWDM 1470 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1490=	CWDM 1490 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1510=	CWDM 1510 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1530=	CWDM 1530 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1550=	CWDM 1550 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1570=	CWDM 1570 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1590=	CWDM 1590 NM SFP Gigabit Ethernet and 1G/2G FC
CWDM-SFP-1610=	CWDM 1610 NM SFP Gigabit Ethernet and 1G/2G FC

XENPAKs

XENPAK-10GB-ER	10GBASE-ER XENPAK Module
XENPAK-10GB-ER=	10GBASE-ER XENPAK Module
C3-XENPAK10GB-LR=	10GBASE-LR XENPAK Module for Catalyst 3750

RPS 2300

PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, No Power Supply 3
C3K-PWR-1150WAC	Catalyst 3750-E / 3560-E / RPS 2300 1150WAC power supply
C3K-PWR-750WAC	Catalyst 3750-E / 3560-E / RPS 2300 750WAC power supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300=	Spare RPS Cable for Cisco Redundant Power System 2300
CAB-RPS2300-E=	Spare RPS Cable RPS 2300 Cat 3750E/3560E Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Catalyst 3750 Series Web site: www.cisco.com/go/catalyst3750

Cisco Catalyst 3750-E Series

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



When to Sell

Sell This Product

Catalyst 3570-E Series

When a Customer Needs These Features

- Enhance business productivity, resiliency, security, and scalability
- Quickly deploy and easily manage their networks
- 1GbE to 10 GbE upgradeable uplinks
- Deploy IP telephony, wireless, or GTTD

Catalyst 3750E-24TD

Low-density access with switch stacking capability, Layer 2+ or L3 features, and 1 or more 10 GbE fiber uplinks

Catalyst 3750E-24PD

Low-density access with switch stacking capability, Layer 2+ or L3 features, PoE, and 1 or more 10 GbE fiber uplinks

Catalyst 3750-48TD

Medium-density access with switch stacking, Layer 2+ or L3 features, and 1 or more 10 GbE fiber uplinks

Catalyst 3750-48PD

Medium-density access with switch stacking capability, Layer 2+ or L3 features, PoE, and 1 or more 10 GbE fiber uplinks

Catalyst 3750G-48PD Full Power

Medium-density access with switch stacking capability, Full 15.4W of PoE on every port, Layer 2+ or L3 features, PoE, and 1 or more 10 GbE fiber uplinks

Key Features

The same features as the Cisco Catalyst 3560 plus,

- Cisco StackWise™ Plus Technology—One IP address and one command-line interface (CLI) simplify management; a 64-Gbps resilient architecture speeds convergence; 1:N stack master redundancy and Layer 3 uplink resilience as well as cross-stack Cisco EtherChannel® technology and QoS increase availability; auto configuration and Cisco IOS® Software version check and update accelerate deployment; hot add and delete of switches keep the stack running
- TwinGig converter module for migrating uplinks from 1 Gigabit Ethernet (SFP) to 10 Gigabit Ethernet (X2)Field replaceable and upgradable power supplies and fan tray
- Full backward compatibility with the Catalyst 3750 Series

Competitive Products

- 3Com—55xx 10/100, 55xxG 10/100/1000, 55xx FX, 55xxG SFP, 7700
- Extreme—400, 450
- Foundry—FastIron Edge, FastIron Edge X, Fast Iron Workgroup X
- Huawei—Quidway 5600
- Nortel—ERS 1600, ERS 3510, ERS 5500
- ProCurve—3400, 3500, 5300, 5400

Specifications

	WS-C3750E-24T	WS-C3750E-48T	WS-C3750E-24P	WS-C3750E-48P	WS-C3750E-48P
Features	D	D	D	D	D Full Power
Forwarding bandwidth (Gbps)	68	68	68	68	68
Maximum stack	9	9	9	9	9
Total stack bandwidth (Gbps)	64	64	64	64	64
Packets per second (Mpps)	6.5	13.1	6.5	13.1	6.5
MAC addresses	12,000	12,000	12,000	12,000	12,000
Routes supported	11,000	11,000	11,000	11,000	11,000
10 GbE density	2	2	2	2	2
10 GbE XFP	2	2	2	2	2
10/100/1000 density	24	48	24	48	48
10/100 density	24	48	24	48	48
100BASE-FX density	0	0	0	0	24
Max. watt power consumption	50	75	495	540	125
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	AC and DC	AC and DC	AC and DC	AC and DC
Dimensions (H x W x D)	1.75 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.75 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.75 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.75 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)	1.75 x 17.5 x 18.1 in. (4.45 x 44.5 x 46.0 cm.)
Unit weight	17.9 lbs. (8.1 kgs.)	18.3 lbs. (8.3 kgs.)	18.8 lbs. (8.6 kgs.)	19.2 lbs. (8.75 kgs.)	20.9 lbs. (9.5 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst 3750-E Series Ethernet Switches

WS-C3750E-24TD-S	Catalyst 3750E 24 10/100/1000+2*10GE(X2),265W,IPB s/w
WS-C3750E-24TD-E	Catalyst 3750E 24 10/100/1000+2*10GE(X2),265W,IPS s/w
WS-C3750E-48TD-S	Catalyst 3750E 48 10/100/1000+2*10GE(X2),265W,IPB s/w
WS-C3750E-48TD-E	Catalyst 3750E 48 10/100/1000+2*10GE(X2),265W,IPS s/w
WS-C3750E-24PD-S	Catalyst 3750E 24 10/100/1000 PoE+2*10GE(X2),750W,IPB s/w
WS-C3750E-24PD-E	Catalyst 3750E 24 10/100/1000 PoE+2*10GE(X2),750W,IPS s/w
WS-C3750E-48PD-S	Catalyst 3750E 48 10/100/1000 PoE+2*10GE(X2),750W,IPB s/w
WS-C3750E-48PD-E	Catalyst 3750E 48 10/100/1000 PoE+2*10GE(X2),750W,IPS s/w
WS-C3750E-48PD-SF	Catalyst 3750E 48 10/100/1000 PoE+2*10GE(X2),1150W,IPB s/w
WS-C3750E-48PD-EF	Catalyst 3750E 48 10/100/1000 PoE+2*10GE(X2),1150W,IPS s/w

TwinGig Converter Module

CVR-X2-SFP=	TwinGig Converter Module
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Power Supplies

C3K-PWR-265WAC=	Catalyst 3750-E/3560-E 265WAC power supply
C3K-PWR-265WDC=	Catalyst 3750-E/3560-E 265WDC power supply
C3K-PWR-750WAC=	Catalyst 3750-E/3560-E/RPS 2300 750WAC power supply
C3K-PWR-1150WAC=	Catalyst 3750-E/3560-E/RPS 2300 1150WAC power supply
C3K-BLWR-60CFM=	Fan Module for the Catalyst 3750-E/3560-E

RPS 2300

PWR-RPS2300	Cisco Redundant Power System 2300 and Blower, No Power Supply 3
C3K-PWR-1150WAC	Catalyst 3750-E / 3560-E / RPS 2300 1150WAC power supply
C3K-PWR-750WAC	Catalyst 3750-E / 3560-E / RPS 2300 750WAC power supply
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
CAB-RPS2300=	Spare RPS Cable for Cisco Redundant Power System 2300
CAB-RPS2300-E=	Spare RPS Cable RPS 2300 Cat 3750E/3560E Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300

SFPs

GLC-GE-100FX=	100FX SFP on GE SFP ports for DSBu switches
GLC-LH-SM=	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM=	GE SFP, LC connector SX transceiver
GLC-T=	1000BASE-T SFP
GLC-ZX-SM=	1000BASE-ZX SFP
GLC-BX-D=	1000BASE-BX SFP, 1490NM
GLC-BX-U=	1000BASE-BX SFP, 1310NM
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

X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LR=	10GBASE-LR X2 Module
X2-10GB-SR=	10GBASE-SR X2 Module

LC to SC Cables

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

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For More Information

See the Catalyst 3750-E Series Web site: www.cisco.com/go/catalyst3750E

Cisco Catalyst 4948 Series



The Cisco Catalyst 4900 Series are Layer 2-4 fixed-configuration switches offering high-performance, rack-optimized server switching for data centers of all sizes. The Cisco Catalyst 4900 Series is based on the proven hardware and software architecture of Cisco's Catalyst 4500 Series modular switches, but are distinguished by a 1-RU design that is ideal for top-of-rack server aggregation.

When to Sell

Sell This Product When a Customer Needs These Features

- Catalyst 4948**

 - 48-Ports of Gigabit Ethernet switching in 1RU with dual power supplies
 - Non-blocking Layer 2/3/4 10/100/1000 Gigabit Ethernet performance
- Catalyst 4948-10GE**

 - 48-Ports of Gigabit Ethernet switching in 1RU with dual power supplies
 - Non-blocking Layer 2/3/4 10/100/1000 Gigabit Ethernet performance with 10 Gigabit Ethernet uplinks

Key Features

- Low-latency and wire-speed switching
- Up to 48 10/100/1000 ports with 4 Small Form-Factor Pluggable (SFP) ports or 48 10/100/1000 ports with two 10 Gigabit Ethernet ports
- Redundant internal AC or DC power supplies with hot swappable fan tray
- SFP or X2 flexibility on fiber port interfaces covering a wide range of cabling distances

Competitive Products

- Force10—S50
- Foundry—Fasttron Edge, Fasttron Edge X

Specifications

Feature	WS-C4948	WS-C4948-10GE
Forwarding bandwidth (Gbps)	96	136
Maximum stack members	0	0
Total stack bandwidth (Gbps)	0	0
Packets per second (Mpps)	72	102
MAC addresses supported	32,768	55,000
Routes supported	32,000	32,000
Onboard memory (DRAM)	256 MB	256 MB
10 GbE density	0	2
Gigabit Ethernet GBIC/SFP density	4	0
10 GbE XENPAK/X2 port density	0	2
10/100/1000 density	48	48
10/100 density	0	0
Max. watt power consumption	300	300
AC/DC support	AC/DC	AC/DC
Dimensions (H x W x D)	1.75 x 17.3 x 16.1 in. (4.45 x 43.91 x 40.99 cm.)	1.75 x 17.3 x 16.1 in. (4.45 x 43.91 x 40.99 cm.)
Unit weight	16.5 (7.48 kgs.)	16.5 (7.48 kgs.)

Selected Part Numbers and Ordering Information¹

Catalyst 4900 Switch Series

- WS-C4948-S

WS-C4948-E

WS-C4948

WS-C4948-10GE

WS-C4948-10GE-S

WS-C4948-10GE-E
- Catalyst 4948, IPB s/w, 48-Port 10/100/1000+4 SFP, 1 AC p/s

Catalyst 4948, ES s/w, 48-Port 10/100/1000+4 SFP, 1 AC p/s

Catalyst 4948, optnl sw, 48-Port 10/100/1000+4 SFP, no p/s

Catalyst 4948, optnl sw, 48*10/100/1000+2*10GE(X2), no p/s

Catalyst 4948, IPB s/w, 48*10/100/1000+2*10GE(X2), 1 AC p/s

Catalyst 4948, ES Image, 48*10/100/1000+2*10GE(X2), 1 AC p/s

Transceiver Modules

GLC-T	1000BASE-T SFP
GLC-SX-MM	GE SFP, LC connector SX transceiver
GLC-LH-SM	GE 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-SR	10GBASE-SR X2 Module
X2-10GB-LX4	10GBASE-LX4 X2 Module
X2-10GB-LR	10GBASE-LR X2 Module

Accessories

PWR-C49-300AC=	Catalyst 4948 300-Watt AC Power Supply (Spare)
PWR-C49-300AC/2	Catalyst 4948 300-Watt AC Power Supply Redundant
PWR-C49-300DC=	Catalyst 4900 300-Watt DC Power Supply (Spare)
PWR-C49-300DC/2	Catalyst 4900 300-Watt DC Power Supply Redundant
WS-X4991=	Catalyst 4948 Fan Tray (Spare)
C4948-ACC-KIT=	49xx spare accessory kit
C4948-BKT-KIT=	C49xx front and rear mount brackets

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For More Information

See the Catalyst 4900 series Web site: <http://www.cisco.com/go/catalyst4900>

Cisco Catalyst 4500 Series

The Catalyst 4500 Series switches are mid-range, medium-density modular chassis delivering robust Layer 2-4 intelligent services. The modular centralized



architecture, media flexibility, and expandability of the Cisco Catalyst 4500 Series extends deployment life, while reducing the cost of ownership by minimizing recurring operational expenses and improving return on investment.

The Supervisor Engine V-10GE delivers nonblocking, robust Layer 2-4 switching with the addition of wire-speed 10-Gigabit Ethernet uplinks and 4 1-GE ports on the supervisor. This supervisor offers 136-Gbps capacity and 102-mpps throughput with additional features to further enhance resilient control of converged data, voice, and video networks with high availability. The Supervisor Engine IV integrates non-blocking Layers 2-4 switching with integrated resiliency, further enhancing control of converged networks. The Supervisor Engine II-Plus-10GE, a layer 2 and basic L3 supervisor, is equipped with both Gigabit (SFP) and line rate 10-Gigabit (X2) ports on the supervisor, allowing for 10-Gigabit future proofing and an easy and cost-efficient migration to 10 Gigabit.

When to Sell

Sell This Product

Catalyst 4510R

When a Customer Needs These Features

- When high performance, port density, and network resiliency is crucial to customer success
- Port density up to 384-10/100, 100-FX, 1000BASE-X or 10/100/1000BASE-T and 2 ports 10 GbE
- Layer 2 and Layer 3 Cisco Express Forwarding (CEF)-based switching up to 136 Gbps, 102 Mpps

Catalyst 4507R

- When network resiliency via redundant Supervisor Engines is crucial to customer success
- Port density up to 240-10/100, 100-FX, 1000BASE-X or 10/100/1000BASE-T and 2 ports 10 GbE
- Layer 2 and Layer 3 Cisco Express Forwarding (CEF)-based switching up to 100 Gbps, 72 Mpps

Catalyst 4506

- Port density up to 240-10/100, 100-FX, 1000BASE-X or 10/100/1000BASE-T and 2 ports 10 GbE
- Layer 2 and Layer 3 Cisco Express Forwarding (CEF)-based switching up to 100 Gbps, 75 Mpps

Catalyst 4503

- Port density up to 116-10/100, 100-FX, 1000BASE-X or 10/100/1000BASE-T and 2 ports 10 GbE
- Layer 2 and Layer 3 Cisco Express Forwarding (CEF)-based switching up to 64 Gbps, 48 Mpps

Note: Compatible sparring between Catalyst 4510R, 4507R, 4506, and 4503 chassis provides investment protection with common Supervisor Engines, power supplies and switching line cards.

Key Features

- 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

Competitive Products

- 3Com—7750
- Extreme—Alpine 3800
- Nortel—ERS 8300
- ProCurve—5300, 5400, 8100
- Foundry—BigIron RX, BigIron MG8, FastIron Super X
- Huawei—Quidway 6500

Specifications

Features	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
Rack Unit (RU)	7	10	11	14
Backplane Capacity	64 Gbps	100 Gbps	100 Gbps	136 Gbps
Stackable	No	No	No	No
Power Over Ethernet (PoE) Support	Up to 15.4W of PoE on every port	Up to 15.4W of PoE on every port	Up to 15.4W of PoE on every port	Up to 15.4W of PoE on every port
1+1 Power Supply Protection	Yes	Yes	Yes	Yes

Chapter 2

Features	WS-C4503	WS-C4506	WS-C4507R	WS-C4510R
Hot-Swappable Power Supplies	Yes	Yes	Yes	Yes
Max. watt power consumption ¹				
AC Internal ¹	4,200	4,200	4,200	4,200
AC External with power shelf ¹	1,400 + power shelf = 7,500	1,400 + power shelf = 7,500	1,400 + power shelf = 7,500	1,400 + power shelf = 7,500
DC Internal ¹	1,400 + UPS = 7,500	1,400 + UPS = 7,500	1,400 + UPS = 7,500	1,400 + UPS = 7,500
Max. number of Class 3 devices (15.4W) Max. power supplies				
AC Internal ¹	108	240	240	270
AC External with power shelf ¹	108	240	240	364
DC Internal ¹	108	240	240	384
Unit weight (chassis only)	31.25 lbs. (14.18 kgs.)	40.5 lbs. (18.37 kgs)	44.25 lbs. (20.07 kgs)	51.50 lbs. (23.36 kgs)
Dimensions (H x W x D)	12.25 x 17.31 x 12.50 in (31.12 x 43.97 x 31.70 cm)	17.38 x 17.31 x 12.50 in (44.13 x 43.97 x 31.70 cm)	19.19 x 17.31 x 12.50 in (48.74 x 43.97 x 31.70 cm)	24.35 x 17.31 x 12.50 in. (61.84 x 43.97 x 31.70 cm)

1. Redundant Mode

	Supervisor V -10GbE (WS-X4516 -10GE)			Supervisor II -Plus (WS-X4013+)	Supervisor II -Plus-TS (WS-X4013 +TS)	Supervisor II Plus-10GbE (WS-X4013 +10GE)
Chassis supported	All	All	4503, 4506, 4507R	4503, 4506, 4507R	4503	4503, 4506, 4507R
Enhanced Layer 3 option	yes	yes	yes	no	no	no
Total bandwidth (Gbps)	136	96	64	64	64	108
Packets per second (Mpps)	102	72	48	48	48	81
CPU Mhz	800	400	333	266	266	667
NetFlow	included	option	option	no	no	no
Onboard memory (DRAM)	512 MB	512 MB	512 MB	256 MB	256 MB	256 MB
On-Board Flash	64 MB	64 MB	64 MB	32 MB	32 MB	32 MB
Compact Flash Support	Yes	Yes	Yes	Yes	Yes	Yes
Switching Capacity & Throughput	136 Gbps, 102 Mpps	96 Gbps, 72 Mpps	64 Gbps, 48 Mpps	64 Gbps, 48 Mpps	64 Gbps, 48 Mpps	64 Gbps, 48 Mpps
Multilayer Switching	Enhanced L2/3/4 Services & Routing	Enhanced L2/3/4 Services & Routing	Enhanced L2/3/4 Services & Routing	Basic L2/3/4 Services	Basic L2/3/4 Services	Basic L2/3/4 Services
(E)IGRP, OSPF, IS-IS, BGP	Yes	Yes	Yes	EIGRP Stub	EIGRP Stub	EIGRP Stub
Supervisor Redundancy	4507R and 4510R Only	4507R and 4510R Only	4507R Only	4507R Only	No	No
QoS	4Q/Port, policing, shaping, congestion avoidance	4Q/Port, policing, shaping, congestion avoidance	4Q/Port, policing, shaping, congestion avoidance	4Q/Port, policing, shaping, congestion avoidance	4Q/Port, policing, shaping, congestion avoidance	4Q/Port, policing, shaping, congestion avoidance
CPU	800 MHz	400 MHz	333 MHz	266 MHz	266 MHz	266 MHz
NetFlow Support	Yes (Built-in functionality; no Daughter Card Required)	Yes (Optional Daughter Card)	Yes (Optional Daughter Card)	No	No	No
ISL	Yes	Yes	Yes	Yes	Yes	Yes
ACLS	Yes	Yes	Yes	Yes	Yes	Yes
IP FIB entries	128K	128K	128K	32K	32K	32K
MAC Addresses	32K Unicast, 16K Multicast	32K Unicast, 16K Multicast	32K Unicast, 16K Multicast	32K Unicast, 16K Multicast	32K Unicast, 16K Multicast	32K Unicast, 16K Multicast
Non-Blocking Supervisor Ports	2x10GE and 4xGE	2xGE ports	2xGE ports	2xGE ports	12x10/100/1000 BASET, PoE, 8xSFP	2x10GE and 4xGE

Selected Part Numbers and Ordering Information¹

Catalyst 4500 Series Switches

WS-C4510R	Catalyst 4500 Chassis (10-Slot), fan, no p/s, Red Sup Capable
WS-C4507R	Catalyst 4500 Chassis (7-Slot), fan, no p/s, Red Sup Capable
WS-C4506	Catalyst 4500 Chassis (6-Slot), fan, no p/s

WS-C4503

WS-C4506-S2+96

WS-C4503-S2+48

WS-C4506-S4-AP25

WS-C4506-S4-AP50

PoE-Enabled Power Supplies

PWR-C45-4200ACV/2

PWR-C45-4200ACV=

PWR-C45-2800ACV=

PWR-C45-2800ACV/2

PWR-C45-1300ACV/2

PWR-C45-1300ACV=

PWR-C45-1400DC-P=

PWR-C45-1400DC-P/2

WS-P4502-1PSU

PWR-4502

Non-PoE Power Supplies

PWR-C45-1400AC/2

PWR-C45-1400AC=

PWR-C45-1000AC=

PWR-C45-1000AC/2

PWR-C45-1400DC=

PWR-C45-1400DC/2

Supervisor Engines

WS-X4516-10GE=

WS-X4516-10GE/2

WS-X4516=

WS-X4516/2

WS-X4515=

WS-X4515/2

WS-X4013+10GE=

WS-X4013+10GE/2

WS-X4013+=

WS-X4013+/2

WS-X4013+TS=

WS-F4531=

10/100 Linecards

WS-X4148-RJ=

WS-X4124-RJ45=

WS-X4148-RJ21=

WS-X4148-RJ45V=

WS-X4248-RJ21V=

WS-X4248-RJ45V=

WS-X4224-RJ45V=

WS-X4232-GB-RJ=

WS-X4232-RJ-XX=

10/100/1000 Linecards

WS-X4548-GB-RJ45=

WS-X4548-GB-RJ45V=

WS-X4524-GB-RJ45V=

WS-X4506-GB-T=

WS-X4448-GB-RJ45=

WS-X4424-GB-RJ45=

100 Base-X FE Linecards

WS-X4248-FE-SFP=

WS-X4124-FX-MT=

WS-X4148-FE-BD-LC=

WS-X4148-FE-LX-MT=

WS-X4148-FX-MT=

WS-U4504-FX-MT=

1000 Base-X GE Linecards

WS-X4306-GB=

WS-X4506-GB-T=

WS-X4302-GB=

Catalyst 4500 Chassis (3-Slot),fan, no p/s

Cat4506 Bundle, 1x 1000AC, 1x S2+, 2x WS-X4148-RJ

Cat4503 Bundle, 1x 1000AC, 1x S2+, 1x WS-X4148-RJ

Cat4506 Bundle, 2x 1000AC, 1x S4, 1x WS-X4306-GB, 1x4402-25

Cat4506 Bundle, 2x 1000AC, 1x S4, 1x WS-X4306-GB, 1x4402-50

Catalyst 4500 4200W AC dual input Power Supply (Data + PoE)

Catalyst 4500 4200W AC dual input Power Supply (Data + PoE)

Catalyst 4500 2800W AC Power Supply (Data and PoE)

Catalyst 4500 2800W AC Power Supply (Data and PoE)

Catalyst 4500 1300W AC Power Supply (Data and PoE)

Catalyst 4500 1300W AC Power Supply (Data and PoE)

Catalyst 4500 1400W DC Power Supply w/Int PEM (Spare)

Catalyst 4500 1400W DC Power Supply Redundant w/Int PEM

Catalyst 4500 Aux. Power Shelf (2 slot), incl. one PWR-4502

Catalyst 4500 Aux. Power Shelf Redundant Power Supply

Catalyst 4500 1400W AC Power Supply Redundant(Data Only)

Catalyst 4500 1400W AC Power Supply (Data Only)(Spare)

Catalyst 4500 1000W AC Power Supply (Data Only) Spare

Catalyst 4500 1000W AC Power Supply Redundant(Data Only)

C4500 1400W DC Triple Input SP Power Supply-data only

C4500 1400W DC Triple Input SP Power Supply-data only

Catalyst 4500 Supervisor V-10GE, 2x10GE (X2) and 4x1GE (SFP)

Catalyst 45xxR Supervisor V-10GE, 2x10GE (X2) or 4x1GE (SFP)

Catalyst 4500 Supervisor V (2 GE),Console(RJ-45)(Spare)

Catalyst 45xxR Redundant Supervisor V (2 GE),Console(RJ-45)

Catalyst 4500 Supervisor IV, 2 GE, Console(RJ-45)(Spare)

Catalyst 4507R Redundant Supervisor IV,(2 GE),Console(RJ-45)

Catalyst 4500 Sup II+10GE, 2x10GE (X2) and 4x1GE (SFP)

Catalyst 4507R Sup II+10GE, 2x10GE(X2) and 4x1GE (SFP)

Catalyst 4500 Supervisor II-Plus (IOS), 2GE,Console(RJ-45)

Catalyst 4507R Redundant Sup II-Plus,(2GE),Console(RJ-45)

Catalyst 4503 SupII-Plus-TS, 12 10/100/1000 PoE+8 SFP slots

Catalyst 4500 NetFlow Services Card (Sup IV/V)(Spare)

Catalyst 4500 10/100 Auto Module, 48-Ports (RJ-45) (Spare)

Catalyst 4500 10/100 Module, 24-Ports(RJ45)

Catalyst 4500 10/100 Module, 48-Ports Telco (4xRJ21)(spare)

[EOS, See PB 4052] C4500 prestd PoE 10/100 48-Ports RJ45

Catalyst 4500 PoE 802.3af 10/100, 48-Ports (RJ21)

Catalyst 4500 PoE 802.3af 10/100, 48-Ports (RJ45)

Catalyst 4500 PoE 802.3af 10/100 24-ports (RJ45)

Catalyst 4500 32-10/100 (RJ-45),2-GE(GBIC)

Catalyst 4500 10/100 Module,32-ports(RJ45)+Modular uplinks

Catalyst 4500 Enhanced 48-Port 10/100/1000 Base-T (RJ-45)

Catalyst 4500 PoE 802.3af 10/100/1000, 48-Ports (RJ45)

Catalyst 4500 PoE 802.3af 10/ 100/1000 24-ports (RJ45)

Catalyst 4500 6-Port 10/100/1000 PoE or SFP (Optional)

Catalyst 4500 48-Port 10/100/1000 Module (RJ45)

Catalyst 4500 24-port 10/100/1000 Module (RJ45) (Spare)

Catalyst 4500 48-Port 100BASE-X (SFPs Optional)

Catalyst 4500 FE Switching Module, 24- 100FX (MTRJ)(Spare)

Catalyst 4500 FE Module, 48-Port BX-D (LC) (1550) (Spare)

Catalyst 4500 FE module, 48-port 100LX SMF (MTRJ)

Catalyst 4500 FE Switching Module, 48-100FX MMF(MTRJ)(Spare)

Catalyst 4500 4-port 100FX(MTRJ) Uplink for WS-X4232-RJ-XX

Catalyst 4500 Gigabit Ethernet Module, 6-Ports(GBIC) (Spare)

Catalyst 4500 6-Port 10/100/1000 PoE or SFP (Optional)

Catalyst 4500 Gigabit Ethernet Module, 2-Ports (GBIC)

WS-X4418-GB=

WS-X4448-GB-SFP=

Transceiver Modules

WS-G5483=

WS-G5484

WS-G5486

WS-G5487

GLC-T

GLC-T24

GLC-SX-MM

GLC-LH-SM

GLC-FE-100BX-D48

GLC-FE-100BX-D

GLC-FE-100BX-U

GLC-FE-100FX

GLC-FE-100FX24

GLC-FE-100FX48

GLC-FE-100LX

GLC-FE-100LX48

GLC-BX-D

GLC-BX-U

GLC-ZX-SM=

X2-10GB-CX4

X2-10GB-SR

X2-10GB-ER=

X2-10GB-LX4

X2-10GB-LR

Memory Options

MEM-C4K-FLD64M=

MEM-C4K-FLD128M=

MEM-C4K-256-SDRAM=

MEMC4K-U512D-SDRAM

MEMC4K-512D-SDRAM=

Accessories

WS-X4593=

WS-X4596=

WS-X4597=

WS-X4598=

WS-X4581=

WS-X4582=

WS-X4583=

WS-X4584=

WS-X4585=

WS-X4586=

WS-X4587=

WS-X4588=

WS-X4K-CLOCK=

WS-X4590=

WS-X4503-23CNTR=

WS-X4503-FILTER=

WS-X4506-23CNTR=

WS-X4506-FILTER=

WS-X4507-23CNTR=

WS-X4507-FILTER=

WS-X4510-23CNTR=

WS-X4510-FILTER=

C4K-SLOT-CVR=

C4K-UPLINK-CVR=

CAB-AC-2800W-EU=

CAB-AC-2800W-INT=

CAB-AC-2800W-TWLK=

CAB-AC-2800W-6-20=

CAB-US515P-C19-US=

CAB-L520P-C19-US=

Catalyst 4500 GE Module, Server Switching 18-Ports (GBIC)

Catalyst 4500 48-Port 1000Base-X (SFPs Optional)

1000BASE-T GBIC

1000BASE-SX Short Wavelength GBIC (Multimode only)

1000BASE-LX/LH long haul GBIC (singlemode or multimode)

1000Base-ZX extended reach GBIC (singlemode)

1000BASE-T SFP

24 GLC-T SFP

GE SFP, LC connector SX transceiver

GE SFP, LC connector LX/LH transceiver

48 units of GLC-FE-100BX-D

100BASE-BX10-D SFP

100BASE-BX10-U SFP

100BASE-FX SFP for FE port

24 units of GLC-FE-100FX

48 units of GLC-FE-100FX

100BASE-LX SFP for FE port

48 units of GLC-FE-100LX

1000BASE-BX SFP, 1490NM

1000BASE-BX SFP, 1310NM

1000BASE-ZX SFP

10GBASE-CX4 X2 Module

10GBASE-SR X2 Module

10GBASE-ER X2 Module

10GBASE-LX4 X2 Module

10GBASE-LR X2 Module

Cat 4500 IOS-based Supervisor, Compact Flash, 64MB Spare

Cat 4500 IOS-based Supervisor, Compact Flash, 128MB Spare

256 DIMM DRAM for Supervisor II-Plus-10GE

512 DIM DRAM Factory Upgrade for Supervisor II-Plus-10GE

512 DIMM DRAM for Supervisor II-Plus-10GE and V-10GE

Catalyst 4503 Fan Tray (Spare)

Catalyst 4506 Fan Tray (Spare)

Catalyst 4507R Fan Tray (Spare)

Catalyst 4510R 23 inch Rackmount

Catalyst 4510R 19 inch Rackmount

Catalyst 4510R Fan Tray (Spare)

Catalyst 4503 19 Inch Rackmount

Catalyst 4503 23 Inch Rackmount

Catalyst 4506 19 Inch Rackmount

Catalyst 4506 23 Inch Rackmount

Catalyst 4507R 19 Inch Rackmount

Catalyst 4507R 23 Inch Rackmount

Catalyst 4507R/4510R Clock Module (Spare)

Catalyst 4507R/4510R Fabric Redundancy Module

C4503 Center Mount 23 Inch Rack Kit L/R

C4503 Center Mount 23 Inch Filter (1 Set)

C4506 Center Mount 23 Inch Rack Kit L/R

C4506 Center Mount 23 Inch Filter (1 Set)

C4507R Center Mount 23 Inch Rack Kit L/R

C4507R Center Mount 23 Inch Filter (1 Set)

C4510R Center Mount 23 Inch Rack Kit L/R

C4510R Center Mount 23 Inch Filter (1 Set)

Catalyst 4000 Family Slot Cover (Spare)

Catalyst 4000 UPLINK COVER (SPARE)

Europe Power Cord

International Power Cord

U.S. Power Cord, Twist Lock, NEMA 6-20 Plug

Non-Locking NEMA Cord For The 2800WAC PS

NEMA 5-15 to IEC-C19 13ft US

NEMA L5-20 to IEC-C19 6ft US

CAB-L620P-C19-US=	NEMA L6-20 to IEC-C19 14ft US
CAB-US620P-C19-US=	NEMA 6-20 to IEC-C19 13ft US
CAB-CEE77-C19-EU=	CEE 7/7 to IEC-C19 13ft Europe
CAB-I309-C19-INT=	IEC-309 to IEC-C19 13ft Int
CAB-A3112-C19-AUS=	AS-3112 to IEC-C19 14ft Aus
CAB-C2316-C19-IT=	CEI 23-16 to IEC-C19 14ft Italy
CAB-BS1363-C19-UK	BS-1363 to IEC-C19 14ft UK
BLANK-PWR-4502=	Catalyst 4500 Blank p/s Cover for Aux. Power Shelf
CAB-BS1363-C19-UK=	BS-1363 to IEC-C19 14ft UK
CAB-4502-DC-2M=	Catalyst 4500 2 meter DC Cable set for Aux Power Shelf
CAB-4502-DC-60CM=	Catalyst 4500 60cm DC Cable set for Aux Power Shelf
CAB-4502AC-EU=	AC Power cord for PWR-4502 (Europe)
CAB-4502AC-UK=	AC Power cord for PWR-4502 (UK)
CAB-4502AC-US=	AC Power cord for PWR-4502 (North America)
WS-X4571=	Catalyst 4500 Connection Strap for Aux. Power Shelf
CAB-ACS-10=	AC Power Cord (Swiss) 10A
CAB-ACS-16=	AC Power Cord (Swiss) 16A
CAB-S132-C19-ISRL=	S132 to IEC-C19 14ft Israeli
BLANK-PWR-4502	Catalyst 4500 Blank p/s Cover for Aux. Power Shelf
WS-X4500-P001=	Plastic cover for Cat4500 power shelf (WS-P4502-1)

CWDM GBIC Solution

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

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Catalyst 4500 series Web site: <http://www.cisco.com/go/catalyst4500>

Cisco Catalyst 6500 Series

The Cisco Catalyst 6500 Series continues to be the industry's most innovative switching platform, delivering the highest levels of application intelligence, unified network services, and integrated security. The feature-richness, flexibility, density, and scalability of this product line sets the standard for converged data, voice, and video networks, and enables maximum operational efficiency and investment protection.



When to Sell

Sell This Product

Catalyst 6509-E

Catalyst 6506-E

Catalyst 6504-E

Catalyst 6503-E

Catalyst 6513

Supervisor Engine 720

Supervisor Engine 32-PISA

Supervisor Engine 32

When a Customer Needs These Features

- Most commonly deployed chassis
- 9 slots
- Front access power supplies
- Ideal for use in the wiring closet, distribution, core, data center, and WAN edge
- 6 slots
- Front access power supplies
- Medium form factor chassis for the wiring closet, distribution and core, data center, and WAN edge
- 4 slots
- Rear power supplies
- Small form factor, high performance, chassis sharing interface modules and supervisor engines with larger chassis for common sparing
- Suitable for small/medium enterprise core/distribution; Metro edge and enterprise wan edge
- 3 slots
- Rear power supplies
- Low-density, wiring-closet chassis sharing interface modules and supervisor engines with larger chassis for common sparing
- 13 slots
- Front access power
- High capacity chassis for Ethernet connectivity, with slots to spare for services modules providing network security and management
- Integrated switching fabric capable of 720 Gbps
- Optimal in all high bandwidth deployments: core, distribution, aggregation, and data center access
- Compatible with all chassis
- Programmable Intelligent Services Accelerator (PISA)
- Embedded deep packet inspection for accelerating layer 4-7 services in wiring closets and WAN routing
- Compatible with all chassis
- 32 Gbps shared bus switching architecture
- Optimized for wiring closet access
- Compatible with all chassis

Key Features

- **Programmable Intelligent Services Accelerator (PISA)**—Delivers multi-gigabit application intelligence and integrated security services for Wiring Closets and Enterprise WAN routing. With this innovation, customers can now control recreational applications and provide protection against notable worms/viruses and Day Zero attacks at the network edge. PISA is available as additional Supervisor Engine 32 SKUs.
- **Cisco IOS Software Modularity**—reduces planned and unplanned downtime while boosting operational efficiency; modular subsystems run as independent processes enabling In-Service Software Upgrades (ISSU); faults within modular subsystems are isolated from all other processes and be restarted without losing state (stateful process restarts)
- **Embedded Event Manager (EEM)**—Automates proactive administrative tasks and network reactions to unexpected events to further drive operational efficiency.
- **Maximum PoE Scalability**—supports up to 288 Class 3 devices; leads the industry in PoE port density, accelerates deployment of PoE-enabled devices such as IP telephones and wireless access points; Cisco Intelligent Power Management allocates the optimal amount of power per device.
- **Supervisor Engine 720**—Optimized for high bandwidth needs of enterprise core, distribution, and data centers; delivers up to 720 Gbps Switch Fabric Connection and up to 400 Mpps of switching performance; throughput is increased with support for line

cards with Cisco Express Forwarding (CEF720) and distributed Cisco Express Forwarding (dCEF720); IPv6 and MPLS supported in hardware; supports Layer 3 routing protocols

- Supervisor Engine 32—Optimized for oversubscribed wiring closet deployments; incorporates a 32-Gbps shared bus architecture with support for up to 15 Mpps of switching performance; centralizes Layer 2 and Layer 3 forwarding; available in four models: with and without PISA technology, with 8 gigabit Ethernet uplinks, with two 10 gigabit Ethernet uplinks

Competitive Products

- 3Com—8800
- Extreme—BlackDiamond 6800, 8800, 10800, 12800
- Force10—E300, E600 Chassis, E1200 Chassis
- Foundry—BigIron RX, BigIron MG8, FastIron Super X, NetIron MLX, NetIron XMR, XMR 640
- Huawei—Quidway 8500
- Nortel—ERS 8600
- ProCurve—8100, 9300, 9400

Specifications

Feature	WS-C6503-E	WS-C6504-E	WS-C6506-E	WS-C6509-E	WS-C6509-NEB-A	WS-C6513
Modular 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 ¹	1,400	2,700	8,700	8,700	6,000	6,000
DC Internal ¹	950	2,700	4,000	4,000	4,000	4,000
Max. number of Class 3 devices (15.4W)Max. power supplies						
AC Internal ¹	48	110	420	420	215	288
DC Internal ¹	31	110	173	184	206	176
WAN Interfaces	DS0 to OC-48	DS0 to OC-48	DS0 to OC-48	DS0 to OC-48	DS0 to OC-48	DS0 to OC-48
Available Bandwidth	Scalable to 240 Gbps	Scalable to 320 Gbps	Scalable to 480 Gbps	Scalable to 720 Gbps	Scalable to 720 Gbps	Scalable to 720 Gbps
Throughput	Scalable to 99 Mpps	Scalable to 147 Mpps	Scalable to 243 Mpps	Scalable to 387 Mpps	Scalable to 387 Mpps	Scalable to 425 Mpps
Redundant Supervisor	Yes	Yes	Yes	Yes	Yes	Yes
Hot-Swappable Power Supplies	Yes	Yes	Yes	Yes	Yes	Yes
VLAN Maximum	4096	4096	4096	4096	4096	4096
FEC/GEC	Yes	Yes	Yes	Yes	Yes	Yes
Management Capabilities	CiscoWorks 2000, RMON, Enhanced Switched Port Analyzer (ESpan), SNMP, Telnet, BOOTP, and Trivial File Transfer Protocol (TFTP)					
Rack Unit (RU)	4	5	12	15	21	20
Dimensions (H x W x D)	7 x 17.5 x 21.7 in. (17.8 x 44.1 x 55.2 cm.)	8.7 x 17.5 x 21.6 in. (22.2 x 44.5 x 55.2 cm.)	19.2 x 17.5 x 18.2 in. (48.8 x 44.5 x 46.0 cm.)	24.5 x 17.5 x 18.2 in. (62.2 x 44.5 x 46.0 cm.)	33.3 x 17.3 x 18.1 in. (84.6 x 43.7 x 46.0 cm.)	33.3 x 17.3 x 18.1 in. (84.6 x 43.7 x 46.0 cm.)
Unit weight (chassis only)	33 lbs. (15.0 kgs.)	40 lbs. (18.1 kgs.)	50 lbs. (22.7 kgs.)	60 lbs. (27.3 kgs.)	55 lbs. (24.9 kgs.)	98 lbs. (45.0 kgs.)

1. Redundant Mode

	Supervisor 720 (WS-SUP720-3BXL) (WS-SUP720-3B)	Supervisor 32 (WS-SUP32-10GE-3B) (WS-SUP32-GE-3B) (WS-S32-GE-PISA) (WS-S32-10G-PISA)
Supervisor Engines		
Chassis supported	All	All
Bandwidth per slot (Gbps)	40GB	32GB shared
Total bandwidth (Gbps)	720	32
Packets per second (Mpps)	407	15

Supervisor Engines	Supervisor 720	Supervisor 32
	(WS-SUP720-3BXL) (WS-SUP720-3B)	(WS-SUP32-10GE-3B) (WS-SUP32-GE-3B) (WS-S32-GE-PISA) (WS-S32-10G-PISA)
MAC addresses supported	64K Max./32K effective	64K Max./32K effective
Routes supported	1,000,000 (3BXL), 256,000 (3B)	256,000
Onboard memory (DRAM)	Up to 1GB	Up to 1GB

Selected Part Numbers and Ordering Information¹

Catalyst 6500 Chassis

WS-C6503-E	Catalyst 6500 Enhanced 3-slot chassis,4RU,no PS,no Fan Tray
WS-C6504-E	Catalyst 6500 Enhanced 4-slot chassis,5RU,no PS,no Fan Tray
WS-C6506-E	Catalyst 6500 Enhanced 6-slot chassis,12RU,no PS,no Fan Tray
WS-C6509-E	Catalyst 6500 Enhanced 9-slot chassis,15RU,no PS,no Fan Tray
WS-C6509-NEB-A	Catalyst 6500 9-slot chassis(NEBS),21RU,no PS,no Fan Tray
WS-C6513	Catalyst 6500 13-slot chassis,20RU,no PS,no Fan Tray
WS-C6503	Cat 6503 Chassis, 3slot, 4RU, No Pow Supply, No Fan Tray
WS-C6506	Cat 6506 Chassis, 6slot, 12RU, No Pow Supply, No Fan Tray
WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray

Sup32-GE Bundles

WS-C6503E-S32-GE	Cisco Catalyst 6503E, WS-SUP32-GE-3B, Fan Tray (req. P/S)
WS-C6504E-S32-GE	6504-E Chassis + Fan Tray + Sup32-GE
WS-C6506E-S32-GE	Cisco Catalyst 6506E, WS-SUP32-GE-3B, Fan Tray (req. P/S)
WS-C6509E-S32-GE	Cisco Catalyst 6509E, WS-SUP32-GE-3B, Fan Tray (req. P/S)
WS-C6513-S32-GE	Cisco Catalyst 6513, WS-SUP32-GE-3B, Fan Tray (req. P/S)
WS-C6509E-S720-10G	Cat 6509E, Sup 7203b,Flash 256Mb, DFC 3B,6704-10GE,4000W AC
WS-C6503E-S32-10GE	Cat6503E chassis, WS-SUP32-10GE-3B, Fan Tray (req.P/S)
WS-C6504E-S32-10GE	6504-E Chassis + Fan Tray + Sup32-10GE
WS-C6506E-S32-10GE	Cat6506E chassis, WS-SUP32-10GE-3B, Fan Tray (req.P/S)
WS-C6509E-S32-10GE	Cat6509E chassis, WS-SUP32-10GE-3B, Fan Tray (req.P/S)
WS-C6513-S32-10GE	Cat6513 chassis, WS-SUP32-10GE-3B, Fan Tray (req. P/S)

Advanced Technology Bundles

WS-C6504-E-VPN+-K9	Cisco Catalyst 6504E IPsec VPN SPA Security System
WS-C6506-E-VPN+-K9	Cisco Catalyst 6506E IPsec VPN SPA Security System
WS-C6509-E-VPN+-K9	Cisco Catalyst 6509E IPsec VPN SPA Security System
WS-C6513-VPN+-K9	Cisco Catalyst 6513 IPsec VPN SPA Security System
WS-C6503-E-FWM-K9	Cisco Catalyst 6503E Firewall Security System
WS-C6506-E-FWM-K9	Cisco Catalyst 6506E Firewall Security System
WS-C6509-E-FWM-K9	Cisco Catalyst 6509E Firewall Security System
WS-C6513-FWM-K9	Cisco Catalyst 6513 Firewall Security System
WS-C6504-E-ACE-K9	ACE 4G 6504 Bundle
WS-C6509-E-ACE-K9	ACE 8G 6509 Bundle
WS-C6503-E-WLSM	Catalyst 6503 With WLSM Bundle
WS-C6506-E-WLSM	Catalyst 6506 With WLSM Bundle
WS-C6504-E-WISM	Cat 6504-E WiSM bundle(SUP720-3B,WiSM, Fan Tray, (2) P/S)
WS-C6509-E-WISM	Cat 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=	Catalyst 6500 SSL and CSM Bundle

Bundles

WS-C6506-E-PFC2	Cisco Catalyst 6506E, Sup2-PFC2, Fan Tray, No PwrSup
WS-C6509-E-PFC2	6509-E with E- FAN TRAY, Sup2-PFC2 no PwrSup
WS-C6509-S720-6724	Cisco Catalyst 6509,2x3000WAC,SUP720,FanTray,6724-SFP,noSFPs

Supervisor Engines and Switch Fabric Modules

WS-S32-10G-PISA=	Cat 6500 Supervisor 32 with PISA, 2 ports 10GbE uplinks, and PFC3B
WS-S32-GE-PISA=	Catalyst 6500 Supervisor 32 with PISA, 8 GbE uplinks, and PFC3B
WS-SUP32-10GE-3B=	Cat 6500 Supervisor 32 with 2 ports 10GbE and PFC3B
WS-SUP32-GE-3B=	Catalyst 6500 Supervisor 32 with 8 GE uplinks and PFC3B
WS-SUP720-3BXL=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3BXL
WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B

WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3A
WS-SUP720=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3A
WS-X6K-S2U-MSFC2	Catalyst 6500 Supervisor 2U, 256MB Supervisor, 512MB MSFC2
WS-X6K-S2U-MSFC2=	Catalyst 6500 Supervisor 2U, 256MB Supervisor, 512MB MSFC2
WS-X6K-S2-MSFC2	Catalyst 6500 Supervisor Engine-2, 2GE, plus MSFC-2 / PFC-2
WS-X6K-S2-MSFC2=	Catalyst 6500 Supervisor Engine-2, 2GE, plus MSFC-2 / PFC-2
WS-X6K-S2-PFC2	Catalyst 6500 Supervisor Engine-2, 2GE, plus PFC-2
WS-X6K-S2-PFC2=	Catalyst 6500 Supervisor Engine-2, 2GE, plus PFC-2
WS-X6500-SFM2	Catalyst 6500 Switch Fabric Module 2
WS-X6500-SFM2=	Catalyst 6500 Switch Fabric Module 2, Spare
10 Gigabit Ethernet	
WS-X6708-10G	Cat6500, 1x6704-10GE, 1xWS-F6700-DFC3B, 2xXENPAK-10GB-SR=
WS-X6704-10GE=	Cat6500 4-port 10 Gigabit Ethernet Module (req. XENPAKs)
S-67-10GE-C2	Cat6500, 1x6704-10GE, 1xWS-F6700-DFC3B, 2xXENPAK-10GB-SR=
Gigabit Ethernet	
WS-X6408A-GBIC=	Catalyst 6000 8-port GE, Enhanced QoS (Req. GBICs)
WS-X6516A-GBIC=	Catalyst 6500 16-port GigE Mod, fabric-enabled (Req. GBICs)
WS-X6724-SFP=	Catalyst 6500 24-port GigE Mod: fabric-enabled (Req. SFPs)
WS-X6748-SFP=	Catalyst 6500 48-port CEF720 GigE Module (Req. SFPs)
WS-X6816-GBIC=	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3)
10/100/1000 Ethernet	
WS-X6148A-GE-TX=	Catalyst 6500 48-port 10/100/1000 w/Jumbo Frame, RJ-45
WS-X6148A-GE-45AF=	Catalyst 6500 48-Port PoE 802.3af 10/100/1000, w/Jumbo Frame
WS-X6548-GE-TX=	Catalyst 6500 48-port fabric-enabled 10/100/1000 Module
WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card
WS-X6748-GE-TX=	Cat6500 48-port 10/100/1000 GE Mod: fabric enabled, RJ-45
WS-X6148-GE-TX=	Catalyst 6500 48-port 10/100/1000 GE Mod., RJ-45
WS-X6148-GE-45AF=	Cat6500 PoE 802.3af 10/100/1000, 48 port (RJ45) line card
WS-X6148V-GE-TX=	Catalyst 6500 48-port 10/100/1000 Inline Power Module, RJ-45
WS-X6516-GE-TX=	Catalyst 6500 16-port 10/100/1000 GE Module, Cross-Bar, spare
WS-X6548V-GE-TX=	Catalyst 6500 48-port fab-enabled 10/100/1000 inline pwr mod
10/100 Ethernet	
WS-X6148A-RJ-45=	Catalyst 6500 48-Port 10/100 w/TDR, Upgradable - PoE 802.3af
WS-X6148A-45AF=	Catalyst 6500 48-Port PoE 802.3af 10/100, card w/TDR
WS-X6148-RJ-21=	Catalyst 6500 48-Port 10/100 Upgradable to Voice, RJ-21
WS-X6148-21AF=	Cat6500 PoE 802.3af 10/100, 48 port (RJ21) line card
WS-X6148X2-RJ-45=	Cat6500 96-Port 10/100 (RJ45), Upgradable to PoE 802.3af
WS-X6148X2-45AF=	Cat6500 PoE 802.3af 10/100, 96-Port (RJ-45) line card
WS-X6196-RJ-21=	Catalyst 6500 96-Port 10/100 Upgradable - PoE 802.3af
WS-X6196-21AF=	Cat6500 96-Port, PoE 802.3af 10/100 - RJ-21
WS-X6148-RJ21V=	Catalyst 6500 48-port 10/100 Inline Power Module, RJ-21
WS-X6148-RJ-45=	Catalyst 6500 48-Port 10/100, Upgradable to Voice, RJ-45
WS-X6148-45AF=	Catalyst 6500 PoE 802.3af 10/100, 48 port(RJ45) line card
WS-X6148-RJ45V=	Catalyst 6500 48-port 10/100 Inline Power, RJ-45
WS-X6548-RJ-21=	Catalyst 6500 48-port 10/100, RJ-21, fabric-enabled
WS-X6548-RJ-45=	Catalyst 6500 48-port 10/100, RJ-45, x-bar
10FL/100FX Ethernet	
WS-X6324-100FX-SM=	EOS 6/1/06 C 6500 24-port 100FX, Enh QoS, MT-RJ, SMF, Spare
WS-X6524-100FX-MM=	Catalyst 6500 24-port 100FX, MT-RJ, fabric-enabled
Service Modules	
WS-SVC-FWM-1-K9	Firewall blade for 6500 and 7600, VFW License Separate
WS-SVC-IDS2-BUN-K9	600M IDSMM-2 Mod for Cat
7600-SSC-400	Cisco 7600 / Catalyst 6500 Services SPA Carrier Card
SPA-IPSEC-2G	Cisco 7600 / Catalyst 6500 IPSec VPN SPA - DES/3DES/AES
SPA-IPSEC-SSC400-1	Cisco 6500/7600 IPSec VPN SPA Bundle 1 (system only)
SPA-IPSEC-SSC400-2	Cisco 6500/7600 IPSec VPN SPA Bundle 2 (system only)
WS-SVC-ADM-1-K9	Catalyst 6500 Cisco Anomaly Detection Module
WS-SVC-AGM-1-K9	Catalyst 6500 Cisco Anomaly Guard Module
WS-SVC-WISM-1-K9=	CISCO WIRELESS SERVICES MODULE (WISM)
WS-X6066-SLB-S-K9	Content Switching Module with SSL daughter card
WS-X6066-SLB-APC	Catalyst 6000 Content Switching Module
WS-SVC-SSL-1-K9	SSL Module for Catalyst 6500
WS-SVC-NAM-1	Catalyst 6500 Network Analysis Module-1
WS-SVC-NAM-2	Catalyst 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=	CMM module Blank Panel Cover

WS-SVC-CMM-ACT
WS-SVC-CMM-24FXS
WS-SVC-CSG-1
WS-SVC-MWAM-1
WS-SVC-PSD-1
WS-SVC-FWM-1-K9=
WS-SVC-IDS2BUNK9=
WS-SVC-WEBVPN-K9=
7600-SSC-400=
SPA-IPSEC-2G=
WS-SVC-ADM-1-K9=
WS-SVC-AGM-1-K9=
WS-X6066-SLB-S-K9=
WS-X6066-SLB-APC=
WS-SVC-SSL-1-K9=
WS-SVC-NAM-1=
WS-SVC-NAM-2=
WS-SVC-WLAN-1-K9
WS-SVC-WLAN-1-K9=
WS-SVC-CMM=
WS-SVC-CMM-6E1=
WS-SVC-CMM-6T1=
WS-SVC-CMM-ACT=
WS-SVC-CMM-24FXS=
WS-SVC-CSG-1=
WS-SVC-MWAM-1=
WS-SVC-PSD-1=
WS-SVC-IPSEC-1=
WS-X6608-E1=
WS-X6608-T1=
SC-ADM-4.0-K9
SF-PIX-PDM-2.1

Wireless LAN Module

WS-SVC-WISM-1-K9

802.3af Upgrades

WS-F6K-GE48-AF=
WS-F6K-FE48X2-AF=
WS-X6148-45AF-UG=
WS-X6148-21AF-UG=

WAN Interface Modules

WS-X6582-2PA=
7600-SIP-200=
7600-SIP-400=
WS-X6582-2PA=
OSM-1CHOC12/T1-SI=
OSM-12CT3/T1=
OSM-1CHOC12/T3-SI=
OSM-20C12-ATM-MM+=
OSM-20C12-ATM-SI+=
OSM-20C48/1DPT-SS=
OSM-20C48/1DPT-SI=
OSM-20C48/1DPT-SL=
OSM-10C48-POS-SS+=
OSM-10C48-POS-SI+=
OSM-10C48-POS-SL+=
OSM-2+4GE-WAN+=
OSM-2+4GE-5PACK+

Optics

GLC-FE-100FX=
GLC-FE-100LX=
GLC-FE-100BX-U=
GLC-FE-100BX-D=
GLC-FE-100EX=
GLC-FE-100ZX=
GLC-LH-SM=
GLC-SX-MM=
GLC-ZX-SM=
GLC-T=

Adhoc Conferencing and Transcoding PA
24-Port FXS Interface Port Adapter
Content Services Gateway
Multi-Processor WAN Application Module
Persistent Storage Device
Firewall blade for 6500 and 7600, VFW License Separate
IDSM-2 600M mod spare
SSL VPN Module for Catalyst 6500
Cisco 7600 / Catalyst 6500 Services SPA Carrier Card
Cisco 7600 / Catalyst 6500 IPsec VPN SPA - DES/3DES/AES
Catalyst 6500 Cisco Anomaly Detection Module
Catalyst 6500 Cisco Anomaly Guard Module
Content Switching Module with SSL daughter card
Catalyst 6500/7600 Content Switching Module
SSL Module for Catalyst 6500
Catalyst 6500 Network Analysis Module-1
Catalyst 6500 Network Analysis Module
Wireless LAN Services Module, CEF256
Wireless LAN Services Module, CEF256
COMMUNICATION MEDIA MODULE
6-PORT E1 INTERFACE PORT ADAPTER
6-PORT T1 INTERFACE PORT ADAPTER
Adhoc Conferencing and Transcoding PA
24-Port FXS Interface Port Adapter
Content Services Gateway
Multi-Processor WAN Application Module
Persistent Storage Device
IPsec VPN Security Module for 6500 and 7600 series
Catalyst 6000 8 port Voice E1 and Services Module
Catalyst 6000 8 port Voice T1 and Services Module
Cisco Traffic Anomaly Detector Module MVP-OS R4.0 Software
PIX Device Manager for FW Module for Catalyst 6500

CISCO WIRELESS SERVICES MODULE (WISM)

Cat 6500 802.3af PoE daughter card for WS-X6x48-GE-TX
Cat6500 PoE 802.3af Voice Card (WS-X6148X2-RJ-45 and -RJ-21)
C6500 802.3af upgrade for 6148-RJ-45 (trade-in order only)
Cat6500 - PoE 802.3af upgrade - 6148-RJ-21

Cisco7600/Catalyst6500 Enhanced FlexWAN, Fabric-enabled
Cisco 7600 Series SPA Interface Processor-200
Cisco 7600 Series SPA Interface Processor-400
Cisco7600/Catalyst6500 Enhanced FlexWAN, Fabric-enabled
1-port CHOC-12/CHSTM-4 OSM IR, to DS0 and T1/E1, w/4GE
12-port Channelized DS-3 to DS-1/DS-0
1-port CHOC-12/CHSTM-4 OSM, to T3/E3, SM-IR, with 4 GE
Enhanced 2-port OC12/STM4 ATM OSM+, MM, with 4 GE
Enhanced 2-port OC12/STM4 ATM OSM+, SI, with 4 GE
2-port OC-48/STM-16 POS/DPT OSM, SM-SR, with 4 GE
2-port OC-48/STM-16 POS/DPT OSM, SM-IR, with 4 GE
2-port OC-48/STM-16 POS/DPT OSM, SM-LR, with 4 GE
Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-SR, w/ 4 GE
Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-IR, w/ 4 GE
Enhanced 1-port OC-48/STM-16 SONET/SDH OSM, SM-LR, w/ 4 GE
Enhanced OSM with 4 GE WAN ports and 2 GE LAN ports, Spare
5 Pack of OSM-2+4GE-WAN+

100BASE-FX SFP for FE port
100BASE-LX SFP for FE port
100BASE-BX10-U SFP
100BASE-BX10-D SFP
100BASE-EX SFP (40km)
100BASE-ZX SFP (80km)
GE SFP, LC connector LX/LH transceiver
GE SFP, LC connector SX transceiver
1000BASE-ZX SFP
1000BASE-T SFP

WS-G5483=	1000BASE-T GBIC
WS-G5484=	1000BASE-SX Short Wavelength GBIC (Multimode only)
WS-G5486=	1000BASE-LX/LH long haul GBIC (singlemode or multimode)
WS-G5487=	1000Base-ZX extended reach GBIC(singlemode)
XENPAK-10GB-CX4=	Cisco 10GBASE-CX4 XENPAK Module
XENPAK-10GB-ER=	10GBASE-ER XENPAK Module
XENPAK-10GB-LR=	10GBASE-LR XENPAK module
XENPAK-10GB-LX4=	10GBASE-LX4 XENPAK Module
XENPAK-10GB-SR=	10GBASE-SR XENPAK Module
XENPAK-10GB-ZR	10GBASE-ZR XENPAK Module
XENPAK-10GB-ZR=	10GBASE-ZR XENPAK Module
XENPAK-10GB-LW=	10GBASE-LW XENPAK Module
X2-10GB-SR=	10GBASE-SR X2 Module
X2-10GB-LR=	10GBASE-LR X2 Module
X2-10GB-ER=	10GBASE-ER X2 Module
X2-10GB-LX4=	10GBASE-LX4 X2 Module
X2-10GB-CX4=	10GBASE-CX4 X2 Module

Rack Mount Kits

KIT-MNTG-CG-3=	Mounting Kit and Cable Guide For CISC07603/Cat6503 chassis
KIT-MNTG-CG-4=	Mounting Kit and Cable Guide For CISC0 7604 and 6504-E
WS-C6X06-RACK=	Catalyst 6x06 Rack Mount Kit and Cable Organizer, Spare
WS-C6X09-RACK=	Catalyst 6x09 Rack Mount Kit and Cable Organizer, Spare
WS-C6509-E-RACK=	Catalyst 6509-E Rack Mount Kit
WS-C6513-RACK=	Catalyst 6513 Rack Mount Kit and Cable Organizer, Spare
WS-C6597=	Catalyst C6506/9 23in Center Rack Mount Kit
WS-6513-RACK-MNT=	23in Rack Mount Kit for 6513
KIT-MNTG-09=	Mounting Kit For CISC07609/Cat6509-NEB-A chassis
CABLETRAY-09=	Cable Tray Assembly for CISC07609/Cat6509-NEB-A

Accessories

WS-F6K-48-AF=	C6500 802.3af PoE daughter card - 6x48x-GE-TX,6148A-RJ-45
WS-F6K-48X2-SPLTR=	Spare - Y-Type Splitter Bar for WS-X6148X2-RJ-45

Power Supplies

PWR-1400-AC=	1400W AC pwr/sup for CISC07603 and Catalyst WS-C6503 chassis
PEM-20A-AC+=	PwrEntryMod use w/1400W AC P/S for CISC07603, WS-C6503
PWR-2700-AC/4=	2700W AC Power Supply for Cisco 7604/6504-E
WS-CAC-3000W=	Catalyst 6500 3000W AC power supply (spare)
WS-CAC-6000W=	Cat6500 6000W AC Power Supply
WS-CAC-8000W-E=	Catalyst 6500 8700W Enhanced AC Power Supply
WS-CAC-4000W-INT=	4000W AC Power Supply, International (cable included)
WS-CAC-4000W-US=	4000Watt AC Power Supply for US (cable attached)
WS-CDC-2500W	Catalyst 6000 2500W DC Power Supply
PWR-950-DC=	Spare 950W DC P/S for CISC07603/Cat 6503
PEM-DC/3=	Spare DC Power Entry Mod for CISC07603/Cat 6503
PWR-2700-DC/4=	2700W DC Power Supply for Cisco 7604/6504-E
WS-CDC-2500W=	Catalyst 6000 2500W DC Power Supply, Spare
PWR-4000-DC=	4000W DC Pwr Supply for CISC07609/13 and Cat 6509/13
WS-CDC-1300W=	Catalyst 6000 1300W DC Power Supply, Spare

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Catalyst 6500 Family Web site: <http://www.cisco.com/go/6000>



Wireless LAN

Wireless LAN at a Glance (IEEE 802.11 a/b/g)

Product	Features	Page
Cisco Aironet 1130AG Series Access Point	<ul style="list-style-type: none"> With two high-performance radios with integrated antennas, these access points provide simultaneous support for the 802.11a and 802.11g standards, offering 108 Mbps of capacity for your growing WLAN Cost-compelling solution for a high-capacity, high-security, enterprise-class WLAN Ideal for easy deployment offices and similar facilities 	3-3
Cisco Aironet 1240AG Series Access Point	<ul style="list-style-type: none"> Rugged enterprise-class AP designed for indoor industrial deployments and installations that require antenna versatility Ideal for factories, warehouses and retailers Broad operating temperature range and UL 2043 certification for plenum rating requirements set by local fire codes supports installation in environmental air spaces Link-roll flexibility allows the AP to perform as a wireless bridge between access points for backhaul to the network 	3-5
Cisco Aironet 1300 Series Outdoor Access Point/Bridge	<ul style="list-style-type: none"> Configurable for access point, bridge, or workgroup bridge roles Support for both point-to-point or point-to-multipoint configurations Industry leading range and throughput, supporting data rates up to 54 Mbps Ruggedized enclosure optimized for harsh outdoor environments with extended operating temperature range Integrated or optional external antennas for flexibility in deployment 	3-7
Cisco Aironet 1500 Series Lightweight Outdoor Wireless Mesh Access Point	<ul style="list-style-type: none"> Enable cost-effective, scalable deployment of secure outdoor wireless LANs Dual-band, simultaneous support for IEEE 802.11a and 802.11b/g standards Employs a patent-pending Adaptive Wireless Path Protocol to form a dynamic wireless mesh network between remote access points 	3-9
Cisco Aironet 802.11a/b/g Wireless CardBus and PCI Adapter	<ul style="list-style-type: none"> Secure network communications, with the Cisco Wireless Security Suite and support for Wi-Fi Protected Access (WPA) Comprehensive utilities for flexible, easy configuration and management High-performance 54 Mbps connectivity in the 2.4 and 5 GHz bands Superior range and throughput World mode for international roaming 	3-10
Cisco Aironet 1400 Series Wireless Bridge	<ul style="list-style-type: none"> Support for both point-to-point or point-to-multipoint configurations Range and throughput supporting data rates up to 54 Mbps Enhanced security mechanisms based on 802.11 standards Ruggedized enclosure optimized for harsh outdoor environments with extended operating temperature range 	3-12
Cisco Antennas and Accessories	<ul style="list-style-type: none"> A wide array of options FCC-approved directional and omni-directional antennas Low-loss cable, mounting hardware, and other accessories available 	3-14
Cisco 2100 Series Wireless LAN Controller	<ul style="list-style-type: none"> Ideal for enterprise branch wireless LAN deployments that require system-level security, scalability, and RF management Leverages the LWAPP to centrally control Cisco Aironet Lightweight Access Points for WLAN performance optimization and automated network resiliency Supports up to six lightweight access points making it a cost-effective solution for enterprise branch offices and small and medium-sized businesses 	3-18
Cisco 4400 Series Wireless LAN Controller	<ul style="list-style-type: none"> Ideal for enterprise wireless LAN deployments that require system-level security, scalability, and RF management Leverages the LWAPP to centrally control Cisco Aironet Lightweight Access Points for WLAN performance optimization and automated network resiliency Available with 2 Gigabit Ethernet ports to support 12, 25, and 50 access points or with 4 Gigabit Ethernet ports to support 100 access points 	3-19

Cisco Wireless Control System (WCS)	<ul style="list-style-type: none"> Complete platform for enterprise-wide WLAN systems management of the Cisco Unified Wireless Network Wide range of tools for monitoring, configuring managing, and controlling the RF environment Provides a centralized platform for managing a complete network of Cisco WLAN controllers, Cisco Aironet lightweight access points, and Cisco Wireless Location Appliances and the environment for voice over WLAN (VoWLAN) phones It simplifies WLAN planning and deployment and delivers a cost effective way of managing and securing ongoing wireless operations. It supports built-in secure guest access It interfaces with Cognio Spectrum Expert to detect non-Wi-Fi interference 	3-20
Cisco Wireless Control System (WCS) Navigator	<ul style="list-style-type: none"> An aggregated platform for enhanced scalability, manageability, and visibility of large-scale implementations of the Cisco Unified Wireless Network Centralizes the operational control and management of multiple Cisco WCS management platforms 	3-22
Cisco Wireless Location Appliance	<ul style="list-style-type: none"> Advanced and scalable location tracking that simultaneously tracks thousands of wireless users and devices to within a few meters of their physical location indoors and to the closest access points outdoors Integrated location tracking using existing unified wireless infrastructure, minimizing capital expenditures and helping ensure better WLAN visibility Supports integration with a customizable set of location-based applications through tight and transparent integration with the appliance's open API Part of the Cisco Location Solution that supports chokepoint-based notifications as well as receipt of telemetry, battery, and emergency group information from Cisco Compatible Extensions Wi-Fi tags 	3-23
Cisco 500 Series Wireless Express Access Points	<ul style="list-style-type: none"> An affordable single-band 802.11g access point with integrated antennas Delivers business class management, security, scalability and mobility services ideal for small or medium-sized businesses (SMBs) Industry leading radio design that mitigates the effects of multi-path signal propagation for more consistent coverage over long distances Supports standalone or controller-based modes to accommodate a diverse range of deployment and business mobility requirements. 	3-24
Cisco 500 Series Wireless Express Mobility Controller	<ul style="list-style-type: none"> A high performance network appliance designed to optimize the wireless networks of small and medium-sized businesses (SMBs) Cost-effectively supports up to six access points per controller and two controllers per network Supports a wide range of industry standard authentication mechanisms to enable scalable security architectures and minimize security interoperability issues Supports advanced mobility services such as secure guest Internet access and optimized voice over Wi-Fi 	3-26
Cisco Configuration Assistant	<ul style="list-style-type: none"> A comprehensive configuration tool for the Smart Business Communications System portfolio. Simplifies the task of configuring, deploying, and administering the Cisco Mobility Express solution as well as Cisco routing, switching and Unified Communications call-routing and voicemail systems in a small to medium sized business network 	3-28
CiscoWorks Wireless LAN Solution Engine and CiscoWorks Wireless Solution Engine Express	<ul style="list-style-type: none"> CiscoWorks WLSE is a hardware-based wireless LAN management solution that provides template-based configuration with user-defined groups to effectively manage a large number of stand-alone access points and wireless bridges Monitors IEEE 802.1X authentication server availability Enhances security management through mis-configuration detection on stand-alone access points and bridges 	9-23
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco Aironet 1130AG Series Access Point



The Cisco Aironet 1130AG Series packages high capacity, high security, and enterprise-class features delivering WLAN access for a low total cost of ownership. Designed for WLAN coverage in offices and similar RF environments, this unobtrusive access point features integrated antennas and dual IEEE 802.11a/g radios for robust and predictable coverage, delivering a combined capacity of 108 Mbps. The competitively priced Cisco Aironet 1130AG Series is ready to install and easy to manage, reducing the cost of deployment and ongoing maintenance. The Aironet 1130AG Series is available in a lightweight version, an autonomous version that can be field-upgraded to lightweight operation, and a single-band 802.11g version for use in regulatory domains that do not allow 802.11a/5 GHz operation

When to Sell

Sell This Product

Cisco Aironet 1130AG Series Access Point

When a Customer Needs These Features

- A high-capacity and high-security WLAN in the enterprise office
- Two high-performance radios providing simultaneous support for the 802.11a and 802.11g standards offering 108 Mbps capacity for your growing WLAN
- A low-profile access point that blends into the environment and is easy to deploy

Key Features

- IEEE 802.11a and 802.11g radios with simultaneous dual band support provides 108 Mbps capacity. Works with dual band clients to optimize usage of network bandwidth while providing backwards compatibility with 802.11b clients; Complies with 802.11i security standards and is WPA2 certified; Incorporates AES encryption in hardware;
- Available in an 802.11g only version for countries that do not allow 5 GHz.
- Provides robust signals to long distances and mitigates the effects of multipath signal propagation for more consistent coverage
- Orderable supporting either Cisco IOS® Software or the Lightweight Access Point Protocol (LWAPP); uses radio and network management features for simplified deployment, along with built-in omnidirectional antennas that provide robust and predictable WLAN coverage for offices and similar RF environments
- Variable transmit power settings that allows access point coverage to be tuned for differing requirements
- Integrated 4.5 dBi antennas—Complete system deployable out of the box without external antennas; specifically designed to provide omnidirectional coverage for offices and similar radio frequency environments. Low 0.5 mW setting supports closer spacing of access points in high density deployments
- Wi-Fi Certified

Competitive Products

- 3Com Dual-mode access points
- Agere Dual-mode access points
- Alcatel OmniAccess
- Aruba Dual-mode access points: 52, 6X
- Avaya Dual-mode access points
- Colubris Dual-mode access points
- Enterasys Dual-mode access points
- Lucent Dual-mode access points
- Netgear Dual-mode access points
- Proxim/ORiNOCO Dual-mode access points
- Symbol Technologies Dual-mode access points
- Symbol Technologies Access Points, 100, 200, 300

Specifications

Features	Cisco Aironet 1130AG Series Access Point
Data rates supported	802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps; 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Software	Cisco IOS Software Release 12.3(8)JA or later (autonomous); Cisco IOS Software Release 12.3(11)JX or later (Lightweight Mode); Cisco Unified Wireless Network Software Release 4.0 or later
Network standard	IEEE 802.11a, 802.11b and 802.11g
Uplink	Autosensing 802.3 10/100BaseT Ethernet
Non-overlapping channels	802.11a—Up to 19; 802.11b/g—3
SNMP compliance	MIB I and MIB II
Antennas	2.4 GHz: Gain 3.0 dBi, Horizontal Beamwidth 360°; 5 GHz: Gain 4.5 dBi, Horizontal Beamwidth 360°

Features	Cisco Aironet 1130AG Series Access Point
Frequency band and Operating Channels	Americas (FCC): 2.412 to 2.462 GHz; 11 channels, 5.15 to 5.35, 5.725 to 5.825 GHz; 12 channels China: 2.412 to 2.472 GHz; 13 channels, 5.725 to 5.825 GHz; 4 channels ETSI: 2.412 to 2.472 GHz; 13 channels, 5.15 to 5.725 GHz; 19 channels Israel: 2.432 to 2.472 GHz; 9 channels, 5.15 to 5.35 GHz, 8 channels Japan (TELEC): 2.412 to 2.472 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM), 2.412 to 2.484 GHz; 14 channels Complementary Code Keying (CCK), 5.15 to 5.25 GHz; 4 channels Japan-P (TELEC 2 (Japan2) Cnfg): 2.412 to 2.472 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM), 5.15 to 5.35 GHz, 8 channels Korea: 2.412 to 2.472 GHz; 13 channels, 5.15 to 5.35, 5.46 to 5.72, 5.725 to 5.825, 19 channels North America: 2.412 to 2.462 GHz; 11 channels, 5.15 to 5.35, 5.725 to 5.825 GHz; 12 channels Singapore: 2.412 to 2.472 GHz, 13 channels, 5.15 to 5.35 GHz, 8 channels and 5.725 to 5.825 GHz, 12 channels Taiwan: 2.412 to 2.462 GHz, 11 channels, 5.25-5.35 GHz, 5.725 to 5.825, 7 channels
Receive sensitivity	802.11a—6 Mbps: -87 dBm, 9 Mbps: -86 dBm, 12 Mbps: -85 dBm, 18 Mbps: -84 dBm, 24 Mbps: -80 dBm, 36 Mbps: -78 dBm, 48 Mbps: -73 dBm, 54 Mbps: -71 dBm; 802.11g—1 Mbps: -93 dBm, 2 Mbps: -91 dBm, 5.5 Mbps: -88 dBm, 6 Mbps: -86 dBm, 9 Mbps: -85 dBm, 11 Mbps: -85 dBm, 12 Mbps: -84 dBm, 18 Mbps: -83 dBm, 24 Mbps: -79 dBm, 36 Mbps: -77 dBm, 48 Mbps: -72 dBm, 54 Mbps: -70 dBm
Available transmit power settings	802.11a: OFDM: 50 mW (17 dBm), 32 mW (15 dBm), 25 mW (14 dBm), 10 mW (11 dBm), 5 mW (8 dBm), 3 mW (5 dBm), 2 mW (2 dBm), 1 mW (-1 dBm); CCK—100 mW (20 dBm), 50 mW (17 dBm), 25 mW (14 dBm), 12 mW (11 dBm), 6 mW (8 dBm), 3 mW (5 dBm), 2 mW (2 dBm), 1 mW (-1 dBm); OFDM—50 mW (17 dBm), 25 mW (14 dBm), 10 mW (11 dBm), 5 mW (8 dBm), 3 mW (5 dBm), 1 mW (2 dBm), 1 mW (-1 dBm) Maximum power setting will vary by channel and according to individual country regulations.
Range	Indoor (Distance across open office environment): 802.11a: 80 ft (24 m) @ 54 Mbps, 150 ft (45 m) @ 48 Mbps, 200 ft (60 m) @ 36 Mbps, 225 ft (69 m) @ 24 Mbps, 250 ft (76 m) @ 18 Mbps, 275 ft (84 m) @ 12 Mbps, 300 ft (91 m) @ 9 Mbps, 325 ft (100 m) @ 6 Mbps; 802.11g: 1000 ft (30 m) @ 54 Mbps, 175 ft (53 m) @ 48 Mbps, 250 ft (76 m) @ 36 Mbps, 275 ft (84 m) @ 24 Mbps, 325 ft (100 m) @ 18 Mbps, 350 ft (107 m) @ 12 Mbps, 360 ft (110 m) @ 11 Mbps, 375 ft (114 m) @ 9 Mbps, 400 ft (122 m) @ 6 Mbps Outdoor: 802.11a: 100 ft (30 m) @ 54 Mbps, 300 ft (91 m) @ 48 Mbps, 425 ft (130 m) @ 36 Mbps, 500 ft (152 m) @ 24 Mbps, 550 ft (168 m) @ 18 Mbps, 600 ft (183 m) @ 12 Mbps, 625 ft (190 m) @ 9 Mbps, 650 ft (198 m) @ 6 Mbps; 802.11g: 120 ft (37 m) @ 54 Mbps, 350 ft (107 m) @ 48 Mbps, 550 ft (168 m) @ 36 Mbps, 650 ft (198 m) @ 24 Mbps, 750 ft (229 m) @ 18 Mbps, 800 ft (244 m) @ 12 Mbps, 820 ft (250 m) @ 11 Mbps, 875 ft (267 m) @ 9 Mbps, 900 ft (274 m) @ 6 Mbps, 910 ft (277 m) @ 5.5 Mbps, 940 ft (287 m) @ 2 Mbps, 950 ft (290 m) @ 1 Mbps Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ.
Compliance	Customers are responsible for verifying approval for use in their country. See http://www.cisco.com/go/aironet/compliance
Security architecture client authentication and encryption (Cisco Wireless Security Suite supporting WPA and WPA2)	Security Standards: WPA, WPA2 (802.11i), Cisco TKIP, Cisco message integrity check (MIC), IEEE 802.11 WEP keys of 40 bits and 128 bits 802.1X EAP types: EAP-FAST, PEAP-GTC, PEAP-MSCHAP, EAP-TLS, EAP-TTLS, EAP-SIM, Cisco LEAP Encryption: AES-CCMP encryption (WPA2), TKIP (WPA), Cisco TKIP, WPA TKIP, IEEE 802.11 WEP keys of 40 bits and 128 bits
Status LEDs	External: Status LED indicates operating state, association status, error/warning condition, boot sequence and maintenance status Internal: Ethernet LED indicates activity over the Ethernet, status; Radio LED indicates activity over the radios, status
Dimensions (H x W x D)	7.5 x 7.5 x 1.3 in. (19.1 x 19.1 x 3.3 cm)
Weight	1.5 lbs. (0.67 kg)
Environmental	32-104° F (0-40° C); 10-90% humidity (non-condensing)
System Memory	32 MB RAM; 16 MB FLASH
Input Power Req	100-240 VAC 50-60Hz (power supply); 36-57 VDC (device)
Power Draw	12.2 watts, max
Warranty	One year

Selected Part Numbers and Ordering Information

Cisco Aironet 1130AG Series Access Point

AIR-AP1131AG-A-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Israel Cnfg
AIR-AP1131AG-C-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Korea Cnfg
AIR-AP1131AG-E-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Japan2 Cnfg
AIR-AP1131AG-I-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Israel Cnfg
AIR-AP1131AG-J-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Singapore Cnfg
AIR-AP1131AG-K-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Korea Cnfg
AIR-AP1131AG-N-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Taiwan Cnfg
AIR-AP1131AG-P-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Japan2 Cnfg
AIR-AP1131AG-S-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Singapore Cnfg
AIR-AP1131AG-T-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Taiwan Cnfg
AIR-LAP1131AG-A-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; FCC Cnfg
AIR-LAP1131AG-C-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; China Cnfg
AIR-LAP1131AG-E-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; ETSI Cnfg
AIR-LAP1131AG-I-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Israel Cnfg
AIR-LAP1131AG-K-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Korea Cnfg
AIR-LAP1131AG-N-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; N. America Cnfg (not FCC)

AIR-LAP1131AG-P-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Japan2 Cnfg
AIR-LAP1131AG-S-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Singapore Cnfg
AIR-LAP1131AG-T-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Taiwan Cnfg
Cisco Aironet 1130G Series Access Point	
AIR-AP1131G-A-K9	802.11g Non-modular IOS AP; Integrated Antennas; Israel Cnfg
AIR-AP1131G-E-K9	802.11g Non-modular IOS AP; Integrated Antennas; Japan2 Cnfg
AIR-AP1131G-P-K9	802.11g Non-modular IOS AP; Integrated Antennas; Japan2 Cnfg
AIR-LAP1131G-A-K9	802.11g Non-modular LWAPP AP; Integrated Antennas; FCC Cnfg
AIR-LAP1131G-E-K9	802.11g Non-modular LWAPP AP; Integrated Antennas; ETSI Cnfg
AIR-LAP1131G-P-K9	802.11g Non-modular LWAPP AP; Integrated Antennas; Japan2 Cnfg

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Aironet 1240AG Series Access Point

Cisco Aironet 1240AG Series IEEE 802.11a/b/g access points deliver the versatility, high capacity, security, and enterprise-class features demanded by WLAN customers. It is designed specifically for challenging RF environments like factories, warehouses, and large retail establishments that require the antenna versatility associated with connectorized antennas, a rugged metal enclosure, and a broad operating temperature range. The Cisco Aironet 1240AG Series provides local as well as inline power, including support for IEEE 802.3af Power over Ethernet (PoE).



When to Sell

Sell This Product

Cisco Aironet 1240AG Series Access Point

When a Customer Needs These Features

- Rugged enterprise-class AP designed for indoor industrial deployments and installations that require antenna versatility
- For factories, warehouses and retailers
- Link-roll flexibility allowing the AP to perform as a wireless bridge between access points for backhaul to the network

Key Features

- Integrated 802.11a/b/g radios
- Available in an 802.11g only version for countries that do not allow 5 GHz.
- Connectors for a variety of both 2.4 and 5GHz antennas
- Orderable as Autonomous or Lightweight
- May be configured to function as an access point or bridge enabling a broad array of applications
- 4 Power options offering deployment flexibility and cost savings -802.3af, Cisco legacy PoE, Cisco Power Injector or local power supply

Competitive Products

- 3Com Dual-mode access points
- Agere Dual-mode access points
- Alcatel OmniAccess
- Aruba Dual-mode access points
- Aruba Dual-mode access points 52, 6X
- Avaya Dual-mode access points
- Colubris Dual-mode access points
- Enterasys Dual-mode access points
- Lucent Dual-mode access points
- Netgear Dual-mode access points
- Proxim/ORiNOCO Dual-mode access points
- Symbol Technologies Dual-mode access points
- Symbol Technologies Access Points, 100, 200, 300

Specifications

Features	Cisco Aironet 1240AG Series Access Point
Software	Cisco IOS Software Release 12.3(8)JA or later (autonomous); Cisco IOS Software Release 12.3(11)JX or later (Lightweight Mode); Cisco Unified Wireless Network Software Release 4.0 or later
Data Rates Supported	802.11a—6, 9, 12, 18, 24, 36, 48, 54 Mbps; 802.11g—1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Network Standards	IEEE 802.11a/b/g
Uplink	Autosensing 802.3 10/100BASE-T Ethernet
Frequency Band and Operating Channels	Americas (FCC): 2.412 to 2.462 GHz-11 channels, 5.15 to 5.35, 5.725 to 5.825 GHz-12 channels; China: 2.412 to 2.472 GHz-13 channels, 5.725 to 5.825 GHz-4 channels; ETSI: 2.412 to 2.472 GHz-13 channels, 5.15 to 5.725 GHz-19 channels; Japan (TELEC): 2.412 to 2.472 GHz-13 channels Orthogonal Frequency Division Multiplexing (OFDM), 2.412 to 2.484 GHz-14 channels Complementary Code Keying (CCK), 5.15 to 5.25 GHz-4 channels; North America: 2.412 to 2.462 GHz-11 channels, 5.15 to 5.35, 5.725 to 5.825 GHz-12 channels; Singapore: 2.412 to 2.472 GHz-13 channels, 5.15 to 5.25 GHz and 5.725 to 5.825 GHz-8 channels; Taiwan: 2.412 to 2.462 GHz-11 channels, 5.25 to 5.35 GHz and 5.725 to 5.825 GHz-8 channels
Non-Overlapping Channels	802.11a: 12 channels (FCC; other regulatory domains support different numbers of 802.11a channels) FCC currently supports 12 non-overlapping channels, with potentially up to 23 channels via a future firmware release depending on FCC rules; 802.11b/g: 3 channels
Receive Sensitivity	802.11a: 6 Mbps: -87 dBm; 9 Mbps: -87 dBm; 12 Mbps: -85 dBm; 18 Mbps: -84 dBm; 24 Mbps: -81 dBm; 36 Mbps: -78 dBm; 48 Mbps: -73 dBm; 54 Mbps: -72 dBm 802.11g: 6 Mbps: -90 dBm; 9 Mbps: -84 dBm; 12 Mbps: -82 dBm; 18 Mbps: -80 dBm; 24 Mbps: -77 dBm; 36 Mbps: -73 dBm; 48 Mbps: -72 dBm; 54 Mbps: -72 dBm
Range¹	Indoor-802.11a: 85 ft (26 m) @ 54 Mbps; 150 ft (46 m) @ 48 Mbps; 210 ft (64 m) @ 36 Mbps; 230 ft (70 m) @ 24 Mbps; 260 ft (79 m) @ 18 Mbps; 280 ft (85 m) @ 12 Mbps; 310 ft (94 m) @ 9 Mbps; 330 ft (100 m) @ 6 Mbps; 802.11g: 105 ft (32 m) @ 54 Mbps; 180 ft (55 m) @ 48 Mbps; 260 ft (79 m) @ 36 Mbps; 285 ft (87 m) @ 24 Mbps; 330 ft (100 m) @ 18 Mbps; 355 ft (108 m) @ 12 Mbps; 365 ft (111 m) @ 11 Mbps; 380 ft (116 m) @ 9 Mbps; 410 ft (125 m) @ 6 Mbps; 425 ft (130 m) @ 5.5 Mbps; 445 ft (136 m) @ 2 Mbps; 460 ft (140 m) @ 1 Mbps; Outdoor-802.11a: 100 ft (30 m) @ 54 Mbps; 300 ft (91 m) @ 48 Mbps; 425 ft (130 m) @ 36 Mbps; 500 ft (152 m) @ 24 Mbps; 550 ft (168 m) @ 18 Mbps; 600 ft (183 m) @ 12 Mbps; 625 ft (190 m) @ 9 Mbps; 650 ft (198 m) @ 6 Mbps; 802.11g: 120 ft (37 m) @ 54 Mbps; 350 ft (107 m) @ 48 Mbps; 550 ft (168 m) @ 36 Mbps; 650 ft (198 m) @ 24 Mbps; 750 ft (229 m) @ 18 Mbps; 800 ft (244 m) @ 12 Mbps; 820 ft (250 m) @ 11 Mbps; 875 ft (267 m) @ 9 Mbps; 900 ft (274 m) @ 6 Mbps; 910 ft (277 m) @ 5.5 Mbps; 940 ft (287 m) @ 2 Mbps; 950 ft (290 m) @ 1 Mbps;
Antenna	2.4 GHz: Dual RP-TNC connectors; 5 GHz: Dual RP-TNC connectors
LEDs	Status LED indicates operating state, association status, error/warning condition, boot sequence, and maintenance status; Ethernet LED indicates activity over the Ethernet, status; Radio LED indicates activity over the radio, status
Dimensions (H x W x D)	6.6 x 8.5 x 1.1 in. (16.76 x 21.59 x 2.79 cm)
Weight	2.0 lbs
Environmental	Non operating (storage) temperature: 40 to 185°F (-40 to 85°C); Operating temperature: -4 to +131°F (-20 to +55°C) Operating/noncondensing humidity: 10 to 90 percent
System Memory	32 MB RAM; 16 MB flash
Input Power Requirements	100 to 240 VAC; 50 to 60Hz (power supply); 36 to 57 VDC (device)
Power Draw	Local power; 802.3 AF switches; Cisco legacy PoE switches; Cisco Aironet power Injectors (PWRINJ3 and PWRINJ-FIB); Third-party PoE devices (must meet input power and power draw requirements)
Power Draw	12.95W ² maximum
Warranty	One year

1. Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ
2. The maximum power required at the powered device. If the access point is being used in a PoE configuration, the power drawn from the power sourcing equipment will be higher by some amount dependent on the length of the interconnecting cable. This additional power may be as high as 2.45W, bringing the total system power draw (access point + cabling) to 15.4W.

Selected Part Numbers and Ordering Information

Cisco Aironet 1240AG Series Access Point

AIR-AP1242AG-A-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; FCC configuration
AIR-AP1242AG-C-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; China configuration
AIR-AP1242AG-E-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; ETSI configuration
AIR-AP1242AG-I-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Israel configuration
AIR-AP1242AG-J-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Japan configuration
AIR-AP1242AG-K-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Korea configuration
AIR-AP1242AG-N-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; North America configuration (not FCC)
AIR-AP1242AG-P-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Japan2 configuration
AIR-AP1242AG-S-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Singapore configuration
AIR-AP1242AG-T-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Taiwan configuration
AIR-LAP1242AG-A-K9	802.11ag Non-modular LWAPP access point; RP-TNC; FCC configuration
AIR-LAP1242AG-C-K9	802.11ag Non-modular LWAPP access point; RP-TNC; China configuration
AIR-LAP1242AG-E-K9	802.11ag Non-modular LWAPP access point; RP-TNC; ETSI configuration
AIR-LAP1242AG-I-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Israel configuration
AIR-LAP1242AG-K-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Korea configuration
AIR-LAP1242AG-N-K9	802.11ag Non-modular LWAPP access point; RP-TNC; North America configuration (not FCC)
AIR-LAP1242AG-P-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Japan2 configuration

Chapter 3

AIR-LAP1242AG-S-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Singapore configuration
AIR-LAP1242AG-T-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Taiwan configuration
Cisco Aironet 1240G Series Access Point	
AIR-AP1242G-A-K9	802.11g non-modular Cisco IOS access point; RP-TNC; FCC configuration
AIR-AP1242G-E-K9	802.11g non-modular Cisco IOS access point; RP-TNC; ETSI configuration
AIR-AP1242G-P-K9	802.11g non-modular Cisco IOS access point; RP-TNC; Japan2 configuration
AIR-LAP1242G-A-K9	802.11g non-modular LWAPP access point; RP-TNC; FCC configuration
AIR-LAP1242G-E-K9	802.11g non-modular LWAPP access point; RP-TNC; ETSI configuration
AIR-LAP1242G-P-K9	802.11g non-modular LWAPP access point; RP-TNC; Japan2 configuration

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the Distribution Product Reference Guide at: <http://www.cisco.com/dprg> (limited country availability)

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Aironet 1300 Series

The Cisco Aironet 1300 Series is an 802.11g access point and bridge that provides high-speed and cost-effective wireless connectivity between multiple fixed or mobile networks and clients.



When to Sell

Sell This Product

Cisco Aironet 1300 Series

When a Customer Needs These Features

- Configurable for access point, bridge, or workgroup bridge roles
- Support for both point-to-point or point-to-multipoint configurations
- Industry leading range and throughput, supporting data rates up to 54 Mbps
- Enhanced security mechanisms based on 802.1X standards
- Ruggedized enclosure optimized for harsh outdoor environments with extended operating temperature range

Key Features

- Network connections within a campus area; Outdoor infrastructure for mobile networks and users; Public access for outdoor areas
- Supports temporary networks for portable or military operations
- Supports the 802.11g standard providing 54-Mbps data rates with secure technology while maintaining full backward compatibility with legacy 802.11b devices
- Easy maintenance and installation by integrating it with your wired network via SWAN solution
- Investment protection with future Cisco IOS Software upgrades
- The Cisco Unified Wireless Network simplifies wireless LAN deployment and management by providing clear visibility and dynamic control of the RF environment
- Operates as a wireless bridge, access point, or a workgroup bridge
- Provides ongoing savings of leased-line expenses, a method to connect networks despite physical barriers such as lakes or highways, and rapid deployment of network connections
- Wi-Fi Certified in Access Point mode

Competitive Products

- 3Com wireless outdoor bridges
- D-Link bridges

Specifications

Features	Cisco Aironet 1300 Series
Compatibility	Access Point—Compatible with any Wi-Fi Certified client device for basic capability; Compatible with Cisco Aironet clients and Cisco Compatible clients for extended capability Workgroup Bridge—Supports operation with Cisco Aironet access points and Cisco bridges
Air interface standard ¹	IEEE 802.11b or IEEE 802.11g

Features	Cisco Aironet 1300 Series	
Frequency band	2.412 to 2.462 GHz (FCC); 2.412 to 2.472 GHz (ETSI); 2.412 to 2.472 GHz (TELEC)	
Wireless modulation	802.11b—Direct Sequence Spread Spectrum (DSSS): Differential Binary Phase Shift Keying (DBPSK) at 1 Mbps; Differential Quadrature Phase Shift Keying (DQPSK) at 2 Mbps; Complementary Code Keying (CCK) at 5.5 and 11 Mbps 802.11g—Orthogonal Frequency Divisional Multiplexing (OFDM): BPSK at 6 and 9 Mbps; QPSK at 12 and 18 Mbps; 16-quadrature amplitude modulation (QAM) at 24 and 36 Mbps; 64-QAM at 48 and 54 Mbps	
Media access protocol	Carrier Sense Multiple Access/Collision Avoidance (CSMA/CA)	
Operating channels	802.11b/g—ETSI: 13; Americas: 11; TELEC (Japan): 13	
Lightweight Access Point Protocol	A network protocol for lightweight access points that also provides for centralized management.	
Non-overlapping channels	3	
Security	Bridge—Authentication: 802.1X support including LEAP to yield mutual authentication and dynamic per-user, per-session encryption keys; Encryption: Cisco TKIP, key hashing (per-packet keying) and message, Integrity Check (MIC), AES-ready Access Point: Authentication: 802.1X support including LEAP, PEAP, EAP Message Digest 5 (EAP MD5), EAP TLS, and EAP FAST to yield mutual authentication and dynamic per-user, per-session encryption keys; Encryption: Cisco TKIP and WPA TKIP; key hashing (per-packet keying) and MIC; AES-ready Workgroup-Bridge—Authentication: 802.1X support including LEAP to yield mutual authentication and dynamic per-user, per-session encryption keys; Encryption: Cisco TKIP, key hashing (per-packet keying) and MIC, AES-ready	
SNMP compliance	Versions 1 and 2	
Feature	AIR-BR1310G-x-K9	AIR-BR1310G-x-K9-R
Available transmit power settings ²	802.11b: 100 mW (20 dBm), 50 mW (17 dBm), 30 mW (15 dBm), 20 mW (13 dBm), 10 mW (10 dBm), 5 mW (7 dBm), 1 mW (0 dBm); 802.11g: 30 mW (15 dBm); 20 mW (13 dBm); 10 mW (10 dBm); 5 mW (7 dBm); 1 mW (0 dBm)	Same as AIR-BR1310G-x-K9
Maximum operational receive level	-20 dBm	Same as AIR-BR1310G-x-K9
Maximum survivable receive level	10 dBm	Same as AIR-BR1310G-x-K9
Receive sensitivity (10 percent with 3200-byte packets)	1 Mbps: -94 dBm, 2 Mbps: -91 dBm, 5.5 Mbps: -89 dBm, 11 Mbps: -85 dBm; 6 Mbps: -90 dBm, 9 Mbps: -89 dBm; 12 Mbps: -86 dBm, 18 Mbps: -84 dBm; 24 Mbps: -81 dBm, 36 Mbps: -77 dBm; 48 Mbps: -73 dBm, 54 Mbps: -72 dBm	Same as AIR-BR1310G-x-K9
Access-point role (Outdoor range)	Americas: 865 feet (260 meters) at 54 Mbps, 3465 feet (1055 meters) at 11 Mbps; ETSI: 150 feet (45 meters) at 54 Mbps, 775 feet (235 meters) at 11 Mbps; TELEC: 485 feet (145 meters) at 54 Mbps, 1095 feet (330 meters) at 11 Mbps Note: Access Point with 13 dBi integrated antenna and Cisco clients	Americas: 350 feet (105 meters) at 54 Mbps, 1410 feet (430 meters) at 11 Mbps; ETSI: 195 feet (60 meters) at 54 Mbps, 630 feet (190 meters) at 11 Mbps; TELEC: 195 feet (60 meters) at 54 Mbps, 445 feet (135 meters) at 11 Mbps Note: Access Point with 5.2dBi patch antenna and Cisco clients
Bridge role (Point-to-point range) ³	Americas: 1.3 miles (2 km) at 54 Mbps, 9 miles (15 km) at 11 Mbps; EMEA: 0.2 miles (0.36km) at 54 Mbps, 2.3 miles (3.5 km) at 11 Mbps; TELEC: 0.7 miles (1.1km) at 54 Mbps, 3.2 miles (5 km) at 11 Mbps Note: 13 dBi integrated antenna at root and non-root bridge	Americas: 4.5 miles (7 km) at 54 Mbps, 14 miles (23 km) at 11 Mbps; EMEA: 5.5 miles (9 km) at 11 Mbps; TELEC: 4.5 miles (7 km) at 54 Mbps, 12 miles (20 km) at 11 Mbps Note: 21-dBi dish antenna at root and non-root bridge
Bridge role (Point-to-multipoint range) ³	Americas: 1.1 miles (1.8 km) at 54 Mbps, 8 miles (13 km) at 11 Mbps; EMEA: 0.25 miles (0.4km) at 54 Mbps, 1.1 miles (1.8 km) at 11 Mbps; TELEC: 0.8 miles (1.3km) at 54 Mbps, 3.6 miles (5.8 km) at 11 Mbps Note: 14-dBi sector antenna at root and 13dBi integrated antenna at non-root	Americas: 2.0 miles (3.3 km) at 54 Mbps, 10 miles (16 km) at 11 Mbps; EMEA: 2.5 miles (4 km) at 11 Mbps; TELEC: 2.0 miles (3.3 km) at 54 Mbps; 9.0 miles (14 km) at 11 Mbps Note: 14-dBi sector at root and 21-dBi dish at non-root
Features	AIR-BR1310G-x-K9 and AIR-BR1310G-x-K9-R	AIR-PWRINJ-BLR2 and AIR-PWRINJ-BLR2T
Dimensions (H x W x D)	8 x 8.1 x 3.12 in. (20.3 x 20.57 x 7.87 cm)	4.62 x 4.76 x 1.07 in. (11.73 x 12.09 x 2.71 cm)
Weight	2.5 lb (1.25 kg)	2 lb (1 kg)
Operational temperature	-22° to 131½°F (-30° to 55½°C)	Same As AIR-BR1310G-x-K9 and AIR-BR1310G-x-K9-R
Storage temperature	-40° to 185½°F (-40° to 85½°C)	Same As AIR-BR1310G-x-K9 and AIR-BR1310G-x-K9-R
Operational altitude	13,800 ft (4206 m)	Same As AIR-BR1310G-x-K9 and AIR-BR1310G-x-K9-R
Storage altitude	16,000 ft (4877 m)	Same As AIR-BR1310G-x-K9 and AIR-BR1310G-x-K9-R
Humidity	0 to 100% at 100½°F (38½°C) (condensing)	0 to 90% at 100½°F (38½°C) (non-condensing)
Warranty	One Year	

1. Bridge mode has enhancements to the standard to allow longer-range bridging communication
2. Maximum power setting will vary according to individual country regulations
3. The distances referenced here are approximations and should be used for estimation purposes only.

Selected Part Numbers and Ordering Inf...ormation

Cisco Aironet 1300 Series

AIR-BR1310G-X-K9	2.4 GHz (802.11g) Outdoor Access Point/Bridge with integrated patch antenna
AIR-BR1310G-X-K9-R	2.4 GHz (802.11g) Outdoor Access Point/Bridge with RP-TNC type connector
AIR-LAP1310G-X-K9	2.4 GHz (802.11g) Outdoor Lightweight Access Point/Bridge with integrated patch antenna
AIR-LAP1310G-X-K9	2.4 GHz (802.11g) Outdoor Lightweight Access Point/Bridge with RP-TNC type connector

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Aironet 1500 Series Lightweight Outdoor Wireless Mesh Access Point



Cisco Aironet 1500 Series lightweight outdoor mesh access points enable cost-effective, scalable deployment of secure outdoor wireless LANs. With dual-band, simultaneous support for IEEE 802.11a and 802.11b/g standards, the Cisco Aironet 1500 Series employs a patent-pending Adaptive Wireless Path Protocol to form a dynamic wireless mesh network between remote access points, and delivers secure wireless access with the total lowest cost of ownership.

When to Sell

Sell This Product

Cisco Aironet 1500 Series
Lightweight Outdoor
Wireless Mesh Access
Point

When a Customer Needs These Features

- Network connections within a campus area
- Outdoor infrastructure for mobile users
- Public access for outdoor areas

Key Features

- Adaptive Wireless Path Protocol
- Integrated dual radio design
- Configurable for access point and bridging
- Support for point-to-point, point-to-multipoint and mesh configurations
- Standards-based LWAPP

Competitive Products

- BelAir 50C, 100C and 200C
- Fireside HotPort Mesh Nodes
- Mesh Dynamics Mesh Access Point
- Nortel Wireless Mesh Access Point
- Strix Systems OWS Mesh Access Point

Specifications

Features	Cisco Aironet 1500 Series
Wireless Standards	802.11a; 802.11b/g
Media Access Protocol	Carrier Sense Multiple Access/Collision Avoidance (CSMA/CA)
Date Rates and Modulation	802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps, Orthogonal Frequency Division Multiplexing (OFDM); 802.11b: 11, 5.5, 2, 1 Mbps, Direct Sequence Spread Spectrum (DSSS); 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps, OFDM
Frequency Band and Operating Channels	802.11a: 5.725–5.850 GHz 5 channels; 5.725–5.850 GHz 5 channels 802.11b/g: 2.412–2.462 GHz; 11 channels; 2.412–2.462 GHz; 11 channels Regulatory Version: -A; -N
Transmit Power ¹	Maximum: 802.11a: 28 dBm; 802.11b: 24 dBm; 802.11g: 24 dBm Available power settings are at the following percentages of the above maximum transmit power: 100, 50, 25, 12.5, 6.25
Receive Sensitivity	802.11a: 6 Mbps: -87 dBm; 9 Mbps: -87 dBm; 12 Mbps: -86 dBm; 18 Mbps: -84 dBm; 24 Mbps: -80 dBm; 36 Mbps: -76 dBm; 48 Mbps: -72 dBm; 54 Mbps: -71 dBm; 802.11b: 1 Mbps: -90 dBm; 2 Mbps: -89 dBm; 5.5 Mbps: -87dBm; 11 Mbps: -84 dBm; 802.11g: 6 Mbps: -88 dBm; 9 Mbps: -87 dBm; 12 Mbps: -87 dBm; 18 Mbps: -84 dBm; 24 Mbps: -80 dBm; 36 Mbps: -78 dBm; 48 Mbps: -72 dBm; 54 Mbps: -71 dBm;
Network Interface	802.3u 10/100 Ethernet, autosensing

Features	Cisco Aironet 1500 Series
Networking Features	16 Broadcast SSIDs; HTTP web page re-direct
Management	LWAPP-based; Managed by Cisco Wireless LAN Controller
Security	Wireless Bridging/Mesh: X.509 digital certificates; MAC address authentication; Hardware-assisted AES encryption Wireless Access: 802.11i; 802.1x authentication, including EAP-SIM, EAP-PEAP, EAP-TLS, EAP-TTLS, Cisco LEAP; Hardware-assisted AES, WPA, Temporal Key Integrity Protocol-Message Identity Check (TKIP-MIC) encryption; VPN passthrough; IPSec, L2TP; MAC address filtering
Compliance	Customers are responsible for verifying approval for use in their country. Please see http://www.cisco.com/go/aironet/compliance to verify approval and to identify the regulatory domain that corresponds to a particular country. All regulatory domains may not have been approved. As they are approved, the part numbers will be available on the Global Price List.
Dimensions	15.0i x 7.3i x 5.7i (25.4 cm x 18.5 cm x 14.5 cm) (including antenna mount)
Weight	10 lbs. (4.55 kg)
Operating Temperature	-30 to 55°C (-22 to 131°F)
Storage Temperature	-50 to 85°C (-58 to 185°F)
Environmental Ratings	IP66; NEMA 4
Immunity	<= 5 mJ for 6kV/3kA @ 8/20 ms waveform; ANSI/IEEE C62.41; EN61000-4-5 Level 4 AC Surge Immunity; EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity; EN61000-4-3 Level 4 EMC Field Immunity; EN61000-4-2 Level 4 ESD Immunity; EN60950 Overvoltage Category IV
Power	95-260 VAC, 47-63 Hz; Power over Ethernet: 48 VDC, +/-10 percent

1. Maximum transmit power will vary by channel, data rate, and individual country regulations

Selected Part Numbers and Ordering Information

Cisco Aironet 1500 Series

AIR-LAP1510AG-A-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, FCC configuration
AIR-LAP1510AG-N-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, China configuration
AIR-LAP1510AG-E-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, ETSI configuration
AIR-LAP1510AG-K-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, Korea configuration
AIR-LAP1510AG-N-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, non-FCC configuration
AIR-LAP1510AG-P-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, TELEC configuration
AIR-LAP1510AG-S-K9	Cisco Aironet 1510AG Lightweight Outdoor Mesh Access Point, Singapore configuration

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the Distribution Product Reference Guide at: <http://www.cisco.com/dprg> (limited country availability)

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Aironet 802.11a/b/g Wireless Adapters

The Cisco Aironet IEEE 802.11a/b/g Wireless CardBus and PCI Adapters provides high-performance 54 Mbps connectivity in the 2.4 and 5 GHz bands that combines the freedom of wireless connectivity with the performance, security, and manageability that businesses require.



When to Sell

Sell This Product

Cisco Aironet 802.11a/b/g Wireless CardBus Adapter

When a Customer Needs These Features

- Ability to operate in a mixed mode environment
- Mobility within the enterprise to increase productivity, as an addition or alternative to wired networks or need flexibility for frequent LAN wiring changes
- Support for Cisco Compatible Extensions with a Cisco product

Key Features

- Secure network communications using the Cisco Secure Wireless Solution
- Includes the Aironet Desktop Utility (ADU), Aironet System Tray Utility (ASTU), and Aironet Client Administration Utility (ACAU)
- World mode for international roaming; Superior range and throughput
- Supports single 802.11b coverage, single 802.11g coverage, single 802.11a coverage, dual-mode 802.11a/g coverage or tri-mode 802.11a/b/g coverage

- Wi-Fi Certified; Support for WPA
- PCI Adapter—Optimal placement for maximum performance using dual-band 2.4/5 GHz 1 dBi effective gain antenna has a 2-meter cable
- PCI Adapter—Provides a low-profile form factor and two-meter cable length providing flexibility for installation in low-profile devices, such as slim desktops and point-of-sale (POS) devices.
- Support for Cisco Compatible Extensions version 5 and earlier

Specifications

Feature	Cisco Aironet 802.11a/b/g Wireless CardBus Adapter	Cisco Aironet 802.11a/b/g Wireless PCI Adapter
Form Factor	CardBus Type II	Standard and Low Profile Type II PCI
Interface	32-bit CardBus with standard 68-pin connector; PC-Card Rev. 7.0 compliant	Standard PCI Interface, PCI Rev. 2.3 compliant
Data Rates Supported	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps	
Network Standard	IEEE 802.11a/b/g	
Operating Voltage	3.3 V (±0.3 V)	
Media Access Protocol	Carrier-Sense Multiple Access w/ Collision Avoidance (CSMA/CA)	
Wireless Medium	802.11g: Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Divisional Multiplexing (OFDM); 802.11a: OFDM	
Modulation	802.11b: DSSS--Differential Binary Phase Shift Keying (DBPSK) @ 1 Mbps; Differential Quadrature Phase Shift Keying (DQPSK) @ 2 Mbps; Complementary Code Keying (CCK) @ 5.5 and 11 Mbps 802.11g and 802.11a: OFDM--BPSK @ 6 and 9 Mbps; QPSK @ 12 and 18 Mbps; 16-Quadrature Amplitude Modulation (QAM) @ 24 and 36 Mbps; 64-QAM @ 48 and 54 Mbps	
Frequency Bands	2.40 to 2.4897 GHz; 5.15 to 5.35 GHz (FCC UNII 1 and UNII 2); 5.725 to 5.85 GHz (FCC UNII 3); 5.15 to 5.35 GHz (ETSI); 5.470 to 5.725 (ETSI); 5.15 to 5.25 GHz (Japan)	
Range (With 2.2 dBi dipole antenna for 802.11g and 802.11b and 6 dBi gain patch for 802.11a)	802.11a—Indoor: 45 ft (13 m) @ 54 Mbps, 110 ft (33 m) @ 18 Mbps, 165 ft (50 m) @ 6 Mbps; Outdoor: 100 ft (30 m) @ 54 Mbps, 600 ft (183 m) @ 18 Mbps, 1000 ft (304 m) @ 6 Mbps 802.11b/g—Indoor: 90 ft (27 m) @ 54 Mbps, 180 ft (54m) @ 18 Mbps, 160 ft (48 m) @ 11 Mbps, 300 ft (91 m) @ 6 Mbps, @ 410 ft (124 m); Outdoor: 250 ft (76 m) @ 54 Mbps, 600 ft (183 m) @ 18 Mbps, 1000 ft (304 m) @ 11 Mbps, 1300 ft (396 m) @ 6 Mbps, 2000 ft (610 m) @ 1 Mbps	
Antenna	Integrated diversity dual-band 2.4/5 GHz antenna	
Security Architecture Client Authentication (Cisco Wireless Security Suite)	Authentication: WPA and 802.1X support for Cisco LEAP, PEAP-GTC, PEAP-MSCHAPv2, and EAP-TLS; MAC address and by standard 802.11 authentication mechanisms Encryption: Support for static and dynamic IEEE 802.11 WEP keys of 40 bits and 128 bits; Cisco TKIP and WPA TKIP encryption enhancements: key hashing (per-packet keying), message integrity check (MIC) and broadcast key rotation	
Drivers	Windows XP and Windows 2000	
Dimensions (H x W x D)	0.19 x 2.05 x 4.46 in. (4.80 x 52.08 x 113.35 mm.)	3.12205 x 4.72 in. (79.3 x 119.9 mm.)
Weight	1.6 oz (44.0g)	Standard (frame) PCI w/Antenna: 3.64 oz. (103.2 g), Standard (frame) PCI w/o Antenna: 1.92 oz. (54.7 g), Low Profile PCI w/Antenna: 3.43 oz. (97.5 g), Low Profile PCI w/o Antenna: 1.72 oz. (49.0 g)
Warranty	One Year	One Year

Selected Part Numbers and Ordering Information

Cisco Aironet Wireless LAN Client Adapters

AIR-CB21AG-A-K9	802.11a/b/g Cardbus Adapter; FCC Cnfg
AIR-CB21AG-P-K9	802.11a/b/g Cardbus Adapter; Japan2 Cnfg
AIR-CB21AG-A-K9-40	802.11a/b/g Cardbus Adapter; FCC Cnfg; 40PK
AIR-CB21AG-E-K9	802.11a/b/g Cardbus Adapter; ETSI Cnfg
AIR-CB21AG-J-K9	802.11a/b/g Cardbus Adapter; TELEC Cnfg
AIR-CB21AG-W-K9	802.11a/b/g Cardbus Adapter; Rest of World Cnfg
AIR-PI21AG-A-K9	802.11a/b/g Low Profile PCI Adapter; FCC Cnfg
AIR-PI21AG-A-K9-10	802.11a/b/g Low Profile PCI Adapter; FCC Cnfg; 10PK
AIR-PI21AG-E-K9	802.11a/b/g Low Profile PCI Adapter; ETSI Cnfg
AIR-PI21AG-J-K9	802.11a/b/g Low Profile PCI Adapter; TELEC Cnfg
AIR-PI21AG-W-K9	802.11a/b/g Low Profile PCI Adapter; Rest of World Cnfg

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For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Aironet 1400 Series Wireless Bridge

The Cisco Aironet 1400 Series Wireless Bridge creates a benchmark for wireless bridging by providing a high-performance and feature-rich solution for connecting multiple LANs in a metro area. It delivers deployment personnel a flexible, easy to use solution while also meeting security requirements of wide area networking professionals.



When to Sell

Sell This Product

Cisco Aironet 1400 Series Wireless Bridge

When a Customer Needs These Features

- A cost-effective, high-bandwidth way to connect networks in multiple locations within a metro area
- A rapid payback period and a lower total cost of ownership than a leased line
- High performance data rates of 54 Mbps at point-to-point ranges of 7.5 miles and 2 miles for point-to-multipoint ranges

Key Features

- Support for both point-to-point or point-to-multipoint configurations
- Industry leading range and throughput, supporting data rates up to 54 Mbps
- Enhanced security mechanisms based on 802.11 standards
- Ruggedized enclosure optimized for harsh outdoor environments with extended operating temperature range
- Integrated or optional external antennas for flexibility in deployment
- Designed specifically for ease-of-installation and operation

Competitive Products

- 3Com wireless outdoor bridges
- D-Link bridges

Specifications

Feature	AIR-BR1410A-A-K9	AIR-BR1410A-A-K9-N	Power Injector LR
Frequency band	5.725 to 5.825 GHz (FCC UNII 3)	Same as AIR-BR1410A-A-K9	
Wireless modulation	Coded Orthogonal Frequency Division Multiplexing (COFDM)	Same as AIR-BR1410A-A-K9	
Media access protocol	Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA)	Same as AIR-BR1410A-A-K9	
Modulation	BPSK @ 6 and 9 Mbps, QPSK @ 12 and 18 Mbps, 16-QAM @ 24 and 36 Mbps, 64-QAM @ 48 and 54 Mbps	Same as AIR-BR1410A-A-K9	
Non-overlapping channels	4	Same as AIR-BR1410A-A-K9	
Receive sensitivity (10% PER with 3200byte packets)	6 Mbps: -83 dBm, 9 Mbps: -83 dBm, 12 Mbps: -81 dBm, 18 Mbps: -80 dBm, 24 Mbps: -77 dBm, 36 Mbps: -74 dBm, 48 Mbps: -70 dBm, 54 Mbps: -68 dBm	Same as AIR-BR1410A-A-K9	
Maximum Operational Receive Level	-19 dBm	Same as AIR-BR1410A-A-K9	
Maximum Survivable Receive Level	0 dBm	Same as AIR-BR1410A-A-K9	
Available transmit power settings	250 mW (24 dBm), 200 mW (23 dBm), 155 mW (22 dBm), 125 mW (21 dBm), 60 mW (18 dBm), 30 mW (15 dBm), 15 mW (12 dBm) Maximum power setting will vary according to individual country regulations	Same as AIR-BR1410A-A-K9	
Point-to-point range¹	7.5 miles (13 km) @ 54 Mbps, 16 miles (26 km) @ 9 Mbps	12 miles (19 km) @ 54 Mbps, 23 miles (37 km) @ 9 Mbps, (Antennas are 28 dBi dish)	
Point-to-multipoint range (sector antenna at root)²	2 miles (3 km) @ 54 Mbps, 8 miles (13 km) @ 9 Mbps	4 miles (7 km) @ 54 Mbps, 11 miles (18 km) @ 9 Mbps, (Non-root antenna is 28 dBi dish)	
Antenna	Captured Linear Polarization; 22.5dBi gain; 10 E-plane by 12 H-plane beamwidth	One N-Type connector for professional installations (antennas sold separately)	

Chapter 3

Feature	AIR-BR1410A-A-K9	AIR-BR1410A-A-K9-N	Power Injector LR
Security	Cisco Wireless Security Suite, including: Authentication: 802.1x support including LEAP to yield mutual authentication and dynamic per-user, per-session encryption keys Encryption: Support for static and dynamic IEEE 802.11 WEP keys of 40 bits and 128 bits Pre-standard TKIP WEP enhancements: key hashing (per packet keying) and Message Integrity Check (MIC)	Same as AIR-BR1410A-A-K9	
SNMP compliance	v1 and v2	Same as AIR-BR1410A-A-K9	
Status LEDs	Four LEDs: Install, Radio, Status, Ethernet	Same as AIR-BR1410A-A-K9	Four LEDs: Power ON, Injector status, LAN Ethernet status, Bridge Ethernet status
RSSI port	BNC connector DC Voltage port (0VDC to 2.7 VDC)	BNC connector DC Voltage port (0VDC to 2.7 VDC)	NA
Uplink	100 Mbps over dual coaxial cables	100 Mbps over dual coaxial cables	10/100BaseT Ethernet
Configuration support	Telnet, HTTP, FTP, TFTP, SNMP	Telnet, HTTP, FTP, TFTP, SNMP	NA
Compliance	Customers are responsible for verifying approval for use in their country. Please see http://www.cisco.com/go/aironet/compliance to verify approval and to identify the regulatory domain that corresponds to a particular country. All regulatory domains may not have been approved. As they are approved, the part numbers will be available on the Global Price List. individual country regulations)		
Dimensions (H x W x D)	11.4 x 11.4 x 4.2 in. (29 x 29 x 11 cm)	11.6 x 11.6 x 3.6 in. (29 x 29 x 9 cm)	6.7 x 6.3 x 1.3 in (17 x 16 x 3 cm)
Weight	11 lbs. (5 kg)	10 lbs. (5 kg)	1.4lbs. (0.6kg)
Operational temperature	-30 to +55°C (-22 to +131°F)	Same as AIR-BR1410A-A-K9	0 to +50C (32 to 122F)
Storage temperature	-40 to +85°C (-40 to +185°F)	Same as AIR-BR1410A-A-K9	-40 to +70C (-40 to +158F)
Operational altitude	4206 m (13,800 ft.)	Same as AIR-BR1410A-A-K9	Same as AIR-BR1410A-A-K9
Storage altitude	4877 m (16,000 ft.)	Same as AIR-BR1410A-A-K9	Same as AIR-BR1410A-A-K9
Humidity	0 to 100% (condensing)	Same as AIR-BR1410A-A-K9	0 to 90% (non-condensing)
Vibration	0.001 G2/Hz from 5 - 100 Hz	Same as AIR-BR1410A-A-K9	Same as AIR-BR1410A-A-K9
Storage vibration	0.01 G2/Hz from 5 - 100 Hz	Same as AIR-BR1410A-A-K9	Same as AIR-BR1410A-A-K9
Enclosure	Aluminum with environmentally sealed plastic radome	NEMA-4, aluminum	Metal case
AC power	Not Required as uses DC voltage from Power Injector	Same as AIR-BR1410A-A-K9	100 to 240 VAC, +/- 10% (power supply)
DC power	48 VDC +/-2V	Same as AIR-BR1410A-A-K9	Same as AIR-BR1410A-A-K9
Warranty	One year	Same as AIR-BR1410A-A-K9	Same as AIR-BR1410A-A-K9

Selected Part Numbers and Ordering Information

Cisco Aironet 1410 Wireless Bridge

AIR-BR1410A-A-K9	Aironet 1410 Wireless Bridge with 22.5 dBi Antenna, FCC Cnfg
AIR-BR1410A-E-K9	Aironet 1410 Integrated Metro Bridge, European Config
AIR-BR1410A-K-K9	Aironet 1410 Integrated Metro Bridge, Korean Config
AIR-BR1410A-Z-K9	Aironet 1410 Integrated Metro Bridge, Pacific Config
AIR-BR1410A-A-K9-N	Aironet 1410 Wireless Bridge w/ N-Type Connector, FCC Cnfg

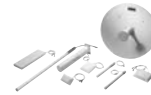
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For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Antennas and Accessories

Every wireless LAN deployment is different. When engineering an in-building solution, varying facility sizes, construction materials, and interior divisions raise transmission and multipath considerations. Cisco has the widest range of antennas, cable, and accessories available from any wireless manufacturer. Cisco offers a complete range of 2.4 GHz and 5 GHz antennas for access point and bridge equipment that enable a customized wireless solution for almost any installation



Key Features

- **Client Adapter Antennas**—To extend the transmission range for more specialized applications, a variety of optional, higher-gain antennas are provided that are compatible with selected client adapters
- **Access Point Antennas**—Compatible with all Cisco RP-TNC-equipped access points; Available with different gain and range capabilities, beam widths, and form factors
- **Bridge Antennas**—Available in directional configurations for point-to-point transmission and omnidirectional configuration for point-to-multipoint implementations
- **Low-loss cable** extends the length between any Cisco Aironet bridge and the antenna. With a loss of 6.7 dB per 100 feet (30m), low-loss cable provides installation flexibility without a significant sacrifice in range
- Complete range of antennas for 5 GHz bridging applications

Specifications

Cisco Aironet 2.4 GHz Access Point Antennas with RP-TNC Connectors

Feature	AIR-ANT5959	AIR-ANT2410Y-R	AIR-ANT2012	AIR-ANT3213
Description	2-dBi Diversity omnidirectional ceiling mount	10-dBi Yagi mast or wall mount	Diversity patch wall mount	5.2-dBi Pillar mount diversity omni
Application	Indoor unobtrusive antenna, best for ceiling mount. Excellent throughput and coverage solution in high multipath cells and dense user population	Indoor/Outdoor directional antenna for use with Access Points or Bridges	Indoor/Outdoor, unobtrusive medium range antenna	Indoor, unobtrusive medium-range antenna
Approximate Indoor Range ¹	6 Mbps: 295 ft (90 m) 54 Mbps: 88 ft (27 m)	6 Mbps: 548 ft (167 m) 54 Mbps: 165 ft (50 m)	6 Mbps: 418 ft (127 m) 54 Mbps: 126 ft (38 m)	6 Mbps: 379 ft (121 m) 54 Mbps: 114 ft (35 m)
Cable Length	3 ft. (0.91m)	3 ft. (0.91 m)	3 ft. (0.91m)	3 ft. (0.91m)
Dimensions (H x W x D)	5.3 x 2.8 x 09. in. (13.5 x 7.1 x 2.3 cm)	7.25 x 3 in. (18.4 x 7.62 cm)	4.78 x 6.66 x 0.82 in. (12.14 x 16.92 x 2.08 cm)	14 x 5 in. x 1 in. (35.5 x 12.7 x 2.5 cm)
Weight	7 oz. (.19 kg)	8 oz.	9.6 oz. (272g)	1 lb. (460g)
Feature	AIR-ANT1728	AIR-ANT4941	AIR-ANT2422DG-R	AIR-ANT2422DW-R
Description	5.2-dBi omnidirectional ceiling mount	2.2-dBi black dipole antenna	2.2-dBi gray non-articulating dipole antenna	2.2-dBi white dipole antenna
Application	Indoor medium-range antenna, typically hung from crossbars of drop ceilings	Indoor omnidirectional coverage	Indoor omnidirectional coverage	Indoor omnidirectional coverage
Approximate Indoor Range ¹	6 Mbps: 379 ft (116 m) 54 Mbps: 114 ft (35 m)	6 Mbps: 300 ft (91 m) 54 Mbps: 90 ft (27 m)	6 Mbps: 300 ft (91 m) 54 Mbps: 90 ft (27 m)	6 Mbps: 300 ft (91 m) 54 Mbps: 90 ft (27 m)
Cable Length	3 ft. (0.91m)	N/A	N/A	N/A
Dimensions (H x W x D)	11.25 x 1 in. (28.5 x 2.5 cm)	5.5 in. (14 cm)	5.5 in. (14 cm)	5.5 in. (14 cm)
Weight	4.6 oz. (131g)	1.1 oz. (31 g)	1.1 oz. (31 g)	1.1 oz. (31 g)
Feature	AIR-ANT1729	AIR-ANT2485P-R	AIR-ANT2460P-R	AIR-ANT2465P-R
Description	6-dBi Patch wall mount	8.5-dBi patch wall mount	6-dBi patch wall mount	6.5-dBi diversity patch wall mount
Application	Indoor/outdoor, unobtrusive, midrange antenna (may also be used as a long-range antenna (may also be used as a midrange bridge antenna))	Indoor, unobtrusive, long-range antenna (may also be used as a midrange bridge antenna)	Indoor, unobtrusive, long-range antenna (may also be used as a midrange bridge antenna)	Indoor/outdoor, unobtrusive midrange antenna

Cisco Aironet 2.4 GHz Access Point Antennas with RP-TNC Connectors (con.)

Approximate Indoor Range¹	6 Mbps: 403 ft (123 m) 54 Mbps: 121 ft (37 m)	507 ft (155 m) 153 ft (47 m)	403 ft (123 m) 121 ft (37 m)	418 ft (127 m) 126 ft (38 m)
Cable Length	3 ft. (0.91m)	3 ft (0.91 m)	3 ft (0.91 m)	3 ft (0.91 m)
Dimensions (H x W x D)	4 x 5 in. (9.7 x 13 cm.)	5.3 x 5.3 x .90 in. (13.5 x 13.5 x 2.28 cm.)	4.1 x 3.9 x .75 in. (10.4 x 9.9 x 1.9 cm.)	5 x 6.7 x 0.90 in. (12.7 x 17 x 2.28 cm.)
Weight	4.9 oz. (139 g.)	8.2 oz. (231.3 g.)	6 oz. (171.5 g.)	11.6 oz. (330.2 g.)

1. All range estimations are based on an integrated client adapter antenna associating with an access point under ideal indoor conditions. The distances referenced here are approximations and should be used for estimation only.

Cisco Aironet 5 GHz Access Point Antennas with RP-TNC Connectors

Feature	AIR-ANT5145V-R	AIR-ANT5160V-R	AIR-ANT5170P-R	AIR-ANT5195P-R
Description	4.5-dBi diversity omnidirectional ceiling mount antenna	6-dBi omnidirectional antenna	7.0-dBi Diversity patch wall mount	9.5-dBi Patch wall or articulating mast mount
Application	Indoor midrange antenna	Indoor/outdoor midrange antenna	Indoor/outdoor directional wall mount antenna	Indoor/outdoor patch antenna provides different mounting options
Approximate Range³	6 Mbps: 732 ft (223 m) 54 Mbps: 82 ft (25 m)	6 Mbps: 822 ft (251 mm.) 54 Mbps: 92 ft (28 m)	6 Mbps: 880 ft (270 m) 54 Mbps: 140 ft (43 m)	6 Mbps: 1030 ft (313 m) 54 Mbps: 170 ft (52 m)
Beam Width	360° H 50° E	360° H 17° E	70° H, 50° V	50° H, 43° V
Cable Length	3 ft. (0.91 m.)	3 ft. (0.91 m)	3 ft. (0.91 m)	3 ft. (0.91 m)
Dimensions (L x D)	6.75 x 4.1 in. (17.1 x 10.41 cm)	12 x 1 in. (30.5 x 2.5 cm)	5.7 in. (14.5 cm.) x 4.3 in. (10.9 cm.) x 0.7 in. (1.8 cm.)	5.1 in. (12.9 cm.) x 5.1 in. (12.9 cm.) x 1.0 in. (2.5 cm.)
Weight	11.5 oz.	5.3 oz.	8 oz (0.2 kg.)	9 oz. (0.25 kg.)

Cisco Aironet 5 GHz Access Point Antennas with RP-TNC Connectors

Feature	AIR-ANT5135D-R	AIR-ANT5135DG-R	AIR-ANT5135DW-R
Description	3.5-dBi black dipole antenna Indoor omnidirectional coverage	3.5-dBi gray non-articulating antenna Indoor omnidirectional coverage	3.5-dBi white dipole antenna Indoor omnidirectional coverage
Application	675 ft (206 m)	675 ft (206 m)	675 ft (206 m)
Approximate Range³	75 ft (21 m) 360°H, 40°E	75 ft (21 m) 360°H, 40°E	75 ft (21 m) 360°H, 40°E
Beam Width	N/A	N/A	N/A
Cable Length	5.3 x 0.6 in. (13.5 x 1.5 cm)	5.3 x 0.6 in. (13.5 x 1.5 cm)	5.3 x 0.6 in. (13.5 x 1.5 cm)
Dimensions (L x D)	1 oz (28.3 g)	1 oz (28.3 g)	1 oz (28.3 g)

Cisco Aironet 2.4 GHz and 4.9-5 GHz Access Point and Bridge Antennas with N-Type Connectors

Feature	AIR-ANT5175V-N	AIR-ANT2455V-N
Description	7.5-dBi omnidirectional	5.5-dBi omnidirectional
Application	Outdoor	Outdoor, direct mount on unit
Beam Width	16°V	25 °V
Cable Length	1 ft (0.30 m)	N/A
Dimensions	11.65 in (29.41 cm) x 1 in (2.54 cm)	12.5 in (31.75 cm) x 1 in (2.54 cm)
Weight	6 oz (17 kg)	5 oz (14 kg)

Cisco Aironet 2.4 GHz Bridge Antennas

Feature	AIR-ANT2506	AIR-ANT24120	AIR-ANT2414S-R	AIR-ANT1949	AIR-ANT3338
Description	5.2 dBi Omnidirectional	12 dBi High-gain omnidirectional	14 dBi Vertically polarized sector	13.5 Yagi mast mount	21 dBi Solid dish
Application	Mast mount	Mast mount	Outdoor long range point-to-multipoint applications	Outdoor medium-range directional connections	Outdoor long-range directional connections
Approximate Indoor Range⁴	2 Mbps: 3.3 miles (5.31 km) 11 Mbps: 1.66 miles (2.66 km) 54 Mbps: 21 miles (.34 km)	2 Mbps: 15.81 miles (25.43 km) 11 Mbps: 7.92 miles (12.75 km) 54 Mbps: 1.0 miles (1.6 km)	2 Mbps: 16.71 miles (26.89 km) 11 Mbps: 8.89 miles (14.30 km) 54 Mbps: 1.26 miles (2.02 km)	2 Mbps: 18.33 miles (29.49 km) 11 Mbps: 11.19 miles (18.01 km) 54 Mbps: 1.41 miles (2.27 km)	2 Mbps: 26.49 miles (42.62 km) 11 Mbps: 20.1 miles (32.33 km) 54 Mbps: 4.46 miles (7.17 km)
Cable Length	3 ft. (0.91m)	1 ft. (0.30m)	5 ft (1.5 m)	3 ft. (0.91m)	2 ft. (0.61m)

Cisco Aironet 2.4 GHz Bridge Antennas

Dimensions (L x D)	13 x 1 in. (33 x 2.5 cm)	50 x 1.5 in. (127 x 3 cm)	36 x 6 x 1.25 in. (91 x 15 x 10 cm)	18 x 3 in. (46 x 7.6 cm)	24 in. d (61 cm)
Weight	5 oz. (14 g)	1.5 lb. (0.68 kg)	6.5 lb. (3 kg)	12 oz. (34 kg)	11 lb. (5 kg)

Cisco Aironet Accessories

Feature	AIR-ACC2537-060	AIR-ACC245LA-R	AIR-ACC2662
Description	60 in. (152 cm) bulkhead extender	Yagi articulating mount	Yagi articulating mount
Application	Flexible antenna cable that extends access point cabling typically within an enclosure	Helps prevent damage due to lightning-induced surges or static electricity; Helps prevent damage due to lightning-induced surges or static electricity	Adds swiveling capability to mast-mounted Yagi antennas

Cisco Aironet 5.8 GHz Bridge Antennas with N-Type Connectors

Feature	AIR-ANT58G9VOA-N	AIR-ANT58G10SSA-N	AIR-ANT58G28SDA-N
Description	9.0-dBi omnidirectional Mast mount	9.5-dBi sector antenna Mast mount	28.0-dBi dish antenna Mast mount
Application	Outdoor short-range point-to-multipoint applications	Outdoor medium-range point-to-point and point-to-multipoint applications	Outdoor long-range directional connections
Polarization	Vertical	Vertical or horizontal Field configurable	Vertical or horizontal Field configurable
Elevation adjustment	None	None	+/- 12.5 degrees
Approximate range at 9 Mbps6	8 miles (13 km) (with 22.5 dBi captive antenna on the remote site)	Same as AIR-ANT58G9VOA-N	23 miles (37 km) (with 28 dBi antennas on each end)
Approximate range at 54 Mbps6	2 miles (3 km) (with 22.5 dBi captive antenna on the remote site)	Same as AIR-ANT58G9VOA-N	12 miles (19 km) (with 28 dBi antennas on each end)
Beam width	360 H, 6 V	60 H, 60 V	4.75 H, 4.75 V
Supplied jumper cable length	4.9 ft. (1.5 m)	4.9 ft. (1.5 m)	4.9 ft. (1.5 m)
Dimensions (H x W x D)	20.25 x .64 in. (51.4 x 1.62 cm)	2.5 x 2.5 x 1.75 in. (6.4 x 6.4 x 4.5 cm)	Diameter: 29 in. (74 cm) Depth: 14.5 in. (36.8 cm)
Weight	2.0 lb. (0.9 kg)	1.25 lb. (0.6 kg)	9.5 lb. (4.3 kg)

Cisco Aironet Bridge Accessory

Feature	AIR-ACCRWM1400	AIR-ACCBRGB=	AIR-ACCMFM1400=
Description	Roof/Wall mount kit	Grounding block	Multifunction mount
Application	Allows mounting to flat surfaces Includes full elevation and azimuth adjustment	Helps prevent damage due to lightning-induced surges or static electricity	Allows mounting to poles with a diameter between 1.5 in. and 2.5 in. Includes both elevation and polarization adjustment

Cisco Aironet Power Injector Cables

Feature	AIR-CAB020DRG6-F=	AIR-CAB050DRG6-F=	AIR-CAB100DRG6-F
Cable length	20 ft. (6m)	50 ft. (15m)	100 ft. (30m)

Selected Part Numbers and Ordering Information¹**Cisco Aironet Accessories**

AIR-ACC2662	Yagi Antenna Articulating Mount
AIR-ACC2537-060	60 in. (152 cm) bulkhead extender
AIR-ACC245LA-R	2.4 GHz and 5 GHz lightning arrestor
AIR-CAB020LL-R	20 ft. (6m) low-loss antenna cable
AIR-CAB050LL-R	50 ft. (15m) low loss antenna cable
AIR-CAB100ULL-R	100 ft. (30m) low loss antenna cable
AIR-CAB150ULL-R	150 ft. (46m) low loss antenna cable

Cisco Aironet Antennas

AIR-ANT1728	5.2 dBi Omni Ceiling Mount Antenna
AIR-ANT1729	6 dBi Patch Wall Mount Antenna
AIR-ANT1949	13.5 dBi Yagi Mast Mount Antenna
AIR-ANT2012	6.5 dBi Diversity Patch Wall Mount Antenna
AIR-ANT2506	5.2 dBi Omnidirectional Mast Mount Antenna
AIR-ANT3213	5.2 dBi Pillar-Mount Diversity Omni Antenna
AIR-ANT2410Y-R	10 dBi Yagi mast or wall mount
AIR-ANT3338	21 dBi Solid Dish Antenna
AIR-ANT24120	12 dBi Omnidirectional Mast Mount Antenna
AIR-ANT4941	2.2 dBi Dipole Antenna (Standard Rubber Duck)
AIR-ANT5959	2.0dBi Diversity Omni Ceiling Mount Antenna
AIR-ANT2414S-R	14dBi Sector Mast Mount Antenna
AIR-ANT5145V-R	4.5 dBi omni
AIR-ANT5160V-R	6 dBi omni
AIR-ANT5170P-R	7.0 dBi Diversity patch wall mount
AIR-ANT5195P-R	9.5 dBi Patch wall or articulating mast mount
AIR-ANT2422DG-R	2.2 dBi Gray non-articulating dipole
AIR-ANT2422DW-R	2.2 dBi White dipole
AIR-ANT2485P-R	8.5 dBi Patch wall mount
AIR-ANT2460P-R	6 dBi Patch wall mount
AIR-ANT2465P-R	6.5 dBi Diversity patch wall mount
AIR-ANT5135DG-R	3.5 dBi Gray non-articulating dipole
AIR-ANT5135DW-R	3.5 dBi White dipole
AIR-ANT5175V-N	7.5 dBi Omnidirectional
AIR-ANT2455V-N	5.5 dBi Omnidirectional
AIR-ANT58G9V0A-N	9.0 dBi Omnidirectional mast mount
AIR-ANT58G10SSA-N	9.5 dBi Sector antenna, mast mount
AIR-ANT58G28SDA-N	28.0 dBi Dish antenna, mast mount

Low-Loss/Ultra Low-Loss Antenna Cables

AIR-CAB005LL-R ²	5-ft low loss cable, one RP-TNC plug, one RP-TNC jack
AIR-CAB020LL-R ²	20-ft low loss cable, one RP-TNC plug, one RP-TNC jack
AIR-CAB050LL-R ²	50-ft low loss cable, one RP-TNC plug, one RP-TNC jack
AIR-CAB100ULL-R ²	100-ft ultra low loss cable, one RP-TNC plug, one RP-TNC jack
AIR-CAB150ULL-R ²	150-ft ultra low loss cable, one RP-TNC plug, one RP-TNC jack
AIR-ACC2537-060 ³	5-ft (60 inches) RG-58 type cable with one RP-TNC plug and one RP-TNC jack

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).
2. Type of Cable: Interconnect
3. Type of Cable: Bulkhead Extender

For More Information

See the Aironet Antennas & Accessories Web site <http://www.cisco.com/go/antenna>

Cisco 2100 Series Wireless LAN Controller



Cisco Wireless LAN Controllers are responsible for system wide wireless LAN functions, such as security policies, intrusion prevention, RF management, QoS, and mobility. They work in conjunction with Cisco Lightweight Access Points and the WCS to support business-critical wireless applications. From voice and data services to location tracking, Cisco Wireless LAN Controllers provide the control, scalability, security, and reliability that network managers need to build secure, enterprise-scale wireless networks—from branch offices to main campuses. The Cisco 2100 Series Wireless LAN Controller supports up to six lightweight access points making it ideal for small—to medium—sized enterprise facilities such as branch offices.

When to Sell

Sell This Product

Cisco 2100 Series Wireless LAN Controller

When a Customer Needs These Features

- An enterprise scalable architecture that provides business-critical wireless services for small and medium businesses
- Create an intelligent RF control plane for self-configuration, self-healing, and self-optimization
- Require a system that is deployed without modifying existing routing and switching infrastructures without touching access points

Key Features

- A cost-effective solution for enterprise branch deployments and small and medium-sized business environments
- Business-class RF security and WLAN security policy monitoring
- Simplified network deployment, operations, and management to help reduce overall operational expenses

Competitive Products

- Alcatel OmniAccess Switches
- Aruba Mobility Controllers
- Nortel Wireless Switches
- Trapeze Mobility Exchange WLAN Controllers

Specifications

Features	Cisco 2100 Series Wireless LAN Controller
Wireless	IEEE 802.11a, 802.11b, 802.11g, 802.11d, 802.11h
Wired/Switching	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX specification, and IEEE 802.1Q VLAN tagging
Data RFCs	RFC 768 UDP, RFC 791 IP, RFC 792 ICMP, RFC 793 TCP, RFC 826 ARP, RFC 1122 Requirements for Internet Hosts, RFC 1519 CIDR, RFC 1542 BOOTP, RFC 2131 DHCP
Security Standards	Wi-Fi Protected Access (WPA), IEEE 802.11i (WPA2, RSN), RFC 1321 MD5 Message-Digest Algorithm, RFC 2104 HMAC: Keyed Hashing for Message Authentication, RFC 2246 TLS Protocol Version 1.0, RFC 3280 X.509 PKI Certificate and CRL Profile
Encryption	*WEP and TKIP-MIC: RC4 40, 104 and 128 bits (both static and shared keys), Secure Sockets Layer (SSL) and TLS: RC4 128-bit and RSA 1024- and 2048-bit, AES: CCM, CCMP
AAA	IEEE 802.1X, RFC 2548 Microsoft Vendor-Specific RADIUS Attributes, RFC 2716 PPP EAP-TLS, RFC 2865 RADIUS Authentication, RFC 2866 RADIUS Accounting, RFC 2867 RADIUS Tunnel Accounting, RFC 2869 RADIUS Extensions, RFC 3576 Dynamic Authorization Extensions to RADIUS, RFC 3579 RADIUS Support for EAP, RFC 3580 IEEE 802.1X RADIUS Guidelines, RFC 3748 Extensible Authentication Protocol, Web-based authentication
Management	SNMP v1, v2c, v3, RFC 854 Telnet, RFC 1155 Management Information for TCP/IP-Based Internets, RFC 1156 MIB, RFC 1157 SNMP, RFC 1213 SNMP MIB II, RFC 1350 TFTP, RFC 1643 Ethernet MIB, RFC 2030 SNMP, RFC 2616 HTTP, RFC 2665 Ethernet-Like Interface types MIB, RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions, RFC 2819 RMON MIB, RFC 2863 Interfaces Group MIB, RFC 3164 Syslog, RFC 3414 User-Based Security Model (USM) for SNMPv3, RFC 3418 MIB for SNMP, RFC 3636 Definitions of Managed Objects for IEEE 802.3 MAUs, Cisco private MIBs
Management Interfaces	Designed for use with Cisco Wireless Control System, Web-based: HTTP/HTTPS individual device manager, Command-line interface: Telnet, SSH, serial port
Interfaces and Indicators	Console port: RS-232 (DB-9 male/RJ-45 connector included); Network: Eight 10/100 Mbps Ethernet (RJ-45) including two 802.3af PoE ports rated for use with Cisco Aironet lightweight access points; LED indicators: Link Activity (each 10/100 port), Power, Status, Alarm, Access Point Joined
Regulatory Compliance	CE Mark, Safety: UL 60950-1:2003, EN 60950:2000, EMI and susceptibility (Class B): U.S.: FCC Part 15.107 and 15.109, Canada: ICES-003, Japan: VCCI, Europe: EN 55022, EN 55024
Temperature	Temperature: Operating: 32 to 104°F (0 to 40°C), Storage: -13 to 158°F (-25 to 70°C), Humidity: Operating humidity: 10 to 95 percent, noncondensing, Storage humidity: Up to 95 percent, Heat Dissipation: 92 BTU/hour
Dimensions (W x D x H)	1.75 x 7.89 x 6.87 in. (4.45 x 20.04 x 17.45 cm)
Weight	4.0 lb (1.81 kg) with power supply
Power	Input power: 100 to 240 VAC; 50/60 Hz

Selected Part Numbers and Ordering Information

Cisco 2106 Series Wireless LAN Controller

AIR-WLC2106-K9

Cisco 2106 Series Wireless LAN Controller for up to six Cisco Aironet

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco 4400 Series Wireless LAN Controller



The Cisco 4400 Series Wireless LAN Controller provides system wide wireless LAN functions for medium to large-sized facilities. By automating WLAN configuration and management functions, network managers have the control, security, redundancy, and reliability needed to cost-effectively scale and manage their wireless networks as easily as they scale and manage their traditional wired networks. The Cisco 4400 Series Wireless LAN Controller works in conjunction with Cisco Aironet lightweight access points, the Cisco Wireless Control System (WCS), and the Cisco Wireless Location Appliance to support business-critical wireless data, voice, and video applications. It provides real-time communication between lightweight access points and other wireless LAN controllers to deliver centralized security policies, wireless intrusion prevention system (IPS) capabilities, award-winning RF management, QoS, and mobility.

When to Sell

Sell This Product

Cisco 4400 Series Wireless LAN Controller

When a Customer Needs These Features

- Enterprise Scalability—Scalable architecture provides business-critical wireless services for locations of all sizes
- Integrated Radio Resource Management (RRM)—Create an intelligent RF control plane for self-configuration, self-healing, and self-optimization
- Enterprise Reliability—Automated recovery from lightweight access point and Wireless LAN controller failures maximizes the availability of the wireless network

Key Features

- Component of Cisco lightweight access point solution
- Enterprise scalability
- Zero-configuration deployment
- Multi-layered security
- Rogue access point detection, location, and containment
- Mobility management

Competitive Products

- Alcatel OmniAccess Switches
- Aruba Mobility Controllers
- Nortel Wireless Switches
- Trapeze Mobility Exchange WLAN Controllers

Specifications

Features	Cisco 4400 Series Wireless LAN Controller
Wireless	IEEE 802.11a, 802.11b, 802.11g, 802.11d, 802.11h
Data RFCs	RFC 768 UDP, RFC 791 IP, RFC 792 ICMP, RFC 793 TCP, RFC 826 ARP, RFC 1122 Requirements for Internet Hosts, RFC 1519 CIDR, RFC 1542 BOOTP, RFC 2131 DHCP
Security Standards	Wi-Fi Protected Access (WPA); IEEE 802.11i (WPA2, RSN); RFC 1321 MD5 Message-Digest Algorithm; RFC 2104 HMAC: Keyed Hashing for Message Authentication; RFC 2246 TLS Protocol Version 1.0; RFC 3280 X.509 PKI Certificate and CRL Profile
Encryption	WEP and TKIP-MIC: RC4 40, 104 and 128 bits (both static and shared keys); Secure Sockets Layer (SSL) and TLS: RC4 128-bit and RSA 1024- and 2048-bit; AES: CCM, CCMP
AAA	IEEE 802.1X; RFC 2548 Microsoft Vendor-Specific RADIUS Attributes; RFC 2716 PPP EAP-TLS; RFC 2865 RADIUS Authentication; RFC 2866 RADIUS Accounting; RFC 2867 RADIUS Tunnel Accounting; RFC 2869 RADIUS Extensions; RFC 3576 Dynamic Authorization Extensions to RADIUS; RFC 3579 RADIUS Support for EAP; RFC 3580 IEEE 802.1X RADIUS Guidelines; RFC 3748 Extensible Authentication Protocol; Web-based authentication

Features	Cisco 4400 Series Wireless LAN Controller
Management	SNMP v1, v2c, v3; RFC 854 Telnet; RFC 1155 Management Information for TCP/IP-Based Internets; RFC 1156 MIB; RFC 1157 SNMP; RFC 1213 SNMP MIB II; RFC 1350 TFTP; RFC 1643 Ethernet MIB; RFC 2030 SNMP; RFC 2616 HTTP; RFC 2665 Ethernet-Like Interface types MIB; RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions; RFC 2819 RMON MIB; RFC 2863 Interfaces Group MIB; RFC 3164 Syslog; RFC 3414 User-Based Security Model (USM) for SNMPv3; RFC 3418 MIB for SNMP; RFC 3636 Definitions of Managed Objects for IEEE 802.3 MAUs; Cisco private MIBs
Management Interfaces	Web-based: HTTP/HTTPS; Command-line interface: Telnet, SSH, serial port
Interfaces and Indicators	Uplink: 2 (4402) or 4 (4404) 1000Base-X mini-GBIC transceiver slots (SFP): –LED indicators: link, activity; Service Port: 10/100 Mbps Ethernet (RJ45); LED indicators: link, activity; Utility Port: 10/100/1000 Mbps Ethernet (RJ45); LED indicators: link, activity; Expansion Slots: 1 (4402) or 2 (4404); Console Port: RS232 (DB-9 male, DTE interface); Other Indicators: Status, Alarm, Power Supply 1, Power Supply 2
Regulatory Compliance	CE Mark; Safety: UL 60950-1:2003, EN 60950:2000; EMI and susceptibility (Class A): U.S.: FCC Part 15.107 and 15.109, Canada: ICES-003, Japan: VCCI, Europe: EN 55022, EN 55024

Selected Part Numbers and Ordering Information

Cisco 4400 Series Wireless LAN Controller

AIR-WLC4402-12-K9	4400 Series WLAN Controller for up to twelve 1000 Series APs
AIR-WLC4402-25-K9	4400 Series WLAN Controller for up to twenty-five 1000 Series APs
AIR-WLC4402-50-K9	4400 Series WLAN Controller for up to fifty 1000 Series APs
AIR-WLC4404-100-K9	4400 Series WLAN Controller for up to one-hundred 1000 Series APs

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Wireless Control System (WCS)

Cisco Wireless Control System (WCS) is the industry leading platform for wireless LAN planning, configuration, and management. It provides a powerful foundation that allows IT managers to design, control, and monitor enterprise wireless networks from a centralized location, simplifying operations and reducing total cost of ownership. With Cisco WCS, network administrators have a single solution for RF prediction, policy provisioning, network optimization, troubleshooting, user tracking, security monitoring, VoWLAN configuration, and wireless LAN systems management. Robust graphical interfaces make wireless LAN deployment and operations simple and cost-effective. Detailed trending, inventory, performance, security, device, and analysis reports make Cisco WCS vital to ongoing network operations.

When to Sell

Sell This Product

Cisco Wireless Control System (WCS)

When a Customer Needs These Features

- Centralized platform for managing a complete network of Cisco WLAN controllers, Cisco Aironet lightweight access points and Cisco Wireless Location Appliances
- WLAN planning tools to increase the effectiveness of WLAN design and deployment including VoWLAN
- Real-time security monitoring
- Simplified client troubleshooting
- Secure cost effective guest access
- Quick and simple bulk configuration of controllers
- Non-Wi-Fi interference Detection

Key Features

- Intuitive GUI—easily configure, monitor, and troubleshoot wireless networks with minimal training
- Hierarchical maps—quickly access different geographies, campuses, buildings, floors, and regions for better visibility and control
- WLAN planning tools for effective and efficient WLAN design and deployment
- Extensive on-demand and automated reports for the entire system, performance, access points, clients, security, the RF environment and alarms
- Client troubleshooting tool for quick and easy client troubleshooting using simple step-by-step methods
- Cognio Spectrum Expert integration for investigating non-Wi-Fi interference sources within the vicinity of the Cisco lightweight access points
- Integrated location tracking for protecting assets and increasing WLAN security

- Policy management templates for easy creation and enforcement across an entire enterprise
- Secure guest access that allows organizations to keep their wireless networks secure while providing customers, vendors, and partners with controlled access to the WLAN
- Complete wireless intrusion protection and detection of rogue devices
- Simple, hands-off software upgrades and scalable configuration templates
- Robust APIs for integration with external software systems
- Supports converting an existing CiscoWorks WLSE (Models 1130-19 and 1133) to operate as a Cisco WCS to reduce capital expenses

Competitive Products

- Airwave AMP products
- Aruba Mobility Management System
- AirDefense

Specifications

Features	Cisco Wireless Control System (WCS)
Minimum Server Requirements	Windows 2003 SP1 or greater, or Redhat Linux AS/ES v4.0; VMware ESX Server 3.0.1 or later. (Minimum hardware requirements for a dedicated and guaranteed VMware server: Intel® Xeon Quad CPU; 3.15 GHz, 8 GB RAM, 200 GB HDD); Cisco WCS High-End Server: 3000 lightweight access points, 750 wireless LAN controllers, Intel® Xeon Quad CPU; 3.15 GHz, 8 GB RAM, 200 GB HDD; Cisco WCS Standard Server: 2000 lightweight access points, 150 wireless LAN controllers, Intel® Dual Core CPU; 3.2 GHz, 4 GB RAM, 80 GB HDD; Cisco WCS Low-End Server: 500 lightweight access points, 50 wireless LAN controllers, Intel® CPU; 3.06 GHz, 960 MB RAM, 30 GB HDD; CiscoWorks WLSE Models 1130-19 or 1133 running Cisco WCS: 1500 lightweight access points, 100 wireless LAN controllers, Intel Pentium 4 CPU; 3 GHz, 3 GB RAM, 38 GB HDD
Minimum Client Requirements	Internet Explorer 6.0/SP1 or later
Management	SNMP v1, v2c, v3
Managed Devices	Cisco 2000, 2100, 4100 and 4400 Series Wireless LAN Controllers; Cisco Catalyst 6500 Series Wireless Services Module (WiSM), Cisco Catalyst 3750G Integrated Wireless LAN Controller, Cisco Wireless LAN Controller Module (WLCM and WLCM-E) for Integrated Services Routers; Cisco Aironet lightweight access points, Cisco Aironet lightweight outdoor mesh access points, and Cisco Wireless Location Appliance
Database	Integrated Solid Flow Engine SQL

Selected Part Numbers and Ordering Information

Cisco Wireless Control System (WCS)

WCS-APBASE-50	Cisco WCS Base License for 50 APs, Windows/Linux
WCS-APBASE-100	Cisco WCS Base License for 100 APs, Windows/Linux
WCS-APBASE-500	Cisco WCS Base License for 500 APs, Windows/Linux
WCS-APLOC-50	Cisco WCS with Location License for 50 APs, Windows/Linux
WCS-APLOC-100	Cisco WCS with Location License for 100 APs, Windows/Linux
WCS-APLOC-500	Cisco WCS with Location License for 500 APs, Windows/Linux
WCS-WLSE-UPG-K9:	Converting Existing CiscoWorks WLSE to Cisco WCS (Only supported on Linux platform for CiscoWorks WLSE Models 1130-19 and 1133)
WCS-WLSE-APB-50	Cisco WCS Base License for WLSE conversion supporting 50 APs, Linux
WCS-WLSE-APB-100	Cisco WCS Base License for WLSE conversion supporting 100 APs, Linux
WCS-WLSE-APB-500	Cisco WCS Base License for WLSE conversion supporting 500 APs, Linux
WCS-WLSE-APB-1000	Cisco WCS Base License for WLSE conversion supporting 1000 APs, Linux
WCS-WLSE-APB-2500	Cisco WCS Base License for WLSE conversion supporting 2500 APs, Linux
WCS-WLSE-APL-50	Cisco WCS Location License for WLSE conversion supporting 50 APs, Linux
WCS-WLSE-APL-100	Cisco WCS Location License for WLSE conversion supporting 100 APs, Linux
WCS-WLSE-APL-500	Cisco WCS Location License for WLSE conversion supporting 500 APs, Linux
WCS-WLSE-APL-1000	Cisco WCS Location License for WLSE conversion supporting 1000 APs, Linux
WCS-WLSE-APL-2500	Cisco WCS Location License for WLSE conversion supporting 2500 APs, Linux
WCS-LOC-UPG-K9	Upgrading Existing Cisco WCS Base to Cisco WCS Location; Supports tracking a single Wi-Fi device on demand or expanded location capabilities by adding a Cisco Wireless Location Appliance; Cisco WCS Location must be selected to support deployment of a Cisco Wireless Location Appliance.
WCS-APLOC-UPG-50	Cisco WCS Location Upgrade License supporting 50 APs, Windows/Linux
WCS-APLOC-UPG-100	Cisco WCS Location Upgrade License supporting 100 APs, Windows/Linux
WCS-APLOC-UPG-500	Cisco WCS Location Upgrade License supporting 500 APs, Windows/Linux
WCS-ENT-K9:	Enterprises licenses for large-scale deployments; Supports expanded location capabilities by adding a Cisco Wireless Location Appliance. 10,000 and 50,000 enterprises licenses include Cisco WCS Navigator license
WCS-ENT-1000	Cisco WCS Enterprise License with Location for 1000 access points, Windows/Linux on Multiple Cisco WCS Servers
WCS-ENT-2500	Cisco WCS Enterprise License with Location for 2500 access points, Windows/Linux on Multiple Cisco WCS Servers
WCS-ENT-10000	Cisco WCS Enterprise License with Location for 10,000 access points, Windows/Linux on Multiple Cisco WCS Servers. Includes Cisco WCS Navigator

WCS-ENT-50000	Cisco WCS Enterprise License with Location for 50,000 access points, Windows/Linux on Multiple Cisco WCS Servers. Includes Cisco WCS Navigator
AIR-WCS-DEMO-K9:	Cisco WCS Demonstration License (This license is only available from http://www.cisco.com/go/license . After requesting the license, go to Cisco Wireless Software Center (login required) to download Cisco WCS software.
AIR-WCS-DEMO-K9	Free Cisco WCS full featured, location-enabled, 30 day demonstration license supporting ten lightweight access points

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Wireless Control System Navigator

The Cisco Wireless Control System (WCS) Navigator delivers an aggregated platform for enhanced scalability, manageability, and visibility of large-scale implementations of the Cisco Unified Wireless Network. This solution gives network administrators cost-effective, easy access to information from multiple, geographically diverse Cisco WCS management platforms. It supports partitioning of the unified wireless network at the management level. It runs on a server platform with an embedded database.

When to Sell

Sell This Product

Cisco Wireless Control System (WCS) Navigator

When a Customer Needs These Features

- Manage up to 20 geographically diverse Cisco WCS management platforms with manageability of up to 20,000 Cisco Aironet lightweight access points
- Needs to partition the unified wireless network at the management level.
- Centralized and quick searches across the entire network, multiple Cisco WCS management platforms and all devices

Competitive Products

- Airwave AMP products
- Aruba Mobility Management System
- AirDefense

Key Features

- Intuitive GUI—Supports easy configuration and monitoring of multiple Cisco WCS management platforms with minimal training
- Real time network monitoring
- Network summary screen displays outstanding alarms, fault summaries, client counts, and status counts of all connected Cisco WCS management platforms and devices
- Secure single sign-on so that individual users do not need to be created on each Cisco WCS management platform
- Automated browser redirect automatically redirects to the corresponding Cisco WCS management platform detail page on searches or displays
- Centralized and quick searches across the entire network, multiple Cisco WCS management platforms and all devices
- Location tracking of client, Wi-Fi and rogue devices across the entire network
- Simplified setup and configuration
- Indoor and outdoor WLANs can be cost-effectively viewed from a single management console
- Detailed inventory reports can be automatically generated and scheduled and then exported by email or CSV file

Specifications

Features	Cisco Wireless Control System Navigator
Minimum server requirements	Windows 2003 SP1 or greater, or Redhat Linux AS/ES v4.0 High-End Server: Intel® Xeon Quad CPU; 3.15 GHz, 8-GB RAM, and 200-GB HDD
Minimum client requirements	Internet Explorer 6.0 with SP1 or later
Management	SNMP v1, v2c, and v3
Managed devices	Up to 20 Cisco WCS management platforms with manageability of up to 20,000 Cisco Aironet lightweight access points
Database	Integrated Solid FlowEngine Structured Query Language (SQL)

Selected Part Numbers and Ordering Information

Cisco Wireless Control System Navigator	
WCS-NAV-20	Cisco WCS Navigator License to support 20 Cisco WCS management platforms

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco Wireless Location Appliance

The Cisco Wireless Location Appliance is the industry's first location solution that simultaneously tracks thousands of devices from directly within the WLAN infrastructure-bringing the power of a cost effective, high-resolution location solution to critical applications such as high-value asset tracking, network location services such as RF capacity management, troubleshooting, and location based security and business policy enforcement. Part of the Cisco Location Solution.

When to Sell**Sell This Product**

Cisco Wireless Location Appliance

When a Customer Needs These Features

- Advanced and scalable location tracking that simultaneously tracks thousands of wireless users and devices to within a few meters of their physical location indoors and to the closest access point outdoors
- Integrated location tracking using existing Cisco unified wireless enabled infrastructure, minimizing capital expenditures and helping ensure better WLAN visibility
- Supports integration with customizable location-based applications through tight and transparent integration with the appliance's open API
- Supports chokepoint-based notifications as well as receipt of telemetry, battery, and emergency group information from Cisco Compatible Extensions Wi-Fi Tags

Key Features

- Increased Location Accuracy—Cisco Wireless Location Appliance uses the Cisco Systems® patent-pending RF fingerprinting technology to determine the location of wireless devices. Cisco provides the only WLAN infrastructure that correlates known RF characteristics of a building, such as multipath or attenuation, with real-time user information to track mobile devices within a few meters
- Audit Trails and Database Maintenance—Up to 30 days of location and statistical wireless device information can be archived and replayed; helps customers optimize their business processes
- Scalability—Thousands of wireless clients and Wi-Fi tags can be tracked simultaneously helping ensure that location services can be applied to an entire enterprise environment
- Lowered Total Cost of Ownership—Reduces operating expenses by using the existing Cisco WLAN network infrastructure in conjunction with the location appliance. This results in being more cost-effective than proprietary or single-purpose location tracking solutions by using standard 802.11 components which do not require dedicated access points for location tracking or an independent management system

- **Chokepoint-based notifications**—High-accuracy deterministic location-based notifications are triggered by Cisco Compatible Extensions Wi-Fi tags as they come within range of a chokepoint
- **Location Based Applications**—Applications such as E911, asset management, ERP tools, and workflow and automation systems can take advantage of location-based information. Receipt of specialized telemetry, emergency group and battery notifications from properly enabled Cisco Compatible Extensions Wi-Fi Tags allows implementation of specialized location-based applications
- **Cisco Location Appliance API Program**—Customers and partners can interface with the Cisco Wireless Location Appliance open API to create customized location applications and solutions using SOAP/XML
- **Wi-Fi tag Cisco Compatible Extension program**—Improved consistency and interoperability among Cisco's Compatible Extensions technology partners and benefit from their latest innovation and technology advancements

Specifications

Features	Cisco Wireless Location Appliance
Memory	1-GB memory
Ports	Serial: One 9-pin connector, RJ-45: Two RJ-45 connectors for connection to two 10/100/1000 Ethernet controllers, 2 USB ports: One USB connector in front and one in back, 2 PS2 ports: One mouse and one keyboard, 2 VGA ports: One in front and one in back
Connectivity	Network: Two 10/100/1000 (RJ-45) ports
Management	SNMP v1, v2c, and v3
Network Management	Cisco WCS v.3.0 or greater running Internet Explorer 6.0/Service Pack 1 or later
Network Devices	Cisco 2100, 4100 and 4400 Series Wireless LAN Controllers; Cisco Catalyst 6500 Series Wireless Services Module (WiSM), Cisco Catalyst 375 n76 n0G Integrated Wireless LAN Controller, Cisco Wireless LAN Controller Module (WLCM and WLCM-E) for Integrated Services Routers; Cisco Aironet lightweight access points Wi-Fi enabled laptops, PDAs, voice over Wi-Fi handsets, Cisco Compatible client devices, Cisco client devices, and non-Wi-Fi mobile devices equipped with active Wi-Fi tags 125 kHz-based chokepoints using AeroScout Exciters or WhereNet
Programming Interfaces	SOAP/XML APIs
Dimensions (H x W x D)	1.68 x 16.8 x 23 in. (4.27 x 42.7 x 58.4 cm)
Weight	28.6lbs (13kg) maximum
Power	AC power supply wattage: 230W; AC power supply voltage: 100-120V at 50-60Hz; 200-240V at 50-60Hz
Environmental	Operating Temperature: 50 to 95°F (10-35°C); Storage Temperature: -40 to 149°F (-40°-65°C)
Approvals and Compliance	Safety UL 60950, CAN/CSA-C22.2 No. 60950, EN60950, IEC 60950; EMC FCC Part 15 (CFR 47) Class A, ICES-003 Class A, EN 55022 Class A, CISPR22 Class A, AS/NZS 3548 Class A, VCCI Class A, EN 55024, EN 50082-1

Selected Part Numbers and Ordering Information

Cisco Wireless Location Appliance

AIR-LOC2710-L-K9 Cisco 2700 Series Wireless Location Appliance (May 2006 Model Release)

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/wireless>

Cisco 500 Series Wireless Express Access Point

The Cisco 500 Series Wireless Express Access Point is a single band 802.11g access point ideal for small or medium sized business offices, classrooms, small warehouses or similar indoor environments. It is a key part of the Cisco Mobility Solution, offering enterprise-class security, performance and flexibility at a price point SMBs can afford. Easy to deploy and manage with the Cisco Configuration Assistant, the Wireless Express Access Points can be supported in standalone mode or controller-based mode to accommodate a diverse range of deployment and business mobility requirements.

When to Sell

Sell This Product

Cisco 500 Series Wireless Express Access Point

When a Customer Needs These Features

- Cost effective scalability of up to 12 access points
- Ideal for small and medium sized businesses with under 250 employees
- Offers deployment flexibility with standalone or controller based options.
- Enables easy to use, business-class management, security and mobility services

Key Features

- IEEE 802.11g radio single band support provides 54 Mbps capacity and backward compatibility with legacy 802.11b clients
- Complies with IEEE 802.11i security standards and is WPA and WPA2 certified. Enables hardware-assisted AES encryption to provide high security without performance degradation
- Industry-leading radio design provides robust signals to long distances and mitigates the effects of multi-path signal propagation for more consistent coverage
- Orderable as a standalone access point or as a controller based access point using Lightweight Access Point Protocol (LWAPP)
- Variable transmit power settings that allow access point coverage to be tuned to accommodate various requirements; Low-dBm setting supports closer spacing of access points in high density deployments
- Integrated antennas that allow the complete system to be deployed “out of the box” without external antennas; Provides omni-directional coverage for offices and similar RF environments.
- Wi-Fi Certified

Competitive Products

- 3Com AP
- DLink: DWS 1008
- Symbol Technologies Access Points, 100, 200, 300

Specifications

Features	Cisco 500 Series Wireless Express Mobility Controller
Software	Cisco IOS Software Release 1.0 or later (standalone); Cisco Unified Wireless Network Software Rel. 1.0 or later (controller-based)
Browser	Using the Web browser management GUI, requires a computer running Internet Explorer Version 6.0 or newer, or Netscape Navigator Version 7.0 or newer.
Power over Ethernet (PoE)	Power sourcing equipment (PSE) compliant with Cisco Inline Power or IEEE 802.3af, and providing at least 12.2W at 48 VDC.
Data Rates Supported	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Network Standard	IEEE 802.11b and 802.11g
Uplink	Autosensing 802.3 10/100BASE-T Ethernet
Frequency Band and Operating	Americas (FCC)—A: 2.412 to 2.462 GHz; 11 channels Europe (ETSI)—E: 2.412 to 2.472 GHz; 13 channels Japan-P (TELEC 2 (Japan2) Cnfg): 2.412 to 2.484 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM)
Nonoverlapping Channels	802.11b/g: Up to 3
Receive Sensitivity (Typical)	802.11g: 1 Mbps: -93 dBm, 2 Mbps: -91 dBm, 5.5 Mbps: -88 dBm, 6 Mbps: -86 dBm, 9 Mbps: -85 dBm, 11 Mbps: -85 dBm, 12 Mbps: -84 dBm, 18 Mbps: -83 dBm, 24 Mbps: -79 dBm, 36 Mbps: -77 dBm, 48 Mbps: -72 dBm, 54 Mbps: -70 dBm
Available Transmit Power Settings	802.11b: Complementary Code Keying (CCK): 20 dBm (100 mW), 17 dBm (50 mW), 14 dBm (25 mW), 11 dBm (12 mW), 8 dBm (6 mW), 5 dBm (3 mW), 2 dBm (2 mW), -1 dBm (1 mW); 802.11g: OFDM: 17 dBm (50 mW), 14 dBm (25 mW), 11 dBm (12 mW), 8 dBm (6 mW), 5 dBm (3 mW), 2 dBm (2 mW), -1 dBm (1 mW)
Range ²	Indoor (distance across open office environment) - 802.11g: 100 ft (30 m) @ 54 Mbps, 175 ft (53 m) @ 48 Mbps, 250 ft (76 m) @ 36 Mbps, 275 ft (84 m) @ 24 Mbps, 325 ft (100 m) @ 18 Mbps, 350 ft (107 m) @ 12 Mbps, 360 ft (110 m) @ 11 Mbps, 375 ft (114 m) @ 9 Mbps, 400 ft (122 m) @ 6 Mbps, 420 ft (128 m) @ 5.5 Mbps, 440 ft (134 m) @ 2 Mbps, 450 ft (137 m) @ 1 Mbps; Outdoor- 802.11g: 120 ft (37 m) @ 54 Mbps, 350 ft (107 m) @ 48 Mbps, 550 ft (168 m) @ 36 Mbps, 650 ft (198 m) @ 24 Mbps, 750 ft (229 m) @ 18 Mbps, 800 ft (244 m) @ 12 Mbps, 820 ft (250 m) @ 11 Mbps, 875 ft (267 m) @ 9 Mbps, 900 ft (274 m) @ 6 Mbps, 910 ft (277 m) @ 5.5 Mbps, 940 ft (287 m) @ 2 Mbps, 950 ft (290 m) @ 1 Mbps
Antennas	2.4 GHz, gain: 3.0 dBi, Horizontal beam width: 360°

Features	Cisco 500 Series Wireless Express Mobility Controller
Security	Standalone Access Point: wep, eap, wpa, Wpa-psk, Wpa2, Wpa2-psk, Mac & eap; Dynamic- wep, tkip, Aes ccmp, open-eap network-eap, Open, mac, network-eap; Controller-based Access Point: Wep, Eap, Wpa, Wpa-psk, Wpa2, Wpa2-psk, MAC, Mac & eap; Encryption: Wep/shared, wep, Tkip/aes; Authentication: Open, 802.1x, Wpa-psk, 802.1x, Wpa2-psk, Open, mac, 802.1x
Compliance Standards	Safety: UL 60950-1, CAN/CSA-C22.2 No. 60950-1, UL 2043, IEC 60950-1, EN 60950-1, NIST FIPS 140-2 Level 2 validation Radio Approvals: FCC Part 15.247, RSS-210 (Canada), EN 300.328 (Europe), ARIB-STD 33 (Japan), ARIB-STD 66 (Japan), AS/NZS 4268.2003 (Australia and New Zealand); EMI and Susceptibility (Class B): FCC Part 15.107 and 15.109, ICES-003 (Canada), VCCI (Japan), EN 301.489-1 and -17 (Europe) Security: 802.11i, WPA2, WPA, 802.1X, AES, TKIP, FIPS 140-2 Pre-Validation List: Common Criteria (when running Cisco IOS Software) Other: IEEE 802.11g, FCC Bulletin OET-65C, RSS-102
Status LEDs	External: Status LED indicates operating state, association status, error/warning condition, boot sequence, and maintenance status; Internal: Ethernet LED indicates activity
Dimensions (H x W x D)	7.5 x 7.5 x 1.3 in. (19.1 x 19.1 x 3.3 cm)
Weight	1.5 lb (0.67 kg)
Temperature	32 to 104°F (0 to 40°C)
Humidity	10 to 90 percent humidity (noncondensing)
System Memory	32 MB RAM; 16 MB flash
Input Power	100 to 240 VAC; 50 to 60 Hz (power supply); 6 to 57 VDC (device)
Power Draw	12.2W maximum
Warranty	1 Year

1. Maximum power setting will vary by channel and according to individual country regulations
2. Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ

Part Numbers and Ordering Information

Cisco 500 Series Wireless Express Access Point

AIR-AP521G-x-K9	802.11b/g access point (Standalone mode), X=regulatory domain
AIR-LAP521G-x-K9	802.11b/g access point (Controller-based mode), X=regulatory domain

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/mobilityexpress>

Cisco 500 Series Wireless Express Mobility Controller

The Cisco 500 Series Wireless Express Mobility Controller is a network appliance designed to optimize the wireless networks of small and medium sized businesses. As a core element of the Cisco Mobility Express Solution, the Mobility Controller can support up to six Cisco 500 Series Wireless Express access points per controller and up to two controllers per network. The Mobility Controller harnesses the power of Cisco Lightweight Access Point Protocol (LWAPP) technology to deliver best-in-class automatic radio optimization, mobility performance, multi-access-point management and support for advanced mobility services such as secure internet guest access and optimized voice over Wi-Fi.

When to Sell

Sell This Product

Cisco 500 Series Wireless Express Mobility Controller

When a Customer Needs These Features

- Cost effective solution ideal for small and medium sized businesses with up to 250 employees
- Scalability up to 6 access points per controller and up to 2 controllers per network
- Best-in-class security authentication
- A streamlined management tool and multi-access-point Radio Resource Management
- Support for Guest Access or Voice over WLAN mobility services

Key Features

- Supports Cisco LWAPP technology to communicate between access points and controllers for simplified deployment and management
- Multi-access point Radio Resource Management coordinates access points in real-time to optimize radio coverage and capacity while avoiding points of interference.
- Supports industry standard authentication mechanisms, including WEP, MAC Filtering, WPA, WPA2, WebAuth, and EAP to enable scalable security architectures and minimize interoperability issues
- Supports up to eight SSID/VLANs enabling one physical WLAN infrastructure to be shared as a virtual wired/wireless network
- Mobility Services-Ready—supports Secure Guest Access and Voice over Wireless LAN optimization services

Competitive Products

- 3Com
- AP
- D-Link DWL-8220AP
- Symbol WS2000

Specifications

Features	Cisco 500 Series Wireless Express Mobility Controller
Physical interfaces	2 10/100 Ethernet ports for uplink and management 2 USB console ports (future expansion) 1 RJ-45 serial port for direct console access
Wired/Switching/Routing	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX specification, and IEEE 802.1Q VLAN tagging
Management Options	Cisco Configuration Assistant software (recommended) Embedded Web-based device manager Command-line interface for troubleshooting (SHO/DEBUG only) using Telnet, SSH, or console port access
Security/authentication standards	None/Open, WEP/Open, MAC Filtering, WPA/Open with EAP, WPA/Network EAP, WPAPSK/Open with EAP, WPA-PSK/Network EAP, WPA2/AES CCMP. Supported EAP types include PEAP, LEAP, EAP-TLS, EAP-GTC, and EAP-SIM
RADIUS Authentication	None/Open, WEP/Open, MAC Filtering, WPA/Open with EAP, WPA/Network EAP, WPAPSK/Open with EAP, WPA-PSK/Network EAP, WPA2/AES CCMP. Supported EAP types include PEAP, LEAP, EAP-TLS, EAP-GTC, and EAP-SIM
Multiple SSIDs	8 SSIDs supported (each access point may support multiple SSIDs) 1 SSID broadcast in SSID beacon
Secure Guest Access Support	Allows for creation of guest SSID/VLAN through Cisco Configuration Assistant, and creation of guest user accounts and configuration of login page using Cisco Configuration Assistant
Voice-over- Wireless LAN Optimization	Delivers quality of service, call admission control, fast inter-access point hand-off, and other optimization features to improve the quality of a wireless voice infrastructure.
Warranty	1 year

Part Numbers and Ordering Information

Cisco 500 Series Wireless Express Mobility Controller

AIR-WLC526-K9	Cisco 526 Wireless Express Mobility Controller for up to six Cisco 500 Series Wireless Express Access Points
AIR-AP521G-x-K9	Cisco 521 Wireless Express Access Point (Stand alone)
AIR-LAP521G-x-K9	Cisco 521 Wireless Express Access Point (Controller mode)

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/mobilityexpress>

Cisco Configuration Assistant

The Cisco Configuration Assistant is a comprehensive, easy-to-use network configuration tool that simplifies the task of configuring, deploying, and administering Cisco network solutions including the Cisco Mobility Express. An integral part of the Cisco Smart Business Communications System, the Configuration Assistant is a PC-based application with a simple graphical user interface that can discover and dynamically configure routers, switches, wireless access points and controllers and Unified Communications call-routing and voicemail systems in the network. It can be used to generate status reports, synchronize passwords, and upgrade software across the network for improved security and performance.

When to Sell

Sell This Product

Cisco Configuration Assistant

When a Customer Needs These Features

- Ideal for small and medium sized businesses with under 250 employees
- Integration with Cisco Smart Business Communications System for streamlined management across multiple technologies

Key Features

- Holistic, network-level insight through multiple network views
- Simplified network design and deployment through dynamic discovery
- Clear separation of services through VLAN highlighting
- Improved network visibility with continual health monitoring
- Simplified network status reporting
- Enhanced security for configuration and monitoring activities
- Simplifies software updates with drag and drop Cisco IOS Software Upgrade feature

System Requirements

Features	Cisco Configuration Assistant System Requirements
Operating System	Windows 2000 Professional (Service Pack 3 or later) or Windows XP Professional (Service Pack 1 or later)
Disc Space	200 MB
Hardware	PC with Pentium IV
Memory	512 MB
PC Hardware	1 GHz
Multiple SSIDs	8 SSIDs supported (each access point may support multiple SSIDs) 1 SSID broadcast in SSID beacon
Screen Resolution	1024 x 768

For More Information

See the Cisco Wireless Web site: <http://www.cisco.com/go/sbcs>



CHAPTER

Video, Voice, and Unified Communications

Video, Voice, and Unified Communications at a Glance

Product	Features	Page
Cisco Digital Media System	The Cisco Digital Media System (DMS) takes advantage of the power of an integrated services network, adding intelligence by enabling a flexible, high-quality digital media experience anywhere on the network.	4-4
Cisco Digital Media System Software	Easy-to-use, comprehensive solution for accelerating the effective creation, management, and delivery of compelling digital media to viewers anywhere, anytime. Includes: Cisco Video Portal and Reporting Tool—A Web-based video portal that audiences can use to browse, search, and view digital media interactively; it includes a Web-based reporting tool Cisco Digital Media Manager (DMM)—A Web-based application that allows content authors to easily manage and publish content to the Cisco Video Portal or other end devices	4-4
Cisco Digital Media Encoders	An integrated components of the Cisco Digital Media System. They provide live and on-demand streaming digital media across an IP network • Cisco Digital Media Encoder 1000—A portable encoder • Cisco Digital Media Encoder 2000—A multiprocessor, studio-quality audio and video encoding appliance	4-6
Cisco Unified Video Advantage	• Brings video telephony functionality to Cisco Unified IP Phones and Cisco IP Communicator • Adds video to phone calls through the use of a personal computer without button-pushing or mouse-clicking • Video telephony is now just a phone call	4-7
Cisco Unified Videoconferencing 3500 Series Products	• Videoconferencing over IP solution • Cost-effective, easy-to-manage • Translates between H.323 and H.320 systems	4-8
Cisco Unified Communications Manager 6.0	• The server-based call processing and call control component of Cisco Unified Communications solution • Suite of integrated voice applications and utilities • Available as an appliance • Full GUI and a command-line interface accessible • Improved Language Support	4-9
Cisco Unified Communications Manager Express	• IOS-based call control—supported on standard Cisco Integrated Services routers 2800, 3800 and the IAD 2400 series • Feature rich Unified Communications features—video calls, softphone, remote phones, secure calls between sites • Feature rich and configurable Key-system or PBX operation—mimics customer's existing telephony environment • Supports up to 240 users per site; Multiple sites can be networked together • Intuitive GUI for system administration • Supports all Cisco Unified IP phones	4-13
Cisco Unified Survivable Remote Site Telephony Software (SRST)	IOS software feature that runs on local branch office router provides IP Telephony backup redundancy for IP phones during WAN outage or Cisco Unified Communications Manager is unreachable	4-14
Cisco Unity—Unified Messaging and Voice Mail	Voice mail and unified messaging system delivers all messages into single inbox for access via phone, email or Internet	4-15
Cisco Unity Connection	Combines integrated messaging, speech recognition and call routing rules into an easy-to-manage system for mid-market customers	4-15
Cisco Unity Express	• Integrated voice mail and automated attendant services locally delivered for either Cisco Unified Communications Manager or Cisco Unified Communications Manager Express solution • Leverages the data infrastructure; supported on broad range of Cisco access routers and new Cisco Integrated Services Routers • Increases employee productivity and customer service for businesses of various sizes and operational models	4-18
Cisco Personal Assistant	• Software application allows users to browse voice mail, dial by name, and conference from any phone using voice commands instead of telephone keypad via speech recognition	4-18

Product	Features	Page
Cisco Unified Contact Center Enterprise	Delivers multi-site intelligent contact routing, network-to-desktop CTI, and multi-channel contact management to contact center agents over an all IP infrastructure or mixed IP and TDM infrastructure. <ul style="list-style-type: none"> • Pre-routing and post-routing of contacts • Ability to handle voice, Web and e-mail contacts, as well as inbound and outbound campaigns • Computer telephony integration (CTI), universal queue, IVR integration and remote agent support 	4-20
Cisco Unified Contact Center Express	<ul style="list-style-type: none"> • A software-based ACD, IVR, and CTI application for departmental, enterprise branch, or small to mid-sized contact centers with Cisco IP Telephony networks. • Provided in Standard, Enhanced and Premium versions • Offers an open systems platform allowing ease of installation and configuration • Provides a graphically driven workflow editor providing a common interface for creating interactions or call flows, and creates business logic between IVR and ACD functions 	4-21
Cisco Unified Contact Center Hosted	<p>Suitable for both enterprise customers and service providers</p> <ul style="list-style-type: none"> • The service provider hosts the contact center infrastructure software—which is shared by multiple business customers—in its central office or data center • Subscribing business customers can have IP infrastructures, TDM infrastructures, or a combination of the two • For the enterprise customer, multiple branch offices or divisions share a partitioned, centralized contact center infrastructure 	4-22
Cisco Unified Intelligent Contact Management (ICM) Enterprise	<p>Provides call routing and CTI for multi-site, TDM based contact centers in a distributed, fault tolerant architecture</p> <ul style="list-style-type: none"> • Cisco Pre-Routing and Post-Routing; Customer Profile Routing (CPRI); Enterprise Reporting • CTI, Web collaboration, E-mail management, IVR integration • Multi-carrier, multi-vendor capabilities; Inbound and outbound campaign management 	4-23
Cisco Unified Intelligent Contact Management (ICM) Hosted	<p>Helps service providers address a full range of business opportunities.</p> <ul style="list-style-type: none"> • Open architecture—enables a smooth migration from TDM circuit-switched to IP based voice technology while enabling business-to-business services, e-commerce, and multimedia applications such as Web collaboration and e-mail response management • For the service provider—Offers a unique opportunity to deliver critical applications tailored to each customer's business strategy • For the customer—Services leverage value-added service provider capabilities to meet business goals 	4-24
Cisco Unified Interactive Voice Response (IVR)	<p>Provides a feature-rich foundation for the creation of an IP-based interactive voice response (IVR) system that is open and expandable.</p> <ul style="list-style-type: none"> • Provides an IP-empowered application-generation environment for self service and call treatment solutions • Offers Web-based activation and administration • Interoperates with automatic speech recognition (ASR) and text to speech (TTS) • Extendable through custom Java steps 	4-25
Cisco Unified Customer Voice Portal	<p>Offers a prompt, collect, queuing, and call control service, using standards IP technologies</p> <ul style="list-style-type: none"> • Supports ASR and TTS capabilities • Integrates fully with both traditional TDM and IP-based contact centers 	4-25
Cisco Unified IP Phones 7900 Series	<p>An exciting, distinctively stylish, and pure Voice over IP phone portfolio to meet the wide range of business communication needs at affordable prices</p> <ul style="list-style-type: none"> • Display-based technology provides ease-of-use • Integrated inline power and 2-port Ethernet Switch provides end-to-end infrastructure integration • Rich application environment enabled by open APIs based on XML 	4-26
Cisco ATA Series of Analog Telephone Adaptors	<p>Turns any analog telephone into an IP telephone. Each of the two voice ports supports independent telephone numbers, providing two separate lines.</p> <ul style="list-style-type: none"> • Interoperable with SIP and SCCP • Enables analog devices, such as phones and fax machines, to support Voice over IP services by converting the analog signal into an IP signal 	4-28
Cisco IP Communicator	<ul style="list-style-type: none"> • Softphone client that gives computers the capabilities and features of a Cisco Unified IP phone • A supplemental telephone that provides access to phone extensions and services outside the office • Unified administration with Cisco Unified IP Phones and automatic software updates makes it easy to manage 	4-30
Cisco Unified Personal Communicator	<ul style="list-style-type: none"> • Unified Client that transparently integrates presence, voice, video telephony, messaging, and Web conferencing • Provides quick access to phone extensions, voice messaging, directories, conferencing and collaboration services both inside and outside the office 	4-31
Cisco Emergency Responder	<p>Works with Cisco Unified Communications Manager to automatically provide E9-1-1 features in North America, and is compatible with any emergency number</p> <ul style="list-style-type: none"> • Dynamically tracks the location of IP phones, routes emergency calls to the appropriate E9-1-1 network, and provides the current location information • Provides real-time alert notifications to on-site or contracted security groups 	4-32
Cisco Unified Communications Manager Assistant	<p>A PC and phone application that provides productivity tools that enhance communications between manager and administrative assistant</p> <ul style="list-style-type: none"> • Improves efficiency and ease-of-use by extending commonly used features such as call filtering, immediate call diversion, and line state monitoring to administrative assistants and managers 	4-33

Product	Features	Page
Cisco MCS 7800 Series Media Convergence Servers	High availability server platform for Cisco IP telephony systems • Turnkey solution, includes Communications Manager or other software • For large- and medium-sized enterprise IP telephony deployments	4-33
Cisco Voice Gateways¹	The Cisco VG248 and VG224 dedicated voice gateway provides connectivity between IP networks and legacy telephones • VG248 supports up to 48 Foreign eXchange Station (FXS) ports for connecting analog telephones or legacy voice mail systems; Fully manageable by Cisco Unified Communications Manager, a CLI interface via Telnet, or via SNMP • VG224 supports up to 24 FXS ports for connecting analog telephones and is IOS based; fully manageable by Cisco Unified Communications Manager or Cisco Unified Communications Manager Express via CLI interface or GUI	4-35
Cisco AS5350XM Universal Gateway	High performance, 1RU, universal gateway offering best in class voice, fax, remote access and session border control services • 2, 4, and 8 CT1/CE1/PRI, and 1 CT3 configurations for 48 to 672 channels • Low power and high availability design	4-36
Cisco AS5400XM Universal Gateway	High performance, 2RU, universal gateway offering best in class voice, fax, remote access and session border control services • 8 to 20 CT1/CE1/PRI or 1 T3 configuration for 192 to 672 channels • Low power and high availability design	4-38
Cisco AS5850 Universal Gateway	High density universal gateway for service providers and large enterprises • Supporting at least 2,688 sessions data, voice, and fax services on any port at any time using T1, E1, DS3 or STM-1 trunk interface • Constant density regardless of codec type, ECAN or VAD settings • Extensive high availability features • TDM grooming capability	4-40
Cisco Unified MeetingPlace	Integrated voice, video and web conferencing • On-network conferencing solution that integrates directly into an organization's private voice and data networks • Cost-effective and secure with a superior user experience	4-42
Cisco Unified MeetingPlace Express	Integrated voice and Web conferencing system • Makes it easy and affordable for midsize organizations to realize the cost savings and productivity benefits of deploying conferencing over their internal networks • Provides simple, powerful conferencing functions that are • Easy to deploy and manage	4-43
Voice and Security Bundles	For Cisco 2800 and 3800 • Cisco Unified Communications Manager Express Bundles for customers wanting a complete all in one router IP Telephony Solution for the Small Office or Enterprise Branch location. • Voice Bundles for customers' branch locations where they need data connectivity plus local PSTN call handling with a centralized Cisco Unified Communications Manager deployment. • V3PN Bundles for remote branch locations needing VPN and IP Telephony using Cisco Unified Communications Manager Express or Cisco Unified SRST with centralized Cisco Unified Communications Manager Express deployment	4-44
Network Management Products	Sophisticated toolset to ease provisioning, monitoring, and managing network elements and 9-1 services	
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

1. Cisco's full line of multiservice routers also provide analog and digital voice gateway functionality through use of network modules and voice interface cards. Please see Chapter 1—Routers, as well as Chapter 7—Access Products.

Cisco Digital Media System

The Cisco Digital Media System (DMS) takes advantage of the power of an integrated services network, adding intelligence by enabling a flexible, high-quality digital media experience anywhere on the network.

Key Features

- Communicate richly and effectively with targeted customers, investors, partners, and media; Deliver crucial information and training to employees, suppliers, and partners
- Target consumers with tailored content direct to their desktop or other IP-enabled device
- Offer live and on-demand events and content to geographically dispersed audiences
- Provide educational content online and offline to students

Cisco Digital Media System Software

The Cisco Digital Media System provides a comprehensive, high-quality media experience for delivery of important information to end users with flexibility, clarity, and impact. The Cisco Digital Media System includes two software components, the Cisco Video Portal and Reporting Tool and Cisco Digital Media Manager (DMM).

Cisco Video Portal

The Cisco Video Portal uses standard Web technologies to allow you to deliver a compelling live and on-demand video experience to your audiences.

- Conveniently and quickly browse, search, and view content interactively
- Supports established video formats, including Windows Media, Real Media, and Adobe Flash
- Program listing and keyword search—Easily locate media by content category, title, or keyword
- Customizable playlists—Choose from a dynamic list of videos programmed by content publishers or bookmarked by individual users
- Supplemental content—View supplemental information with each video, such as tickers, related readings, related videos, Web sites, and downloadable materials
- Advanced player controls and full-screen mode—Optimize the viewing experience with enhanced control of video playback
- Simultaneous playback and thumbnail preview—Preview other videos during main video playback
- Tracking and reporting—Capture, report, and export content use information

Cisco Digital Media Manager

The Cisco Digital Media Manager allows content authors to upload, catalogue, edit, package, and publish all video content to the Cisco Video Portal or other end device for live or on-demand playback, all through the pervasive, secure reach of a Cisco Services Oriented Network Architecture (SONA).

- Easily customize the Cisco Video Portal user interface for specific end-user environments
- Add and archive content and assign metadata and keywords for easy location of digital media content
- Create and manage playlists, ticker alerts, messages, and promotional inserts
- Preview content and manage approval workflow for streamlined delivery of rich media to end users
- Schedule live and future broadcasts of digital media for flexibility in scheduling
- Take advantage of compatibility with Cisco Application and Content Networking System (ACNS) Software and Cisco Wide Area Application Engine (WAE) Appliances
- Manage administrator accounts and permissions
- Includes functions to set up and control multiple encoders, including the Cisco Digital Media Encoder 2000 and Cisco Digital Media Encoder 1000 to provide live and on-demand digital media across an IP network in a variety of encoding formats, inputs, and monitoring functions

Specifications

Feature	Cisco Digital System Software
Product compatibility	Compatible with Cisco ACNS
Components (Software)	Cisco Video Portal and Reporting Tool; Cisco DMM
Maximum Connections	Cisco Video Portal 3.4 Perpetual Software License with Cisco MCS 7825—500 concurrent user connections Cisco Video Portal 3.4 Perpetual Software License with Cisco MCS 7835—1000 concurrent user connections
Cisco Video Portal and Cisco DMM Client Requirements	
Browser	Windows— Internet Explorer 6.0 or greater, Mozilla 1.8 or greater, or Firefox 1.5 or greater recommended Linux or UNIX—Mozilla 1.0 or Firefox 1.0 minimum; Mozilla 1.8 or greater or Firefox 1.5 or greater recommended Apple Macintosh— Safari 2.0 minimum; - Safari 2.0 or Firefox 1.5 or greater recommended
Adobe Flash Plug-in	Adobe Flash 8 plug-in or greater recommended
Windows Media Plug-in	Windows Media 9 or greater (required if Windows Media content is offered)
RealPlayer Plug-in	RealOne plug-in or greater (required if Real Media content is offered)
Cisco Video Portal Reporting Tool 3.4 Client Requirements	
Browser	Windows— Internet Explorer 5.5 or Firefox 1.5 minimum; - Internet Explorer 6.0 or greater or Firefox 1.5 or greater recommended; Linux or UNIX— Firefox 1.5 or greater; Apple Macintosh— Firefox 1.5 or greater
Adobe Scalable Vector Graphics (SVG) Plug-in	Adobe SVG Plug-in 3.0 minimum, Adobe SVG 3.03 or greater recommended (required only for Internet Explorer)

Part Numbers and Ordering Information

Cisco Digital Media System Software

DMS-VP3.4-7825-H2, DMS-DMM3.4-7835-H1	Cisco DMS for fewer than 500 concurrent viewers
-DMS-VP3.4-7835-H1, -DMS-DMM3.4-7835-H1	Cisco DMS for fewer than 1000 concurrent viewers

For More Information

See the Cisco Digital Media System Web site: <http://www.cisco.com/go/dms>

Cisco Digital Media Encoders

Cisco Digital Media Encoders provide live and on-demand streaming digital media across an IP network. Easily schedule and manage live events from multiple encoders from a single administration interfaces. The encoders can be locally managed or remotely managed through the Cisco Digital Media Manager. Use the Cisco Digital Media Encoders as a standalone encoder or as an integrated component of the overall Cisco Digital Media System.

Key Features

- Cisco Digital Media Encoder 1000
 - Designed for both professionals and novices, the encoder's rugged design and light weight make it ideal for outdoor venues, classrooms, and conference rooms by extending Webcasting "outside of the studio"
 - Lightweight and portable—Live events can be streamed and recorded at any location that has an IP network connection
 - Support for a variety of encoding formats—Flexible streaming formats ensure that viewers are not limited
 - Operational controls on front panel—No keyboard, mouse, or monitor is required to operate the encoder
- Cisco Digital Media Encoder 2000
 - Designed for advanced users who require Multiple audio and video input options and a variety of encoding formats and functions
 - High-bandwidth encoding
 - Multiple processors—Provide highest quality streaming from multiple inputs
 - Multiple video and audio inputs—Accept video and audio input from a large variety of cameras and other sources
 - Video and audio monitors on the front panel—Visually monitor encoding functions

Specifications

Feature	Cisco Digital Media Encoder 1000	Cisco Digital Media Encoder 2000
Supported live streaming formats	Windows Media 9 (on-demand and live) MPEG-4/H.264	Windows Media 9; MPEG-4/H.264
Supported on-demand formats	Flash (.flv) (on-demand)	Flash (.flv) (on-demand)
Video inputs	Composite; S-Video	2 composite; 2 S-Video; 2 SDI
Video formats	NTSC and PAL	NTSC and PAL
Audio inputs	1 balanced stereo (XLR); 1 unbalanced stereo (RCA)	2 balanced stereo (XLR); 2 unbalanced stereo (RCA); 2 digital audio (AES/EBU)
Ethernet ports	1 GB; 10/100 MB	2 10/100/1000 Mb
Hard disk space	40 GB	One 85 GB
RAM	512 MB	1 GB
Processor	Single 1-GHz Intel Celeron	2 AMD dual-core
Additional ports	Apple Video iPod / Creative Zen; 2 USB	Keyboard, mouse, and VGA monitor
Dimensions (H x W x D)	3.5 x 17.1 x 14.7 in. (10.16x19.67x39.37 cm)	3.5 x 19 x 24 in. (8.89 x 48.26 x 60.96 cm)
Weight	12 lb. (5.44 kg)	42 lb. (19.05 kg)
Power	110-220V; 50-60 Hz	110-220V (50-60 Hz)

Part Numbers and Ordering Information

Cisco Digital Media System Software

DMS-DME-1000	Cisco Digital Media Encoder 1000
DMS-DME-2000	Cisco Digital Media Encoder 2000

For More Information

See the Cisco Digital Media System Web site: <http://www.cisco.com/go/dms>

Cisco Unified Video Advantage

Cisco Unified Video Advantage brings video telephony functionality to Cisco Unified IP Phones 7900 Series and Cisco IP Communicator softphone application. It is a video telephony solution consisting of Cisco Unified Video Advantage software, Cisco VT Camera II, and a video telephony USB camera. Users make calls from their Cisco Unified IP phones using the familiar phone interface, and calls are displayed with video on their PCs without requiring any extra button-pushing or mouse-clicking. When registered to Cisco Unified Communications Manager, the Cisco Unified Video Advantage-enabled phone has the features and functionality of a full-featured IP videophone. System administrators can provision a Cisco Unified IP Phone with Cisco Unified Video Advantage just as they would any other Cisco Unified IP Phone, greatly simplifying deployment and management.

When to Sell

Sell This Product

Cisco Unified Video Advantage

When a Customer Needs These Features

- Desktop video calling
- High quality video with rich telephony features
- Seamless integration with desktop IP Phone or IP Communicator for familiar phone interface

Key Features

- Consistent voice and video user experience—Easy, low-cost, high-quality video calling; Familiar call features such as call forward, transfer, conference, hold, and mute are initiated through the phone while available video is viewed through the PC
- Easy to manage—Unified administration with Cisco Unified IP phones and automatic software upgrades

Selected Part Numbers and Ordering Information

Cisco Unified Video Advantage

CUVA-V2=

CUVA-V2-24BUN=

CUVA-SW-2X

CUVA-SW-LIC

Cisco Unified Video Advantage with VT Camera II

Cisco Unified Video Advantage and VT Camera II 24-Unit Pack

Cisco Unified Video Advantage 2.0 Software License

Cisco Unified Video Advantage User License

For More Information

See the Cisco Unified Video Advantage Web site:

<http://www.cisco.com/en/US/products/sw/voicesw/ps5662/index.html>

Cisco Unified Videoconferencing 3500 Series

An integral component of the Cisco Unified Communications System—facilitates face-to-face discussions among remote participants. Cisco Unified Videoconferencing solutions are integrated into Cisco Unified Communications and rich-media conferencing solutions to deliver productivity that goes beyond traditional video conferencing by integrating video into a broad range of communication scenarios.

Key Features

- Feature-rich, multilocation video conferencing over an IP infrastructure
- Scalability—Increase the conferencing capacity by creating an MCU cluster; Create large conferences by cascading conferences between multiple MCUs; Cascaded conferences can be centralized in the data center or geographically distributed utilizing WAN bandwidth more efficiently
- Provide high performance, flexible, and scalable video conferencing for small to large organizations
- Supports multiple protocols (H.323, H.320, SIP, SCCP) to enable connectivity with a broad range of room and desktop video systems and communications environments, including Cisco Unified Communications Manager video telephony and Cisco Unified MeetingPlace and Cisco TelePresence conferencing
- SIP Support—Targeted at enabling the creation of many diverse end points and video-enabled applications; MCU provides multi-party voice and video conferencing for SIP-enabled video end points (examples: Microsoft Messenger, eConf, and Polycom VSX 8000). Further more, inter-working functionality is provided allowing multi-protocol end points-SIP, SCCP, H.323, and H.320-to attend the same conference
- Integrates video conferencing into the Cisco Unified MeetingPlace solution— Enables users to set up, attend, and manage voice, video and web rich-media conferences; Enables Web user interface, Microsoft Outlook, and Lotus Notes interfaces to set-up scheduled and reservation-less video conferences; Meeting notifications include meeting dial in and dial out information for video conferences; extended phone usage and administration models to desktop video communications. Video calls have familiar phone features such as hold, transfer, and call forward; Dial plans fare integrated along with call detail records (CDRs) and administration points

Specifications

Feature	Cisco Unified Videoconferencing 3500 Series
Protocols	H.323 V.4, SCCP, SIP, H.320 through the IPVC Gateway, H.239, H.235, H.281 FECC, G.711; H.261, H.263, H.263++, H.264; T.120
SCCP Protocol Support	Support for SCCP and/or H.323/SIP ports active; Port designation is strictly for call control and MCU port access; IPVC MCU Port Designations: Cisco Unified Videoconferencing 3540 MCU-Port protocol designation can be applied by a percentage to MCU port resources; Cisco Unified Videoconferencing 3511 MCU-Port protocol designation can be applied as SCCP or H.323/SIP modes only; IPVC MCU ports integrate video media from all protocols-SCCP, H.323, SIP, H.320 (through IPVC Gateway)
SIP Protocol Support	Fully interoperability with ISDN, H.323 network solutions
Audio Transcoding	All Cisco Unified Videoconferencing MCU platforms support SCCP and/or H.323/SIP ports active; Port designation is strictly for call control and MCU port access; IPVC MCU Port Designations: Cisco Unified Videoconferencing 3540 MCU-Port protocol designation can be applied by a percentage to MCU port resources; Cisco Unified Videoconferencing 3511 MCU-Port protocol designation can be applied as SCCP or H.323/SIP modes only; IPVC MCU ports integrate video media from all protocols-SCCP, H.323, SIP, H.320 (through IPVC Gateway)
Resolutions	Quarter Common Intermediate Format (QCIF), CIF, 4CIF, SIF, 4SIF, Video Graphics Array (VGA), Super-eXtended Graphics Array (SXGA), eXtended Graphic array (XGA)
Downspeeding	Enables the completion and maintaining of a call during the loss of ISDN B channels
QoS	Support for Differentiated Services (DiffServ) markings
Security and Privacy	Password protection for administrative functions and for conferences—helps to ensure privacy for participants
DuoVideo Support	In addition to standard-based H.239 support, MCU also supports Tandberg end point when transmitting more than one video channel (DuoVideo)
LAN Interface	One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ-45
Physical Dimensions	IPVC 3540 Chassis: 3.50 in. x 17.25 in. x 10.0 in. (4.445 cm x 43.815 cm x 25.4 cm); IPVC-3511-MCU(E): 1.75 in. x 17.25 in. x 10.0 in. (4.445 cm x 43.815 cm x 25.4 cm)
Weight	Cisco Unified Videoconferencing 3540 Chassis: 15.43 lb (7 kg); Cisco Unified Videoconferencing 3511 Multipoint Control Unit: 7.50 lb (3.5 kg); Cisco Unified Videoconferencing, Cisco Unified Videoconferencing 3511 Multipoint Control Unit with EMP: 8.00 lb (3.75 kg)

Feature	Cisco Unified Videoconferencing 3500 Series
Protocols	H.323 V.4, SCCP, SIP, H.320 through the IPVC Gateway, H.239, H.235, H.281 FECC; G.711; H.261, H.263, H.263+,, H.264; T.120
Power	100 to 240 VAC autosense, 50 to 60 Hz, 75W maximum; U.S. power cable included; Other power cables available separately
Environment	Operating temperature: 0 to 40°C (32 to 104°F); Storage temperature: -25 to 70°C (-13 to 158°F); Humidity: 5 to 90 percent noncondensing

Selected Part Numbers and Ordering Information¹

Cisco Unified Videoconferencing 3500 Series

IPVC-3522-GW4B	Unified Videoconferencing 3522 H.320-H.323 Gateway, 4 BRI
IPVC-3527-GW1P	Unified Videoconferencing 3527 H.320-H.323 Gateway, 1 PRI
IPVC-3515-MCU12	Unified Videoconferencing 3515 MCU, 12 Video Ports
IPVC-3515-MCU24	Unified Videoconferencing 3515 MCU, 24 Video Ports
IPVC-3545-CHAS	Unified Videoconferencing 3545 Chassis, 4 Slots, Dual AC Pwr
IPVC-3545-PS=	Unified Videoconferencing 3545 AC Power Supply, Spare
CUVC-MGR-5.0	Cisco Unified Videoconferencing Manager Software, v5.0

1. This is only a small subset of all parts available. Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unified Videoconferencing 3500 Series Web site:

<http://www.cisco.com/go/ipvc>

Cisco Unified Communications Manager 6.0

Built on previous versions, Cisco Unified Communications Manager 6.0 includes two main enhancements: the integration of the Cisco Unified Mobility (formerly Cisco MobilityManager) feature into Cisco Unified Communications Manager software, and the support of dual-mode devices. Cisco Unified Mobility was previously available as an application on a Cisco MCS. It provides functions that intelligently manage, filter, route, and place calls between a worker's Cisco Unified IP phone and a remote mobile phone. Integrating these functions into Cisco Unified Communications Manager software makes administration and functions a native part of the solution, providing the capability to manage calls from a wired Cisco Unified IP phone or a mobile device. Additionally, support for dual-mode devices benefits customers who have mobile users who need to move between campus wireless and external cellular network environments. These devices can manually pass calls from a cellular GSM network to an 802.11-based wireless LAN. Because onboard agents are no longer supported on the appliance in this version, all Cisco Unified Communications Manager management interfaces are enhanced to allow for tight integration with third-party applications.

Key Features

- Cisco Unified Communications Manager is installed on Cisco Media Convergence Server (MCS) 7800 Series of server platforms and selected third-party servers
- Cluster multiple Cisco Unified Communications Manager servers and manage as a single entity—Scalability from 1 to 30,000 IP phones per cluster, load balancing, and call-processing service redundancy; Interlinking allows system capacity to reach 1 million users in a system of more than 100 sites; Aggregates the power of multiple, distributed installations, enhancing the scalability and accessibility of the servers to phones, gateways, and applications, and triple call-processing server redundancy improves overall system availability.
- Call Admission Control (CAC) helps ensure that voice quality of service (QoS) is maintained across constricted WAN links, and automatically diverts calls to alternate public switched telephone network (PSTN) routes when WAN bandwidth is not available.

- Devices can automatically update location information as they move from location to location to improve CAC and emergency service performance
- Security—Improved security, supportability, manageability, as well as usability enhancements to user features, including Park, Hunt Group, Cisco Unified Communications Manager Assistant, and Call Pickup features that have been supported in past releases
- Assists in more effectively supporting IP phone activities—Cisco Unified Communications Manager Assistant has been ported to an XML service that can be run on the phone; This allows assistants that handle executive/manager phones to have increased features without having to rely on a PC to provide the user interface
- Integrates with a Lightweight Directory Access Protocol (LDAP) directory such as Active Directory to provide required security features
- Improved management of mobile and remote devices by tracking devices as they move from one location to another by mapping the IP address of the phone to a list of configured locations, allowing emergency calls made by mobile devices to call out the correct gateway; Accurately tracks bandwidth and codec use for CAC purposes
- Improved call routing to remote phones connected to Cisco Unified Communications Manager over a WAN; Allows alternate routing when the WAN is out of bandwidth or out of service; Provides routing to the originally called phone number through the PSTN or can call an alternate phone such as a mobile phone during a WAN failure or an out-of-bandwidth situation
- Improved voice-quality troubleshooting and tracking on Cisco Unified IP Phones; The phones report voice-quality statistics, such as mean opinion score (MOS), to help the user and system administrator track voice quality on a call-by-call basis
- Full GUI and a command-line interface Access—Enables diagnostics; Supports all system management activities such as disk space monitoring, system monitoring, and upgrades, are either automated or are controlled; Supports basic systems management features such as starting or stopping services and rebooting the appliance; No access to the underlying operating system is necessary
- Preloaded with Cisco Security Agent
- A host-based firewall has been added, along with IP Security (IPsec) connectivity between all cluster members
- Expanded SIP trunk interface—Conforms to RFC 3261, allowing support of video calls over the SIP trunk and improving conferencing and application support experiences when used with the Cisco Unity and Cisco Unified MeetingPlace® solutions; Support of line-side devices, including IETF RFC 3261-compliant devices available from Cisco Systems and other manufacturers
- Resource Reservation Protocol (RSVP) agent capable—The RSVP agent on a Cisco router extends CAC capability beyond a hub-and-spoke topology within a cluster. Now a call can be routed directly between two locations without having to traverse the hub, allowing alternative network topologies and more efficient use of networks.
- SNMP Support—Allows managers to set and report traps on conditions that could affect service and send them to the remote monitoring systems; Overall Syslog performance MIB, the Serviceability interface has instrumented appliance-specific counters, and the Programming interface has added the ability to execute insert, update, and delete database commands
- Enhanced Administration Features—such as the ability to add users faster, arrange and rearrange line appearances, copy stations, and administer presence groups

Specifications

Feature	Cisco Unified Communications Manager 6.0 ¹
Platforms	Media Convergence Server (MCS); Selected third-party servers
Pre-Installed Software	Cisco Unified Communications Manager Version 6.0, configuration database, administration software, CDR Analysis and Reporting Tool, Bulk Administration Tool (BAT), Cisco Unified Communications Manager Attendant Console, Real-Time Monitoring Tool (RTMT), Cisco Conference Bridge, Locale Installer, JTAPI, Telephony Service Provider, Cisco Unified Communications Manager Assistant Cisco Unified IP Phone Address Book Synchronizer Cisco Dialed Number Analyzer
New or Enhanced System Capabilities	Alternate automatic routing (AAR); Attenuation and gain adjustment per device (phone and gateway) Automated bandwidth selection; Auto route selection (ARS) CAC—Intercluster and intracluster; Call coverage Codec support for automated bandwidth selection: G.711 (mu-law and a-law), G.722, G.722.1, G.723.1, G.728, G.729A/B, GSM-EFR, GSM-FR, and wideband audio (proprietary 16-bit resolution; 16-kHz sampled audio); Digit analysis and call treatment (digit string insertion, deletion, stripping, dial access codes, and digit string translation); Distributed call processing—Deployment of devices and applications across an IP network; Virtual clusters of up to eight Cisco Unified Communications Manager servers for scalability, redundancy, and load balancing; Maximum of 7500 IP phones per Cisco Unified Communications Manager server and 30,000 per server cluster (configuration-dependent); Maximum of 100,000 busy-hour call completions (BHCCs) per Cisco Unified Communications Manager server and 250,000 per server cluster (configuration-dependent); Intercluster scalability to more than 100 sites or clusters through H.323 gatekeeper; Intracluster feature and management transparency Fax over IP—G.711 pass-through and Cisco Fax Relay; Forced authorization codes and client matter codes (account codes); Hotline and private line automated ringdown (PLAR); Hunt groups—Broadcast, circular, longest idle, and linear; Language support for client-user interfaces (languages specified separately) Multiple remote Cisco Unified Communications Manager platform administration and debug utilities—Prepackaged alerts, monitor views, and historical reports with RTMT; Real-time and historical application performance monitoring through operating system tools and SNMP; Monitored data collection service; Remote terminal service for off-net system monitoring and alerting; Real-time event monitoring and presentation to common syslog; Trace setting and collection utility; Browse to onboard device statistics; Clusterwide trace setting tool; Trace collection tool; Multisite (cross-WAN) capability with intersite CAC Off-premises extension (OPX); Outbound call blocking; Out-of-band dual tone multifrequency (DTMF) signaling over IP; PSTN failover on route nonavailability—AAR; Call preservation—redundancy and automated failover—on call-processing failure; Station to station Security—Device authentication: New model phones have an embedded X.509v3 certificate; a certificate authority proxy function (CAPF) is used to install locally significant certificate in the phones. SIP trunk (RFC 3261) and line side (RFC 3261-based devices) Cisco Unified SRST Silence suppression and voice activity detection; Simplified North American Numbering Plan (NANP) and non-NANP support; T.38 fax support (H.323 and SIP); Time-of-day, day-of-week, and day-of-year routing and restrictions Toll restriction—Dial-plan partition; Toll-fraud prevention—Prevent trunk-to-trunk transfer; Drop conference call when originator hangs up; Require forced authorization codes Unified device and system configuration; Unified dial plan Video codecs: H.261, H.263, H.264, and Cisco Wideband Video Codec (Cisco Unified Video Advantage) Video Telephony (SCCP, H.323, and SIP)
Sample Subset of Administrative Features	Concealed seconds calculation. Mean Opinion Score (MOS) calculation using K-Factor Support for password aging, complex password requirements, one time passwords, etc. with LDAP directory. Voice quality Statistics on a call by call basis Application discovery and registration to SNMP manager Automated Alternate Routing Groups AXL SOAP API with performance and real-time information, Bulk Administration
New and Enhanced User Features	Answer and answer release; Autoanswer and intercom; Barge Calls—Call-back busy, no reply to station; Call connection; Call coverage; Call forward (off net and on net), busy, and no answer; Call hold and retrieve; Call park and pickup; Call pickup group (Universal); Call status per line (state, duration, and number); Call waiting and retrieve (with configurable audible alerting); Calling line identification (CLID) and calling party name identification (CNID) Conference barge; Conference list and drop any party (impromptu conference) Direct inward dial (DID) and direct outward dial (DOD); Directory dial from phone—Corporate and personal; Directories—Missed, placed, and received calls list stored on selected IP phones Distinctive ring for on- and off-net status, per-line appearance, and per phone; Drop last conference party (impromptu conferences); Extension mobility support; Immediate divert to voicemail; Last number redial (on and off net); MWI; Multiparty conference—Impromptu with add-on, meet-me features Multiple calls per line appearance; Multiple line appearances per phone; Mute capability from speakerphone and handset; On-hook dialing; Hands-free, full-duplex speakerphone Real-time QoS statistics through HTTP browser to phone; Recent dial list—Calls to phone, calls from phone, autodial, and edit dial; Service URL—single-button access to IP phone service Single directory number and multiple phones—Bridged line appearances; Speed dial—Multiple speed dials per phone; Station volume controls (audio and ringer) Transfer—Blind, consultative, and direct transfer of two parties on a line User-configured speed dial and call forward through Web access Video (SCCP, H.323, and SIP)

1. Additional RAM may be required in Media Convergence Servers to support existing and enhanced services in Cisco Unified Communications Manager 6.0

Selected Part Numbers and Ordering Information

Cisco Unified Communications Manager Software Installation Kits

CM6.0-K9-SUP=	SW Upgrade CM 5.1 to 6.0 for Cisco SMARTnet®
CM6.0-K9-UPG=	SW Upgrade CM 5.1 to 6.0 for SASU
CM6.0-U-K9-7815SE=	SW Upgrade CM 5.1 to CM 6.0 - 7815SE
CM6.0-U-K9-7815=	SW Upgrade CM 5.1 to CM 6.0 - 7815
CM6.0-U-K9-7825SE=	SW Upgrade CM 5.1 to CM 6.0 - MMIPC bundles only
CM6.0-U-K9-7825=	SW Upgrade CM 5.1 to CM 6.0 - 7825
CM6.0-U-K9-7835=	SW Upgrade CM 5.1 to CM 6.0 - 7835
CM6.0-U-K9-7845=	SW Upgrade CM 5.1 to CM 6.0 - 7845
CM6.0-U-K9-DL320=	SW Upgrade CM 5.1 to CM 6.0 - DL320
CM6.0-U-K9-DL380=	SW Upgrade CM 5.1 to CM 6.0 - DL380 1CPU
CM6.0-U-K9-DL380D=	SW Upgrade CM 5.1 to CM 6.0 - DL380 2CPU
CM6.0-U-K9-X306=	SW Upgrade CM 5.1 to CM 6.0 - X306
CM6.0-U-K9-X346=	SW Upgrade CM 5.1 to CM 6.0 - X346 1CPU
CM6.0-U-K9-X346D=	SW Upgrade CM 5.1 to CM 6.0 - X346 2CPU
CM6.0-U-K9-X3650=	SW Upgrade CM 5.1 to CM 6.0 - X3650 1CPU
CM6.0-U-K9-X3650D=	SW Upgrade CM 5.1 to CM 6.0 - X3650 2CPU

Upgrade from Cisco Unified CallManager 4.1 and 4.2 to Cisco Unified Communications Manager 6.0

CM6.0U4-K9-SUP=	SW Upgrade CM 4.1/4.2 to 6.0 for Cisco SMARTnet®
CM6.0U4-K9-UPG=	SW Upgrade CM 4.1/4.2 to 6.0 for SASU or UCSS
CM6.0U4-K9-7815SE=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7815SE
CM6.0U4-K9-7825SE=	SW Upgrade CM 4.1/4.2 to CM 6.0 - MMIPC bundles only
CM6.0U4-K9-7815=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7815
CM6.0U4-K9-7825=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7825
CM6.0U4-K9-7835=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7835
CM6.0U4-K9-7845=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7845
CM6.0U4-K9-DL320=	SW Upgrade CM 4.1/4.2 to CM 6.0 - DL320
CM6.0U4-K9-DL380=	SW Upgrade CM 4.1/4.2 to CM 6.0 - DL380 1CPU
CM6.0U4-K9-DL380D=	SW Upgrade CM 4.1/4.2 to CM 6.0 - DL380 2CPU
CM6.0U4-K9-X206=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X206
CM6.0U4-K9-X306=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X306
CM6.0U4-K9-X346=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X346 1CPU
CM6.0U4-K9-X3650=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X3650 1CPU
CM6.0U4-K9-X346D=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X346 2CPU

For More Information

See the Cisco Unified Communications Manager Web sites:

<http://www.cisco.com/go/callmgr>

Cisco Unified Communications Manager Express

Cisco Unified Communications Manager Express is a feature rich solution embedded in Cisco IOS Software that provides rich call processing for Cisco Unified IP Phones.

Key Features

- Part of the call-processing key component within the Cisco Business Communications Solution
- Cost-effective operations through a single, integrated voice-and-data platform for the Commercial Small to Medium business or branch office needs; up to 240 users
- Allows customers to deploy one device in their office to address all their business needs; simplifies management, maintenance, and operations delivering a lower TCO
- Robust set of key system and low-end PBX capabilities—Delivers a robust set of telephony features for the small office, and delivers unique value-added capabilities through XML that enhance the productivity of the end user and of the business, and that cannot be delivered by traditional solutions
- Simple software upgrade capabilities; Easily migrate to a Cisco Unified Communications Manager large-scale IP telephony solution; All hardware and software used by this solution is fully compatible with Cisco Unified Communications Manager and Cisco Unified SRST
- Remote maintenance and troubleshooting using Cisco IOS Software command-line interface (CLI) or Web-based GUI—Acts as a standalone call-processing engine for IP phones located in the branch office

How To Sell

Sell this Product

Cisco Unified Communications Manager Express¹

When the Customer Needs these Features

- An “office in a box” platform on which they want to deploy any one of a number of functions such as: Unified Communications using Communications Manager Express, routing, integrated switching, firewall, VPN, Intrusion Detection, Encryption, wireless LAN, based on the needs of the office today, or in the future
- The site has less than 240 telephony users

1. on an Integrated Services Router – Cisco 2800 or 3800, or the IAD 2400 series

Specifications

Feature	Cisco Unified Communications Manager Express
Platform	Cisco 2800 and 3800 Series Routers and IAD 2400.
Phone supported	7916-GE, 7970G, 7961G/GE, 7960G, 7941G/GE, 7940G, 7912G, 7911G, 7905G, 7902G, wireless phone 7920, expansion module 7914, IP Conference station 7936, and Cisco Unified Video Advantage video telephony offering
IOS Images	Version 3.3 supported with IOS T2.4 mainline; Version 3.4 with IOS T2.4(4)T; Version 4.0 with IOS T2.4(9)T

Selected Part Numbers and Ordering Information

Cisco CCME Router Bundles

CISCO3845-CCME/K9	Cisco 3845 Voice Bundle with IOS SP Services, PVDM2-64, FL-CCME (240 users), 64 MB Flash/256 MB DRAM
CISCO3825-CCME/K9	Cisco 3825 Voice Bundle with IOS SP Services, PVDM2-64, FL-CCME (168 users), 64 MB Flash/256 MB DRAM
CISCO2851-CCME/K9	Cisco 2851 Voice Bundle with IOS SP Services, PVDM2-48, FL-CCME (72/96 ¹ users), 64 MB Flash/256 MB DRAM
CISCO2821-CCME/K9	Cisco 2821 Voice Bundle with IOS SP Services, PVDM2-32, FL-CCME (48 users), 64 MB Flash/256 MB DRAM
CISCO2811-CCME/K9	Cisco 2811 Voice Bundle with IOS SP Services, PVDM2-16, FL-CCME (36 users), 64 MB Flash/256 MB DRAM
CISCO2801-CCME/K9	Cisco 2801 Voice Bundle with IOS SP Services, PVDM2-8, FL-CCME (24 users), 64 MB Flash/256 MB DRAM

Cisco CCME and Security Router Bundles

C3845-VSEC-CCME/K9	3845 VSEC Bundle w/PVDM2-64,FL-CCME-240,Adv IP Serv,64F/256D
C3825-VSEC-CCME/K9	3825 VSEC Bundle w/PVDM2-64,FL-CCME-168,Adv IP Serv,64F/256D
C2851-VSEC-CCME/K9	2851 VSEC Bundle w/PVDM2-48,FL-CCME-96,Adv IP Serv,64F/256D
C2821-VSEC-CCME/K9	2821 VSEC Bundle w/PVDM2-32,FL-CCME-48,Adv IP Serv,64F/256D
C2811-VSEC-CCME/K9	2811 VSEC Bundle w/PVDM2-16,FL-CCME-36,Adv IP Serv,64F/256D
C2801-VSEC-CCME/K9	2801 VSEC Bundle w/PVDM2-8,FL-CCME-24,Adv IP Serv,64F/256D

1. Available with IOS Version 12.3(11)T release

For More Information

See the Cisco Unified Communications Manager Express Web site:

<http://www.cisco.com/go/ccme>

Cisco Unified Survivable Remote Site Telephony

Cisco Unified Survivable Remote Site Telephony (SRST) provides key backup telephony functions at remote branch office if connectivity to the centrally-located Cisco Unified Communications Manager fails (i.e. WAN link is interrupted). During WAN outage the Cisco Unified SRST-enabled router will provide robust telephony services (including off-net calls to 911). It is ideal for enterprise organizations looking to cost-effectively deploy IP telephony in their branch office location. SRST v4.0 with IOS 12.4(11)T is available on Cisco 1760V, 2600XM, 2800, and 3800 series of routers and with the Cisco Catalyst 6500 with the Cisco Communications Media Module (CMM). The Cisco 7200 also supports previous versions of SRST.

Key Features

- Business resiliency through redundant, localized call processing with intelligent and automatic failover configuration-no manual IT or telecom intervention required
- Support for all Cisco Unified IP Phones, 24 to 720 phones supported per platform
- All common PSTN Interfaces/protocols supported. Support for both internal and external calling during failover with calls maintained during failover and fall back.
- Voice Mail Support during WAN outage with local Cisco Unity Express or Centralized Cisco Unity via PSTN

Selected Part Numbers and Ordering Information

SRST 4.0 Platform Density and Feature License Part Numbers

Platform	Number of Phones Supported	Part Number	Part Number (Spare)
Cisco 1751V, 1760V, 2801	Up to 24 phones	FL-SRST-SMALL	FL-SRST-SMALL=
Cisco 261x-XM, 262x-XM, 2811	Up to 36 phones	FL-SRST-36	FL-SRST-36=
Cisco 265xXM, 2821	Up to 48 phones	FL-SRST-MEDIUM	FL-SRST-MEDIUM=
Cisco 2851	Up to 96 phones	FL-SRST-96	FL-SRST-96=
Cisco 3725	Up to 144 phones	FL-SRST-144	FL-SRST-144=
Cisco, 3745, 7200 NPE300/400	Up to 240 phones	FL-SRST-240	FL-SRST-240=
Cisco 3825	Up to 336 phones	FL-SRST-336	FL-SRST-336 =
Cisco 7200NPE400/G1	Up to 480 phones	FL-SRST-480	FL-SRST-480=
Cisco 3845	Up to 720 phones	FL-SRST-720	FL-SRST-720=

SRST bundles

CISCO2801-SRST/K9	Feature License FL-SRST-SMALL: 8 G.711 channels of DSPs included
CISCO2811-SRST/K9	Feature License FL-SRST-36: 16 G.711 channels of DSPs included
CISCO2821-SRST/K9	Feature License FL-SRST-MEDIUM: 32 G.711 channels of DSPs included
CISCO2851-SRST/K9	Feature License FL-SRST-96: 48 G.711 channels of DSPs included
CISCO3825-SRST/K9	Feature License FL-SRST-168: 64 G.711 channels of DSPs included
CISCO3845-SRST/K9	Feature License FL-SRST-240: 64 G.711 channels of DSPs included
CISCO1760-V-SRST	Feature License FL-SRST-SMALL: 4 G.711 channels of DSPs included
CISCO2651XM-V-SRST	Feature License FL-SRST-MEDIUM: 30 G.711 channels of DSPs included

For More Information

See the Cisco Unified SRS Telephony Web site: <http://www.cisco.com/go/srst>

Cisco Unity—Unified Messaging and Voice Mail

Cisco Unity is a powerful Unified Communications server that provides advanced, convergence-based communication services and integrates them with the desktop applications business professionals use everyday, improving customer service and productivity.

Key Features

- Designed for enterprise-scale organizations
- Architecture allows IT staff to set one back-up procedure, one message storage policy, and one security policy
- Scalable to 72 ports and 1500 users per server; up to 7,500 subscribers per server; or a total of 250,000 users in an Exchange environment or 100,000 users in a Domino environment up; Server options with multiple processors, redundant fans, redundant power supplies and RAID hard disk drives
- Support for Exchange 2000/Active Directory as the single message store and directory; Windows 2000 and Windows 2003 operating systems
- AMIS-A and VPIM interoperability for legacy voice mail system interoperability
- Integration with many legacy PBX switches using analog, serial or digital set emulations; Enhanced networking for large deployments
- Support for multiple CCM clusters; ability to light Message Waiting Indicators
- With Exchange/Domino off-line, utilizes pre-MTA queue to take messages and give basic message access; Support for Lotus Domino as the single message store
- Fault-tolerant system tools—robust security, file replication, and event logging
- Unity Inbox/Visual Messaging Interface (VMI) is an Internet Explorer-based voice mail inbox providing unified messaging; Subscribers can access and manage messages and calls from anywhere, at any time, regardless of device or media type; Forward faxes to any local fax machine; Optional digital networking module enables connectivity to other Cisco Unity servers at the same site
- IMAP-based message interface to provide basic desktop message access
- Unity Bridge provides advanced message interchange functionality with legacy Avaya/Octel voice mail systems—unlocking proprietary networking to deliver open standards-based IP migration

Specifications

Feature	Cisco Unity 4.0
Unity Voice Mail (VM) and Unified Messaging (UM) Possible Configurations	16, 32 and Max sessions Configured for Communications Manager or configured for legacy PBX/dual integration ¹
Options	Voice Mail; Voice Mail with Multi-lingual option; Unified Messaging with TTS option Unified Messaging with Multi-lingual option; Exchange or Domino; AMIS for Exchange; VPIM for Exchange; Unity Inbox/Visual Messaging Interface; Failover for Exchange; Unity Bridge for Exchange

1. Contact your Cisco Software Sales Representative for integration information.

Selected Part Numbers and Ordering Information¹

Cisco Unity Servers

MCS-7815-I1-ECS1	MCS 7815 tower; Unity and Unity Bridge; 1GB; Win2K
MCS-7825-I1-ECS1	MCS 7825-IBM rack; 1GB RAM; sATA RAID; Win2K
MCS-7825-H1-ECS1	MCS 7825-HP rack; 1GB RAM; sATA RAID; Win2K
MCS-7835-I1-ECS1	MCS 7835-IBM; rack; 2GB; RAID 1; Win2K
MCS-7835-H1-ECS1	MCS 7835-HP; rack; 2GB; RAID 1; Win2K
MCS-7845-I1-ECS1	MCS 7845-IBM; VM-6HDD; rack; 4GB; RAID 1(x3) DUAL CPU; Win2K
MCS-7845-I1-ECS2	MCS 7845-IBM; UM-4HDD; rack; 4GB; RAID 1(x2) DUAL CPU; Win2K
MCS-7845-H1-ECS1	MCS 7845-HP; VM-6HDD; rack; 4GB; RAID 1(x3) DUAL CPU; Win2K
MCS-7845-H1-ECS2	MCS 7845-HP; UM-4HDD; rack; 4GB; RAID 1(x2) DUAL CPU; Win2K
UNITY-MCS-ML-DAT=	Hot-Swap tape drive for MCS-7835H and MCS-7845H

DAT-7835-I1	Hot swap IBM DAT tape drive for MCS-7835-I1
DAT-7845-I1	Hot swap IBM DAT tape drive for MCS-7845-I1
MCS-EXT-DAT	External DAT tape drive for MCS servers
MCS-EXT-SDLT	External SDLT drive for MCS servers
MCS-EXT-SCSI	SCSI card option for external DAT drive
UNITY-EXP-CHAS=	Expansion chassis

Cisco Unity 4.0 Unified Messaging and Voice mail Software

UNITYU4-50USR-E=	Unity UM Exchange, 50 users, 16 session, 2 TTS
UNITYU4-100USR-E=	Unity UM Exchange, 100 users, 16 session, 2 TTS
UNITYU4-200USR-E=	Unity UM Exchange, 200 users, 16 session, 2 TTS
UNITYU4-300USR-E=	Unity UM Exchange, 300 users, 16 session, 2 TTS
UNITYV4-50USR=	Unity VM, 50 users, 16 sessions
UNITYV4-100USR=	Unity VM, 100 users, 16 sessions
UNITYV4-200USR=	Unity VM, 200 users, 16 sessions
UNITYV4-300USR=	Unity VM, 300 users, 16 sessions
UNITY-DVD-4.0=	UNITY 4.0 DVD set
UNITY-CD-4.0=	UNITY 4.0 CD set

Cisco Unity Integrations

UNITY-D/41U-LS	D/41 Universal PCI - US/CANADA
UNITY-D/41U-EU	D/41 Universal PCI - Europe, Aus, NZ
UNITY-D/120U-LS	D/120JCT Universal PCI rev 2 - US/CANADA
UNITY-D/120U-EU	D/120JCT Universal PCI Euro - Europe, Aus, NZ
UNITY-PBXLINK-1	PBXLink, 4-24 ports for Lucent; 4-20 ports for Nortel
UNITY-PBXLINK-2	PBXLink, 4-40 ports for Lucent; 4-48 ports for Nortel
UNITY-PIMG-DIG	PBX IP Media gateway for digital integrations

Cisco Unity Bridge

UNITY-BRIDGE-3.0	Unity Bridge 3.0, requires Unity 4.0.3 or later
UNITY-BRIDGE-2.1	Unity Bridge 2.1, requires Unity 4.0.2 or earlier

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unity site: <http://www.cisco.com/go/unity>

Cisco Unity Connection

Cisco Unity Connection transparently integrates messaging and speech components with data networks to provide continuous global access to calls and messages.

Key Features

- Intelligent voice messaging allows users to interact with the system in the way that is most comfortable and convenient for them—Simple and intuitive telephone user interface provides traditional access to voice messages; Desktop interface offers visual access to voice messages using either IMAP or a dedicated Web-browser application; Speech-enabled interface provides natural language access to voice messages and directories; Robust automated-attendant functions that include intelligent routing and easily customizable call-screening and message notification options
- Integrates with Cisco Unified Communications Manager and leading traditional telephone systems simultaneously
- Natively supports SIP proxy servers, designated SIP phones and clients, and SIP-enabled access gateways
- Browser-based system administration console and tools for easy installation and maintenance
- Cisco Unity Assistant enables IT staff to help end users manage more of their own accounts
- Supports physical terminal line (TTY) conversation for accessibility

- Scalable to 72 ports and 1500 users per server; up to 7,500 subscribers per server; or a total of 250,000 users in an Exchange environment or 100,000 users in a Domino environment up; Server options with multiple processors, redundant fans, redundant power supplies and RAID hard disk drives
- Support for Exchange 2000/Active Directory as the single message store and directory
- Integration with many legacy PBX switches using digital set emulations
- Support for multiple CCM clusters; ability to light Message Waiting Indicators
- Fault-tolerant system tools—robust security, file replication, and event logging
- IMAP-based message interface to provide basic desktop message access

Specifications

Feature	Cisco Unity Connection 1.1
Unity Voice Mail (VM) and Unified Messaging (UM) Possible Configurations	16, 32 and Max sessions
Options	Configured for Communications Manager or configured for legacy PBX/dual integration ¹ Voice Mail; Integrated Messaging with TTS option Unity Inbox/Visual Messaging Interface;

1. Contact your Cisco Software Sales Representative for integration information.

Selected Part Numbers and Ordering Information¹

Cisco Unity Connection Servers

MCS-7815-I1-ECS1	MCS 7815 tower; 1GB; Win2K
MCS-7825-I1-ECS1	MCS 7825-IBM rack; 1GB RAM; sATA RAID; Win2K
MCS-7825-H1-ECS1	MCS 7825-HP rack; 1GB RAM; sATA RAID; Win2K
MCS-7835-I1-ECS1	MCS 7835-IBM; rack; 2GB; RAID 1; Win2K
MCS-7835-H1-ECS1	MCS 7835-HP; rack; 2GB; RAID 1; Win2K
MCS-7845-I1-ECS1	MCS 7845-IBM; VM-6HDD; rack; 4GB; RAID 1(x3) DUAL CPU; Win2K
MCS-7845-I1-ECS2	MCS 7845-IBM; UM-4HDD; rack; 4GB; RAID 1(x2) DUAL CPU; Win2K
MCS-7845-H1-ECS1	MCS 7845-HP; VM-6HDD; rack; 4GB; RAID 1(x3) DUAL CPU; Win2K
MCS-7845-H1-ECS2	MCS 7845-HP; UM-4HDD; rack; 4GB; RAID 1(x2) DUAL CPU; Win2K
UNITY-MCS-ML-DAT=	Hot-Swap tape drive for MCS-7835H and MCS-7845H
DAT-7835-I1	Hot swap IBM DAT tape drive for MCS-7835-I1
DAT-7845-I1	Hot swap IBM DAT tape drive for MCS-7845-I1
MCS-EXT-DAT	External DAT tape drive for MCS servers
MCS-EXT-SDLT	External SDLT drive for MCS servers
MCS-EXT-SCSI	SCSI card option for external DAT drive
UNITY-EXP-CHAS=	Expansion chassis

Cisco Unity Connection 1.1 Software

UNITYU4-50USR-E=	Unity UM Exchange, 50 users, 16 session, 2 TTS
UNITYU4-100USR-E=	Unity UM Exchange, 100 users, 16 session, 2 TTS
UNITYU4-200USR-E=	Unity UM Exchange, 200 users, 16 session, 2 TTS
UNITYU4-300USR-E=	Unity UM Exchange, 300 users, 16 session, 2 TTS
UNITYV4-50USR=	Unity VM, 50 users, 16 sessions
UNITYV4-100USR=	Unity VM, 100 users, 16 sessions
UNITYV4-200USR=	Unity VM, 200 users, 16 sessions
UNITYV4-300USR=	Unity VM, 300 users, 16 sessions
UNITY-DVD-4.0=	UNITY 4.0 DVD set
UNITY-CD-4.0=	UNITY 4.0 CD set

Cisco Unity Integrations

UNITY-PBXLINK-1	PBXLink, 4-24 ports for Lucent; 4-20 ports for Nortel
UNITY-PBXLINK-2	PBXLink, 4-40 ports for Lucent; 4-48 ports for Nortel
UNITY-PIMG-DIG	PBX IP Media gateway for digital integrations

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unity Connection site: <http://www.cisco.com/go/unity>

Cisco Unity Express

Cisco Unity Express provides Integrated Messaging, voice mail and automated attendant services specifically for the small and medium office or branch. It's application is delivered on either a network module or advanced integration module which are supported on a variety of Cisco access router platforms and the Cisco Integrated Services Router family. In a Cisco Unified Communications Manager environment, Cisco Unity Express provides local storage and processing of Integrated Messaging, voice mail and automated attendant services for the branch office, thereby alleviating WAN bandwidth and QoS concerns. Cisco Unified Communications Manager Express and Unity Express combine to create the Cisco IP Communications Express solution which provides voice, data, and telephony management services integrated on a single, router-based platform.

Key Features

- Cost-effective operations through a single, integrated voice-and-data platform for all small and medium office or branch needs
- Boosts the professionalism, productivity and customer service available to the small and medium office through built-in automated attendant and Integrated Messaging/voice mail capabilities; Customizable automated attendant to support business hours, day-of-week treatment and multi-level, nested automated attendant menus with up to 5 separate automated attendants per system
- Both standard and advanced voice mail features such as remote message access, save and delete, forward, pause, fast forward or rewind messages, alternate greetings, zero-out to designated alternate phone number or extension, per user storage allocation, plus much, much more
- Advanced features such as Integrated messaging, remote notification, Voiceview Express; leverages phone display to manage messages
- Support for VPIMv2 for voice mail message exchange with other Cisco Unity or Unity Express systems.
- Remote maintenance and troubleshooting using Cisco CLI or Web-based GUI

How To Sell

Sell this Product
Cisco Unity Express

When the Customer Needs these Features

- Integrated messaging, voicemail, or auto attendant services at the branch office, or small office to support local users
- Does not require integration with Microsoft Exchange—use Cisco Unity for such needs
- Have a need for up to 250 users per site
- Can network multiple Cisco Unity Express systems for easy management of messages across sites

Specifications

Feature	Cisco Unity Express
Hardware	NM-CUE, NM-CUE-EC, or AIM-CUE, fully self-contained modules with onboard storage, memory and processing supporting a variety of mailbox densities, storage capacities and concurrent sessions to meet the needs of every small and medium office or branch
Software	Cisco Unity Express release 1.1.2, 2.1, 2.2 and 2.3
Platform Supported	Cisco 2600XM, 2691,3700 Series Multi-Service Routers and Cisco 2800, 3800 Integrated Services Routers

For More Information

See the Cisco Unity Express Web site: <http://www.cisco.com/go/ccmecue>

Cisco Personal Assistant

Cisco Personal Assistant streamlines communications with personal call rules, speech recognition, an optional enhanced text-to-speech engine and productivity services for IP phones. As an integral part of Cisco's Architecture for Voice, Video and Integrated Data (AVVID), it interoperates with Cisco Unified Communications Manager and scales to meet the present and future needs of businesses.

Key Features

- Automatic Speech Recognition (ASR)—Allows users to utilize simple voice commands to perform tasks such as retrieval, replying, recording, and deletion of voice messages from any telephone; Dial from personal address books or an enterprise LDAP directory; Synchronize Microsoft Exchange contact lists for quick name-dialing and ad-hoc group conferencing; Access controlled by user authentication
- Manage Inbound and Outbound Calls (Rules-Based Routing)—Using a Web interface to create rules, users can forward and screen calls based on caller identification, time of day, and meeting schedules; With "follow me," a special rule that uses speech recognition, users can forward all calls to a phone number immediately; Users can activate sets of pre-created rules from any telephone
- CalendarView—Keep track of appointments on the IP phone, directly from the Microsoft Exchange server with no synchronization necessary; Upcoming event notification via phone display or by pager
- MailView—Access e-mail and Cisco Unity voice mail messages on the messaging server from anywhere; Any operation performed on messages is automatically reflected in Microsoft Exchange and Cisco Unity

Specifications

Feature	Cisco Personal Assistant
Platform	Cisco Media Convergence Servers (MCS) 7835-H1 or 7835-I1 and 7825H-3000 or 7825I-3000:
Web Server Requirements for IP Phone Productivity Services Platform	Basic Web Server: Microsoft IIS 4.0 or later; Separate server for Cisco Personal Assistant Server and Speech Recognition Server
Software Compatibility	Cisco Unified Communications Manager 3.1+, 3.2+, and 3.3+ Cisco Unity 2.46+, 3.0+, and 4.0+ for voice-mail features Microsoft Exchange 5.5 and Exchange 2000 for calendar, e-mail, contact synchronization features

Selected Part Numbers and Ordering Information¹

Cisco Personal Assistant

SW-PASR1.4-SVR2S=	Cisco Personal Assistant 1.4 Server Software with Speech Recognition, Single language
SW-PASR1.4-SVR2M=	Cisco Personal Assistant 1.4 Server Software with Speech Recognition, Multiple language
SW-PASR1-USR=	Cisco Personal Assistant User License
SW-PASR1-USR10=	Cisco Personal Assistant 10 User License
SW-PASR1-KXS=*	Cisco Personal Assistant 1.4, Expansion Speech Recognition Sessions, Single language ¹
SW-PASR1-KXM=1	Cisco Personal Assistant 1.4, Expansion Speech Recognition Sessions, Multiple language ¹
SW-PASR-TX=1	Cisco Personal Assistant 1.4 enhanced TTS sessions, all languages inclusive ¹

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Personal Assistant Web site: <http://www.cisco.com/go/personalassist>

Cisco Unified Contact Center Enterprise

Cisco Unified Contact Center Enterprise delivers skills-based contact routing, voice self-service, computer telephony integration (CTI), and multichannel contact management over an IP infrastructure. By combining multichannel automatic-call-distributor (ACD) functions with IP telephony in a unified solution, it helps enable companies to rapidly deploy a distributed contact center infrastructure. Cisco Unified Contact Center Enterprise supports multi-site deployments in both an all IP environment, and mixed IP and TDM environments. It segments customers, monitors resource availability, and delivers each contact to the most appropriate resource anywhere in the enterprise. The software profiles each customer contact using related data such as dialed number and calling line ID, caller-entered digits, data submitted on a Web form, and information obtained from a customer database lookup. This combination of customer and contact center data is processed through user-defined routing scripts that graphically reflect a company's business rules.

How To Sell

Sell this Product

Cisco Unified Contact Center Enterprise

When the Customer Needs these Features

- A single contact center solution to support agents located in multiple locations, including formal contact centers, branch offices and home agents
- A single contact center solution to support inbound, outbound, email and web collaboration channels
- Customer requires a fully redundant solution

Key Features

- Full Scalability from less than a hundred to thousands of seats; Multi-site Contact Centers support; CRM Integration
- Carrier-class, distributed fault tolerance helps ensure uninterrupted operation
- Multi-channel interaction—Web collaboration with chat and callback, email, voice mail and fax routing
- Cradle-to-grave contact call detail records
- Common agent and supervisor desktops across all Cisco customer interaction management products
- Pre-defined and custom real-time and historical reports; Real-time data integrated in the agent and supervisor desktops
- Support for custom call treatment for calls in queue includes support for music in queue and custom messaging; Standard screen pop allows any caller-entered information to be popped to the agent
- Support for agent/supervisor interaction via chat; pre-define agent-supervisor messages

Selected Part Numbers and Ordering Information¹

Cisco Unified Contact Center Enterprise

IPCE-Bundle	Requires the purchase of one IPCC Server license. This license entitles the user to deploy the following necessary components: (redundant) Router; (redundant) Logger; (redundant) Communications Manager Peripheral Gateway(s); (redundant) IVR Peripheral Gateway(s) for connection to Cisco IVR systems ISN and IP-IVR (Non-Cisco IVRs require Third part IVR port licenses); Administrative Workstation(s); Historical Database server(s); WebView server and WebView user connections; Internet Script Editor (ISE) server and ISE user connections; Application Gateways; (redundant) CTI Server for 3rd party CTI connections (only for non-agent desktop application)
IPCE-SVR	IPCC ENTERPRISE SERVER LICENSE

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unified Contact Center Enterprise Web site: <http://www.cisco.com/go/ipcc>

Cisco Unified Contact Center Express

Cisco Unified Contact Center Express provides easy-to-deploy, easy-to-use, highly available, and sophisticated customer interaction management for 1 to 300 agents by supporting a highly available virtual contact center with integrated self-service applications across multiple sites secured with CSA. All Unified Contact Center Express solutions are tightly integrated with Cisco Unified Communications Manager.

How To Sell

Sell this Product

Cisco Unified Contact Center Express

When the Customer Needs these Features

- A contact center in-a-box that delivers intelligent contact routing, call treatment, network-to-desktop and computer telephony integration (CTI), and integrated self-service for customer contact management over an IP infrastructure
- An easy to deploy, configure and manage virtual contact center solution for 1-300 agents
- A virtual contact center solution available in three different packages, Standard, Enhanced and Premium, to ensure the right match with your business requirements
- An IVR self service solution fully integrated with contact center operations including ability to deploy advance self service technologies such as Automatic Speech Recognition (ASR) and Text-to-Speech (TTS)
- An ability to integrate multiple Contact Center Express systems in the cloud under control of Cisco Unified ICM including pre and post routing and centralized reporting.
- Requirement for redundancy with High Availability

Key Features¹

- Reduces business costs while improving customer response by providing sophisticated and distributed ACD, IVR, CTI, and agent/desktop services
- Browser-based administration; integrates with Cisco Unified Communications Manager browser-based administration
- Cradle-to-grave contact call detail records
- Standard screen allows any caller-entered information to be popped to the agent
- Pre-defined or custom historical reports; Real-time reports within the agent and supervisor desktops
- High Availability with automatic failover for mission critical deployments
- Complete, enterprise wide scalable Unified Contact Center solution with Cisco Customer Interaction Network
- Full support for agent/supervisor interaction via chat and to pre-define messages
- Full IP call queue points and prompt; Collect voice interaction capabilities
- Optional ASR and TTS capabilities
- Support for custom call treatment such as music for calls in queue

Selected Part Numbers and Ordering Information¹

Cisco Unified Contact Center Express Edition

IPCX-40-STANDARD	NEW 4.0 STANDARD Deployment
IPCX-40-ENHANCED	NEW 4.0 ENHANCED Deployment
IPCX-40-PREMIUM	NEW 4.0 PREMIUM Deployment
IPCX-40-STD-ADDON	ADD ONs to an EXISTING 4.0 STANDARD Deployment
IPCX-40-ENH-ADDON	ADD ONs to an EXISTING 4.0 ENHANCED Deployment
IPCX-40-PRE-ADDON	ADD ONs to an EXISTING 4.0 PREMIUM Deployment

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unified Contact Center Express Web site:
<http://www.cisco.com/go/ipccexpress>

Cisco Unified Contact Center Hosted Edition

The Cisco Unified Contact Center Hosted solution is suitable for both enterprise customers and service providers. For service providers, it creates a new, high-margin service revenue stream for incumbent providers as well as new service carriers. The service provider hosts the contact center infrastructure software—which is shared by multiple business customers—in its central office or data center. Subscribing business customers can have IP infrastructures, TDM infrastructures, or a combination of the two. For the enterprise customer with multiple branch offices or divisions the value is a centralized contact center infrastructure with the ability to offer services to its various divisions or satellite offices.

How To Sell

Sell this Product

Cisco Unified Contact Center Hosted

When the Customer Needs these Features

- Very large Enterprise customers who want to deploy a single solution to support multiple business—such as State Government, Outsources—units allowing each business unit to function autonomously
- Service Providers who want to offer managed contact center services to their customers.

Key Features

- Virtual call center—Calls are routed to contact center agents independent of their location, a service especially appealing to businesses with branch offices or home agents
- Network routing with CTI-Network-based ACD is combined with CTI services
- Network IVR functionality is located in the network to provide information to callers or to collect information from callers before they speak with a live agent
- Calls are routed between contact centers based on call context information (dialed number and caller ID), agent availability, and customer information from databases

Selected Part Numbers and Ordering Information¹

Cisco Unified Contact Center Hosted

IPCH-BUNDLE The Hosted bundle consists of two separately licensed sets of components:
 The Base licenses for the shared infrastructure, such as the NAM, the network interfaces, shared network IVRs, CICMs and Hosted IPCC Agent licenses; (redundant) Router; (redundant) Logger; (redundant) Communications Manager Peripheral Gateway(s); (redundant) IVR Peripheral Gateway(s) for connection to Cisco IVR systems ISN and IP-IVR (Non-Cisco IVRs require Third part IVR port licenses); Administrative Workstation(s); Historical Database server(s); WebView server and WebView user connections; Internet Script Editor (ISE) server and ISE user connections; Application Gateways; (redundant) CTI Server for 3rd party CTI connections (only for non-agent desktop application)

1. This is only a small subset of all parts available via URL listed under “For More Information.”

For More Information

See the Cisco Unified Contact Center Hosted Web site:

<http://www.cisco.com/go/ipcchosted>

Cisco Unified ICM Enterprise Edition

Through a combination of multi-channel contact management, intelligent routing, and network-to-desktop CTI, the Cisco Unified ICM Enterprise segments customers, monitors resource availability, and delivers each contact to the most appropriate resource anywhere in the enterprise.

The Cisco Unified ICM Enterprise solution allows customers to keep their current TDM solutions in place, while giving them a migration path to IP. When deployed with the Customer Voice Portal, it lets customers begin to move call routing and queuing into the IP Network, while leaving their existing TDM ACD's and agents in place. Customers can replace TDM ACD's independently, and when it makes the most sense for them.

How To Sell

Sell this Product

Cisco Unified ICM Enterprise

When the Customer Needs these Features

- Customers with existing, multi-site, TDM ACD systems looking for a call routing and CTI solution
- Customers looking for a migration path from their existing TDM architecture to an IP solution

Key Features

- Carrier-class, distributed fault tolerance for uninterrupted operation
- Profiles using contact-related data—dialed number and calling line ID, caller-entered digits, data submitted on a Web form, or information obtained from a customer profile database lookup; Processed using user-defined routing scripts that graphically reflect business rules; Routes each contact to the optimum resource anywhere in the enterprise; Delivers a unique and rich set of call event and customer profile data to the targeted desktop as a contact arrives, personalizing service and maximizing efficiency
- Gives customers the choice to interact via phone, Web, VoIP, text chat, or e-mail
- Provides centralized management control over customer contacts, allowing users to implement a single set of business rules that uniformly address customer needs independent of contact channel or resource location

Selected Part Numbers and Ordering Information¹

Cisco Unified ICM Enterprise

ICME-BUNDLE

Requires the purchase of at least one ACD PG and one ICM Agent license. Functionality included: Monitor 3rd party ACD (call and agent) activity; Call routing, including pre-routing from a carrier network and post-routing from an ACD; Historical Database server(s); WebView server and WebView user connections; Internet Script Editor (ISE) server and ISE user connections; Application, SQL and ICM-to-ICM Gateways; Redundant deployment of all licensed components; Integrations through the ICM's CTI interfaces with 3rd party devices that are not intended for agent desktop usage; Connections to Cisco IVR systems (IP-IVR and CVP) and all related functions an ICM can perform, such as monitoring, reporting and routing.

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unified ICM Enterprise Web site: <http://www.cisco.com/go/icmee>

Cisco Unified ICM Hosted Edition

The Cisco Unified ICM Hosted enables a service provider to quickly become a strategic business partner by hosting a broad continuum of mission-critical customer applications. With current users, its functionality creates new revenue opportunities while strengthening customer loyalty.

When to Sell

Sell This Product

Cisco Unified ICM Hosted Edition

When a Customer Needs These Features

- Open architecture—enables a smooth migration from circuit-switched to packet-based voice technology while enabling business-to-business services, e-commerce, and multimedia applications such as Web collaboration and e-mail response management—all transparent to the end user
- For the service provider—a unique opportunity to deliver critical applications tailored to each customer's business strategy; To sharply differentiate from competitors, making it easier to gain entry and obtain feature and/or transport revenues
- For the customer—Services to leverage value-added service provider capabilities to meet business goals

Key Features

- Virtual call center—Calls are routed to contact center agents independent of their location, a service especially appealing to businesses with branch offices or home agents
- Network routing—Network-based ACD is combined with CTI services
- Network IVR functionality is located in the network to provide information to callers or to collect information from callers before they speak with a live agent
- Calls are routed between contact centers based on call context information (dialed number and caller ID), agent availability, and customer information from databases

Selected Part Numbers and Ordering Information¹

Cisco Unified ICM Hosted HOSTED-BUNDLE

Consists of two separately licensed sets of components:

- The Base licenses for the shared infrastructure, such as the NAM and the network interfaces. This is an 'a la carte' licensing model, a customized system can be licensed by selecting the required volume and options
- The software licenses for the dedicated customer components such as the ICM instances, Peripheral gateway, agents, etc. These are ACD PG and Agent licenses.

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Unified ICM Hosted Web site:

<http://www.cisco.com/en/US/products/sw/custcosw/ps1973/index.html>

Cisco Unified IP IVR

Cisco Unified IP IVR is designed to enhance the efficiency of any organization by simplifying business integration, increasing flexibility, and providing efficiency gains in network hosting. These features reduce business costs while dramatically improving customer satisfaction. Tightly integrated with Cisco Unified Communications Manager, the Cisco Unified IP IVR offers ease of installation, configuration and application hosting because it is constructed specifically to exploit the power of IP-based communications. It facilitates concurrent multimedia communication processing.

When to Sell

Sell This Product

Cisco Unified IP IVR

When a Customer Needs These Features

- Offset high costs associated with assisted-service contact center agents by directing more customer interactions to automated voice self-service
- Improve effectiveness of automated voice self-service by deploying world-class capabilities
- Provide a consistent customer experience across self-service (Web and voice) and assisted-service environments

Key Features

- Written in Java to provide customer flexibility; Support for VoiceXML
- Multimedia (voice/data/Web) IP-empowered application-generation environment
- Interoperates with ASR and TTS servers via Media Resource Control Protocol (MRCP)
- Offers web-based activation and administration; Multiple Language support
- Supports VoiceXML application servers via VoiceXML 2.0
- Flows (the Unified IP IVR applications) are stored in an industry standard LDAP directory
- Sold with Cisco Unified Communications Manager; Can be co-resident on the same server as Communications Manager; Can function on a separate, dedicated media convergence servers (MCSs) or Cisco-approved customer provided server
- Packages available to scale up to 300 ports

For More Information

See the Cisco Unified IP IVR Web site:

<http://www.cisco.com/en/US/products/sw/custcosw/ps3651/index.html>

Cisco Unified Customer Voice Portal

The Cisco Unified Customer Voice Portal integrates with both traditional time-division multiplexing (TDM) and IP-based contact centers to provide an unparalleled call-management and call-treatment solution with a self-service IVR option that can use information available to customers on the corporate Web server. With support for ASR and TTS capabilities, callers can obtain personalized answers to increasingly complex questions and can conduct business in new and innovative ways—all without the costs of interacting with a live agent. The Unified CVP solution offers a unique capability of providing the voice processing on Cisco ISR, AS5350 or AS5400 Access Servers, thus allowing the same self-service application to be deployed at a retail office or at large customer call centers, thus significantly reducing customers' bandwidth utilization.

When to Sell

Sell This Product

Cisco Unified Customer Voice Portal

When a Customer Needs These Features

- Offset high costs associated with assisted-service contact center agents by directing more customer interactions to automated voice self-service
- Improve effectiveness of automated voice self-service by deploying world-class capabilities
- Provide a consistent customer experience across self-service (Web and voice) and assisted-service environments

Selected Part Numbers and Ordering Information¹

Cisco Unified Customer Voice Portal

CVP-31-SVR	CVP 3.1 Self-Service Server Software
CVP-31-STUDIO	CVP 3.1 Studio
CVP-3X-PT	CVP 3.X Self-Service Port License
CVP-3X-PT-MN500	CVP 3.X Self-Service Port License Min 500
CVP-3X-RED	CVP 3.X Self-Service Redundancy License

1. This is only a small subset of all parts available via URL listed under “For More Information.”

For More Information

See the Cisco Unified Customer Voice Portal Web site: <http://www.cisco.com/go/cvp>

Cisco Unified IP Phones 7900 Series

Cisco Unified IP Phones provide unmatched levels of integrated business functionality and converged environment. The Cisco Unified IP Phone 7985G is a personal desktop video phone with camera and video screen in one unit. The Cisco Unified IP Phone 7971G-GE, 7961G-GE, and 7941G-GE offer a Gigabit Ethernet port for integration to a PC or desktop server. The Cisco Unified IP Phone 7970G and 7971G-GE includes a color, high-resolution backlit touch-screen display. The Cisco Unified IP Phone 7960G manager set and the Cisco Unified IP Phone 7961G enhanced manager set address the communication needs for a high or busy amount of phone traffic. The Cisco Unified IP Phone 7940G business set and the Cisco Unified IP Phone 7941G enhanced business set address the communication needs for medium to high telephone traffic. The Cisco Unified IP Phone 7911G “basic sets” address the communication needs for low to medium telephone traffic. The Cisco Unified IP Phone Expansion Module 7914 provides additional buttons and LCD to the Cisco Unified IP Phone 796X series and 797X series, increasing the total number of buttons to 20 with one module, or 34 with two modules. The Cisco Unified IP Conference Station 7936, a high-quality hands-free conference station, is designed for use on desktops and offices and in small to medium-sized conference rooms. The Cisco Unified Wireless IP Phone 7920 is an easy-to-use IEEE 802.11b wireless IP phone that provides comprehensive voice communications.



Key Features

- Dynamic soft keys present calling options based on context
- Open APIs using XML to deliver applications to the display
- Automatic phone discovery, VLAN configuration, and registration
- QoS is provided via support of 802.1Q/p, in addition to configurable DIFFSERV and TOS
- Voice-activity detection, silence suppression, comfort-noise generation, and error concealment
- G.711a, G.711u, G.729ab audio-compression coder-decoders (codecs); Software upgrade support via Trivial File Transfer Protocol (TFTP) server
- Microsoft NetMeeting enabled—application sharing and video conferencing
- Integrated Ethernet Switch supporting Ethernet connectivity for a downstream PC

- Integrated Inline power support allows the phone to receive power over the LAN
- A hearing-aid-compatible handset

Specifications

Feature	7970G	7971G-GE	7985G	7914 Expansion Module	IP Conference Station 7936
Display	Pixel-based, color, touch-screen	Pixel-based, color, touch-screen	Pixel-based, color, integrated IP video	Pixel-based	Pixel-Based
Dynamic Soft Keys	8	8	5	N/A	3
Inline Power	Yes	IEEE power only	Yes	Yes	No
Ethernet Switch	10/100	10/100/ 1000	10/100	N/A	No
Lines	8	8	1	14	1
Speaker Phone	Yes	Yes	Yes	N/A	Yes
Headset Jack	Yes	Yes	Yes	N/A	No
3rd Party XML Applications	Yes	Yes	No	N/A	No

Feature	7941G	7941G-GE	7960G	7961G	7961G-GE
Display	Enhanced Pixel-based		Pixel-based	Enhanced Pixel-based	
Dynamic Soft Keys	4	4	4	4	4
Inline Power	Yes	Yes	Yes	Yes	Yes
Ethernet Switch	10/100/1000	10/100/1000	10/100	10/100/1000	10/100/ 1000
Lines	2	2	6	6	6
Speaker Phone	Yes	Yes	Yes	Yes	Yes
Headset Jack	Yes	Yes	Yes	Yes	Yes
3rd Party XML Applications	Yes	Yes	Yes	Yes	Yes

Feature	7931G	7906G	7911G	7940G
Display	Pixel-based	Pixel-Based	Pixel-Based	Pixel-Based
Dynamic Soft Keys	4		4	4
Inline Power	Yes	Yes	Yes	Yes
Ethernet Switch	10/100	Cisco Discovery Protocol; IEEE 802.1 p/q tagging and switching	Yes	10/100
Lines			1	2
Speaker Phone	Full-duplex	Yes	Monitor Only	Yes
Headset Jack	Yes	Yes	No	Yes
3rd Party XML Applications	Yes	Yes	Yes	Yes

Feature	7921G	Wireless 7920
Display	2 in. (5 cm) color display with 176 x 220 pixel resolution	Yes
Dynamic Soft Keys	2	2
Inline Power	N/A	N/A
Ethernet Switch	IEEE 802.11a, 802.11b, and 802.11g	N/A
Lines	1	6
Speaker Phone	Yes	No
Headset Jack	Yes	No
3rd Party XML Applications	Yes	Yes

Selected Part Numbers and Ordering Information¹

Cisco Unified IP Phones 7900 Series Power and Phones

CP-7985-NTSC=	Cisco IP Video Phone 7985 NTSC
CP-DSKCH-7921G-BUN	Cisco 7921G Desk Top Charger, Power Supply, AC Power Cord
CP-DSKCH-7921G=	Cisco 7921G Desk Top Charger
CP-7985-PAL	Cisco IP Video Phone 7985 PAL
CP-7971G-GE	Cisco IP Phone 7971G-GE, Global, Gig Ethernet
CP-7985-PAL=	Cisco IP Video Phone 7985 PAL
CP-7971G-GE=	Cisco IP Phone 7971G-GE, Global, Gig Ethernet
CP-7970G=	Cisco IP Phone 7970G, Global
CP-PWR-CUBE-3=	IP Phone power transformer for the 7900 phone series
CP-7961G=	Cisco IP Phone 7961
CP-7961G-GE=	Cisco IP Phone 7961G-GE, Global, Gig Ethernet

Cisco Unified IP Phones 7900 Series Power and Phones

CP-7960G=	Cisco IP Phone 7960G, Global
CP-7941G=	Cisco IP Phone 7941
CP-7941G-GE=	Cisco IP Phone 7941G-GE, Global, Gig Ethernet
CP-7940G=	Cisco IP Phone 7940G, Global
CP-7940G-SP	Cisco IP Phone 7940G SP Bundle
CP-7936=	IP Conference Station
CP-7936-MIC-KIT=	Microphone Kit, for 7936
CP-7936-PWR-KIT=	Replacement Power Kit for 7936/7935
CP-7921G-A-K9=	Cisco 7921G FCC; Battery/Power Supply Not Included
CP-7921G-E-K9=	Cisco 7921G ETSI; Battery/Power Supply Not Included
CP-7921G-P-K9=	Cisco 7921G Japan; Battery/Power Supply Not Included
CP-7921G-W-K9=	Cisco 7921G Rest of World; Battery/Power Supply Not Included
CP-BATT-7920-EXT=	Cisco 7920 Battery, Extended
CP-BATT-7920-STD=	Cisco 7920 Battery, Standard
CP-BATT-7921G-EXT=	Cisco 7921G Battery, Extended
CP-BATT-7921G-STD=	Cisco 7921G Battery, Standard
CP-CAB-USB-7921G=	Cisco 7921G USB Cable
CP-CFGPR-BUN-7920	Cisco 7920 Config Program; Incl. Config Util, 2 USB Cables
CP-EARBUD-7920-ST=	Cisco 7920 Series Wired Ear-Bud, Standard
CP-HOLSTER-7921G=	Cisco 7921G Belt Holster
CP-LOCK-7921G=	Cisco 7921G and Desk Top Charger Lock Set
CP-SHOULDER-7921G=	Cisco 7921G Shoulder Strap
CP-7911G=	Cisco IP Phone 7911G
CP-7906G=	Cisco IP Phone 7906G
CP-7931G=	Cisco IP phone 7931G
CP-7914=	7914 IP Phone Expansion Module
CP-LCKNGWALLMNT2=	Universal Locking Wallmount Kit for 7900 Series IP Phones
CP-LCKNGWALLMOUNT=	Locking Wallmount Kit for the 7910, 7940, 7960 IP Phones
CP-WALLMOUNTKIT=	Non-Locking Wall Mount Kit for 7910, 7940, 7960 IP Phones
CP-LAN-CORD=	LAN cord for 7900 Series IP phones
CP-HANDSET=	Handset for 7900 series phones
CP-HANDSET-CORD=	Handset cord for 7900 series phones
CP-SINGLFOOTSTAND=	Footstand kit for single 7914
CP-DOUBLFOOTSTAND=	Footstand kit for 2 7914s
CP-PWR-MC7920=	Cisco Wireless IP Phone 7920 Multi Charger Power Supply
CP-PWR-INJ=	IP Phone Power Injector For 7900 Series Phones

1. This is only a small subset of all parts.

For More Information

See the Cisco Unified IP Phones Web site: <http://www.cisco.com/go/iptel>

Cisco ATA Series of Analog Telephone Adaptors

The Cisco ATA 186 and 188 Analog Telephone Adaptors bring analog telephones into the networked world. The Cisco ATA series of products address the low-end product portfolio need by targeting the enterprise, business local services, small-office environment and the emerging managed voice services market. These cost effective handset-to-Ethernet adaptors enable analog devices, such as phones and fax machines, to support voice-over-IP (VoIP) services. The Cisco ATA 186 is equipped with, and a single RJ-45 Ethernet port. The Cisco ATA 188 has two RJ-11 voice ports and two RJ-45 ports. The internal Ethernet switch allows for a direct connection to a 10/100BASE-T Ethernet network and connectivity to a co-located PC or other Ethernet-based device via the RJ-45 ports.



Cisco ATAs can be configured¹ to use the standards-based VoIP protocols SIP as well as Skinny Client Control Protocol (SCCP).

1. Two software image combinations are available on Cisco.com: H.323/SIP and MGCP/SCCP. MGCP/SCCP image includes the letters, ms, in its name.

When to Sell

Sell This Product

Cisco ATA Series of Analog Telephone Adaptors

When a Customer Needs These Features

- Enable analog devices, such as phones and fax machines, to support Voice over IP services by converting the analog signal into an IP signal
- Continue use of existing analog phones with IP network

Key Features

- Auto-provisioning with Trivial FTP provisioning servers
- Automatic assignment of IP address, network route IP, and subnet mask via DHCP
- Optional web configuration through built-in Web server
- Optional touch-tone telephone keypad configuration with voice prompt
- Administration password to protect configuration and access
- Advanced pre-processing to optimize full-duplex voice compression
- High performance line-echo cancellation eliminates noise and echo
- Voice activity detection (VAD) and comfort noise generation (CNG) save bandwidth by delivering voice, not silence
- Dynamic network monitoring to reduce jitter artifacts such as packet loss

Specifications

Feature	Cisco ATA 186	Cisco ATA 188
Telephone and network interfaces	2 RJ-11 FXS ports 1 RJ-45 interface for network connection	2 RJ-11 FXS ports 1 RJ-45 interface for network connection 1 RJ-45 "switch port" for connection to PC or another downstream Ethernet device Note: "Daisy chaining" multiple ATAs together through the second RJ45 port is not supported
Dimensions (H x W x D)	1.5 x 6.5 x 5.75 in. (3.8 x 16.5 x 14.6 cm)	1.5 x 6.5 x 5.75 in. (3.8 x 16.5 x 14.6 cm)
Weights	15 oz (425 gm)	15 oz (425 gm)
Voice-over-IP (VoIP) protocols	SIP (RFC 2543); SCCP	SIP (RFC 2543); SCCP

Selected Part Numbers and Ordering Information¹

Cisco ATA Series of Analog Telephone Adaptors

ATA186-I1-A	Cisco ATA 186 2-port adaptor, 600 ohm impedance
ATA186-I2-A	Cisco ATA 186 2-port adaptor, complex impedance (270 ohm in series with 750 ohm and 150 nF in parallel)
ATA188-I1-A	Cisco ATA 188 2-port adaptor with switch, 600 ohm impedance
ATA188-I2-A	Cisco ATA 188 2-port adaptor with switch, complex impedance (270 ohm in series with 750 ohm and 150 nF in parallel)

Cisco ATA Series of Analog Telephone Adaptors Power Supply Cables

ATACAB-NA	ATA power supply cable for North American-style power systems
ATACAB-EU	ATA power supply cable for Continental European-style power systems
ATACAB-UK	ATA power supply cable for United Kingdom
ATACAB-AR	ATA power supply cable for Argentina
ATACAB-JP	ATA power supply cable for Japan
ATACAB-AU	ATA power supply cable for Australia

1. Some countries have telephone networks that list multiple impedance requirements. It is important to closely approximate the impedance of the typical handsets used in the region when selecting the proper configuration. The incorrect choice may lead to poor echo cancellation performance.

For More Information

See the Cisco ATA Series Web site: <http://www.cisco.com/go/ata186> and <http://www.cisco.com/go/ata188>

Cisco IP Communicator

Cisco IP Communicator is a software-based application that gives computers the capabilities and features of Cisco Unified IP Phones, providing high-quality voice calls and connection to company services while on the road, in the office, or from wherever users may have access to the corporate network. When used remotely, users have access to the same familiar phone services they have in the office. While registered to the Cisco Unified Communications Manager call processing system, Cisco IP Communicator has the features and functionality of a full-featured Cisco Unified IP Phone including the ability to transfer calls, forward calls, and conference additional participants to an existing call.

When to Sell

Sell This Product

Cisco IP Communicator

When a Customer Needs These Features

- A softphone that provides high-quality voice calls and extensive telephony features
- A supplemental telephone that provides access to phone extensions and services outside the office

Key Features

- Works with Cisco Unified Video Advantage—Brings video telephony to the telecommuter and mobile worker's communication experience. Available video is automatically displayed through Cisco Unified Video Advantage
- Easy to use—Feature parity with Cisco's advanced IP phones, IP phone services support (XML) to deliver company specific applications to the desktop, and auto-detection of Cisco VPN client
- Premium voice quality—Audio Tuning Wizard for setting audio levels properly, advanced jitter buffer and packet loss concealment algorithms, and echo suppression and noise cancellation
- Easy to manage—Unified administration with Cisco Unified IP Phones and automatic software upgrades; system administrators can provision as they would any other Cisco Unified IP Phone

Selected Part Numbers and Ordering Information

Cisco IP Communicator

SW-IPCOMM-E1

SW-CCM-UL-IPCOMM-E

Cisco IP Communicator Software

Station User License for Cisco Unified Communications Manager

For More Information

See the Cisco IP Communicator Web site:

<http://www.cisco.com/en/US/products/sw/voicesw/ps5475/index.html>

Cisco Unified Personal Communicator

Cisco Unified Personal Communicator is a software-based application that transparently integrates a wide variety of communication applications and services. It lets users access their most frequently used communication tools all from a single, rich-media interface connected to Cisco Unified Communications Manager 6.0. With Cisco Unified Personal Communicator, users can communicate and collaborate in real-time whether they are in the office, at home or on the road. It is easy-to-use and features an intuitive user interface which is supported on both the Windows PC and MAC.

When to Sell

Sell This Product

Cisco Unified Personal Communicator

When a Customer Needs These Features

- A unified client that seamlessly integrates presence, voice, video, messaging, and Web conferencing
- Powerful communications capabilities integrated with the personal computer, including integrated contact lists, click-to-call, voicemail playback, inbound call notification, and media escalation.
- A supplemental telephone that provides access to phone extensions and services outside the office

Key Features

- Presence—View real-time availability and preferred communication methods of other users
- Click-to-call—Dial from the contact list, using either the integrated softphone or an associated Cisco Unified IP phone
- Conferencing—Launch voice, video or Web conferencing sessions at a moment's notice to exchange ideas “face-to-face” or share content, such as a presentation
- Voice messages—Access Cisco Unity Connection voicemail messages; view, playback, sort, and delete messages—all from one client application
- Unified contact list—Search your corporate directory to locate contacts quickly then simply click to call

Selected Part Numbers and Ordering Information

Cisco Unified Personal Communicator

UPC-CLIENT-K9-PC

Cisco Unified Personal Communicator

UPC-CAMERAS-24=

Cisco VT Camera II 24 Unit Bundle

For More Information

See the Cisco Unified Personal Communicator Web site:

<http://www.cisco.com/go/unifiedpersonalcom>

Cisco Emergency Responder

Cisco Emergency Responder (ER) enhances emergency calling from Cisco Unified Communications Manager. It assures that Cisco Unified Communications Manager sends emergency calls to the appropriate Public Safety Answering Point (PSAP). Cisco ER helps the PSAP identify the caller's location and, if necessary, return the call.

Key Features

- Automatically Tracks IP Phone Location—Tracks IP phones by their IP address; Changes in phone locations can be detected within minutes; Analog phones connected to Foreign Exchange Station (FXS) ports are manually configured
- Provides Emergency Call Routing Instructions to Cisco Unified Communications Manager
- Identifies Caller Location to LECs and PSAPs—Replaces the calling party number associated with an emergency call with one that corresponds to the caller's location
- Eliminates Administration for IP Phone Relocation
- Supports Emergency Callback—ELINs are configured for Direct Inward Dialing (DID) and can be used by PSAPs to return emergency calls, if necessary; can be returned directly to phones with non-DID line numbers
- Alerts Customer Security Personnel to Emergency Calls in Progress
- Logs Emergency Calls and Location Record Changes

Specifications

Feature	Cisco Emergency Responder			
Supported Platform	Cisco 7800 series Media Convergence Servers; Cisco IP Telephony Operating System; Cisco IP Telephony Applications Backup and Restore System; Optional Security Script; Cisco Security Agent; Network Associates McAfee VirusScan Enterprise; Symantec Antivirus Corporate Edition;			
Product Compatibility	Cisco Unified IP Phones 7902G, 7905G, 7910G, 7910G+SW, 7911G, 7912G, 7940G, 7941G, 7941G-GE, 7960G, 7961G, 7961G-GE, 7970G, 7971G, 7985G; Cisco Unified IP Phone Wireless 7920 (IP-subnet-based tracking only); Cisco Unified IP Conference Stations 7935, 7936; Cisco Unified Client; Cisco IP Communicator; Cisco IP SoftPhone (does not support CDP-based tracking); Cisco ATA 180 series Analog Telephone Adaptors (manual configuration only); Cisco VG 200 series Analog Phone Gateways (manual configuration only); Cisco Catalyst 2900 XL, 2940, 2950, 2960, 2970, 3500 XL, 3550, 3560, 3750, 4000, 4500, 4900, 5000, 5500, 6000 and 6500 series LAN Switches; Cisco Ethernet Switching Network Modules in Cisco 3700 series Multiservice Access Routers, 2800 and 3800 series Integrated Services Routers			
Software Compatibility	Cisco Unified Communications Manager CiscoWorks IP Communications Operations Manager CiscoWorks IP Telephony Environment Monitor			
System Capacity	MCS 7815	MCS 7825	MCS 7835	MCS 7845
Automatically Tracked Phones	6,000	12,000	20,000	30,000
Manually Configured Phones	1,000	2,500	5,000	10,000
Roaming Phones (per Cisco Emergency Responder Cluster)	600	1,200	2,000	3,000
Switches	200	500	1,000	2,000
Switch Ports	12,000	30,000	60,000	120,000

Selected Part Numbers and Ordering Information¹

Cisco Emergency Responder

SW-CER-1.3-SVR=	CER 1.3 Software Plus CER 1.X User License 100 Phones
KEY-CER1.X-100=	CER 1.X (1.2 or Higher) User License 100 Phones
KEY-CER1.X-500=	CER 1.X (1.2 or Higher) User License 500 Phones
KEY-CER1.X-1K=	CER 1.X (1.2 or Higher) User License 1000 Phones
KEY-CER1.X-5K=	CER 1.X (1.2 or Higher) User License 5000 Phones
KEY-CER1.X-10K=	CER 1.X (1.2 or Higher) User License 10000 Phones

1. Redundant user licenses are not required when ordering redundant CER servers for a single CER group.

For More Information

See the Cisco Emergency Responder Web site: <http://www.cisco.com/go/cer>

Cisco Unified Communications Manager Assistant

Cisco Unified Communications Manager Assistant provides the call-routing and call management capabilities required in a manager/administrative assistant business environment while giving users a choice of phone devices that better fit their needs. By combining a PC-based console application with various soft keys and display panes on Cisco Unified IP phones, it can present users job-specific tools—such as directories with click to dial, drag and drop functionality—to more efficiently manage calls.

Cisco Unified Communications Manager Assistant is configured in either proxy-line mode or shared-line mode. In proxy-line mode, managers and assistants have different directory numbers or lines on their phones, but calls to managers are usually diverted to the assistant's line based on customizable dynamic filters. In shared-line mode, both managers and assistants share the same directory number, but assistants can handle calls without disturbing managers. Either mode can be used in conjunction with the PC based console application or a new XML based phone service that does not require a PC.

When to Sell

Sell This Product

**Cisco Unified
Communications Manager
Assistant**

When a Customer Needs These Features

- Administrative Assistants who need an efficient way to monitor and manage calls for multiple managers
- Managers who regularly have their calls answered by an Assistant

For More Information

See the Cisco CMA Web site: <http://www.cisco.com/go/ipma>

Cisco MCS 7800 Series Media Convergence Servers

Cisco MCS 7815-I2

- Provides an entry level tower server equipped with an Intel Pentium™ D4 2.8 GHz processor, 80GB Serial Attached ATA (SATA) hard drive and single non-hot-swap power supply



Cisco MCS 7825-H2 and Cisco MCS 7825-I2

- Provides an entry level rack mount server that occupies only one rack mounting space
- Equipped with an Intel Pentium™ D4 2.8 GHz processor, two 80GB Serial Attached ATA (SATA) hard drives configured as RAID1 and a single non-hot-swap power supply

Cisco MCS 7835-H1 and Cisco MCS 7835-I1

- Each provides a highly available mid-level rack mounted server solution that is equipped with an Intel Xeon™ 3400MHz processor, up to six hot-swap small computer system interface (SCSI) hard disks, a Redundant Array of Independent Disks (RAID) 1/0 Controller, hot-swap redundant fans and redundant hot-swap power supplies.
- An optional tape backup is available

Cisco MCS 7845-H1 and Cisco MCS 7845-I1

- Each provides a powerful and highly reliable high level rack mounted server solutions
- Equipped with two Intel Xeon™ 3400MHz processors, up to six hot-swap SCSI hard disks, RAID 1/0 controller, redundant hot-swap fans and redundant hot-swap power supplies
- An optional tape backup is available

When to Sell

Sell This Product

MCS 7815-I2

When a Customer Needs These Features

- Where price is the driving factor
- Customers without equipment racks
- Small customer deployments where RAID is not important

MCS 7825-H2
MCS 7825-I2

- Customers with racks
- Small customer deployments where RAID is important

MCS 7835-H1
MCS 7835-I1

- Customers with racks
- Medium sized customer deployments where RAID is important
- Customers where power and fan redundancy are important

MCS 7845-H1
MCS 7845-I1

- Customers with racks
- Large sized customer deployments where RAID is important
- Customers where power and fan redundancy are important

Specifications

MCS-7815-I2	MCS-7825-H2	MCS-7825-I2	MCS 7835-H1
Intel Pentium D4 2.8 GHz processor 1 MB L2 Cache 2 GB SDRAM ¹ 80 GB SATA Hard Disk DVD Drive Integrated SATA Controller Single 10/100/1000 Ethernet NIC Tower System with optional rack mount kit.	Intel Pentium 2.8 GHz processor 4 MB L2 Cache 2 GB SDRAM Dual 80 GB SATA Hard Disk DVD Drive Integrated SATA Controller-RAID1 Dual 10/100/1000 Ethernet NIC1U Rack Mount System	Intel Pentium 2.8 GHz processor 4 MB L2 Cache 2 GB SDRAM Dual 80 GB SATA Hard Disk DVD Drive Integrated SATA Controller-RAID1 Dual 10/100/1000 Ethernet NIC1U Rack Mount System	Intel Xeon 3.4 GHz processor 2 MB Cache 2 GB SDRAM Two-72 GB SCSI Hard Disk 1.44MB Floppy Disk DVD Drive SCSI Controller. Dual 10/100/1000 Ethernet NIC2U Rack Mount System

1. MCS-7815-I1-ECS1 contains 1024MB SDRAM while MCS-7815-I1-IPC3 and MCS-7815-I1-CC2 contains 2048MB SDRAM

Specifications (con.)

MCS-7835-I1	MCS-7845-H1	MCS-7845-I1
Intel Xeon 3.4 GHz processor 2MB Cache 2 GB SDRAM Two-72GB SCSI Hard Disk 1.44MB Floppy Disk DVD Drive SCSI Controller. Dual 10/100/1000 Ethernet NIC2U Rack Mount System	Dual Intel Xeon 3.4 GHz processor 2 MB Cache SDRAM is configuration dependant Hard Disk is configuration dependant 1.44MB Floppy Disk DVD Drive SCSI Controller. Dual 10/100/1000 Ethernet NIC2U Rack Mount System	Dual Intel Xeon 3.4 GHz processor 2 MB Cache SDRAM is configuration dependant Hard Disk is configuration dependant 1.44MB Floppy Disk DVD Drive SCSI Controller. Dual 10/100/1000 Ethernet NIC2U Rack Mount System

Selected Part Numbers and Ordering Information¹

Cisco Media Convergence Server 7800

MCS-7815-I2-IPC1, MCS-7815-I2-ECS1, MCS-7815-I2-CCX2	Cisco Media Convergence Server 7815-I2
MCs-7825-H2-IPC1, MCS-7825-H2-ECS1, CS-7825-H2-CCX1	Cisco Media Convergence Server 7825-H2
MCS-7825-I2-IPC1, MCS-7825-I2-ECS1, MCS-7825-I2-CCX1	Cisco Media Convergence Server 7825-I2
MCS-7835-H1-IPC1, MCS-7835-H1-ECS1, MCS-7835-H1-CC1	Cisco Media Convergence Server 7835-H1
MCS-7835-I1-IPC1, MCS-7835-I1-ECS1, MCS-7835-I1-CC1	Cisco Media Convergence Server 7835-I1
MCS-7845-H1-IPC1, MCS-7845-H1-ECS1, MCS-7845-H1-ECS2, MCS-7845-H1-CC1	Cisco Media Convergence Server 7845-H1
MCS-7845-I1-IPC1, MCS-7845-I1-ECS1, MCS-7845-I1-ECS2, MCS-7845-I1-CC1	Cisco Media Convergence Server 7845-I1

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco Media Convergence Server Web site: <http://www.cisco.com/go/mcs>

Cisco Voice Gateways

Voice Gateways interface directly to PBXs or public telephone networks to carry voice traffic across IP networks—by converting IP calls to standard telephony calls and vice versa. They provide connectivity between packet telephony and legacy telephony such as PSTN, PBX, fax machines, and other devices. Cisco offers the Cisco VG 248 and VG 224 dedicated analog voice gateways.

Cisco's full line of access and integrated routers can also add analog and digital voice gateway functionality through the use of network modules and voice interface cards.

Cisco VG 248 Voice Gateway

The Cisco VG 248 Voice Gateway is a 1 unit high rack mountable device allowing 48 analog devices (phones, fax machines and modems) to be used with Cisco Unified Communications Manager. It enables organizations like hotels, universities, and hospitals with large numbers of analog phones to deploy IP Telephony while maintaining the investment in legacy handsets. The analog lines are full featured with caller id, message waiting lights, and feature codes. The price per port is competitive with a legacy PBX.

The Cisco VG 248 supports the legacy voice mail Simple Message Desk Interface (SMDI) voice mail interface that allows the connection of a Cisco Unified Communications Manager network to a legacy voice mail system. It also will allow the sharing of existing SMDI based voice mail systems between the Cisco Unified Communications Manager and the legacy PBX.

Cisco VG 224 Voice Gateway

The Cisco VG 224 is a Cisco IOS high-density 24-port gateway for analog phones, fax machines, modems, and speakerphones within an enterprise voice system based on Cisco Unified Communications Manager or Unified Communications Manager Express. Having these devices tightly integrated with the IP-based phone system is advantageous for increased manageability, scalability, and cost-effectiveness. Commercial businesses can also use the Cisco VG 224 in conjunction with Cisco Unified Communications Manager Express to effectively augment an Integrated Services Router (ISR) environment. This topology environment supports a business which needs a high concentration of analog voice ports for basic calls, with supplementary services such as transfer, hold, park and pickup. With Cisco Unified Communications Manager or Cisco Unified Communications Manager Express, the Cisco VG 224 can provide supplementary analog services while leveraging Cisco IOS for reliable fax and modem delivery.

When to Sell

Sell This Product When a Customer Needs These Features

VG 248	<ul style="list-style-type: none">• SMDI Termination• Allows the sharing of SMDI based voice mail systems between the Cisco Unified Communications Manager and a legacy PBX
VG 224	<ul style="list-style-type: none">• SCCP support for analog ports• Cost effective, 1 RU, FXS interfaces for CME or CCM applications

Selected Part Numbers and Ordering Information

Cisco VG 200 Voice Gateway

VG 248	48 Port Voice over IP analog phone gateway
VG 224	Cisco VG 224 Analog Phone Gateway

For More Information

See the Cisco Voice Gateways Web site: <http://www.cisco.com/go/voicegate>

Memory Information for Universal Gateways

Router	Memory Type	Slots	Default Memory	Max Memory	Default Config. (Notes)
Cisco AS5350XM	Main SDRAM	2	512 MB	1 GB	
	System Flash	1	128 MB	1 GB	
Cisco AS5400XM	Main SDRAM	2	512 MB	1 GB	
	System Flash	1	128 MB	1 GB	
Cisco AS5850	ERSC SDRAM		1 GB	1 GB	Ships with all required memory
	Feature Cards SDRAMs		128 MB	128 MB	

Cisco AS5350XM Universal Gateway



The Cisco AS5350XM Universal Gateway is a one-rack-unit (1RU) gateway supporting 2 to 16-port T1/E1 or 1 CT3 configurations that provides voice, fax, data and SBC services on any port at any time. This cost-effective platform is ideally suited for SP and enterprise environments. The Cisco AS5350XM Universal Gateway doubles the performance of the original Cisco AS5350 and delivers significant memory enhancements to offer high performance and high reliability in a compact, modular design. The Cisco AS5350XM Universal Gateway supports existing Cisco AS5350 trunk termination, universal port feature cards and the new PVDM2 DSP cards in a more powerful chassis to ensure continuing network investment protection.

When to Sell

Sell This Product

Cisco AS5350XM

When a Customer Needs These Features

- High density in a small footprint (2 T1/E1 to, 16 T1/E1 or 1 CT3)
- High performance voice, fax, data and SBC services
- Concurrent voice gateway and session border control
- High call rates (up to 20 calls per second)
- Enhanced performance for processor intensive TCL or VXML scripting for complex voice services
- T.38 real-time fax relay, T.37 fax store and forward, fax detection, unified communications
- Low power per port (~2.5A @ 48V per CT3 of G.711, ~3.7ma per port)

Key Features

- 1 RU modular high-performance 2 to 16 channelized T1/E1/PRI system with ability to support up to 1 CT3 of G.711
- Universal Gateway—offering best in class voice, fax, and remote access services
- Concurrent gateway and session border control operation
- Ideal for Tier 2/3 ISPs and enterprises requiring innovative universal services
- Feature cards: 2, 4, or 8 T1/E1/PRI feature cards (ISDN calls terminated on the card); 1 CT3 feature card; 60 or 108 channel Universal Port feature card; 384 channel voice feature card
- Two 10/100/1000BaseT autosensing Gigabit Ethernet LAN ports
- Two 8 MB serial WAN ports for Frame Relay, HDLC, or PPP WAN backhaul
- Carrier Class Resiliency—All feature cards and fan tray are hot swappable, modem and voice DSP are pooled and can be configured as spares, internal power supply with dual fans, Redundant LAN/WAN backhaul ports, Thermal management and environmental monitoring, ETSI/NEBS Level 3 compliant
- Single or Redundant AC or DC power supply and replaceable redundant fan assembly
- Cisco SS7 signaling gateway interoperability

Competitive Products

- Lucent/Ascend: Max TNT
- 3Com/CommWorks: Total Control 1000
- Alcatel: 7505 Series
- Nuera: BTX Series
- Siemens: HiPath Series

Specifications

Feature	Cisco AS5350XM
Processor	750 MHz RISC processor
SDRAM	512 MB (default), 1 GB (maximum)
System Flash	128 MB (default), 1 GB (maximum)
Feature Card Slots	three (3) slots
Trunk Feature Cards	2 T1/E1/PRI, 4 T1/E1/PRI, 8 T1/E1/PRI, 1 CT3
DSP Feature Cards	60 Universal port card, 108 Universal port card 384 port voice / fax card
Egress Ports	Two 10/100/1000BaseT autosensing Gigabit Ethernet LAN ports Two 8-Mbps serial ports T1/E1 DS1 and CT3 trunk feature cards
LAN Protocols	IP, IPX, AppleTalk, DECnet, ARA, NetBEUI, bridging, HSRP, 802.1Q
WAN Protocols	Frame Relay, PPP, HDLC (leased line)
Routing Protocols	Routing Information Protocol (RIP), RIPv2, OSPF, IGRP, EIGRP, BGPv4, IS-IS, AY-EIGRP, IPX-EIGRP, Next Hop Resolution Protocol (NHRP), AppleTalk Update-Based Routing Protocol (AURP)
QoS Protocols	IP Precedence, Resource Reservation Protocol (RSVP), Weighted Fair Queuing (WFQ), Weighted Random Early Detection (WRED), Multichassis Multilink PPP (MMP) fragmentation and interleaving, 802.1P
Access Protocols	PPP, Serial Line Internet Protocol (SLIP), TCP Clear, IPXCP, ATCP, ARA, NBFCP, NetBIOS over TCP/IP, NetBEUI over PPP, protocol translation (PPP, SLIP, ARA, X.25, TCP, local-area transport [LAT], Telnet), and Xremote
Bandwidth Optimization	Multilink PPP (MLPPP), TCP/IP header compression, Bandwidth Allocation Control Protocol (BACP)
Voice Compression	G.711, G.723.1 (5.3K and 6.3K), G.726, G.729ab, G. Clear, GSM-FR, AMR-NB, iLBC
DSP Voice Features	Echo cancellation, programmable up to 128 ms Voice activity detection, silence suppression, comfort noise generation Fixed and adaptive jitter buffering Call progress tone detection and generation - Dial tone, busy, ring-back, congestion, and re-order tones with local country variants DTMF, Multifrequency (MF) Continuity Testing (COT)
Voice and Fax Signaling Protocols	H.323v2, H.323/v3, H.323v4, SIP, MGCP 1.0, TGCP 1.0, Voice XML, Real-Time Streaming Protocol (RTSP), Extended Simple Mail Transfer Protocol (ESMTP) T.38 real-time fax relay T.37 fax store and forward Fax detection Fax and modem passthrough Open Settlements Protocol (OSP) Media Recording Control Protocol (MRCP) TTS Servers ASR Servers
SS7	Integrated Signaling Link Terminal (ISLT), MTP1, MTP2, IUA, RUDP backhaul
Network Security	RADIUS or TACACS+, PAP, CHAP and MSCHAP authentication, local user/password database DNIS, CLID, call-type pre authentication Inbound/outbound traffic filtering (including IP, IPX, AppleTalk, bridged traffic) Network Address Translation (NAT) and dynamic access lists (ACLs)SNMPv2, SNMPv3, SSHv2 H.235
Virtual Private Networking	IP Security (IPSec) and policy enforcement (RADIUS or TACACS+), L2TP, Layer 2 Forwarding (L2F), and generic routing encapsulation (GRE) tunnels Firewall security and intrusion detection QoS features (committed access rate [CAR], Random Early Detection [RED], IP Precedence, policy-based routing)
Session Border Control	H.323 to H.323 (including Cisco Unified Communications Manager) H.323 to SIP (including Cisco Unified Communications Manager) SIP to SIP (including Cisco Unified Communications Manager) 1000 concurrent calls with 2000 sessions in flow-through mode
Channelized T1	Robbed-bit signaling; Loop Start, Immediate Start, and Wink Start Protocols
Channelized E1	CAS, PRI, E1 R1, E1 R2, leased line, Frame Relay, G.703, G.704
ISDN Protocols Supported	Sync mode PPP, V.120, V.110 at rates up to 38400 bps Network- and User-side ISDN NFAS with backup D-channel QSIG, Feature Group B, Feature Group D DoVBS
Modem Protocols Supported	V.90 or V.92 standard supporting rates of 56000 to 28000 in 1333 bps increments V.92 Modem on Hold and Quick Connect V.44 Compression supporting increased throughput by more than 100 percent for Internet browsing K56Flex at 56000 to 32000 in 2000-bps increments ITU-T V.34 Annex 12 at 33600 and 31200-bps ITU-T V.34 at 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400-bps V.32bis 14400, 12000, 9600, 7200, 4800; V.32 9600, 4800; V.22bis 2400, 1200; V.21 300; Bell 103, 300; V.22 1200; V.23 1200/75 ITU-T V.42 (including Microcom Networking Protocol [MNP] 2-4 and Link Access Procedure for Modems [LAPM]) error correction ITU-T V.42bis (1000 nodes) and MNP 5 data compression Async-mode PPP

Feature	Cisco AS5350XM
Full Cisco IOS Support	IP Plus and Enterprise Plus feature sets including 3DES and Lawful Intercept images
Console and Auxiliary Ports	Asynchronous serial (RJ-45)
Chassis	Dimensions (H x W x D): 1.75 x 17.5 x 20.5 in. Weight (fully loaded): 22 lbs. (10 kg)

For More Information

See the Cisco Universal Gateways and Access Servers Web site:

<http://www.cisco.com/en/US/products/hw/iad/index.html>

Cisco AS5400XM Universal Gateway



Cisco AS5400 XM Universal Gateway offer unparalleled capacity in only two rack units (2RUs) and provide voice, fax and data services on any port at any time. High-density (up to 1 CT3 of VoIP and 2 CT3 of TDM switching), low-power consumption (as low as 3.5A at 48 VDC per CT3 of G.711), and universal port DSPs make the Cisco AS5400XM Universal Gateways ideal for many network deployment architectures, especially co-location environments and mega POPs. The Cisco AS5400XM Universal Gateway supports the Cisco AS5400's and Cisco AS5400HPX's trunk termination and universal port feature cards in a more powerful chassis while doubling the performance and delivering significant memory enhancements for high performance.

When to Sell

Sell This Product

Cisco AS5400XM

When a Customer Needs These Features

- High density in a small footprint (up to 20 CT1/CE1 or 1 CT3, any codec type, fax protocol or modem type)
- High performance voice, fax, data, and SBC services
- High call rates (up to 20 calls per second)
- Concurrent voice gateway and session border control
- Enhanced performance for processor intensive TCL or VXML scripting for complex voice services
- T.38 real-time fax relay, T.37 fax store and forward, fax detection, unified communications

Key Features

- Ideally suited for SP and enterprise environments that require innovative voice, fax, and data services
- 2RU, CT3-capable universal gateway with hot-swappable cards and internal redundant power supply
- Universal Gateway offering best in class voice, fax, remote access and SBC services
- Concurrent gateway and session border control operation
- Feature cards: 4, or 8 T1/E1/PRI feature cards (ISDN calls terminated on the card); 1 CT3 feature card; 60 or 108 channel Universal Port feature card; 384 channel voice feature card
- Two 10/100/1000BaseT autosensing Gigabit Ethernet LAN ports
- Redundant 8 Mbps serial backhaul ports for Frame Relay, HDLC or PPP WAN Backhaul
- One fast console port for local administrative access; one auxiliary port for remote administrative access
- Redundant LAN/WAN backhaul ports
- ETSI/NEBS Level 3 compliant
- Redundant AC or DC power supply with dual fans
- Cisco SS7 signaling gateway interoperability

Competitive Products

- 3Com/CommWorks: Total Control C1000
- Alcatel: 7505 Series
- Lucent: Max TNT
- Siemens: HiPath Series

Specifications

Features	Cisco AS5400XM
Processor Type	750 MHz RISC processor
Calls Supported	Voice, fax and remote access services to 648 concurrent calls (to TCT3/16E1s)
SDRAM	512 MB (default), 1 GB (maximum)
Boot Flash	N/A
System Flash	128 MB (default), 1 GB (maximum)
Feature Slots	7
Trunk Feature Cards	4 T1/E1/PRI, 8 T1/E1/PRI, 1 CT3
DSP Feature Card	60 Universal port card, 108 Universal port card 384 low complexity, 192 medium complexity or 144 high complexity port voice / fax card
Egress Ports	Two 10/100/1000BaseT autosensing Gigabit Ethernet LAN ports Two 8-Mbps serial ports; T1/E1 DS1 and CT3 trunk feature cards
LAN Protocols	IP, IPX, AppleTalk, DECnet, ARA, NetBEUI, bridging, HSRP, 802.1Q
WAN Protocols	Frame Relay, PPP, HDLC (leased line)
Routing Protocols	Routing Information Protocol (RIP), RIPv2, OSPF, IGRP, EIGRP, BGPv4, IS-IS, AY-EIGRP, IPX-EIGRP, Next Hop Resolution Protocol (NHRP), AppleTalk Update-Based Routing Protocol (AURP)
QoS Protocols	IP Precedence, Resource Reservation Protocol (RSVP), Weighted Fair Queuing (WFG), Weighted Random Early Detection (WRED), Multichassis Multi-link PPP (MMP) fragmentation and interleaving, 802.1P
Access Protocols	PPP, Serial Line Internet Protocol (SLIP), TCP Clear, IPXCP, ATCP, ARA, NBFCP, NetBIOS over TCP/IP, NetBEUI over
Bandwidth Optimization	PPP, protocol translation (PPP, SLIP, ARA, X.25, TCP, local-area transport [LAT], Telnet), and Xremote Multi-link PPP (MLPPP), TCP/IP header compression, Bandwidth Allocation Control Protocol (BACP)
Voice Compression	G.711, G.723.1 (5.3K and 6.3K), G.726, G.729ab, G. Clear, GSM-FR, AMR-NB, iLBC
DSP Voice Features	Echo cancellation, programmable up to 128 ms Voice activity detection, silence suppression, comfort noise generation Fixed and adaptive jitter buffering Call progress tone detection and generation - Dial tone, busy, ring-back, congestion, and re-order tones with local country variants; DTMF, Multifrequency (MF); Continuity Testing (COT)
Voice and Fax Signaling Protocols	H.323v2, H.323v4, SIP, MGCP 1.0, TGCP 1.0, Voice XML, Real-Time Streaming Protocol (RTSP), Extended Simple Mail Transfer Protocol (ESMTP), T.38 real-time fax relay, T.37 fax store and forward Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0 at modulations V.33, V.17, V.29, V.27ter, V.21; ITU-T T.30, T.4 Fax detection, fax and modem passthrough Open Settlements Protocol (OSP), Media Resource Control Protocol (MRCP) to enable TTS and ASR Services
Virtual Private Networking	IP Security (IPSec) and Policy enforcement (RADIUS or TACACS+), L2TP, Layer 2 Forwarding (L2F), and generic routing encapsulation (GRE) tunnels Firewall security and intrusion detection QoS features (committed access rate [CAR], Random Early Detection [RED], IP Precedence, policy-based routing)
Session Border Control	H.323 to H.323 (including Cisco Unified Communications Manager) H.323 to SIP (including Cisco Unified Communications Manager) SIP to SIP (including Cisco Unified Communications Manager) 1000 concurrent calls with 2000 sessions in flow-through mode
Channelized T1	Robbed-bit signaling; Loop Start, Immediate Start, and Wink Start Protocols
Channelized E1	CAS, PRI, E1 R1, E1 R2, leased line, Frame Relay, G.703, G.704
ISDN Protocols Supported	Sync mode PPP, V.120, V.110 at rates up to 38400 bps, Network- and User-side ISDN NFAS with backup D-channel; QSIG, Feature Group B, Feature Group D; DoVBS
Modem Protocols Supported	V.90 or V.92 standard supporting rates of 56000 to 28000 in 1333 bps increments V.92 Modem on Hold and Quick Connect V.44 Compression supporting increased throughput by more than 100 percent for Internet browsing K56Flex at 56000 to 32000 in 2000-bps increments ITU-T V.34 Annex 12 at 33600 and 31200-bps ITU-T V.34 at 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400-bps V.32bis 14400, 12000, 9600, 7200, 4800; V.32 9600, 4800; V.22bis 2400, 1200; V.21 300; Bell 103, 300; V.22 1200; V.23 1200/75 ITU-T V.42 (including Microcom Networking Protocol [MNP] 2-4 and Link Access Procedure for Modems [LAPM]) error correction ITU-T V.42bis (1000 nodes) and MNP 5 data compression
Full Cisco IOS Support	IP Plus and Enterprise Plus feature sets including 3DES and Lawful Intercept images
Console and Auxiliary Ports	Asynchronous serial (RJ-45)
Chassis Dimensions (H x W x D)	3.5 x 17.5 x 18.25 in.
Chassis Weight (fully loaded)	35 lb maximum (15.8 kg)

For More Information

See the Cisco Universal Gateways and Access Servers Web site:

<http://www.cisco.com/en/US/products/hw/iad/index.html>

Cisco AS5850 Universal Gateway

The Cisco AS5850 Universal Gateway is a high-density universal gateway, with carrier-class attributes, offering highest capacity and high availability in its class. Higher capacity configurations, depending on dial, voice, and fax application types are also supported. It supports a wide range of IP-based value-added services such as high-volume Internet access, corporate VPNs, long distance for ISPs, international wholesale long distance, distributed prepaid calling, SS7 interconnect, and managed voice services such as hosted IP telephony, managed IP-PBX, multiservice VPNs, and IP contact centers. Using the rich set of Cisco IOS Software features and SS7 interconnection, service providers can quickly provision their network for new services to meet the rapidly changing demands of the communications provider marketplace.



When to Sell

Sell This

Product

Cisco AS5850

When a Customer Needs These Features

- Support for up to 2688 sessions of data, voice or fax services using T1, E1, DS3 or STM-1 trunk interfaces. Larger configurations are supported for dial and TDM switching
- Service provider or large enterprise installations
- High port count behind one IP address
- Highly available single system with multiple redundancy
- Wholesale dial/voice, retail dial/voice, TDM grooming or wireless applications

Key Features

- Hot-swappable redundant power supplies and power feeds
- Redundant DSPs and RSC; redundant blower for cooling; CAC
- Supports any coder-decoder (CODEC) at 100-percent capacity; simplify network engineering
- Router Processor Redundancy+ for high availability
- Thermal/Power management and redundant fans
- DSP Resource Recovery Feature
- Supports H.323v2, H.323v3, H.323v4, SIP and MGCP 1.0
- Application-specific support including AOL and Prodigy traffic
- WAN optimization—routing filters, snapshot routine, dial-on-demand routing
- ETSI/NEBS Level 3 compliant
- Cisco SS7 signaling gateway interoperability
- Stratum-3 clock support
- 802.1Q/1p VLAN/ISL support
- Up to three chassis per rack (14RU chassis) and only 30A @48V for four CT3 of high complexity voice (11ma per voice channel, 12ma with route processor redundancy)

Competitive Products

- | | |
|---|--|
| <ul style="list-style-type: none"> • 3Com: TC 2000 • Lucent: APX 8000 | <ul style="list-style-type: none"> • Siemens: HiPath Series • Alcatel: 7505 Series |
|---|--|

Specifications

Feature	Cisco AS5850
Slots	12 feature board slots; 2 ERSC slots
Processor Type	650 MHz Broadcom 1250 Dual Core
ERSC Switch Fabric	5 GBps, Layer 3 / 4 switching
Memory	1 GB SDRAM with ECC per ERSC 128 MB SDRAM (with parity) per feature card
Trunk Cards	Single CT3 plus 216 DSP Channel feature card; 24 CE1/CT1 feature card; Single port Channelized STM-1 feature card
Universal Port Card	324 Channel DSP-feature card
Egress Ports	Dual Gigabit load-balanced redundant Ethernet ports with GBIC interfaces for user traffic Dual 10/100-Mbps Ethernet port with RJ45 connector for management traffic
LAN Protocols	IP, bridging, HSRP, 802.1Q
Service Support	Port Policy Management and SS7/C7
Routing Protocols	RIP, RIPv2, OSPF, IGRP, EIGRP, BGPv4, IS-IS, Next Hop Resolution Protocol (NHRP)
Access Protocols	PPP, Serial Line Internet Protocol (SLIP), TCP Clear
Bandwidth Optimization	Multilink PPP (MLPPP), TCP/IP header compression, Bandwidth Allocation Control Protocol (BACP), Bandwidth on demand, Nonfacility-associated signaling (NFAS), traffic shaping
Network Security	RADIUS or TACACS+, PAP or CHAP authentication, local user/password database, DNIS, CLID, call-type pre-authentication, Inbound/outbound traffic filtering (including IP), SNMPv2, SNMPv3
Virtual Private Networking	IP Security (IPSec) and Policy enforcement (RADIUS or TACACS+), L2TP, Layer 2 Forwarding (L2F), and generic routing encapsulation (GRE) tunnels, Firewall security and intrusion detection, IP Precedence, policy-based routing
Channelized T1	PRI, robbed-bit signaling; loop start, immediate start, and wink start protocols, SS7 IMT
Channelized DS3	PRI, robbed-bit signaling; loop start, immediate start, and wink start protocols, SS7 IMT
Channelized E1	CAS, E1 R2, PRI, SS7 IMT
Channelized STM-1	CAS, E1 R2, PRI, SS7 IMT
Voice Compression	G.711, G.723.1 (5.3K and 6.3K), G.726, G.729ab, G.Clear, GSM-FR
DSP Voice Features	Echo cancellation, programmable up to 128 ms; Transparent transcoding between A-law and mu-law encoding Voice activity detection, silence suppression, comfort noise generation; Fixed and adaptive jitter buffering Call progress tone detection and generation - Dial tone, busy, ring-back, congestion, and re-order tones with local country variants; DTMF, Multifrequency (MF); Continuity Testing (COT)
Voice and Fax Signaling Protocols	H.323v2, H.323v4, SIP, MGCP 1.0, TGCP 1.0, Voice XML, Real-Time Streaming Protocol (RTSP), Extended Simple Mail Transfer Protocol (ESMTP), T.38 real-time fax relay Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0 at modulations V.33, V.17, V.29, V.27ter, V.21 ITU-T T.30, T.4 Fax detection, fax and modem passthrough Open Settlements Protocol (OSP), Media Resource Control Protocol (MRCP) to enable TTS and ASR Services
Modem Protocols	V.90 or V.92 standard supporting rates of 56000 to 28000 in 1333 bps increments V.92 Modem on Hold and Quick Connect V.44 Compression supporting increased throughput by more than 100 percent for Internet browsing K56Flex at 56000 to 32000 in 2000-bps increments ITU-T V.34 Annex 12 at 33600 and 31200-bps ITU-T V.34 at 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400-bps V.32bis 14400, 12000, 9600, 7200, 4800; V.32 9600, 4800; V.22bis 2400, 1200; V.21 300; Bell 103, 300; V.22 1200; V.23 1200/75 ITU-T V.42 (including Microcom Networking Protocol [MNP] 2-4 and Link Access Procedure for Modems [LAPM]) error correction ITU-T V.42bis (1000 nodes) and MNP 5 data compression
Cisco IOS Support	IP Plus feature sets including 3DES and Lawful Intercept images
ISDN Protocols	Sync mode PPP, V.120, V.110 at rates up to 38400 bps, Network- and User-side ISDN NFAS with backup D-channel QSIG, Feature Group B, Feature Group D DoVBS
Wireless Protocol	V.110
Console	Asynchronous serial (RJ-45)
Dimensions (H x W x D)	24.5 x 17.5 x 24 in.
Chassis Weight	220 lb (100 kg), fully loaded

For More Information

See the Cisco Universal Gateways and Access Servers Web site:
<http://www.cisco.com/en/US/products/hw/iad/index.html>

Cisco Unified MeetingPlace

Cisco Unified MeetingPlace—part of the Cisco Unified Communications system—is a complete rich-media conferencing solution that seamlessly integrates voice, video, and Web conferencing capabilities to make remote meetings as natural and effective as face-to-face meetings for unmatched productivity gains. Cisco Unified MeetingPlace is deployed “on network,” behind the firewall and integrated directly into an organization’s private voice and data networks and enterprise applications, to provide significant cost savings, the utmost in security, and a superior user experience.

The solution integrates enterprise-class voice, web and video conferencing with industry leading video setup and control capabilities to meet the needs of organizations looking for a single enterprise-class solution and user environment for voice, web and video conferencing.

Key Features

- Voice, video, and Web conferences can be set up and attended in a single step—from Cisco Unified IP Phones, instant messaging clients, Web browsers, and Microsoft Outlook and Lotus Notes calendars; Meeting participants have total control from a single browser interface; Provides a highly collaborative meeting and training environment
- Isolate confidential meetings and content behind the firewall for secure data network transport while providing the flexibility to meet with external parties
- Know who attended a meeting, how it was attended—voice, video, or Web, who is speaking, and who is sharing; With the appropriate permissions, control meeting characteristics including Web conferencing permissions, speaking permissions—mute and listen only, recording, and meeting security
- Deployed in a variety of ways—on premises or hosted, customer managed or outsourced; Cisco Managed Solutions and managed services partners can provide system administration and end-user help desk functions for on-premises or hosted systems

Selected Part Numbers and Ordering Information¹

Cisco Unified MeetingPlace 8100 Solution Bundles

MP-8106-30IP	Cisco Unified MeetingPlace 8106 30UL IP Solution Bundle
MP-8106-48	Cisco Unified MeetingPlace 8106 48UL T1-CAS Solution Bundle
MP-8106-60IP-C	Cisco Unified MeetingPlace 8106 60UL IP Commercial Bundle
MP-8106-30PRI	Cisco Unified MeetingPlace 8106 30UL T1/E1 PRI Solution Bundle
MP-8106-120IP	Cisco Unified MeetingPlace 8106 120UL IP Solution Bundle
MP-8112-180IP	Cisco Unified MeetingPlace 8112 180UL IP Solution Bundle
MP-8112-180PRI	Cisco Unified MeetingPlace 8112 180UL PRI Solution Bundle
MP-8112-192	Cisco Unified MeetingPlace 8112 192UL T1-CAS Solution Bundle
MP-8112-510IP	Cisco Unified MeetingPlace 8112 510UL IP Solution Bundle
MP-8112-510PRI	Cisco Unified MeetingPlace 8112 510UL PRI Solution Bundle
MP-8112-600	Cisco Unified MeetingPlace 8112 600UL T1-CAS Solution Bundle

Cisco Unified MeetingPlace Hardware and Software options

MP-SMARTBLADE	Cisco Unified MeetingPlace Audio Conference Module, 96 ports with 4xT1-CAS
MP-MA-4	Cisco MeetingPlace Unified MeetingPlace Gateway Module, 120 IP ports
MP-MA-4-PRI	Cisco Unified MeetingPlace Gateway Mod., 4xPRI (T1/E1)
MP-MA-16	Cisco Unified MeetingPlace Gateway Module, 480 IP ports
MP-MA-16-PRI	Cisco Unified MeetingPlace Gateway Module 16xPRI (T1/E1)
MP-AUDIO-UL-24	Cisco Unified MeetingPlace Audio Conference user license bundle, 24 user licenses
MP-AUDIO-UL-30	Cisco Unified MeetingPlace Audio Conference. user license bundle, 30 user licenses
MP-MTGT-M-SITE-5.4	Cisco Unified MeetingPlace MeetingTime Site License
MP-FLEX-MENU	Cisco Unified MeetingPlace Flex Menu Option
MP-LANG-5.4	Cisco Unified MeetingPlace Multilingual System License

Web Conferencing Options

MP-WEBCONFSW-5.4	Cisco Unified MeetingPlace Web Conferencing Server Application (includes 20 concurrent Web conferencing user licenses)
MP-RM-RECORDING	Cisco MeetingPlace Unified MeetingPlace Web Voice Recording System License
MP-CONF-UI-5.4	Cisco Unified MeetingPlace Conferencing User Interface (included in Cisco MeetingPlace Unified MeetingPlace Solution Bundles)
MP-WEB-UL-20	Cisco Unified MeetingPlace Web Conferencing 20 user licenses bundle
Integration Applications	
MP-VIDEO-5.4	Cisco Unified MeetingPlace Video Integration
MP-IP-GW	Cisco Unified MeetingPlace H.323/SIP Gateway Application (included in Cisco MeetingPlace Unified MeetingPlace Solution Bundles)
MP-EMAIL-5.4	Cisco Unified MeetingPlace SMTP E-mail Gateway Application (included in Cisco MeetingPlace Unified MeetingPlace Solution Bundles)
MP-OUTLOOK-5.4	Cisco Unified MeetingPlace for Outlook Integration Application
MP-NOTES-5.4	Cisco Unified MeetingPlace for Lotus Notes Integration Application
MP-DIRSVCS-5.4	Cisco Unified MeetingPlace Directory Services 5.3

1. Some countries have telephone networks that list multiple impedance requirements. It is important to closely approximate the impedance of the typical handsets used in the region when selecting the proper configuration. The incorrect choice may lead to poor echo cancellation performance.

For More Information

See the Cisco Unified MeetingPlace Web site: <http://www.cisco.com/go/meetingplace>

Cisco Unified MeetingPlace Express

Cisco Unified MeetingPlace Express is an integrated voice and Web conferencing solution that helps midsize organizations realize the cost savings and productivity benefits of deploying conferencing over internal networks. Part of the Cisco Unified Communications System, Cisco Unified MeetingPlace Express provides simple, powerful conferencing functions that are easy to deploy and manage. It helps enable highly productive virtual meetings by integrating meeting management and control capabilities directly into Web and Cisco Unified IP Phone interfaces.

Key Features

- **Advanced Voice Conferencing**—Include real-time mixing of up to three simultaneous speakers, input volume adjustment of each participant, recording, entry and exit notification, breakout sessions, automatic meeting extension and end-of-meeting warning
- **Streamlined Web Conferencing**—Adobe Flash-based Web conferencing interface streamlined for meeting management and simple screen sharing of applications or the entire desktop; Shared content scales to any screen resolution on multiple platforms; Annotations, text chat and meeting notes for an agenda
- **Powerful Meeting Management**—From the Web interface, users can mute/unmute themselves and see who is in the meeting, how they are participating, who is speaking, and who is sharing. With permission, users can mute other attendees and control attendee sharing permission levels; Easy Deployment and Management—Installed on a single server and supports industry standard protocols—H.323 and SIP—for connectivity with a range of telephony systems; Integrates with the Cisco Unified Communications Manager directory to simplify profile management automating user authentication and profile setup; Web-based administration capabilities include report generation, conference monitoring, diagnostics, and interface configuration
- **Simple Meeting Setup and Attendance**—Includes Web, Microsoft Outlook, Cisco Unified IP phone, and touchtone phone interfaces for setting up and attending meetings
- **Strong Security**—SSL encryption, behind the firewall deployment, and multiple meeting security options including meeting access authentication and in-meeting controls such as “lock meeting” and “remove participants” functionality

Specifications

Features	Cisco Unified MeetingPlace Express
Platform	Cisco Media Convergence Server: MCS-7825-H2-RC1, MCS-7825-I2-RC1, MCS-7835-H1-RC1, MCS-7835-I1-RC1, MCS-7845-H1-RC1, MCS-7845-I1-RC1
Capacity	Up to 200 concurrent voice and 120 concurrent Web conferencing users
Call Control System Compatibility	Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco SIP Proxy Server, Standard-based H.323 or SIP call-control systems
Client Compatibility	Windows, Mac, Linux, Solaris; Internet Explorer, Safari, Netscape, Mozilla, Firefox; Macromedia Flash Player
IP Phone Application Compatibility	Cisco Unified IP Phone 7940 series, Cisco Unified IP Phone 7960 series, Cisco Unified IP Phone 7970 series, Cisco IP Communicator

Selected Part Numbers and Ordering Information¹

Cisco Unified MeetingPlace Express

MPE-SE	Cisco Unified MeetingPlace Express 1.2 SE Bundle, 20V, 6W Concurrent ULs
MPE-SMALL-1V	Cisco Unified MeetingPlace Express Small Package Upgrade, 1Voice Concurrent UL
MPE-ME	Cisco Unified MeetingPlace Express 1.2 ME Bundle, 25V, 6W Concurrent ULs
MPE-MED-1V	Cisco Unified MeetingPlace Express Medium Package Upgrade, 1Voice Concurrent UL
MPE-LE	Cisco Unified MeetingPlace Express 1.1 LE Bundle-85V,6W Concurrent ULs
MPE-LE-1V	Cisco Unified MeetingPlace Express LE Package Upg-1 Voice Concurrent UL
MPE-PLUS1-VI	Cisco Unified MeetingPlace Express Video License, 1 Concurrent UL
MPE-PLUS1-W	Cisco Unified MeetingPlace Express Web License, 1 Concurrent UL
MPE-LANG(=)	Cisco Unified MeetingPlace Express Language License, 2 or more languages
MPE-PLUS10-V-UPG=	Cisco Unified MeetingPlace Express Voice License Pack Upgrade, 10 Concurrent ULs
MPE-PLUS40-V-UPG(=)	Cisco Unified MeetingPlace Express Voice License Pack Upgrade, 40 Concurrent ULs
MPE-PLUS80-V-UPG=	Cisco Unified MeetingPlace Express Voice License Pack Upgrade, 80 Concurrent ULs
MPE-PLUS10-W(=)	Cisco Unified MeetingPlace Express Web License Pack, 10 Concurrent ULs
MPE-PLUS4-VI=	Cisco Unified MeetingPlace Express Video License, 4 Concurrent ULs
MPE-ADD-SRV(=)	Cisco Unified MeetingPlace Express SW and License for Additional Server
MPE-OUTLOOK(=)	Cisco Unified MeetingPlace Express Outlook Integration

1. Some countries have telephone networks that list multiple impedance requirements. It is important to closely approximate the impedance of the typical handsets used in the region when selecting the proper configuration. The incorrect choice may lead to poor echo cancellation performance.

For More Information

See the Cisco Unified MeetingPlace Express Web site:

<http://www.cisco.com/go/meetingplaceexpress>

Voice and Security Bundles

Voice and Security Bundles are designed for enterprise branch offices, small and midsize businesses, and managed network service providers seeking consolidated, easy-to-order, versatile, and cost-effective solutions.

- Cisco Unified Communications Manager Express Bundles includes a Cisco Unified Communications Manager Express feature license, DSP resources to support PSTN connectivity to IP, necessary memory and recommended Cisco IOS feature set.
- Cisco Unified SRST Bundles includes Cisco Unified SRST feature license, DSP resources to support PSTN connectivity to IP, necessary memory and recommended Cisco IOS feature set
- V3PN Bundles includes Communications Manager Express Features license-can be used for SRST-DSP resources for PSTN to IP calls, Advanced IP Services and AIM-VPN Accelerator card for maximum performance of security features including VPN tunneling

When to Sell

Sell This Product

When a Customer Needs These Features

Voice and Security Bundles

- Support for 24 to 240 Phones per location
- SMB or Enterprise branch locations looking for data, IP Telephony and VPN in a all in one solution based on Cisco Access router
- IP Telephony application in the future and wants investment protection on initial purchase

Cisco Unified Communications Manager Express Bundles

Cisco Unified SRST Bundles

- SRST for remote branch locations who need data connectivity plus local PSTN call handling with Centralized Cisco Unified Communications Manager deployments
- Customers who may deploy Cisco Unified Communications Manager in the future and who want investment protection

Cisco V3PN Bundles

- IP Telephony application in the future and who want investment protection
- For remote branch locations needing VPN security and unified communications using Cisco Unified Communications Manager Express or Cisco Unified SRST with centralized Cisco Unified Communications Manager Express deployment

Selected Part Numbers and Ordering Information¹

Cisco Unified Communications Manager Express Bundles

CISCO3845-CCME/K9	Cisco 3845 Voice Bundle with IOS SP Services, PVDM2-64, FL-CCME (240 users), 64 MB Flash/256 MB DRAM
CISCO3825-CCME/K9	Cisco 3825 Voice Bundle with IOS SP Services, PVDM2-64, FL-CCME (168 users), 64 MB Flash/256 MB DRAM
CISCO2851-CCME/K9	Cisco 2851 Voice Bundle with IOS SP Services, PVDM2-48, FL-CCME (72/96 ² users), 64 MB Flash/256 MB DRAM
CISCO2821-CCME/K9	Cisco 2821 Voice Bundle with IOS SP Services, PVDM2-32, FL-CCME (48 users), 64 MB Flash/256 MB DRAM
CISCO2811-CCME/K9	Cisco 2811 Voice Bundle with IOS SP Services, PVDM2-16, FL-CCME (36 users), 64 MB Flash/256 MB DRAM
CISCO2801-CCME/K9	Cisco 2801 Voice Bundle with IOS SP Services, PVDM2-8, FL-CCME (24 users), 64 MB Flash/256 MB DRAM

Cisco Survivable Remote Site (SRST) Bundles

CISCO3845-SRST/K9	Cisco 3845 Voice Bundle with IOS SP Services, PVDM2-64, FL-SRST (240 users), 64 MB Flash/256 MB DRAM
CISCO3825-SRST/K9	Cisco 3825 Voice Bundle with IOS SP Services, PVDM2-64, FL-SRST (168 users), 64 MB Flash/256 MB DRAM
CISCO2851-SRST/K9	Cisco 2851 Voice Bundle with IOS SP Services, PVDM2-48, FL-SRST (96 users), 64 MB Flash/256 MB DRAM
CISCO2821-SRST/K9	Cisco 2821 Voice Bundle with IOS SP Services, PVDM2-32, FL-SRST(48 users), 64 MB Flash/256 MB DRAM
CISCO2811-SRST/K9	Cisco 2811 Voice Bundle with IOS SP Services, PVDM2-16, FL-SRST (36 users), 64 MB Flash/256 MB DRAM
CISCO2801-SRST/K9	Cisco 2801 Voice Bundle with IOS SP Services, PVDM2-8, FL-SRST (24 users), 64 MB Flash/256 MB DRAM

Cisco V3PN Bundles

CISCO3845-V3PN/K9	Cisco 3845 V3PN Bundle with IOS Advanced IP Services, PVDM2-64, AIM-VPN/HP11-PLUS, FL-CCME (240 users), 64 MB Flash/256 MB DRAM
CISCO3825-V3PN/K9	Cisco 3825 V3PN Bundle with IOS Advanced IP Services, PVDM2-64, AIM-VPN/EP11-PLUS, FL-CCME (168 users), 64 MB Flash/256 MB DRAM
CISCO2851-V3PN/K9	Cisco 2851 V3PN Bundle with IOS Advanced IP Services Image, PVDM2-48, FL-CCME (72/96 ² users), AIM-VPN/EP11-PLUS, 64 MB Flash/256 MB DRAM
CISCO2821-V3PN/K9	Cisco 2821 V3PN Bundle with IOS Advanced IP Services Image, PVDM2-32, FL-CCME (48 users), AIM-VPN/EP11-PLUS, 64 MB Flash/256 MB DRAM
CISCO2811-V3PN/K9	Cisco 2811 V3PN Bundle with IOS Advanced IP Services Image, PVDM2-16, FL-CCME (36 users), AIM-VPN/EP11-PLUS, 64 MB Flash/256 MB DRAM
CISCO2801-V3PN/K9	Cisco 2801 V3PN bundle with IOS Advanced IP Services, PVDM2-8, FL-CCME (24 users), AIM-VPN/EP11-PLUS, 64 MB Flash/256 MB DRAM

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels.
2. Available with IOS Version 12.3(11)T release

For More Information

See Cisco Unified Communications Manager Express, page 4-13 and Cisco Unified Survivable Remote Site Telephony, page 4-14 for product details.



VPN and Security

VPN and Security Products at a Glance

Product	Features	Page
Cisco ASA 5500 Series Adaptive Security Appliances	<p>A powerful multifunction network security appliance family that provides the security breadth and depth for protecting small and medium-sized business and enterprise networks while reducing the overall deployment and operations costs and complexities associated with providing this new level of security.</p> <ul style="list-style-type: none"> Combines security and VPN services with the Cisco Adaptive Identification and Mitigation (AIM) architecture Designed as a key component of the Cisco Self-Defending Network Provides proactive threat defense stopping attacks before they spread 	5-3
Cisco PIX Security Appliances	<p>The market-leading Cisco PIX Security Appliance Series provides robust user and application policy 5-7 enforcement, multi-vector attack protection, and secure connectivity services through a wide range of rich security and networking services, including:</p> <ul style="list-style-type: none"> Advanced Application-Aware Firewall Services Market-Leading Voice-Over-IP and Multimedia Security Robust Site-to-Site and Remote Access IPSec VPN Connectivity Award-Winning Resiliency 	
Cisco Intrusion Protection Systems (IPS) 4200 Series Sensors	<p>Allow businesses to minimize the total cost of ownership of their IPS deployments by delivering:</p> <ul style="list-style-type: none"> Inline intrusion prevention functionality with IPS v6.0 Software Unprecedented price/performance ratios the ability to simultaneously protect multiple network subnets through the support for multiple interfaces—up to 8 interfaces (on the appliances) Dual operation in both promiscuous as well as inline modes simultaneously a wide array of performance options—from 80 Mbps Embedded web-based management solutions packaged with the sensor 	5-9
Cisco Incident Control System	<p>Prevents new worm and virus outbreaks from affecting businesses by enabling the network to rapidly adapt and provide a distributed response.</p> <ul style="list-style-type: none"> Use of up-to-the-moment threat intelligence, provided by Trend Micro, an industry-leading expert in antivirus and worm mitigation Rapid response, enabling proactive prevention of worms and viruses Empowering existing Cisco network and security devices to adapt in real time for a coordinated network-wide response Detailed control of how Cisco ICS mitigation policies are deployed in the business network 	5-11
Cisco Security Monitoring Analysis and Response System (CS-MARS)	<p>Centralized Monitoring and event correlation system for Cisco and non-Cisco platforms</p> <ul style="list-style-type: none"> Timely Attack Mitigation—Identify and disable attacker, via Layer 2 or Layer 3 mitigation response End-to-end Network and Path Awareness Netflow Analysis to detect Day Zero Worms and Virus Up to 1,000 events per second on a single box as well as a highly scalable distributed architecture Make sense of data—reduce millions of security events down to a handful of incidents 	5-12
Cisco Security Manager (CS Manager)	<p>Centralized, cross-product, security configuration for faster deployments with increased accuracy. Cost effective for small networks, scalability for large enterprises.</p>	5-15
Cisco NAC Appliance	<p>Easily deployed network admission control solution allowing network administrators to authenticate, authorize, validate, quarantine, and remediate wired, wireless and remote users and their machines prior to allowing access to the network.</p> <ul style="list-style-type: none"> Integrated authentication, posture assessment, quarantine, remediation into one product Supports built-in policies for more than 350 applications from leading anti-virus, anti-spyware and other security and management software solution providers Automatic security policy updates (rulesets) provide up-to-date patching, definition files, and hot fixes. Generates significant cost savings by empowering users to repair and update their own machines Improves network health and resiliency by using a roles-based method to prevent unauthorized access and by requiring that all incoming devices comply with corporate security policies and standards Scales from 50 to 100,000 user deployments 	5-16

Product	Features	Page
Cisco Security Agent	Provides threat protection for endpoints, including servers, desktop and point-of-service systems by 5-19 identifying and preventing malicious activity: <ul style="list-style-type: none"> • Protects against known and unknown attacks • Aggregates and extends multiple endpoint security functions • Prevents threats from executing and spreading • Scalable to 100,000 agents per management server • Compliant with SDN/NAC Cisco Trust Agent • Helps achieve PCI regulatory compliance 	
Cisco Secure Access Control Server (ACS) for Windows	A user authentication, authorization and accounting (AAA) access control framework that manages 5-20 user and administrative access to the network <ul style="list-style-type: none"> • Part of the Proactive Automation of Change Control solution (PACE) • Extends access security by combining authentication, user or administrator access, and policy control from a centralized identity networking solution, thereby allowing for greater flexibility and mobility, increased security, and user productivity gains • A key component of Cisco's IBNS solution, an architecture built upon the 802.1X port based network access control IEEE standard, and Cisco Network Admission Control (NAC) 	
Cisco Secure Access Control Server (ACS) Solution Engine	<ul style="list-style-type: none"> • A highly scalable, 1-rack unit dedicated platform that serves as a high-performance access control server supporting centralized RADIUS and TACACS+ • Includes features of the Cisco Secure Access Control Server 	5-22
Cisco Router and Security Device Manager	An intuitive, Web-based device-management tool for Cisco IOS® Software-based routers <ul style="list-style-type: none"> • Simplified Cisco router deployments: Easy to use Smart wizards, built-in tutorials • Application intelligence: Knowledgebase of TAC-approved Cisco IOS configurations • Delivers simplified management support and real-time performance monitoring for concurrent ISR services, collaborative security solutions and application level inspection and control. • Supported in seven international languages including English, Japanese, Simplified Chinese, French, German, Spanish and Italian 	5-23
CiscoWorks Network Compliance Manager	<ul style="list-style-type: none"> • Part of the Proactive Automation of Change Execution solution (PACE) • Tracks and regulates configuration and software changes throughout a multivendor network infrastructure (including Cisco routers, switches, firewalls, load balancers, and wireless access points) • Provides unparalleled visibility into network changes and can track compliance with a broad variety of regulatory, IT, corporate governance, and technology best practices 	9-8
Cisco Configuration Assurance Solution	<ul style="list-style-type: none"> • Part of the Proactive Automation of Change Execution solution (PACE) • Automatically diagnoses device mis-configurations, policy violations, inefficiencies, and security gaps using a combined visualization of network topology, traffic, and configuration • Improves network availability and security, and documents compliance with best practices and important regulatory and IT Governance requirements PAGE 	9-8
CiscoWorks VPN/Security Management Solution	Combines general device management tools for configuring, monitoring, and troubleshooting enterprise networks with powerful security solutions for managing virtual private networks (VPNs), firewalls, and network and host-based IPS. An integral part of the Cisco SAFE Blueprint for Enterprise, this bundle also delivers network device inventory, change audit and software distribution features.	9-11
CiscoWorks Security Information Management Solution and CiscoWorks Security Information Management Solution Engine	A solution that collects, analyzes, and correlates security event data from across the enterprise- letting you detect and respond to security events as they occur. <ul style="list-style-type: none"> • Event monitoring of multivendor security environments • Extensive reporting for operators and high-level administrators • Risk assessment information to understand overall vulnerability of critical network assets within the enterprise; Forensics tools to investigate attacks • Traffic utilization reports and graphs to understand changes in traffic patterns 	9-12
Cisco Firewall Services Module (FWSM) for Catalyst 6500	Firewall Module is a high performance integrated stateful firewall solution for Catalyst 6500 family of 2-29 switches with performance exceeding 5GB. It is based on proven PIX technology while providing the following benefits to the customers <ul style="list-style-type: none"> • Investment protection; Low cost of ownership; Ease of use; Operational Consistency; Scalability 	
IPSec VPN Shared Port Adapter (SPA) for Catalyst 6500	Offers next-generation encryption technology as well as a form factor designed to enable a more flexible and scalable network infrastructure. <ul style="list-style-type: none"> • Next-generation encryption technology • High speed VPN performance • Scalability • Attractive form factor • Comprehensive VPN features 	2-29
Intrusion Detection System Services Module (IDSM-2) for Catalyst 6500	<ul style="list-style-type: none"> • Integrates full-featured IPS functions directly into the network infrastructure • Monitor traffic directly off the switch backplane—a logical platform for additional services such as firewall, VPN, and IPS • When in passive mode, IDSM-2 provides promiscuous inspection of packet copies via VACL capture and Switch Port Analyzer/Remote SPAN (SPAN/RSPAN) • Advanced false positive reduction features • One rack-unit (RU) size takes up only a single slot in the Cisco Catalyst 6500 or Catalyst 7600 chassis • Up to 500 megabits per second (Mbps) of IDS/IPS inspection provides high-speed packet-examination capabilities and allows for more protection of a wider variety of networks and traffic 	2-29

Product	Features	Page
Cisco IOS Firewall	<ul style="list-style-type: none"> • Tightly integrated with IOS VPN and advanced routing technologies • Voice traversal support for SIP, Skinny, H.323 protocols • URL filtering support of local, and Websense and N2H2 services • Offers virtual (VRF-aware) firewalls for isolated route space and overlapping addresses • Supports user authentication for https, ftp and telnet connections • Enforces protocol conformance for HTTP, SMTP, Extended SMTP, IMAP and POP3 • Supports Transparent Firewalling for deployment with no address change required in the network 	5-25
Cisco Security Router Bundles	Cisco 800, 1800, 2800, 3800, 7200, and 7301 security router bundles with enhanced integrated network 1-1 security. See individual product pages for more details (page 1-1)	
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco ASA 5500 Series Adaptive Security Appliance



The Cisco ASA 5500 Series adaptive security appliances are purpose-built solutions that combine best-of-breed security and VPN services to secure business communications and guard organizations of all sizes against network threats. Designed as a core component of the Cisco Self-Defending Network, the Cisco ASA 5500 Series provides proactive threat defense that stops attacks before they spread through the network, controls network activity and application traffic, and delivers flexible VPN connectivity with both SSL and IPSec capability. The comprehensive portfolio of services within the Cisco ASA 5500 Series enables customization for location-specific needs through its tailored package product editions for the enterprise-firewall, IPS, content security, and VPN. These security services can be mixed to offer best of breed protection in a single appliance.

When to Sell

Sell This Product

Cisco ASA 5500 Series Firewall Edition for the Enterprise

Cisco ASA 5500 Series IPS Edition for the Enterprise

Cisco ASA 5500 Series Content Security Edition for the Enterprise

Cisco ASA 5500 Series VPN Edition for the Enterprise

Cisco ASA 5500 Series Business Edition

When a Customer Needs These Features

- To deploy new applications securely, while protecting valuable assets from unauthorized access
- Flexible, Reliable Deployment Options—Provides a wide range of services such as transparent firewall, virtualization, and intelligent network integration
- Comprehensive Management Solutions to Lower Operational Costs—Flexible centralized management solutions provide full featured provisioning and monitoring services
- Control Access to Critical Assets—Firewall access control and application policy enforcement provide authenticated access to critical resources
- Accurate, Multi-vector Threat Prevention—Achieves maximum attack identification via multiple analysis techniques and technologies
- Complete Incident Life-cycle Management—Complete solution covering Management, Monitoring, Incident Response, and Outbreak Prevention
- Enterprise-grade Firewall—Built and deployed on Cisco PIX firewall technology for solid access and policy control
- High-quality Malware Protection
- Unified Security and Content Control
- VPN for Any Deployment Environment—Clientless and full network VPN access delivers unsurpassed customizability for diverse requirements
- Threat Protected VPN—Integrated endpoint and network security technologies ensure the VPN is not a conduit for damaging security threats
- More Cost Effective VPNs—Integrated load balancing, network intelligence and security reduces the number of devices required to scale and secure the VPN
- Enterprise-grade Firewall—Built and deployed on Cisco PIX firewall technology for solid access and policy control
- Market-leading Content Security capabilities and threat-protected VPN
- Easy deployment and management

Key Features

- Firewall Edition—Enables businesses to securely deploy mission-critical applications and networks in a reliable manner, while providing significant investment protection and lower operational costs through its unique, modular design.
- IPS Edition—Protects from worms, hackers, and other threats through the combination of firewall, application security, and intrusion prevention services

- **Content Security Edition**—Protects users at small or remote sites with a comprehensive package of security services. Enterprise-grade firewall and VPN services provide secure connectivity back to the corporate headend. Industry-leading content security services protect the client system from malicious Web sites and content-based threats such as viruses, spyware, and phishing
- **VPN Edition**—Enables secure, remote user access to internal network systems and services, and supports VPN clustering for larger enterprise deployments. This solution combines SSL and IPSec VPN remote-access technologies with threat mitigation technologies such as Cisco Secure Desktop, and firewall and intrusion prevention services to ensure VPN traffic does not introduce threats to the enterprise.
- **Extensible Adaptive Identification and Mitigation (AIM) services architecture**—Built on a modular services processing and policy framework, AIM architecture enables the application of specific security or network services on a per-traffic-flow basis, delivering highly granular policy controls and content security protection with streamlined traffic processing; Enables the evolution of existing services and the deployment of new services without requiring a platform replacement or performance compromise; Enables highly customizable security policies and unprecedented services extensibility to help protect against fast-evolving threats.
- **Reduced deployment and operations costs**—Allows for platform, configuration, and management standardization, helping to decrease the costs of deployment and ongoing operations

Competitive Products

- Juniper: NetScreen Security Appliances
- Check Point Software: FireWall-1 / VPN-1 running on Nokia IP-Series Security Appliances
- SonicWALL: SonicWALL Security Appliances
- WatchGuard Technologies: Firebox X Security Appliances
- Fortinet: Fortigate Security Appliances

Specifications

Feature	Cisco ASA 5505	Cisco ASA 5510	Cisco ASA 5520	Cisco ASA 5540	Cisco ASA 5550
Users/nodes	10, 50, or unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Firewall throughput	Up to 150 Mbps	Up to 300 Mbps	Up to 450 Mbps	Up to 650 Mbps	Up to 1.2 Gbps
Concurrent threat mitigation throughput (firewall + IPS services)	Not available	Up to 150 Mbps with AIP-SSM-10 Up to 300 Mbps with AIP-SSM-20	Up to 225 Mbps with AIP-SSM-10 Up to 375 Mbps with AIP-SSM-20	Up to 450 Mbps with AIP-SSM-20	Not available
3DES/AES VPN throughput	Up to 100 Mbps	Up to 170 Mbps	Up to 225 Mbps	Up to 325 Mbps	Up to 425 Mbps
IPSec VPN peers	25	250	750	5000	5000
SSL VPN peers (included/maximum)	25	250	750	2500	5000
Concurrent sessions	10,000; 25,000	50,000; 130,000	280,000	400,000	650,000
New sessions/second	3000	6000	9000	20,000	28,000
Integrated network ports	8-port Fast Ethernet switch (including 2 PoE ports)	3 Fast Ethernet + 1 management port; 5 Fast Ethernet ports	4 Gigabit Ethernet, 1 Fast Ethernet	4 Gigabit Ethernet, 1 Fast Ethernet	8 Gigabit Ethernet, 4 SFP Fiber, 1 Fast Ethernet
Virtual interfaces (VLANs)	3 (no trunking); 3	10; 25 *	100	200	200
Security contexts (included/maximum)	0/0	0/0 (Base); 2/5 (Security 20-Feb Plus)		Feb-50	Feb-50
High availability	Not supported; stateless Active/Standby	Not supported; Active/Active and Active/Standby	Active/Active and Active/Standby	Active/Active and Active/Standby	Active/Active and Active/Standby
Expansion slot	1, SSC	1, SSM	1, SSM	1, SSM	0
User-accessible flash slot	0	1	1	1	1
USB 2.0 ports	3 (1 on front, 2 on rear)	2	2	2	2
Serial ports	1 RJ-45 console	2 RJ-45, console and auxiliary	2 RJ-45, console and auxiliary	2 RJ-45, console and auxiliary	2 RJ-45, console and auxiliary

Feature	Cisco ASA 5505	Cisco ASA 5510	Cisco ASA 5520	Cisco ASA 5540	Cisco ASA 5550
Rack-mountable	Yes, with rack mount kit Yes (available in the future)		Yes	Yes	Yes
Wall-mountable	Yes, with wall mount kit No (available in the future)		No	No	No
Security lock slot (for physical security)	1	0	0	0	0
Memory	256 MB	256 MB	512 MB	1024 MB	4096 MB
Minimum system flash	64 MB	64 MB	64 MB	64 MB	64 MB
System bus	Multibus architecture	Multibus architecture	Multibus architecture	Multibus architecture	Multibus architecture
Operating Temperature	32 to 104°F (0 to 40°C)	32 to 104°F (0 to 40°C)			
Relative humidity	5 to 95 percent noncondensing	5 to 95 percent noncondensing			
Altitude	0 to 9840 ft. (3000 m)	0 to 9840 ft. (3000 m)			
Shock	1.14 m/sec. (45 in./sec.) 1/2 sine input	1.14 m/sec. (45 in./sec.) 1/2 sine input			
Vibration	0.41 Grms2 (3 to 500 Hz) random input	0.41 Grms2 (3 to 500 Hz) random input			
Acoustic noise	0 dBA max	60 dBA max			
Nonoperating Temperature	-13 to 158°F (-25 to 70°C)	-13 to 158°F (-25 to 70°C)			
Relative humidity	5 to 95 percent noncondensing	5 to 95 percent noncondensing			
Altitude	0 to 15,000 ft (4570 m)	0 to 15,000 ft (4570 m)			
Shock	30 G	30 G			
Vibration	0.41 Grms2 (3 to 500 Hz) random input	0.41 Grms2 (3 to 500 Hz) random input			
Form factor	Desktop	1 RU, 19-in. rack-mountable			
Dimensions (H x W x D)	1.75 x 7.89 x 6.87 in.	1.75 x 17.5 x 13.2 in.			
Weight (with power supply)	4.0 lb (1.8 kg)	20.0 lb (9.07 kg)			22.0 lb (10 kg)
Input (per power supply)					
Range line voltage	100 to 240 VAC	100 to 240 VAC			
Normal line voltage	100 to 240 VAC	100 to 240 VAC			
Current	1.8A	3A			
Frequency	50/60 Hz	47/63 Hz, single phase			
Output					
Steady state	20W	150W			
Maximum peak	96W	190W			
Maximum heat dissipation	72 BTU/hr.	648 BTU/hr.			
Regulatory and Standards Compliance					
Safety	UL 60950, CSA C22.2 No. 60950, EN 60950 IEC 60950, AS/NZS3260, TS001 60950, EN 60950 IEC 60950, AS/NZS60950				
Electromagnetic compatibility (EMC)	CE marking, FCC Part 15 Class B, AS/NZS 3548 Class B, VCCI Class B, EN55022 Class B, CISPR22 Class B, EN61000-3-2, EN61000-3-3				
Industry certifications	In process: ICSA Firewall, ICSA IPsec, Common Criteria EAL4	ICSA Firewall, ICSA IPsec, ICSA Gateway Anti-Virus (when paired with CSC-SSM-10 or CSC-SSM-20), FIPS 140-2 Level 2, NEBS Level 3 In process: Common Criteria EAL4+			In process: ICSA Firewall, ICSA IPsec, Common

Selected Part Numbers and Ordering Information¹

Cisco ASA 5510 Series Platform License

ASA5510-SEC-PL ASA 5510 Security Plus License w/ A/S HA, more VLANs + conns

ASA5510-SEC-PL= ASA 5510 Security Plus License w/ A/S HA, more VLANs + conns

Cisco ASA 5500 Series Business Edition Bundles

ASA5510-BUN-K9 ASA 5510 Appliance with SW, 3FE, 3DES/AES

ASA5510-CSC10-K9 ASA 5510 Appl w/ CSC10, SW, 50 usr AV/Spy, 1 YR Subscript

ASA5510-SEC-BUN-K9 ASA 5510 Security Plus Appliance with SW, HA, 5FE, 3DES/AES

Cisco ASA 5500 Series Firewall Edition Bundles

ASA5510-BUN-K9 ASA 5510 Appliance with SW, 3FE, 3DES/AES

ASA5510-DC-K8	ASA 5510 Appliance with DC power, SW, 3FE, DES
ASA5510-K8	ASA 5510 Appliance with SW, 3FE, DES
ASA5510-SEC-BUN-K9	ASA 5510 Security Plus Appliance with SW, HA, 5FE, 3DES/AES
ASA5520-BUN-K9	ASA 5520 Appliance with SW, HA, 4GE+1FE, 3DES/AES
ASA5520-DC-K8	ASA 5520 Appliance with DC power, SW, HA, 4GE+1FE, DES
ASA5520-K8	ASA 5520 Appliance with SW, HA, 4GE+1FE, DES
ASA5540-BUN-K9	ASA 5540 Appliance with SW, HA, 4GE+1FE, 3DES/AES
ASA5540-DC-K8	ASA 5540 Appliance with DC power, SW, HA, 4GE+1FE, 3DES/AES
ASA5540-K8	ASA 5540 Appliance with SW, HA, 4GE+1FE, DES
ASA5550-BUN-K9	ASA 5550 Appliance with SW, HA, 8GE+1FE, 3DES/AES
ASA5550-DC-K8	ASA 5550 Appliance with DC power, SW, HA, 8GE+1FE, DES
ASA5550-K8	ASA 5550 Appliance with SW, HA, 8GE+1FE, DES

Cisco ASA 5500 Series Content Security Edition Bundles

ASA5510-CSC10-K9	ASA 5510 Appl w/ CSC10, SW, 50 Usr AV/Spy, 1 YR Subscript
ASA5510-CSC20-K9	ASA 5510 Appl w/ CSC20, SW, 500 Usr AV/Spy, 1 YR Subscript
ASA5520-CSC10-K9	ASA 5520 Appl w/ CSC10, SW, 50 Usr AV/Spy, 1 YR Subscript
ASA5520-CSC20-K9	ASA 5520 Appl w/ CSC20, SW, 500 Usr AV/Spy, 1 YR Subscript

Cisco ASA 5500 Series IPS Edition Bundles

ASA5510-AIP10-DCK9	ASA 5510 Appl. w/ AIP10, DC Pwr, SW, 3 FE, 3DES/AES
ASA5510-AIP10-K8	ASA 5510 Appliance with AIP-SSM-10, SW, 3FE, DES
ASA5510-AIP10-K9	ASA 5510 Appliance with AIP-SSM-10, SW, 3FE, 3DES/AES
ASA5520-AIP10-K8	ASA 5520 Appliance w/ AIP-SSM-10, SW, HA, 4GE+1FE, DES
ASA5520-AIP10-K9	ASA 5520 Appliance w/ AIP-SSM-10, SW, HA, 4GE+1FE, 3DES/AES
ASA5520-AIP20-K8	ASA 5520 Appliance w/ AIP-SSM-20, SW, HA, 4GE+1FE, DES
ASA5520-AIP20-K9	ASA 5520 Appliance w/ AIP-SSM-20, SW, HA, 4GE+1FE, 3DES/AES
ASA5540-AIP20-K8	ASA 5540 Appliance w/ AIP-SSM-20, SW, HA, 4GE+1FE, DES
ASA5540-AIP20-K9	ASA 5540 Appliance w/ AIP-SSM-20, SW, HA, 4GE+1FE, 3DES/AES

Cisco ASA 5500 Series VPN Edition Bundles

ASA5505-SSL10-K9	ASA 5505 VPN Edition w/ 10 concurrent SSL VPN users
ASA5505-SSL25-K9	ASA 5505 VPN Edition w/ 25 concurrent SSL VPN users
ASA5510-SSL100-K9	ASA 5510 VPN Edition w/ 100 SSL User License, 3DES/AES
ASA5510-SSL250-K9	ASA 5510 VPN Edition w/ 250 SSL User License, 3DES/AES
ASA5510-SSL50-K9	ASA 5510 VPN Edition w/ 50 SSL User License, 3DES/AES
ASA5520-SSL500-K9	ASA 5520 VPN Edition w/ 500 SSL User License, HA, 3DES/AES
ASA5540-SSL1000-K9	ASA 5540 VPN Edition w/ 1000 SSL User License, HA, 3DES/AES
ASA5540-SSL2500-K9	ASA 5540 VPN Edition w/ 2500 SSL User License, HA, 3DES/AES
ASA5550-SSL2500-K9	ASA 5550 VPN Edition w/ 2500 SSL User License, HA, 3DES/AES
ASA5550-SSL5000-K9	ASA 5550 VPN Edition w/ 5000 SSL User License, HA, 3DES/AES
ASA5500-SSL-10	ASA 5500 10 SSL VPN User License
ASA5500-SSL-25	ASA 5500 SSL VPN 25 User License
ASA5500-SSL-25=	ASA 5500 SSL VPN 25 User License
ASA5500-SSL-250	ASA 5500 SSL VPN 250 User License
ASA5500-SSL-250=	ASA 5500 SSL VPN 250 User License
ASA5500-SSL-2500	ASA 5500 SSL VPN 2500 Peer License
ASA5500-SSL-2500=	ASA 5500 SSL VPN 2500 Peer License
ASA5500-SSL-50	ASA 5500 SSL VPN 50 User License
ASA5500-SSL-50=	ASA 5500 SSL VPN 50 User License
ASA5500-SSL-500	ASA 5500 SSL VPN 500 Peer License
ASA5500-SSL-500=	ASA 5500 SSL VPN 500 User License
ASA5500-SSL-5000=	ASA 5500 SSL VPN 5000 Peer License
ASA5500-SSL-750	ASA 5500 SSL VPN 750 User License
ASA5500-SSL-750=	ASA 5500 SSL VPN 750 User License
ASA5500-SSL-1000=	ASA 5500 SSL VPN 1000 User License

Cisco ASA 5500 Series Accessories

ASA-180W-PWR-AC=	ASA 180W AC Power Supply
ASA-180W-PWR-DC=	ASA 180W DC Power Supply
ASA5500-CF-256MB=	ASA 5500 Series Compact Flash, 256MB
ASA5500-CF-512MB=	ASA 5500 Series Compact Flash, 512MB
ASA5500-HW=	ASA 5500 Hardware Accessory Kit (Rack Mounts, Cables)
ASA5505-PWR-AC	ASA 5505 spare AC power supply adapter

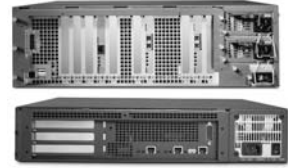
1. This is only a small subset of all parts available via URL listed under "For More Information". Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco ASA 5500 Series Adaptive Security Appliance Web site:
<http://www.cisco.com/go/asa>

Cisco PIX Security Appliance Series

The market-leading Cisco PIX Security Appliance Series delivers robust user and application policy enforcement, multi-vector attack protection, and secure connectivity services in cost-effective, easy-to-deploy solutions. Ranging from compact, “plug-and-play” desktop appliances for small and home offices to modular gigabit appliances with superior investment protection for enterprise and service-provider environments, Cisco PIX Security Appliances provide robust security, performance, and reliability for network environments of all sizes.



When to Sell

Sell This Product

PIX 501

PIX 506E

PIX 515E

PIX 525

PIX 535

When a Customer Needs These Features

- Small Office / Home Office desktop integrated security appliance
- Up to 60 Mbps of firewall throughput
- Up to 3 Mbps of 3DES and 3.4 Mbps of AES-256 IPsec VPN throughput¹
- Hardware VPN client (Easy VPN Remote)
- VPN concentrator services (Easy VPN Server) for up to 10 remote users
- Integrated four port 10/100 Mbps switch
- Remote Office / Branch Office desktop integrated security appliance
- Up to 100 Mbps of firewall throughput
- Up to 15 Mbps of 3DES and 25 Mbps of AES-256 IPsec VPN throughput¹
- Hardware VPN client (Easy VPN Remote)
- VPN concentrator services (Easy VPN Server) for up to 25 remote users
- Maximum of two 10BASE-T Ethernet interfaces
- VLAN trunking (802.1q tag-based) and OSPF dynamic routing support
- Small-to-Medium Business (SMB) integrated security appliance
- Up to 190 Mbps of firewall throughput¹
- Up to 130 Mbps of 3DES/AES-256 VPN throughput¹ using hardware acceleration (integrated in select models, optional for others)
- VPN concentrator services (Easy VPN Server) for up to 2,000 remote users
- Up to six 10/100 FE interfaces
- VLAN trunking (802.1q tag-based) and OSPF dynamic routing support
- Security contexts (virtual firewall services) support
- Active/Active and Active/Standby firewall stateful failover support
- Active/standby IPsec VPN failover support
- Enterprise-class integrated security appliance
- Up to 330 Mbps of firewall throughput¹
- Up to 145 Mbps of 3DES and 135 Mbps of AES-256 VPN throughput¹ using hardware acceleration (integrated in select models, optional for others)
- VPN concentrator services (Easy VPN Server) for up to 2,000 remote users
- Gigabit Ethernet support; Up to eight 10/100 FE or three Gigabit Ethernet interfaces
- VLAN trunking (802.1q tag-based) and OSPF dynamic routing support
- Security contexts (virtual firewall services) support
- Active/Active and Active/Standby firewall stateful failover support
- Active/standby IPsec VPN failover support
- Carrier class large enterprise and service provider firewall appliance
- Up to 1.7 Gbps of firewall throughput¹
- Up to 425 Mbps of 3DES/AES-256 VPN throughput using hardware acceleration (integrated in select models, optional for others)
- VPN concentrator services (Easy VPN Server) for up to 2,000 remote users
- Gigabit Ethernet throughput; Up to ten 10/100 FE or nine Gigabit Ethernet interfaces
- VLAN trunking (802.1q tag-based) and OSPF dynamic routing support
- Security contexts (virtual firewall services) support
- Active/Active and Active/Standby firewall stateful failover support
- Active/standby IPsec VPN failover support
- Redundant, hot-swappable power supplies

1. At 1400-byte packets

Key Features

- Advanced Firewall Services—Deep inspection firewall services such as HTTP, FTP, and ESMTP; Instant messaging, peer-to-peer, and tunneling application blocking; Cisco Modular Policy Framework with flow-based security policies; Virtual firewall services; Layer 2 transparent firewall; 3G Mobile Wireless security services;
- Robust IPSEC VPN Services—VPN client security posture enforcement; Automatic VPN client software updating; OSPF dynamic routing over VPN tunnels
- High Availability Services—Award-winning Active/Standby or more advanced Active/Active failover with asymmetric routing support; Remote-access and site-to-site VPN stateful failover; Zero-downtime software upgrades
- Intelligent Network Services—PIM multicast routing; Quality of service (QoS); IPv6 networking
- Flexible Management Solutions—SSHv2 and SNMPv2c; Configuration rollback; Usability enhancements; Web-based Adaptive Security Device Manager (ASDM)

Competitive Products

- Check Point Software: FireWall-1 / VPN-1 running on Nokia IP-Series Security Appliances
- SonicWALL: SonicWALL Security Appliances
- WatchGuard Technologies: Firebox-series Security Appliances
- Juniper Networks: NetScreen Security Appliances

Specifications

Feature	PIX 501	PIX 506E	PIX 515E	PIX 525	PIX 535
Processor	133 MHz	300 MHz	433 MHz	600 MHz	1.0 GHz
RAM	16 MB	32 MB	64 or 128 MB	128 or 256 MB	512 MB or 1 GB
Flash Memory	8 MB	8 MB	16 MB	16 MB	16 MB
PCI Slots	None	None	2	3	9
Fixed Interfaces (Physical)	Four port 10/100 switch (inside), One 10Base-T Ethernet (outside)	Two 10Base-T Ethernet	Two 10/100 Fast Ethernet	Two 10/100 Fast Ethernet	Two 10/100 Fast Ethernet
Maximum Interfaces (Physical)	Four port 10/100 switch (inside), One 10Base-T Ethernet (outside)	Two 10Base-T Ethernet	Six 10/100 Fast Ethernet (FE)	Eight 10/100 FE or GE	Ten-10/100 FE or GE
Maximum Virtual Interfaces (VLAN)	0	2 (DMZ)	25	100	150
Supported Security Contexts	No	No	Yes, 2/5 ¹	Yes, 2/50 ¹	Yes, 2/50 ¹
VPN Accelerator Card+ (VAC+) Option	No	No	Yes, integrated in select models	Yes, integrated in select models	Yes, integrated in select models
High Availability Support	No	No	A/S, A/A ²	A/S, A/A	A/S, A/A
Size	Desktop	Desktop	1 RU	2 RU	3 RU

1. Licensed feature on UR, FO, and AA Platform Licenses, requires Cisco PIX Security Appliance Software Version 7.0(1) or higher
2. Requires Cisco PIX Security Appliance Software Version 7.0(1) or higher; A/A high availability requires one UR and one FO-AA unit (A/S = Active/Standby; A/A = Active/Active)

Selected Part Numbers and Ordering Information¹

Cisco PIX Security Appliance Bundles

PIX-535-UR-BUN	PIX 535 Unrestricted Bundle (Chassis, license, unrestricted software, two 10/100 ports, VPN Accelerator Card+)
PIX-535-R-BUN	PIX 535 Restricted Bundle (Chassis, license, restricted software, two 10/100 ports)
PIX-535-FO-BUN	PIX 535 Failover Bundle (Chassis, license, failover software, two 10/100 ports, VPN Accelerator Card+)
PIX-535-UR-GE-BUN	PIX 535-UR-GE Bundle (Chassis, unrestricted license, software, three GE, two FE, VPN Accelerator Card+, 2 AC)
PIX-535-FO-GE-BUN	PIX 535-FO-GE Bundle (Chassis, failover license, software, three GE, Two FE, VPN Accelerator Card+, 2 AC)
PIX-535-AA-GE-BUN	PIX 535 FO-AA Bundle (Chassis, active/active failover license, software, three GE, two FE, VPN Accelerator Card+, 2 AC)
PIX-525-UR-GE-BUN	PIX 525 Unrestricted GE Bundle (Chassis, license, unrestricted software, two GE ports, two 10/100 ports, VPN Acceleration Card+)
PIX-525-FO-GE-BUN	PIX 525 Failover GE Bundle (Chassis, license, failover software, two GE ports, two 10/100 ports, VPN Acceleration Card+)
PIX-525-UR-BUN	PIX 525 Unrestricted Bundle (Chassis, license, unrestricted software, two 10/100 ports, VPN Accelerator Card+)
PIX-525-R-BUN	PIX 525 Restricted Bundle (Chassis, license, restricted software, two 10/100 ports)
PIX-525-FO-BUN	PIX 525 Failover Bundle (Chassis, license, failover software, two 10/100 ports, VPN Accelerator Card+)

PIX-525-AA-GE-BUN	PIX 525 F0-AA Bundle (Chassis, active/active failover license, software, two GE, two FE, VPN Accelerator Card+)
PIX-515E-UR-FE-BUN	PIX 515E Unrestricted Bundle (Chassis, license, unrestricted software, six 10/100 ports, VPN Accelerator Card+)
PIX-515E-F0-FE-BUN	PIX 515E Failover Bundle (Chassis, license, failover software, six 10/100 ports, VPN Accelerator Card+)
PIX-515E-UR-BUN	PIX 515E Unrestricted Bundle (Chassis, license, unrestricted software, two 10/100 ports, VPN Accelerator Card+)
PIX-515E-R-BUN	PIX 515E Restricted Bundle (Chassis, license, restricted software, two 10/100 ports)
PIX-515E-F0-BUN	PIX 515E Failover Bundle (Chassis, license, failover software, two 10/100 ports, VPN Accelerator Card+)
PIX-515E-AA-FE-BUN	PIX 515E F0-AA Bundle (Chassis, active/active failover license, software, six FE, VPN Accelerator Card+)
PIX-515E-R-DMZ-BUN	PIX 515E DMZ Bundle (Chassis, license, restricted software, three 10/100 ports)
PIX515E-DMZ-CSA-K9	Cisco Security Starter Bundle with PIX 515E-R-DMZ system, CSA, VMS Basic Software
PIX-506E-BUN-K9	PIX 506E 3DES/AES Bundle (Chassis, license, software, 3DES/AES license, two 10-BaseT ports)2
PIX-501-BUN-K9	PIX 501 10 User/3DES/AES Bundle (Chassis, software, 10 user/3DES/AES license, 4 port 10/100 switch)
PIX-501-50-BUN-K9	PIX 501 50 User/3DES/AES Bundle (Chassis, software, 50 user/3DES/AES license, 4 port 10/100 switch)
PIX-501-UL-BUN-K9	PIX 501 Unlimited User/3DES/AES Bundle (Chassis, software, Unlimited Users 3DES/AES license, 4 port 10/100 switch)
Cisco PIX Security Appliance Interfaces and Cards	
PIX-1GE-66	PIX 66-MHz Single-port Gigabit Ethernet interface card (multimode fiber, SC connector)
PIX-4FE-66	PIX 66-MHz Four-port 10/100 Fast Ethernet interface card, RJ45
PIX-1FE	PIX Single-port 10/100 Fast Ethernet interface card
PIX-VPN-ACCEL	PIX DES/3DES VPN Accelerator Card (VAC)
PIX-VPN-PLUS	PIX DES/3DES/AES VPN Accelerator Card+ (VAC+)

1. This is only a small subset of all parts available via URL listed under "For More Information". Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the PIX Security Appliance Web site: <http://www.cisco.com/go/pix>

Cisco Intrusion Protection System (IPS) Network Sensors



The Cisco IPS 4200 Series sensors are a key component of the Cisco Self Defending Network. In busy network environments, business continuity relies on efficient network intrusion security to stop malicious attacks, worms and viruses before they affect your data and resources. The Cisco IPS sensors, utilizing IPS v6.0 software, accurately detect, classify, and stop malicious traffic through the use of inline prevention functionality.

Cisco's family of purpose-built IPS devices includes the Cisco IPS 4200 Series appliances, the ASA5500 series AIP module, and the Cisco Catalyst 6500 Series switch module. The intrusion detection system (IDS) module for Cisco access routers provides traditional detection with enhanced capabilities. Additionally, a focused set of intrusion capabilities is available as a Cisco IOS® Software solution for Cisco routers. For device configuration and event viewing, Cisco solutions include the IPS Device Manager for single device management and event monitoring, Cisco Security Manager for cross-platform policy and security management., and Cisco Security MARS for multi-vendor threat correlation.

When combined, these elements provide a comprehensive inline prevention solution, giving you the confidence to detect and stop the broadest range of malicious traffic before it affects business continuity.

The current Cisco IDS/IPS sensing portfolio includes IDS 4215, IPS 4240, IPS 4255, and IPS 4260. Additional Cisco IDS integrated solutions include Intrusion Detection System Module (IDSM-2) for the Catalyst 6500 switch and the IDS Network Module (NM-CIDS) for Cisco Access Routers.

When to Sell

Sell This Product When a Customer Needs These Features

Cisco IPS Network Sensors

- A distributed intrusion prevention system capable of directing and forwarding alarms between local, regional, and headquarters-based monitoring consoles
- A scalable architecture to allow the deployment of large numbers of sensors in order to provide comprehensive security coverage in large network environments
- Cisco network IPS appliances (Cisco IPS 4200 Series Appliances) that can be deployed throughout the network with the ability to monitor multiple subnets using a single appliance through the support of multiple interfaces
- The Cisco IDS Switch Module (IDSM2) enables customers to perform both security monitoring and switching functions within the same chassis
- The Cisco IDS Network Module enables full features intrusion protection integrated into the Cisco Access Routers
- Broad performance range from 45 Mbps up to multiple Gb solutions
- Flexible IDS signature customization options
- Broad range of management and monitoring options to fit any environment.
- A robust, 24 hour x 7 day-a-week monitoring and response system with the latest attack detection capabilities

Key Features

- **Multivector threat identification**—Protects your network from policy violations, vulnerability exploitations, and anomalous activity through the detailed inspection of Layers 2-7 traffic.
- **Proactive Posture Adaptation**—adapts to stay ahead of the security landscape, mitigating threats by both known and unknown attacks with extensive behavioral analysis, anomaly detection, policy adjustments, and rapid threat response techniques
- **Accurate prevention technologies**—Provides the confidence to enable prevention actions on a broader range of threats without the risk of dropping legitimate traffic. The Cisco innovative Risk Rating and Meta-Event Generator (MEG) accurately identify attacks, allowing for rapid mitigation activity.
- **Unique network collaboration**—Provides enhanced scalability and resiliency through network collaboration, including efficient traffic capture techniques, load-balancing capabilities, and visibility into encrypted traffic.

Competitive Products

- Internet Security Systems (ISS): Proventia
- Symantec: Recourse Manhunt & ManTrap/NetProwler
- Enterasys: Dragon IDS
- Intrusion.com: SecureNet
- Juniper: OneSecure IDP
- Snort: IDS
- Tipping Point—Unity One
- NAI: Intrushield
- Network Flight Recorder, Inc.: NFR

Specifications

Feature	IDS-4215	IPS-4240	IPS-4255	IDS-4260	IDS Module (IDSM-2)	IDS Network Module (NM-CIDS)
Performance	65 Mbps	250 Mbps	500 Mbps	1 Gbps	500 Mbps	45Mbps
Monitoring Interface	Autosensing 10/100 Base-T Ethernet	Four 10/100/1000BASE-T X	Four 10/100/1000BASE-TX	Autosensing 10/100/1000BASE-T X	PCI	Internal 10-/100-Mbps Ethernet and external 10-100-Mbps Ethernet
Optional Interface	Four 10/100 Base-Tx (4FE) sniffing interfaces (allowing a total of 5 sniffing interfaces)			4x10/100/1000BASE-TX 2x1000SX		
Command & Control Interface	10/100 Base-TX	10/100 Base-TX	10/100 Base-TX	10/100 Base-TX	PCI	10/1010/100Base T

Selected Part Numbers and Ordering Information¹

Cisco IDS/IPS Network Appliance Sensor

IDS-4215-K9	4215 Cisco IDS 4215 Sensor (chassis, software, SSH, 2 onboard 10/100BASE-TX with RJ-45 connector) 65-Mbps
IDS-4215-4FE-K9	Cisco IDS 4215 Sensor (chassis, software, SSH, 2 onboard 10/100BASE-TX with RJ-45 connector plus 4FE interface card), 65-Mbps
IPS-4240-K9	Cisco IPS 4240 Sensor (chassis, software, SSH, four 10/100/1000BASE-T with RJ-45 connector) 250 Mbps
IPS-4255-K9	Cisco IPS 4255 Sensor (chassis, software, SSH, four 10/100/1000BASE-T with RJ-45 connector) 500 Mbps
IDS-4260-K9	Cisco IDS 4260 Sensor (chassis, software, SSH, hardware accelerator with dual 1000BASE-SX and MTRJ connectors) 1 Gbps

Cisco IDS Network Module for Cisco Access Routers

WS-SVC-IDS2-BUN-K9	Cisco IDS Network Module for 26xx, 3660 and 37xx routers as well as the ISR router series, 45Mbps
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1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).



Note **Export Considerations:** Subject to export controls. Please refer to the export compliance web site at <http://www.cisco.com/www/export/crypto> for guidance. For specific export questions, please contact export@cisco.com.

For More Information

See the Cisco IPS Web site: <http://www.cisco.com/go/ips>

Cisco Incident Control System (ICS)

The Cisco Incident Control System fills an important void in network defense by focusing on newly discovered outbreaks, with response times in minutes rather than hours and the ability to extend the defense against these new threats across a wide variety of products in multiple network topologies. The result is that devices across the entire network infrastructure are able to respond and adapt to the emerging threat in advance of its arrival, in a coordinated manner. This proactive network-wide approach increases the likelihood that the outbreak will be denied access or, if it finds its way in, will be rapidly contained.

When to Sell

Sell This Product

Cisco Incident Control System (ICS)

When a Customer Needs These Features

- For customers who have invested or plan to invest in Cisco routers or switches especially those that have any Cisco IPS-capable products like IPS-4200 Series appliances, IDS/IPS blades for Catalyst 6500, ASA-5500 Series appliances with AIP-SSM cards, Integrated Services Routers (ISRs), or Any routers running Cisco IOS Security images
- When customers want to maximize their current investment by allowing these devices to serve double-duty as outbreak mitigation points

Key Features

- Protection against newly discovered threats in the wild
- Industry leading response time to new threats
- Ability to mitigate across a wide variety of points in the network
- Leverage existing—or maximize new—investment in Cisco security and networking products such as any IPS capable devices including routers and switches
- Coarse-grained ACL-type defense for wide variety of Cisco security and networking products within typically 15 minutes of an outbreak's discovery; Fine-grained high fidelity signature defense for all IPS-capable Cisco products within typically 90 minutes of an outbreak's discovery
- Full control over how and when mitigation measures are deployed to all devices with either automatic deployment or notification, inspection, edit capability and manual deployment

Specifications

Feature	Cisco Incident Control (ICS)
Operating Systems	Windows 2000 Server or Advanced Server with SP3; Windows 2003 Server Standard Edition or Enterprise Edition (English); IIS: Windows 2000 IIS 5.0 or Windows 2003 IIS 6.0; Apache: 2.0
Web Server (for Console Access)	Internet Explorer version 5.5 SP2
Hardware	866-MHz Intel Pentium III processor or equivalent; 512 MB of RAM; 350 MB of disk space

Selected Part Numbers and Ordering Information¹

Cisco Incident Control System (ICS)

ICS-EVAL-K9	Cisco ICS 60-Day Evaluation Kit: includes the 4 parts numbers below
ICS-SVR-V10-K9	Cisco Incident Control Server Software v1.0
ICS-LIC-IPS-HE-1	Cisco ICS License: ACL plus IPS Service for high-end devices, Qty 1
ICS-LIC-IPS-LE-5	Cisco ICS License: ACL plus IPS Service for low-end devices, Qty 5
ICS-LIC-ACL-25	Cisco ICS License: ACL Service, Qty 25

1. This is only a small subset of all parts available via URL listed under "For More Information". Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco Incident Control System Web site: <http://www.cisco.com/go/ics>

Cisco Security Monitoring and Response System (CS-MARS)

The CS-MARS is a family of high performance, scalable appliances for threat management, monitoring and mitigation that enable customers to make more effective use of network and security devices by combining traditional security event monitoring with network intelligence, context correlation, vector analysis, anomaly detection, hotspot identification and automated mitigation capabilities. By combining network intelligence, an understanding of network topology and automated mitigation capabilities, CS-MARS help companies to accurately identify and eliminate network attacks while maintaining network compliance.

When to Sell

Sell This Product

CS-MARS 20R

CS-MARS 20

CS-MARS 50

CS-MARS 100e

CS-MARS 100

CS-MARS 100R

When a Customer Needs These Features

- Small Office, Test lab, Departments, Small Retail, DMZ, CPE
- Low end device to plot network topology and gain insight into security operations
- Up to 50 events per second
- Up to 1,500 Netflow flows per second
- Upgradeable to CS-MARS 20
- Small Office, Test lab, Departments, Small Retail, DMZ, CPE
- Low end device to plot network topology and gain insight of their network topology
- Up to 500 events per second
- Up to 15,000 Netflow flows per second
- 120 Gig Storage
- Small to Medium Office, remote branch office, retail, small business, DMZ, CPE
- Consolidate Firewall and IDS with network events and network flows in small network
- Up to 1,000 events per second
- Up to 30,000 Netflow flows per second
- 240 Gig Storage
- Medium Regional Office, large remote branch office, mid-tier company, CPE
- Up to 3,000 events per second
- Up to 75,000 Netflow flows per second
- 750 Gig Storage
- Large regional, large Branch Office, mid tier company, CPE
- Up to 5,000 events per second
- Up to 150,000 Netflow flows per second
- 750 Gig storage
- Gen2 Appliance for medium to large offices, CPE
- Up to 4,500 events per second
- Up to 75,000 Netflow flows per second
- 1,500 Gig RAID storage

Sell This Product

CS-MARS 110

CS-MARS 200

CS-MARS 210

CS-MARS GC

CS-MARS GCm

CS-MARS GC2

When a Customer Needs These Features

- Gen2 Appliance for Large office, CPE
- Up to 7,500 events per second
- Up to 150,000 Netflow flows per second
- 1,500 Gig RAID storage
- Large Enterprise, Central Office, large Firewalls (FWSM)
- Up to 10,000 events per second
- Up to 300,000 Netflow flows per second
- 1,000 RAID storage
- Gen2 Appliance for Large Enterprise, Central Office, large Firewalls (FWSM)
- Up to 15,000 events per second
- Up to 300,000 Netflow flows per second
- 2,000 Gig RAID storage
- Large Distributed Environment (large Enterprise or Service Provider Companies), MSSP
- Preserve WAN
- Autonomous business units rolling activity to Global team
- State and Federal government consolidating activities from various agencies
- Consolidates reports from distributed "Local" controller
- Small distributed customer environment
- Preserve WAN
- Consolidates reports from distributed "Local" controller
- Up to (5) MARS 20 or MARS 50 connection
- GEN2 Appliance - Large Distributed Environment (large Enterprise or Service Provider Companies), MSSP
- Preserve WAN
- Autonomous business units rolling activity to Global team
- State and Federal government consolidating activities from various agencies; Consolidates reports from distributed "Local" controller

Key Features

- **Centralized Monitoring**—Provides detailed information about the network infrastructure including routers, switches, firewalls, VPN concentrators, and endpoint devices through a variety of device logs, alerts, and Netflow communication; Process threat information down to the IP and MAC address, nearest attached switch port, as well as providing the attack path through the network
- **Central Event Repository**—Serves as a central repository for all events generated by Security devices, such as firewalls, authentication servers, Network IDS/IPS, and proxy servers; All collected events are cross-correlated in real-time.
- **Data reduction**—Can reduce millions of security events to a handful of actual reported network incidents
- **Timely attack mitigation**—Performance and the built-in expertise to recognize and recommend mitigation for attacks before they can bring down an entire network
- **End-to-end network awareness**—Integrates NAT/PAT and MAC address information to identify attackers, targets, and network hot spots in graphical form for quick action; Uses the full configurations of all types of network devices and end systems; Pre and Post NAT addresses can be displayed
- **Integrated Vulnerability Assessment**—Determines whether a possible network attack is genuine or a false positive reducing the number of alarms and the time needed to take action
- **Reduced Deployment and Operation Cost**—Discovers then maps the topology and becomes operational in a very short period of time
- **802.1x Support**—Enables a host connecting to the switch port to be authenticated before obtaining an IP address
- **Cisco Distributed Threat Mitigation (DTM) and CICS Support**—A collaborative solution that proactively identifies the most active signatures from the IPS appliance deployed in the network and, based on the most active threats detected on the network; Distributes the same IPS signatures to the user defined IOS IPS devices.

- Case Management—Escalate an incident by creating a case and forward the case with notes to other users and security administrators; Annotate the case by including incidents and queries performed; User's audit and conform to the customer's policy regarding regulatory compliance; Addresses the lifecycle of security event management
- Netflow Analysis—Cisco IOS Netflow data collected and analyzed by the CS-MARS, as high as 300K flows per second
- Real-time investigation and compliance reporting

Competitive Products

- Internet Security Systems (ISS) SiteProtector
- Checkpoint Eventia
- Network Intelligence
- ArcSight
- Intellitactics
- Sensage
- Guardednet
- Q1 Labs

Specifications

Feature	CS-MARS-20R-K9	CS-MARS-20-K9	CS-MARS-50-K9	CS-MARS-100E-K9	CS-MARS-100-K9	CS-MARS-110R-K9	CS-MARS-110-K9
Storage	120 GB (non-RAID)	120 GB (non-RAID)	240 GB RAID 0	750 GB RAID 10 Hot-swappable	750 GB RAID 10 Hot-swappable	1,500 GB RAID 10 Hot-swappable	101,500 GB RAID 10 hot-swappable
Form Factor	1RU x16	1RU x16	1RU x25.6	3RU x25.6	3RU x25.6	2 RU x 27 3/4" (D); 3.44" (H); 19" (W) in.	2 RU x 27 3/4" (D); 3.44" (H); 19" (W) in.
Power Supply	300W, 120/240V autoswitch	300W, 120/240V autoswitch	300W, 120/240V autoswitch	500W dual-redundant, 120/240V autoswitch	500W dual-redundant, 120/240V autoswitch	2x 750 W dual-redundant, 120/240V autoswitch	2x 750 W dual-redundant, 120/240V autoswitch
Performance							
Events/sec.	50	500	1,000	3,000	5,000	4,500	7,500
NetFlows/sec.	1500	15,000	30,000	75,000	150,000	75,000	150,000

Feature	CS-MARS-200-K9	CS-MARS-210-K9	CS-MARS-GCm-K9	CS-MARS-GC-K9	CS-MARS-GC2-K9
Storage	1 TB RAID 10 Hot-swappable	2,000 TB RAID 10 hot-swappable	1 TB RAID 10 Hot-swappable	1 TB RAID 10 Hot-swappable	2 TB RAID 10 hot-swappable
Form Factor	4RU x25.6	2 RU x 27 3/4" (D); 3.44" (H); 19" (W) in.	4RU x25.6	4RU x25.6	2 RU x 27 3/4" (D); 3.44" (H); 19" (W) in.
Power Supply	500W dual-redundant, 120/240V autoswitch	2x 750 W dual-redundant, 120/240V autoswitch	500W Dual Redundant, 120/240V autoswitch	500W Dual Redundant, 120/240V autoswitch	2x 750 W dual-redundant, 120/240V autoswitch
Performance					
Events/sec.	10,000	15,000			
NetFlows/sec.	300,000	300,000			
Supported Models	From MARS 20/50 Only5				
Maximum Connections	Any		Not Restricted		Not Restricted

Selected Part Numbers and Ordering Information¹

Cisco Security Monitoring and Response System (CS-MARS)

CS-MARS-20R-K9	Cisco Security MARS 20R for up to 50 events/second and 1500 NetFlows/second
CS-MARS-20-K9	Cisco Security MARS 20 for up to 500 events/second and 15,000 NetFlows/second
CS-MARS-50-K9	Cisco Security MARS 50 for up to 1,000 events/second and 30,000 NetFlows/second
CS-MARS-100E-K9	Cisco Security MARS 100e for up to 3000 events/second and 75,000 NetFlows/second
CS-MARS-100-K9	Cisco Security MARS 100 for up to 5000 events/second and 150,000 NetFlows/second
CS-MARS-200-K9	Cisco Security MARS 200 for up to 10,000 events/second and 300,000 NetFlows/second
CS-MARS-110R-K9	Cisco Security MARS 110R for up to 4,500 events/second and 75,000 NetFlows/second
CS-MARS-110-K9	Cisco Security MARS 110 for up to 7,500 events/second and 150,000 NetFlows/second
CS-MARS-210-K9	Cisco Security MARS 210 for up to 15,000 events/second and 300,000 NetFlows/second
CS-MARS-GCm-K9	Cisco Security MARS GCm for distributed monitoring of up to 5 Local Controller models 20 or 50
CS-MARS-GC-K9	Cisco Security MARS GC for distributed monitoring of any number of all Local Controller models
CS-MARS-GC2-K9	Cisco Security MARS GC2 for distributed monitoring of any number of all Local Controller models

1. This is only a small subset of all parts available via URL listed under "For More Information". Some parts have restricted access or are not available through distribution channels.

For More Information

See the CS-MARS Web site:

www.cisco.com/en/US/partner/products/ps6241/tsd_products_support_series_home.html

Cisco Security Manager

Cisco Security (CS) Manager is a highly scalable, comprehensive solution for provisioning and policy administration of Cisco firewalls, VPN and IPS. This powerful, easy to use tool efficiently scales for managing fewer than 10 devices to very large networks consisting of thousands of devices. The graphical user interface increases the speed and accuracy of policy definitions and deployment. An integral component of the Cisco Security Management Suite, CS Manager collaborates with CS-MARS to provide a complete security management solution.

When to Sell

Sell This Product When a Customer Needs These Features

Cisco Security (CS) Manager

- Scalable network management centrally provision Cisco firewalls, VPN's and or IPS
- Multi-product, multi-technology security provisioning tool for a unified management system
- Configuration Wizards to reduce complexity
- Enhanced visibility through customized views: Device, Groups, Topology
- Advanced decision-support workflow

Key Features

- Single policy table for all devices—Cisco ASA 5500 Series adaptive security appliances, Cisco PIX security appliances, Cisco IPS 4200 Series sensors, Cisco Catalyst 6500 Series services modules, and Cisco router platforms running a Cisco IOS® Software security software image.
- Scale from managing a few products to thousands
- Provisioning Cisco firewalls, VPN's and IPS regardless of platform
- Flexible device grouping options allow devices to be managed based on type, location, business function or administration responsibility
- Flexible application views to support operational needs
- Intelligent analysis of policies for increased accuracy
- Automatic updates for IPS sensors
- Configuration roll-back

Specifications

Feature	Cisco Security (CS) Manager
Server Requirements	
System hardware	IBM PC-compatible with a 2-GHz or faster processor Color monitor with at least 1024 x 768 resolution and a video card capable of 16-bit colors DVD-ROM drive 100BASE-T (100 Mbps) or faster network connection; single interface only Keyboard and Mouse
File system	NTFS
Memory (RAM)	2 GB
System software ¹	Microsoft Windows 2003 Server—Enterprise Edition with SP1; Standard Edition with SP1 Microsoft Windows 2000—Advanced Server with SP4; Server with SP4; Professional with SP4
Browser	Microsoft Internet Explorer 6.0 (6.0.2600); or with SP1 (6.0.2800) Mozilla 1.7 or 1.7.5
Compression software	WinZip 9.0 or compatible
Hard drive space	20 GB
IP address ²	One static IP address
Component	Minimum Requirement
Client Requirements	
System hardware	IBM PC-compatible with a 1-GHz or faster processor Color monitor with video card set to 24-bit color depth Keyboard Mouse
Memory (RAM)	1 GB
Virtual memory/ swap space	512 MB
Hard drive space	10 GB

Feature	Cisco Security (CS) Manager
Operating system ¹	Microsoft Windows XP Professional with SP1 or higher Microsoft Windows 2003—Server Edition with SP1; Enterprise Edition with SP1 Microsoft Windows 2000—Advanced Server with SP4; Professional with SP4
Browser	Microsoft Internet Explorer 6.0 (6.0.2600); or with SP1 (6.0.2800) Mozilla 1.7 or 1.7.5
Java ³	Includes an embedded and completely isolated version of Java.

1. Supports only the U.S. English and Japanese versions of Windows. CS Manager does not support any other language version. Server only: Microsoft ODBC Driver Manager 3.510 or later is also required to work with Sybase database files.
2. If the server has more than one IP address, disable all but one address. The CS Manager installer displays a warning if it detects any dynamic IP addresses on the target server. Dynamic addresses are not supported.
3. Opening IPS Manager without the required version of Java results in CS Manager server displaying a message to install the required Java version. This Java version does not interfere with browser settings or with other Java-based applications.

Part Numbers and Ordering Information¹

Cisco Security Manager

CSMPR-LIC-50	CS Mgr Enterprise Pro - Incremental 50 Device License
CSMPR-LIC-100	CS Mgr Enterprise Pro - Incremental 100 Device License
CSMPR-LIC-500	CS Mgr Enterprise Pro - Incremental 500 Device License
CSMPR-LIC-1000	CS Mgr Enterprise Pro - Incremental 1000 Device License
CSMPR50-3.1-K9	CS Mgr 3.1 Enterprise Pro - 50 Device Base Lic Media Kit
CSMPR50-3.1-MR-K9	CS Mgr 3.1 Enterprise Pro - 50 Minor Upg Media Kit
CSMPR50-PAK2	CS Mgr Enterprise Pro 50 - RME/PerfMon License
CSMST-CSMPR-UPG-K9	CS Mgr Enterprise Std-25 To Pro-50 Upgrade
CSMST25-3.1-K9	CS Mgr 3.1 Enterprise Standard - 25 Device Limit Media Kit
CSMST25-3.1-MR-K9	CS Mgr 3.1 Enterprise Standard - 25 Minor Upg Media Kit
CSMST25-PAK2	CS Mgr Enterprise Standard 25 - RME/PerfMon License
CSMST5-3.1-K9	CS Mgr 3.1 Enterprise Standard - 5 Device Limit Media Kit
CSMST5-3.1-MR-K9	CS Mgr 3.1 Enterprise Standard - 5 Minor Upg Media Kit
CSMST5-PAK2	CS Mgr Enterprise Standard 5 - RME/PerfMon License
VMS-CSMPR-UPG-K9	VMS To CS Mgr Enterprise Pro-50 Upgrade Media Kit
VMS-CSMST5-UPG-K9	VMS To CS Mgr Enterprise Std-5 Upgrade Media Kit
VMS-CSMST25-UPG-K9	VMS To CS Mgr Enterprise Std-25 Upgrade Media Kit

For More Information

See the Cisco Security (CS) Manager Web site: www.cisco.com/go/csmanager

Cisco NAC Appliance

Cisco NAC Appliance is an easily deployed network admission control solution allowing network administrators to authenticate, authorize, evaluate, and remediate wired, wireless and remote users and their machines prior to permitting access to the network. It identifies whether machines are compliant with security policies and repairs vulnerabilities before network access is allowed. To enhance its ease-of-use, the NAC Appliance comes pre-installed with rule sets for operating system updates, antivirus software updates, and anti-spyware software from all major vendors, simplifying the task of determining which policies to enforce and how to enforce them.

Customers will need at least one Cisco NAC Appliance (Clean Access) Server, which serves as the gateway, and one Cisco NAC Appliance (Clean Access) Manager to manage the Server(s). The NAC Appliance Agent is an optional component for more stringent vulnerability assessment.

When to Sell

Sell This Product Cisco NAC Appliance

When a Customer Needs These Features

- Ideal for mid-sized and large enterprises that are looking for a client policy enforcement solution. It complements wireless deployments, remote access deployments, and other security products, such as Cisco Security Agent and CS-MARS. The NAC Appliance is the market's most widely-deployed NAC solution
- Available with the following license-based restrictions: 100-user, 250-user, 500-user and 1,500-user. Number of users is defined as online, concurrent users;
- Available either as a "standard" Manager, which can support up to 20 NAC Appliance Servers, or as a Manager "lite," which can support up to 3 NAC Appliance Servers

Key Features

- **Authentication Integration**—Supports roles-based access control by acting as an authentication proxy for most forms of authentication, natively integrating with Kerberos, LDAP, RADIUS, Active Directory, and S/Ident; Enables administrators to maintain multiple user profiles with varying degrees of access.
- **Vulnerability Assessment**—Supports scanning of all Windows-based operating systems, Mac OS, Linux machines, and non-PC networked devices such as Xbox, PlayStation 2, and personal digital assistants; Conducts network-based scans or can use custom-built scans as required; In a managed domain, it can also conduct scans of Windows registries without client software.
- **Device Quarantine**—Places noncompliant machines into quarantine, which prevents the spread of infection while maintaining access to remediation resources; Accomplished by using subnets as small as /30, or by using a quarantine VLAN.
- **Automatic Security Policy Updates**—Provides predefined policies for the most common network access criteria, including policies that check for critical operating system updates and common antivirus software virus definition updates; Eases the management cost on network administrators who can rely on the Clean Access system to constantly maintain updated policies.
- **Centralized Management**—The Web-based management console allows administrators to define the types of scans required for each role as well as the related remediation packages necessary for recovery; One management console can manage several servers.
- **Remediation and Repair**—Gives devices access to remediation servers during quarantine that can provide operating system patches and updates, virus definition files, or endpoint security solutions such as Cisco Security Agent. Administrators have the option of automatically installing these fixes using the Cisco NAC Appliance enforcement agent.
- **Supports Single Sign On (SSO)** with VPN clients, Microsoft Windows, and Wireless
- **Solves major customer pain points:** Identity-based access control; Guest Access; Managed and unmanaged assets.
- **Flexible deployment scenarios;** Supports Wireless, remote access (VPN), branch offices (WAN) and main campus (LAN) environments; Ability to deploy In-Band or Out-of-Band.
- **Auto-remediation for Windows**

Competitive Products

- Juniper Unified Access Control
- Symantec Network Access Control
- Microsoft Network Access Protection
- A slew of other vendors (Lockdown Networks, ConSentry, Vernier Networks)
- Bradford Campus Manager and NAC Director

Specifications

Features	Cisco NAC Appliance 3310	Cisco NAC Appliance 3350	Cisco NAC Appliance 3390
Product	Cisco Clean Access Server for 100, 250, and 500 users Cisco Clean Access Lite Manager	Cisco Clean Access Server for 1500, 2500 and 3500 users Cisco Clean Access Standard Manager	Cisco Clean Access Super Manager
Processor	Dual-core Intel Xeon 2.33-GHz	Dual-core Intel Xeon 3.0-GHz	2 x dual-core Intel Xeon 3.0-GHz
Memory	1 GB PC2-4200 (2 x 512 MB)	2 GB PC2-5300 (2 x 1 GB)	4 GB PC2-5300 (4 x 1 GB)
Memory bus clock	1333-MHz FSB	1333-MHz FSB	1333-MHz FSB
Controller	Embedded SATA RAID Controller	Smart Array E200i Controller	Smart Array E200i Controller
Hard disk	80-GB NPH SATA drive	2 x 72-GB SFF SAS RAID drives	4 x 72-GB SFF SAS RAID drives
Removable media	CD/DVD-ROM drive	CD/DVD-ROM drive	CD/DVD-ROM drive
Network Connectivity			
Ethernet network interface cards (NICs)	2 x Integrated Broadcom 10/100/1000 5708 NICs 2 x Intel e1000 Gigabit NICs (PCI-X)	2 x Integrated Broadcom 10/100/1000 5721 NICs 2 x Intel e1000 Gigabit NICs (PCI-X)	2 x Integrated Broadcom 10/100/1000 5721 NICs 2 x Intel e1000 Gigabit NICs (PCI-X)
10BASE-T cable support	Category (Cat) 3, 4, or 5 unshielded twisted pair (UTP) up to 328 ft (100 m)	Cat 3, 4, or 5 UTP up to 328 ft (100 m)	Cat 3, 4, or 5 UTP up to 328 ft (100 m)

Features	Cisco NAC Appliance 3310	Cisco NAC Appliance 3350	Cisco NAC Appliance 3390
10/100/1000BASE-TX cable support	Cat 5 UTP up to 328 ft (100 m)	Cat 5 UTP up to 328 ft (100 m)	Cat 5 UTP up to 328 ft (100 m)
Secure Sockets Layer (SSL) accelerator card	None	Cavium CN1120-NHB-E	Cavium CN1120-NHB-E
Interfaces			
Serial ports	1	1	1
USB 2.0 ports	4 (two front, two rear)	4 (one front, one internal, two rear)	4 (one front, one internal, two rear)
Keyboard port	1	1	1
Video port	1	1	1
Mouse port	1	1	1
External SCSI port	None	None	None
System Unit			
Form factor	Rack-mount 1 RU	Rack-mount 1 RU	Rack-mount 1 RU
Weight	35 lb (15.87 kg) fully configured	35 lb (15.87 kg) fully configured	35 lb (15.87 kg) fully configured
Dimensions	1.70 x 16.78 x 27.75 in. (4.32 x 42.62 x 70.49 cm)	1.70 x 16.78 x 27.75 in. (4.32 x 42.62 x 70.49 cm)	1.70 x 16.78 x 27.75 in. (4.32 x 42.62 x 70.49 cm)
Power supply	650W auto-switching, PFC	Dual 700W (redundant)	Dual 700W (redundant)
Cooling fans	6; non-hot plug, nonredundant	9; redundant	9; redundant
BTU rating	2910 Btus/hr (at 120 VAC); 2870 (at 240 VAC)	2910 Btus/hr (at 120 VAC); 2870 (at 240 VAC)	2910 Btus/hr (at 120 VAC); 2870 (at 240 VAC)

Selected Part Numbers and Ordering Information

NAC Appliance Server

NAC3310-100-K9	NAC Appliance 3310 Server -max 100 users
NAC3310-100FB-K9	NAC Appliance 3310 Server Failover Bundle -max 100 users
NAC3310-100FBUL	NAC Appliance 3310 FB License Upgrade -100 to 250 users
NAC3310-100UL	NAC Appliance 3310 License Upgrade -100 to 250 users
NAC3310-250-K9	NAC Appliance 3310 Server -max 250 users
NAC3310-250FB-K9	NAC Appliance 3310 Server Failover Bundle -max 250 users
NAC3310-250FBUL	NAC Appliance 3310 FB License Upgrade -250 to 500 users
NAC3310-250UL	NAC Appliance 3310 License Upgrade -250 to 500 users
NAC3310-500-K9	NAC Appliance 3310 Server -max 500 users
NAC3310-500FB-K9	NAC Appliance 3310 Server Failover Bundle -max 500 users
NAC3350-1500-K9	NAC Appliance 3350 Server -max 1500 users
NAC3350-1500FB-K9	NAC Appliance 3350 Server Failover Bundle -max 1500 users
NAC3350-1500FBUL	NAC Appliance 3350 FB License Upgrade -1500 to 2500 users
NAC3350-1500UL	NAC Appliance 3350 License Upgrade -1500 to 2500 users
NAC3350-2500-K9	NAC Appliance 3350 Server -max 2500 users
NAC3350-2500FB-K9	NAC Appliance 3350 Server Failover Bundle -max 2500 users
NAC3350-2500FBUL	NAC Appliance 3350 FB License Upgrade -2500 to 3500 users
NAC3350-2500UL	NAC Appliance 3350 License Upgrade -2500 to 3500 users
NAC3350-3500-K9	NAC Appliance 3350 Server -max 3500 users
NAC3350-3500FB-K9	NAC Appliance 3350 Server Failover Bundle -max 3500 users

NAC Appliance Manager

NACMGR-3-K9	NAC Appliance 3310 Manager -max 3 Servers
NACMGR-3FB-K9	NAC Appliance 3310 Manager Failover Bundle -max 3 Servers
NACMGR-20-K9	NAC Appliance 3350 Manager -max 20 Servers
NACMGR-20FB-K9	NAC Appliance 3350 Manager Failover Bundle -max 20 Servers
NACMGR-40-K9	NAC Appliance 3390 Manager -max 40 Servers
NACMGR-40FB-K9	NAC Appliance 3390 Manager Failover Bundle -max 40 Servers

For More Information

See the Cisco NAC Web site: <http://www.cisco.com/go/NAC>

Cisco Security Agent

The next-generation Cisco Security Agent network security software provides threat protection for server and desktop computing systems, also known as “endpoints.” The Cisco Security Agent goes beyond conventional host and desktop security solutions by identifying and preventing malicious behavior that threaten enterprise networks and applications before it can occur. It aggregates and extends multiple endpoint security functions by providing host intrusion prevention, anti-spyware, distributed firewall, malicious mobile code protection, operating system integrity assurance, and audit log consolidation all within a single agent package.

The Cisco Security Agent analyzes behavior rather than relying on signature matching, its solution provides robust protection with reduced operational costs. It provides patch relief to reduce the system administration workload allowing companies to wait for “roll-ups” and Service Packs, which come better qualified from the vendor. Testing and implementation of updates can be scheduled without undue change control interruption. Fewer updates reduce the cost of ownership.

When to Sell

Sell This Product Cisco Security Agent

When a Customer Needs These Features

- Spyware protection, host intrusion protection, data leakage prevention, zero-day threat protection, distributed firewall, malicious mobile code protection, operating system hardening, file integrity and/or audit log consolidation. The Cisco Security Agent provides all of these features in one integrated package
- Protection against both known and unknown attacks
- Protection for servers, desktops/laptops, and point-of-service systems
- A solution that scales to protect thousands of servers and desktops for large enterprise deployments
- Provides endpoint protection enabling businesses to participate in e-commerce securely and take advantage of the Internet economy

Key Features

- Provides industry-leading protection for Unix and Windows servers
- Multiple security functions in a single agent
- Open, extensible architecture offers the capability to define and enforce security according to corporate policy
- “Zero Update” prevention for known and unknown attacks
- Integrates with Cisco Network Security Products
- Provides application inventory and use tracking, hotfix and Service Pack status checking, and antivirus DAT version check for Symantec and McAfee antivirus agents
- A key component of the SAFE blueprint for secure e-business

Competitive Products

- Internet Security Systems (ISS)
- Symantec: Intruder Alert
- Enterasys: Squire
- Sana Security: Primary Response
- NAI: Entercept
- NFR (Centrax)

Specifications

Cisco Security Server			
Feature	Agent	Cisco Security Desktop Agent	Cisco Security Agent Manager
Platforms	Windows 2000 Server and Advanced Server (up to Service Pack 3) Windows NT v4.0 Server and Enterprise Server (Service Pack 5 or later) Solaris 8 SPARC architecture (64-bit kernel)	Windows NT v4.0 Workstation (Service Pack 5 or later) Windows 2000 Professional (up to Service Pack 3) Windows XP Professional (up to Service 1)	Microsoft Windows 2000 Server and Advanced Server (up to SP 2)

Selected Part Numbers and Ordering Information¹

Cisco Security Agent Options

CSA-SRVR-K9=	Cisco Security Server Agent (Win + Sol), 1 Agent
CSA-B10-SRVR-K9	Cisco Security Server Agent (Win + Sol), 10 Agent Bundle
CSA-B25-SRVR-K9	Cisco Security Server Agent (Win + Sol), 25 Agent Bundle
CSA-B50-SRVR-K9	Cisco Security Server Agent (Win + Sol), 50 Agent Bundle
CSA-B100-SRVR-K9	Cisco Security Server Agent (Win + Sol), 100 Agent Bundle
CSA-B25-DTOP-K9	Cisco Security Desktop Agent (Win + Sol), 25 Agent Bundle
CSA-B100-DTOP-K9	Cisco Security Desktop Agent (Win + Sol), 100 Agent Bundle
CSA-B250-DTOP-K9	Cisco Security Desktop Agent (Win + Sol), 250 Agent Bundle
CSA-B500-DTOP-K9	Cisco Security Desktop Agent (Win + Sol), 500 Agent Bundle
CSA-B500-SRVR-K9	Cisco Security Server Agent (Win + Sol), 500 Agent Bundle
CSA-B1000-DTOP-K9	Cisco Security Desktop Agent (Win + Sol), 1000 Agent Bundle
CSA-B5000-DTOP-K9	Cisco Security Desktop Agent (Win + Sol), 5000 Agent Bundle
CSA-PROFILER-K9	Cisco Security Agent Profiler



Note

Export Considerations: Subject to export controls. Please refer to the export compliance web site at <http://www.cisco.com/www/export/crypto> for guidance. For specific export questions, please contact export@cisco.com.

For More Information

See the Cisco Security Agent Web site: <http://www.cisco.com/go/csa>

Cisco Secure Access Control Server (ACS) for Windows

Cisco Secure Access Control Server (ACS) for Windows provides a centralized identity networking solution and simplified user management experience across all Cisco devices and security management applications. It helps to ensure enforcement of assigned policies by allowing network administrators to control.

Cisco Secure ACS is a major component of Cisco trust and identity networking security solutions and Cisco Proactive Automation of Change Execution solution (PACE). It extends access security by combining authentication, user and administrator access, and policy control from a centralized identity networking framework, thereby allowing greater flexibility and mobility, increased security, and user productivity gains.

When to Sell

Sell This Product Cisco Secure Access Control Server (ACS) for Windows

When a Customer Needs These Features

- Centrally manage who can log in to the network from wired or wireless connections
- Privileges each user has in the network
- Accounting information recorded in terms of security audits or account billing
- What access and command controls are enabled for each configuration administrator
- Virtual VSA for Aironet rekey
- Secure server authentication and encryption
- Simplified firewall access and control through Dynamic Port Assignment
- Same User AAA services
- Access and command controls that are enabled for each configuration's administrator

Key Features

- Cisco NAC Phase 2 support.
- Profile-based policies for network access profiles, which allow administrators to classify access requests according to network location, membership in a network device group, protocol type, or other specific RADIUS attribute values sent by the network device through which the user connects
- Scale and performance improvements—Includes the introduction of a standards-based RDBMS as the internal repository, improving the number of devices (AAA clients) supported by 10x and number of users by 3x, and improvements in performance (transactions per second) across the protocol portfolio
- Extended replication components—Capability to replicate network access profiles and all related configuration, including posture validation settings, AAA clients and hosts, external database configuration, global authentication configuration, network device groups, dictionaries, shared profile components, and additional logging attributes
- Extensible Authentication Protocol—Flexible Authentication via Secure Tunneling (EAP-FAST) support for wireless authentication for publicly accessible IEEE 802.1x EAP type developed by Cisco to support customers that cannot enforce a strong password policy or that wish to deploy an 802.1x EAP type that does not require digital certificates, supports a variety of user and password database types, supports password expiration and change, and is flexible, easy to deploy, and easy to manage
- Downloadable IP ACLs—Extends per-user ACL support to any Layer 3 network device that supports this feature; Includes Cisco PIX security appliances, Cisco VPN solutions, and Cisco IOS routers
- Certification Revocation List (CRL) comparison—Support certificate revocation using the X.509 CRL profile; A CRL is a time-stamped list identifying revoked certificates, which is signed by a certificate authority or CRL issuer and made freely available in a public repository
- Performance improvements in CRL comparison for EAP-Transport Layer Security (EAP-TLS) authentication
- Exception lists to machine access restriction, complementing 802.1X machine authentication
- Replication enhancements that allowing more granular replication selections
- Network Access Filter (NAF)—A new type of shared profile component that provides a flexible way of applying network-access restrictions and downloadable ACLs on network device names, network device groups, or their IP addresses
- Additional support of Cisco hardware devices—Support for Cisco wireless LAN controllers and Cisco adaptive security appliances

Competitive Products

- Funk: Steel Belted RADIUS
- Nortel: Preside RADIUS Server (OEM of Funk product)
- Lucent/Avaya: Security Management Server (LSMS)

Specifications

Feature	Cisco Secure Access Control Server (ACS) for Windows
Hardware	<ul style="list-style-type: none">• Pentium IV processor, 1.8 GHz or faster• Minimum 1 GB RAM• 250 MB free disk space• Minimum resolution of 800 x 600 with 256 colors

Selected Part Numbers and Ordering Information¹

Cisco Secure Access Control Server (ACS) for Windows

CSACS-4.0-WIN-K9	Cisco Secure ACS for Windows 4.0
CSACS-4.0-WINUP-K9	Upgrade to Cisco Secure ACS 4.0 for Windows from versions 1.x, 2.x, 3.x, and Cisco Secure ACS for UNIX 2.x

1. This is only a small subset of all parts available via URL listed under “For More Information”. Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco Secure ACS for Windows Web site: <http://www.cisco.com/go/acs>

Cisco Secure Access Control Solution Engine

The Cisco Secure ACS Solution Engine is a highly secure, OS-independent, and dedicated platform that offers a highly manageable access control solution with an increasingly reduced setup and troubleshooting time. It provides plug-and-play deployment, a highly reliable authentication, authorization, and accounting (AAA) solution, and increased total cost of ownership (TCO) protection. A Cisco Secure ACS remote agent is available with each Cisco Secure ACS Solution Engine to enable remote logging and Windows authentication.

When to Sell

Sell This Product

Cisco Secure Access Control Solution Engine

When a Customer Needs These Features

- Need a dedicated, security-hardened, application-specific appliance package
- Simplified day-to-day management with overall reliability and security of the Cisco Secure ACS service
- Suitable alternative for Cisco Secure ACS UNIX customers not willing to install or manage Cisco Secure ACS on the Windows OS

Key Features

- Dedicated to run only the Cisco Secure ACS service preventing any appliance-based OS changes, additions, or configuration modifications
- A serial console interface is provided for initial configuration, subsequent management of IP connections, access to the Cisco Secure ACS HTML interface, and applying upgrade and recovery procedures
- Solution Engine-specific management tools provide generic appliance management capabilities including backup, recovery, software upgrades, monitoring, maintenance, and troubleshooting functions
- Provides authentication against Windows domains and remote logging capabilities of user accounting records
- A packet-filtering service to block traffic on all but the necessary Cisco Secure ACS-specific TCP and User Datagram Protocol ports
- Preinstalled, standalone Cisco Security Agent helps protect Cisco Secure ACS Solution Engine from day-zero attacks
- Built-in NTP functions to maintain network timing synchronization and consistency with other Cisco Secure ACS appliances or network devices

Specifications

Feature	Cisco Secure Access Control Solution Engine ¹
Processor speed	Pentium IV, 3.2 GHz
Memory	1 GB RAM
Hard Drive	80 GB free disk space
Interfaces	2 built-in 10/100 Ethernet controllers and 1 CD ROM drive

1. Specific to Cisco ACS Solution Engine. Additional features are found under Cisco Secure Access Control Server (ACS) for Windows, page 5-20

Selected Part Numbers and Ordering Information¹**Cisco Secure ACS Solution Engine**

CSACSE-1113-K9	Cisco Secure ACS Solution Engine 4.0; includes Cisco 1113 hardware platform and Cisco Secure ACS Software 4.0
CSACSE-1113-UP-K9	Upgrade for customers using Cisco Secure ACS 2.x, and 3.x for Windows or Cisco Secure ACS for UNIX, or Cisco 1111 platform to the Cisco Secure ACS Solution Engine 4.0; includes Cisco 1113 hardware platform and Cisco Secure ACS Software 4.0
CSACSE-4.0-SWUP-K9	Cisco Secure ACS software upgrade to 4.0 for existing Cisco Secure ACS Solution Engine customers

1. This is only a small subset of all parts available via URL listed under "For More Information". Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the Cisco Secure ACS Solution Engine Web site:

<http://www.cisco.com/en/US/products/sw/secursw/ps5338/index.html>

Cisco Router and Security Device Manager

Cisco Router and Security Device Manager (SDM) is an intuitive Web-based device-management tool for Cisco IOS Software based routers that can improve the productivity of network managers, simplify router deployments, and help troubleshoot complex network and VPN connectivity issues. Cisco SDM supports a wide range of Cisco IOS Software releases and is available free of charge on Cisco router models from Cisco SB 100, Cisco 830 Series to Cisco 7301. It ships preinstalled on all new Cisco 850 Series, Cisco 870 Series, Cisco 1800 Series, Cisco 2800 Series, and Cisco 3800 Series integrated services routers. Network and security administrators and channel partners can use Cisco SDM for faster and easier deployment of Cisco routers for integrated services such as dynamic routing, WAN access, WLAN, firewall, VPN, SSL VPN, IPS, and QoS.

When to Sell**Sell This Product****Cisco Router and Security Device Manager****When a Customer Needs These Features**

- Cisco SDM is a valuable productivity-enhancing tool for businesses and channel partners and allows them to implement router security and network configurations with reduced cost and increased confidence and ease.
- Pilots and Proof of Concept
- Cisco Router Initial Deployment
- Cisco IOS Services Management and Security Solutions Deployment
- Partial CPE Control to End User (with role based access)
- Cisco Router Operational Management (Day to Day Real Time Performance Monitoring & Troubleshooting)

Key Features

- Accelerates new feature acceptance and adoption with easy to use UI and feature wizards
- SDM Express Setup wizard for deploying fixed configuration ISR in less than 30 minutes (includes LAN, WAN, WLAN, DHCP server, firewall and auto security)
- Quickly generate standard configurations (IOS CLI) for cookie cutter deployments
- Task based SDM user interface for faster and easier configuration of security and other services
- Supported IOS features include VPN, SSL VPN, IPS, Application Firewall, ICS, Digital Certificates, Security Audit, NAC, QoS, Wireless, NAT, Routing, DHCP, Dynamic DNS, SSH, eToken and Role based access.
- End user self installation for novice users or installation by less skilled technician
- Minimal touch mass deployment of end CPE devices
- End user self help tool for device/service troubleshooting and remote device recovery by NOC staff

Competitive Products

- Sonicwall
- Fortinet
- Checkpoint
- Netscreen

Specifications

Feature	Cisco Router and Security Device Manager
Router Flash Memory	Minimum of 6 MB of free flash memory on the router for complete Cisco SDM application. Cisco SDM Express requires minimum of 2 MB of free flash memory on the router. Wireless Management file requires additional 1.7 MB. Rest of the SDM files can be installed on PC hard disk.
PC Hardware	Pentium III or later series processor
PC Operating System	Windows XP Professional; Windows 2003 Server (Standard Edition); Windows 2000 Professional; Windows NT 4.0 Workstation (Service Pack 4); Windows ME Japanese, Simplified Chinese, French, German, Spanish, and Italian language OS support Windows XP Professional Windows 2000 Professional
Browser Software	Microsoft Internet Explorer 5.5 or later; Netscape Navigator 7.1 and 7.2; Firefox 1.0.5
Java Software	Java Virtual Machine (JVM) built-in browsers required; Java plug-in (Java Runtime Environment Version 1.4.2_05 or later)

Part Numbers and Ordering Information

Cisco 831 Ethernet Broadband Router, Cisco 836 ADSL over ISDN Broadband Router, Cisco 837 ADSL Broadband Router, Cisco Small Business 100 Series, Cisco 850 Series, and Cisco 870 Series	Cisco SDM software ships by default from factory; SDM Express is factory installed on router Flash memory, and a Cisco SDM CD is bundled with the router.
Cisco 1700 Series Modular Access Routers and Cisco 2600XM Series	Cisco SDM software ships by default on security bundles; Cisco SDM software \$0 configuration option (ROUTER-SDM or ROUTER-SDM-NOCF) is available on all SKUs. Cisco SDM Express is factory installed on router Flash memory, and a Cisco SDM CD is bundled with the router.
Cisco 1800, 2800, and 3800 Series Integrated Services Routers (ISRs)	Cisco SDM software ships by default from factory Cisco SDM is factory installed on router Flash memory.
Cisco 2691 Multiservice Platform and Cisco 3700 Series Multiservice Access Routers	Cisco SDM software ships by default on security bundles (k9); Cisco SDM software \$0 configuration option (part number ROUTER-SDM or ROUTER-SDM-NOCF) is available on all SKUs; Cisco SDM is factory installed on router Flash memory.
Cisco 7204VXR, 7206VXR, and 7301 Routers	Cisco SDM software ships by default on security bundles (k9); Cisco SDM software \$0 configuration option (part number ROUTER-SDM or ROUTER-SDM-NOCF) is available on all SKUs; Cisco SDM is factory installed on router Flash memory.
Customers desiring Auto-Install feature in Cisco IOS Software	Two US\$0 SKUs are offered: ROUTER-SDM-NOCF and ROUTER-SDM-CD-NOCF. If either of these SKUs is ordered with a Cisco router, then manufacturing only loads Cisco SDM files on the router Flash memory, and the default startup configuration is not loaded in the router's NVRAM.

For More Information

See the Cisco Router and Security Device Manager Web site: <http://www.cisco.com/go/sdm>

Cisco IOS® Firewall

The Cisco IOS Firewall enriches Cisco IOS software security capabilities, integrating robust firewall functionality for every network perimeter. When combined with IOS IPS, IOS IPSec software, and other Cisco IOS Software-based technologies such as L2TP tunneling and QoS, it provides a complete, integrated virtual private network solution. Because it is available for a wide range of Cisco routers, it gives customers the flexibility to choose a solution that meets their bandwidth, LAN/WAN density, and multiservice requirements, while benefiting from advanced security.

When to Sell

Sell This Product When a Customer Needs These Features

- | | |
|---------------------------|---|
| Cisco IOS Firewall | <ul style="list-style-type: none"> • An integrated ICSA-certified stateful firewall solution with powerful security and multiprotocol routing all on the same routing platform • Scalability options from the Cisco 800 up to the Cisco 7200 and 7301 • Low total cost of ownership solution that leverages existing infrastructure • Integrated secure Voice over IP deployment • Secure extranet and intranet perimeters and Internet connectivity for branch and remote offices • Security and access to the network on a per-user basis |
|---------------------------|---|

Key Features

- Context-based access control (CBAC) provides secure, stateful, application-based packet inspection, supporting the latest protocols and advanced applications
- Cisco IOS Inline Intrusion Prevention for real-time monitoring, interception, and response to network misuse for supporting thousands of attack signatures
- Supports URL Filtering either local on the router through exclusive domains as well as use of external Websense and N2H2 servers.
- Dynamic, per-user authentication/authorization for LAN, WAN, and VPN clients
- Authentication proxy for https, ftp and telnet connections
- Supports Cisco Router and Security Device Manager (SDM)
- Graphical configuration and management via the VPN/Security Management Solution (VMS) and the IP Solution Center (ISC)
- Provides strong perimeter security for a complete Cisco IOS Software-based VPN solution, including IPSec, QoS, and tunneling

Competitive Products

- | | |
|--------------------------------|--------------------------------------|
| • Nortel: BaySecure Firewall-1 | • Checkpoint, Nokia, Netscreen, etc. |
|--------------------------------|--------------------------------------|

Specifications

Feature	Cisco IOS Firewall
Supported Network Interfaces	All network interfaces on supported platforms
Supported Platforms	Cisco 1720, 1800, 2600/2600XM, 2800, 3700, 3800, 7100, 7200, and 7301 series router platforms (supports full feature set) Cisco 800, UBR900, 1600, and 2500 series router platforms include all firewall features with exception of authentication proxy
Simultaneous Sessions	No specific maximum; dependent on platform, network connection, and traffic
Cisco IOS Firewall Performance¹	C800 - 10Mbps; C1700: 20Mbps; Cisco 1800: 125 Mbps; C2600XM: 35Mbps; C2691-VPN: 197Mbps; Cisco 2800: 530Mbps; C3725-VPN, C3745-VPN: 197 Mbps; Cisco 3825: 855Mbps; Cisco 3845: 1 Gbps, 7200/7301 Bundles: 1Gbps

1. UDP traffic only

Part Numbers and Ordering Information

For Cisco IOS Images containing the firewall (FW) feature, see individual product pages of supported platforms and the Cisco IOS Feature Navigator at <http://www.cisco.com/go/fn> (CCO login required) for part numbers and more info.

For More Information

See the Cisco IOS Firewall Feature Set Web site: <http://www.cisco.com/go/firewall>

Cisco Security Router Bundles with Integrated Network Security

The Cisco Security Router Bundles are based on the Cisco 800, 1800, 2800, 3800, 7200 and 7301 router platforms. They include the Entry Security bundles, Enhanced Security bundles for added performance and scale, as well as Entry Voice (VSEC) and V3PN bundles for combined Security and Unified Communications.

Key Features

- Single part number when ordering a Cisco router with all the necessary Security components at a reduced price compared to ordering each component separately
- All Security bundles come pre-installed with Router and Security Device Manager (SDM) for fast and easy deployment based on Cisco TAC and ICSA Labs recommended router security configurations
- Entry Security Bundles, Enhanced Security Bundles, Entry Voice (VSEC), and V3PN bundles allow varying capabilities and price points to meet a variety of needs
- Cisco 2800 and 3800 Series now have Advanced Security Network Modules available for hardware-based IDS
- Cisco 7200 and 7301 bundles include the selected router platform, a VPN hardware card, additional memory, and the Cisco IOS to run IPSec 3DES or AES encryption
- Cisco 850/870 Series, as well as 1811 and 1812 offer embedded VPN acceleration

When to Sell

Sell This Product

Cisco VPN Security Router Bundles

When a Customer Needs These Features

- Combating worms, viruses or threats from every gateway to the network (NAC, firewall, IPS)
- Deploying VPN on routers and want to have future option for VPN
- protect the headquarters from infractions from the branch office
- Use the Internet for remote business communications (remote access VPN)
- When migrating from leased lines to VPN or DMVPN
- Requires encryption to protect customer data or meet with regulatory compliance (i.e. PCI, HIPAA, Sarbanes-Oxley)
- Needs to integrate Voice and VPN Services (VSEC or V3PN)
- Integrate Security with Voice (VSEC or V3PN bundles) or with Wireless routers
- Integrated Services Routers (Cisco 800, 1800, 2800, and 3800) have embedded VPN acceleration
- VPN on routers or want to have future option for VPN

Specifications

Feature	Cisco VPN Security Router Bundles
All Bundles Include	Network Admission Control (NAC) Firewall with IPS; GRE and IPSec; High Availability/Failover; VPN QoS; AES in Hardware
Optional Feature Licenses	SSL VPN Feature licenses in packages of 10, 15, and 100 users
IPPCP Compression	Software: C800, C1800 Bundles Hardware: Cisco 1841 bundles, Cisco 2800 bundles, Cisco 3800, 7200, 7301 Bundles
Max IPSec Tunnel	C870 - 10, C1800: 50; Cisco 1841: 800; Cisco 2800: 1500; Cisco 3800: 2500; 7200/7301 Bundles: 5000
Firewall Performance	C870 - 70Mbps, C1800: 100Mbps; Cisco 1841: 125 Mbps, Cisco 2800: 530Mbps; Cisco 3825: 855Mbps; Cisco 3845: 1 Gbps, 7200/7301 Bundles: 1Gbps

For More Information

See Chapter 1: Routing for more details.



Application Networking

Application Networking at a Glance

Product	Features	Page
Cisco Wide Area Application Engine (WAE) Appliances	<p>A solution that facilitates the consolidation of remote office application infrastructures and services in the data center while providing LAN-like service levels to remote users</p> <ul style="list-style-type: none"> • A single unified platform to host WAN optimization and application acceleration products including Cisco Wide Area Applications Services (WAAS) Software and Cisco Application and Content Networking System (ACNS) Software • Addresses varying customer needs based on branch size, bandwidth availability, and usage patterns and are designed to scale to very large enterprise wide deployments 	6-2
Cisco Wide Area Application Services (WAAS) Software	<ul style="list-style-type: none"> • Advanced protocol optimizations such as read-ahead, prediction, and suppression are coupled with sophisticated caching techniques to minimize latency and unnecessary data crossing the WAN • Data Redundancy Elimination (DRE) coupled with compression improves efficiency and mitigates unnecessary bandwidth consumption • TCP flow optimization (TFO) optimizes TCP to enable better performance and efficiency in WAN environments. • Dynamic auto-discovery of endpoints helps ensure efficient deployment without the need to create and manage overlay networks. • End-to-end visibility and compatibility with existing network functions such as quality of service (QoS), firewall security, Cisco NetFlow monitoring, and high availability is provided. 	6-4
Cisco Application and Content Networking System (ACNS) Software	<p>A powerful digital media delivery solution that greatly reduces redundant digital media streaming traffic traversing a WAN from the data center to branch offices over satellite and terrestrial networks</p> <ul style="list-style-type: none"> • Enhanced corporate communication and end-user productivity • Reduced WAN bandwidth and optimized performance • Designed for large organizations • Comprehensive Streaming-Media Support 	6-5
Cisco 11500 Series Content Services Switches (CSS)	<p>A modular Layer 4-7 load balancing appliance that offers flexible configuration, onboard Secure Sockets Layer (SSL) encryption/decryption, and compression.</p> <ul style="list-style-type: none"> • Provides an intelligent, distributed architecture to scale for today's e-business infrastructure • Offers Adaptive Session Redundancy (ASR)—a new industry standard in stateful failover • Delivers the greatest flexibility of any content switch in its class for customizing combinations of ports, performance, and services • Provides Server off-load service such as integrated and scalable SSL encryption and decryption along with HTTP compression 	6-6
Content Switching Module (CSM) for the Catalyst 6500 Series Switches	<p>High performance Content Switching line card for Catalyst 6500</p> <ul style="list-style-type: none"> • L4 and L7, Firewall, VPN, Cache and Server load balancing • Intelligently balances client traffic across multiple devices • Full State and Sticky State redundancy; Full Regular Expression support 	6-7
Cisco SSL Module for Catalyst 6500	<ul style="list-style-type: none"> • Off loads SSL encryption and decryption • Scalable performance • Stickiness 	6-8
Cisco DistributedDirector	<ul style="list-style-type: none"> • Solves distributed server site selection problems • Enables a set of distributed servers to be seen as a single virtual server • Uses DNS to redirect a client to the best site on the Internet based on a variety of options • Configurable as authoritative DNS caching name server and/or HTTP Session Redirector on a per-domain basis 	6-9
Cisco GSS 4492R Global Site Selector Appliance	<ul style="list-style-type: none"> • Delivers global load balancing for multiple data centers • Off loads DNS servers by doing DNS resolution • Scales to support hundreds of data centers or server load balancers (SLBs) • Supports up to 20,000 DNS request per second • Delivers a unique DNS-based localization and persistence services 	6-10
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco Wide Area Application Engine (WAE) Appliances

The Cisco Wide Area Application Engine (WAE) appliances offer a single unified platform to host WAN optimization and application acceleration products from Cisco including Cisco Wide Area Applications Services (WAAS) Software and Cisco Application and Content Networking System (ACNS) Software that facilitate the consolidation of remote office application infrastructure and services in the data center while providing LAN-like service levels to remote users. When deployed with Cisco WAAS, it overcomes the performance barriers created by the WAN through a sophisticated combination of application acceleration and WAN optimization techniques that mitigate application and transport latency, improve throughput, and minimize WAN bandwidth consumption for any TCP-based application. When deployed with Cisco ACNS software, Cisco WAE Appliances address the need to distribute and receive high-bandwidth, media-rich content across the Internet or an intranet without performance losses or content-delivery delays.

When to Sell

Sell This Product

Cisco WAE-512 Wide Area Application Engine

When a Customer Needs These Features

- Designed for small to medium size branch edge deployments
- A low-cost, high-performance platform
- Easily integrate into existing branch network infrastructure, both logically and physically
- With Cisco ACNS, MPEG video decoder for baseband video capability
- Designed to address the deployment needs at the edge in large enterprise branches and regional offices as well as core installations in medium-sized data centers
- Greater performance, reliability and scale than the Cisco WAE-512
- With Cisco ACNS, MPEG video decoder for baseband video capability
- Designed for deployment as a core WAN optimization and application acceleration device in large enterprise data centers
- Offers the highest level of performance and availability
- Maximum WAN optimization and application acceleration performance and very high scalability

Cisco WAE-612 Wide Area Application Engine

Cisco WAE-7326 Wide Area Application Engine

Key Features

- A solution for performance and scalability constraints imposed by the WAN
- Delivers increasingly rich application content and services to remote users
- Provides ways to control the explosive growth in bandwidth requirements generated by new applications and business processes; Improves throughput and responsiveness for existing applications in a transparent manner
- Centralizes distributed application and file services infrastructure into corporate data centers; Enables collaborative applications
- Leverages available IT personnel and data protection infrastructure
- Reduces costs
- Easily implement regulatory compliance requirements
- WAE-7326—When deployed using WCCPv2, up to 32 Cisco WAE-7326s can be grouped together in a service group to support the largest enterprise deployments
- With ACNS, accelerate video-streaming solutions deployed at remote branches and helps customers manage content caching and distribution

Specifications

Feature	Cisco WAE-512	Cisco WAE-612	Cisco WAE-7326
Baseline RAM	1 GB	2 GB	4 GB
Maximum RAM	2 GB	4 GB	4 GB
Maximum storage	Two 250-GB SATA hard drives	Two 300-GB SAS hard drive	Six 300-GB SCSI hard drives
Network interfaces	Two 10/100/1000BASE-T	Two 10/100/1000BASE-T	Two 10/100/1000BASE-T
Power	One 350W AC	One 350W AC	Two 625W hot-swappable redundant AC
Rack units	One	One	Two

Feature	Cisco WAE-512	Cisco WAE-612	Cisco WAE-7326
MPEG decoder (optional)	Yes (support only with Cisco ACNS Software) MPEG-1 and 2; DB-15 audio connector; BNC composite video output; 7-pin DIN S-video output connector	Yes (support only with Cisco ACNS Software) MPEG-1 and 2; DB-15 audio connector; BNC composite video output; 7-pin DIN S-video output connector	No
Flash memory	128 MB of Compact Flash memory	128 MB of Compact Flash memory	128 MB of Compact Flash memory
External SCSI connector	No	No	Dual-channel U320 SCSI
Dimensions (H x W x D)	1.75 x 17.2 x 22.1 in. (43 x 440 x 559 mm)	1.75 x 17.2 x 22.1 in. (43 x 440 x 559 mm)	3.36 x 17.5 x 27.64 in. (85.4 x 443.6 x 702.0 mm)
Maximum weight	28 lb (12.7 kg)	28 lb (12.7 kg)	64lb (29.03 kg)
Universal input	Input voltage—low range 100 to 127 VAC; high range 200 to 240 VAC Input kilovolt-amperes (kVA) approximately—Minimum 0.102 kVA; Maximum 0.55 kVA	Input voltage—low range 100 to 127 VAC; high range 200 to 240 VAC Input kilovolt-amperes (kVA) approximately—Minimum 0.102 kVA; Maximum 0.55 kVA	Input voltage—low range 100 to 127 VAC; high range 180 to 265 VAC Input kVA approximately—Minimum 0.36 kVA; Maximum 0.83 kVA
Operating temperature	50 to 95°F (10 to 35°C)	50 to 95°F (10 to 35°C)	50 to 95°F (10 to 35°C)
Nonoperating temperature	-40 to 140°F (-40 to 60°C)	-40 to 140°F (-40 to 60°C)	-40 to 140°F (-40 to 60°C)
Humidity	Nonoperating: 8 to 80%	Nonoperating: 8 to 80%	Nonoperating: 8 to 80%
Altitude	Maximum altitude: 6500 ft (2000m)	Maximum altitude: 6500 ft (2000m)	Maximum altitude: 2133m (7000 ft)
Compliance	CE marking	CE marking	CE marking
Safety	UL 1950; CSA-C22.2 No. 950; EN 60950; IEC 60950	UL 1950; CSA-C22.2 No. 950; EN 60950; IEC 60950	UL 1950; CSA-C22.2 No. 950; EN 60950; IEC 60950
EMC	FCC Part 15 (CFR 47) Class A; ICES-003 Class A; EN 55022 Class A with UTP cables; CISPR22 Class A with UTP cables; ASNZ 3548 Class A with UTP cables; VCCI Class A with UTP cables; EN 55024; EN 50082-1	FCC Part 15 (CFR 47) Class A; ICES-003 Class A; EN 55022 Class A with UTP cables; CISPR22 Class A with UTP cables; ASNZ 3548 Class A with UTP cables; VCCI Class A with UTP cables; EN 55024; EN 50082-1	FCC Part 15 (CFR 47) Class A; ICES-003 Class A; EN 55022 Class A with UTP cables; CISPR22 Class A with UTP cables; ASNZ 3548 Class A with UTP cables; VCCI Class A with UTP cables; EN 55024; EN 50082-1

Selected Part Numbers and Ordering Information¹

Cisco Wide Area Application Engine (WAE) Appliances

WAE-512-K9	Software options: Cisco ACNS Software, Cisco WAFS Software or Cisco WAAS Software Storage options: One of the following two hard-disk-drive (HDD) bay configuration options1 One or two 80-GB serial advanced technology attachment (SATA) drives (part number DISK-SATA2-80GB) for a total of 160 GB of internal storage (Cisco ACNS only); One or two 250-GB SATA drives (part number DISK-SATA2-250GB) for a total of 500 GB of internal storage Memory options: One additional 1-GB memory module (part number MEM-WAE-1GB) for a total of 2 GB internal memory Additional options for Cisco ACNS Software only: MPEG decoder card (part number CE-VIDEO-1P-D)
WAE-612-K9	Software options: Cisco ACNS Software, Cisco WAFS Software or Cisco WAAS Software Storage options: One of the following two hard-disk-drive (HDD) bay configuration options1 Two 146-GB serial attached SCSI (SAS) drives (part number DISK-SAS-146GB) for a total of 292 GB of internal storage (Cisco ACNS only); Two 300-GB SAS drives (part number DISK-SAS-300GB) for a total of 600 GB of internal storage Memory options: Two additional 1-GB memory modules (part number MEM-WAE-2GB) for a total of 4 GB internal memory Additional options for Cisco ACNS Software only: MPEG decoder card (part number CE-VIDEO-1P-D)
WAE-7326-K9	Software options: Cisco ACNS Software, Cisco WAFS Software or Cisco WAAS Software Storage options: One of the following three hard-disk-drive (HDD) bay configuration options1 Two to six 72-GB SCSI drives (part number DISK-SCSI-72GB) (Cisco ACNS only); Two to six 144-GB SCSI drives (part number DISK-SCSI-144GB); Two to six 300-GB SCSI drives (part number DISK-SCSI-300GB) Memory options: Two additional 1-GB memory modules (part number MEM-WAE-2GB) for a total of 4 GB internal memory Additional options for Cisco ACNS Software only: MPEG decoder card (part number CE-VIDEO-1P-D)

Hardware Spares

CE-VIDEO-1P-D=	MPEG 1,2 video decoder, spare
DISK-SATA2-80GB(=)	80-GB HDD (SATA2), spare
DISK-SATA2-250GB(=)	250-GB HDD (SATA2), spare
DISK-SAS-146GB(=)	146-GB HDD (SAS), spare
DISK-SAS-300GB(=)	300-GB HDD (SAS), spare
DISK-SCSI-72GB(=)	72 GB SCSI Disk Drive for WAE-7326, Spare
DISK-SCSI-144GB(=)	144 GB SCSI Disk Drive for WAE-7326, Spare
DISK-SCSI-300GB(=)	300 GB SCSI Disk Drive for WAE-7326, Spare
MEM-WAE-1GB(=)	1x WAE 1GB memory module
MEM-WAE-2GB(=)	2x WAE 1GB memory modules

1. This is only a small subset of all parts available via URL listed under “For More Information.”

For More Information

See the Cisco Wide Area Application Engine (WAE) Appliances Web site:
<http://www.cisco.com/go/wae>

Cisco Wide Area Application Services (WAAS)

Cisco Wide Area Application Services (WAAS) is a powerful application acceleration and WAN optimization solution that enables branch office server consolidation, performance improvements for centralized applications and services, and LAN-like service levels for remote users.

Key Features

- Allows preservation of existing network policies, automatic discovery across any network topology, and end-to-end application traffic visibility for ease of monitoring, control and troubleshooting;
- Consolidate remote office server infrastructure, including file servers, web servers, email servers, application servers, and database servers.
 - Cost savings through infrastructure consolidation—Helps organizations consolidate remote office server infrastructure in the data center, including file servers, web servers, email servers, application servers, and database servers
 - Minimizes deployment, operational and management costs, improves data availability and facilitates compliance with regulatory mandates.
- LAN-like performance—Incorporates application-specific acceleration (Enterprise License) as well as WAN optimization that enable near-LAN performance for accessing centralized applications over the WAN, increasing employee productivity and collaboration across all branch application services including web, file, video, email and enterprise applications.
- Simplified data protection—Apply standard backup, retention, storage management and recovery procedures
- Transparent integration—Integrates transparently with existing client, server, storage, and network infrastructure; Requires no changes to the infrastructure; provides WAN optimization capabilities without manipulating information that is vital for enabling value-added services that are hosted within the network infrastructure

Selected Part Numbers and Ordering Information¹

Cisco Wide Area Application Services (WAAS)

SF-WAAS-4.0-SA-K9	Cisco WAAS 4.0 SATA2 SW image (separate license required) for WAE-512
SF-WAAS-4.0-SS-K9	Cisco WAAS 4.0 SATA2 SW image (separate license required) for WAE-612
SF-WAAS-4.0-SC-K9	Cisco WAAS 4.0 SATA2 SW image (separate license required) for WAE-7326
WAAS-TRN-APL	Cisco WAAS Transport License for 1 WAE Appliance
WAAS-ENT-APL	Cisco WAAS Enterprise License for 1 WAE Appliance
WAAS-CNTRL-MGR	Cisco WAAS Central Manager License (1 per mgmt appliance)
WAAS-TRN2ENT-APL=	WAAS Transport to WAAS Enterprise upgrade license for 1 WAE
WAAS-WAAS2ENT-APL=	WAAS to WAAS Enterprise upgrade license for 1 WAE

1. This is only a small subset of all parts available via URL listed under “For More Information.”

For More Information

See the Cisco Wide Area Application Services (WAAS): <http://www.cisco.com/go/WAAS>

Cisco Application and Content Networking System (ACNS) Software

Cisco Application and Content Networking System (ACNS) is a powerful solution for creating a video content delivery network (CDN), delivering higher performance and more efficient video on demand (VoD) and live video streaming over the WAN. It enables a variety of services that optimize delivery of Web applications and content to the network edge to ensure enhanced speed, availability, and performance. Cisco ACNS helps organizations of all sizes to reduce costs, increase productivity, and increase revenue by extending strategic applications from the data center to the branch, such as software distribution, Secure Web content-access management, Business video, and Point-of-sale video and Web kiosks.

Key Features

- **Video Distribution and Streaming**—Enables intelligent distribution of both live and on-demand video content making best use of existing WAN bandwidth preventing bottlenecks. Supports popular video streaming formats and is easily integrated with 3rd party business video creation, management and publishing applications via APIs to provide end-to-end business video solutions.
- **Caching/Web Application Acceleration**—Provides accelerated content delivery, improved performance of web-based business applications, WAN bandwidth cost savings, and protection vs. uncontrollable bottlenecks
- **Software Distribution**—Content Distribution features of ACNS can be leveraged to scale the distribution of software updates throughout the enterprise network helping to alleviate impact on WAN.
- **Content Security and Filtering**—Enables administrators to enforce Web access policies with existing AAA services (including NTLM and LDAP/AD) as well as block, monitor, and report on end users' access to non-business and objectionable content via URL filtering. Supports both Secure Computing's Smartfilter and Websense's URL filtering solutions "on-box." Other URL filtering and virus scanning servers can also be leveraged via the ICAP protocol.

Selected Part Numbers and Ordering Information¹

Cisco Application and Content Networking System (ACNS)

SF-ACNS-5.5-SA-K9	Cisco ACNS Software v5.5 (SATA)
SF-ACNS-5.5-SC-K9	Cisco ACNS Software v5.5 (SCSI)
SF-ACNS-5.5-SS-K9	Cisco ACNS Software v5.5 (SAS)

1. This is only a small subset of all parts available via URL listed under "For More Information."

For More Information

See the Cisco ACNS Web site: <http://www.cisco.com/go/acns>

Cisco CSS 11500 Series Content Services Switches

The Cisco CSS 11500 Series Content Services Switch is suitable for both enterprises and service providers seeking to reduce data center costs, boost e-business application performance, offer enhanced services, ensure online transaction integrity, and provide the best possible online experience for customers, business partners, and internal workers.



The Cisco CSS 11500 is available in as the standalone Cisco CSS 11501, the three-slot Cisco CSS 11503 and the six-slot Cisco CSS 11506.

When to Sell

Sell This Product

CSS 11501/ CSS 11501S

When a Customer Needs These Features

- Standalone, fixed-configuration switching platform with up to 8 Fast Ethernet ports and 1 optional Gigabit Ethernet port
- Cost-effective server, cache, and firewall load balancing
- Complex Web applications requiring high-level URL and cookie switching
- Server off-load feature such as integrated SSL encryption and decryption along with HTTP compression (11501S-C only)

CSS 11503

- Compact, high-performance, modular content switching platform with up to 32 Fast Ethernet ports or up to six Gigabit Ethernet ports
- Cost-effective server, cache, and firewall load balancing
- Server off-load feature such as Integrated SSL encryption and decryption along with HTTP compression
- Complex Web applications requiring high-level URL and cookie switching

CSS 11506

- Compact, high-performance, modular content switching platform with up to 32 Fast Ethernet ports or up to six Gigabit Ethernet ports
- Cost-effective server, cache, and firewall load balancing
- Server off-load feature such as Integrated SSL encryption and decryption along with HTTP compression
- Complex Web applications requiring high-level URL and cookie switching

Key Features

- Introduces an intelligent, distributed architecture
- Improves site availability and transaction integrity by introducing ASR
- Delivers customized combinations of ports, performance, and services
- Server off-loads through support of an integrated, high-capacity SSL module along with HTTP compression (WebNS 8.10)—Enables content switching functionality
- Protects investment by enabling upgrades of performance, ports, and services through modularity
- The Cisco CSS 11500 I/O modules deliver port density and flow performance.
- The Fast Ethernet ports are 10/100BASE-TX with standard RJ-45 connectors, whereas the Gigabit Ethernet ports require SFP GBICs (1000BASE-SX, 1000BASE-LX, or 1000BASE-T).

Competitive Products

- Alteon/Nortel: ACEdirector and 700 Series
- F5 Networks: Big/IP and LAN switch Partners
- Foundry Networks: ServerIron
- Radware: Web Server Director (WSD)
- Resonate: Central Dispatch and Global Dispatch

Specifications

Feature	Cisco CSS 11501	Cisco CSS 11503	Cisco CSS 11506
Modular Slots	N/A	3	6
Base Configuration	Switch Control with 8 10/100 Ethernet; 1 GBIC port	Switch Control Module; 2 Gigabit Ethernet (GBIC) ports	Switch Control Module; 2 Gigabit Ethernet (GBIC) ports
Max GB Ethernet Ports	1	6	12
Max 10/100 Ethernet ports	8	32	80
2-port GB Ethernet I/O Module		Max: 2	Max: 5
16-port GB Ethernet I/O Module		Max: 2	Max: 5
8-port GB Ethernet I/O Module		Max: 2	Max: 5

Feature	Cisco CSS 11501	Cisco CSS 11503	Cisco CSS 11506
SSL Module and HTTP Compression	CSS 11501S-C only	Max: 2	Max: 4
Session Accelerator modules		Max: 2	Max: 5
Redundancy features	Active-active Layer 5 ASR Virtual IP Address (VIP) redundancy	Active-active Layer 5 ASR VIP redundancy	Active-active Layer 5; ASR; VIP redundancy; Active-standby SCM; Redundant switch fabric module; Redundant power supplies
Height	1.75 in. (1 rack unit)	3.5 in. (2 rack units)	8.75 in. (5 rack units)
Bandwidth	Aggregate 6 Gbps	Aggregate 20 Gbps	Aggregate 40 Gbps
Storage	1 GB flash memory disk	1 GB flash memory disk	1 GB flash memory disk
Power	Integrated AC	Integrated AC or DC	Up to 3 AC or 3 DC

Selected Part Numbers and Ordering Information¹

Cisco CSS 11500 Series Content Services Switches

CSS11506-2AC	Cisco 11506 Content Services Switch including SCM with 2 GE ports, flash drive, 2 switch modules, 2 AC power supplies, and a fan (requires SFP GBICs)
CSS11506-2DC	Cisco 11506 Content Services Switch including SCM with 2 GE ports, flash drive, 2 switch modules, 2 DC power supplies, and a fan (requires SFP GBICs)
CSS11503-AC	Cisco 11503 Content Services Switch including SCM with 2 GE ports, flash drive, and integrated AC power supply, integrated fan, and integrated switch module (requires SFP GBICs)
CSS11503-DC	Cisco 11503 Content Services Switch including SCM with 2 GE ports, flash drive, and integrated DC power supply, integrated fan, and integrated switch module (requires SFP GBICs)
CSS11501	Cisco 11501 Content Services Switch including 8 10/100 Ethernet and 1 GE port, flash drive, and integrated AC power supply and integrated fan (optional SFP GBIC)
CSS 11501S-C-K9	Cisco 11501 Content Services Switch with SSL termination and HTTP compression including 8 10/100 Ethernet and 1 GE port, flash drive, and integrated AC power supply and integrated fan (optional SFP GBIC)
CSS5-SCM-2GE	Cisco CSS 11500 System Control Module with 2 GE ports and hard disk (requires SFP GBICs)
CSS5-IOM-8FE	Cisco CSS 11500 Fast Ethernet I/O Module: 8-port TX
CSS5-IOM-16FE	Cisco CSS 11500 Fast Ethernet I/O Module: 16-port TX
CSS5-IOM-2GE	Cisco CSS 11500 Gigabit Ethernet I/O Module: 2-port (requires SFP GBICs)
CSS5-SAM	Cisco CSS 11500 Session Accelerator Module
CSS5-SSL-C-K9	Cisco CSS 11500 SSL and HTTP Compression Module

1. This is only a small subset of all parts available via URL listed under "For More Information." Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the CSS 11500 Series Web site: <http://www.cisco.com/go/11500>

Cisco Content Switching Module (CSM)

The Cisco CSM is a Catalyst 6500 line card that balances client traffic to farms of servers, firewalls, SSL devices, or VPN termination devices. The CSM provides a high-performance, cost-effective load balancing solution for enterprise and ISP networks. The CSM meets the demands of high-speed Content Delivery Networks, tracking network sessions and server load conditions in real time and directing each session to the most appropriate server. Fault tolerant CSM configurations maintain full state information and provide true hitless failover required for mission-critical functions.

When to Sell

Sell This Product

Cisco Content Switching Module

When a Customer Needs These Features

- A high performance, L4 to L7 load balancing solution integrated with Cisco's Catalyst 6500
- Load balancing for the highest traffic sights
- Support for up to 1,000,000 concurrent TCP connections

Key Features

- Establishes up to 150,000 Layer 4 connections per second and provides high-speed content switching, while maintaining 1 million concurrent connections

- Outstanding price/performance value for large data centers and ISPs—Features a low connection cost and occupies a small footprint. The CSM slides into a slot in a new or existing Catalyst 6500 enabling all its ports for layer 4 through layer 7 content switching. Multiple CSMs can be installed in the same Catalyst 6500 for redundancy and scalable performance
- Uses the same Cisco IOS Command Line Interface (CLI) that is used to configure the Catalyst 6500 Switch

Competitive Products

- Alteon/Nortel: Web Switching Module, Application Switch, and Web Switches
- Foundry Networks: ServerIron
- Radware: Web Server Director (WSD)
- Resonate: Central Dispatch and Global Dispatch
- F5 Networks: Big/IP

Specifications

Feature	Cisco Content Switching Module (CSM)
Configuration Limits	512 total VLANs (client and server); 4000 virtual servers; 4000 server farms; 16,000 real servers; 4000 probes; 16,000 access control list (ACL) items
Connections	1,000,000 concurrent TCP connections 150,000 connection setups per second-Layer 4 75,000 connection setups per second-Layer 7
Throughput	4 Gigabits-per-second total combined (client-to-server and server-to-client) throughput 1.25 million packets per second
Catalyst Switch Platform Requirements	Native support (switch running Cisco IOS Software only) Hybrid Support (switch running IOS/CatOS) Functions as a bus enabled line card-not fabric enabled Multilayer switch feature card-MSFC or MSFC2

Selected Part Numbers and Ordering Information¹

Cisco Content Switching Module

WS-X6066-SLB-APC

Catalyst 6500 Content Switching Module

For More Information

See the Cisco Content Switching Module (CSM) Web site at:

<http://www.cisco.com/go/csm>

Cisco SSL Module for Catalyst 6500

The SSL Services Module is an integrated service module for the Cisco Catalyst 6500 Series that off loads the processor-intensive tasks related to securing traffic with SSL and increases the number of secure connections supported by a web site.

When to Sell

Sell This Product When a Customer Needs These Features

SSL Module for Catalyst 6500

- An integrated SSL encryption/decryption solution featuring Cisco's Catalyst 6500
- Scalable SSL processing: 2,500 connection setups/second per module-10,000 per Chassis fully-populated with SSL modules

Key Features

- Performs all SSL-related tasks, allowing servers to handle high-speed clear text traffic
- Provides a simple means of addressing increased performance requirements by installing additional SSL modules in a Catalyst 6500 switch
- Maintains persistence even when clients request new session IDs, in Integrated Mode with CSM
- Provides cost savings by requiring only a single certificate copy vs. a copy for each server subject to customer and certificate authority agreement

Competitive Products

- F5 Networks eCommerce 540

- Nortel/Alteon iSD 410 SSL Accelerator

Specifications

Feature	Cisco SSL Module for Catalyst 6500
System Capacity and Performance	2500 connection setups/sec per module-10K per chassis; 60K concurrent client connections-240K per chassis; 300 Mbps bulk rate encryption-1.2 Gbps per chassis; 256 key pairs; 256 key certificates; Up to 2K key sizes-256 proxy servers
Scalability	Up to four SSL modules in the same Catalyst 6500
Integration with Server Load Balancing	Tightly integrated in the Cisco Catalyst 6500 Switch with the CSM

Selected Part Numbers and Ordering Information¹

Cisco SSL Module for Catalyst 6500

WS-SVC-SSL-1-K9=

Cisco SSL Module for Catalyst 6500

For More Information

See the Catalyst 6500 Series Web site at: <http://www.cisco.com/go/cat6500>

Cisco DistributedDirector

DistributedDirector provides dynamic, transparent, and scalable Internet traffic load distribution between multiple geographically-dispersed servers. It is a global Internet service-scaling solution that utilizes Cisco IOS software and leverages routing table information, delay characteristics, and other information to make “network intelligent” load distribution and site selection decisions.

When to Sell**Sell This Product**

Cisco Distributed Director

When a Customer Needs These Features

- Load distribution across geographically/topologically dispersed TCP/IP servers
- High availability for dispersed mission-critical applications
- Data center redundancy and failover

Key Features

- Transparent distribution of all IP Services (TCP and UDP), including HTTP, FTP, Telnet, and Gopher; provides global scalability for all IP-based network services
- Increases access performance and reduces transmission costs; Users need only a single subdomain name or URL-embedded hostname for accessing a distributed set of servers, thus providing the appearance of a single virtual server
- Improves access performance by redirecting to the topologically closest server
- Calculates client-to-server round-trip times in real time; redirects clients to server with lowest client-to-server link latency, maximizing end-to-end performance
- Redirects clients only to responsive servers, resulting in maximized availability
- Cisco IOS Software & standard CLI for device configuration
- Transparently add and remove distributed servers, simplifying maintenance
- Supports multiple domains; cost-effective IP service scalability solution

Competitive Products

- Alteon Networks: ACEdirector and Web Switches with WebOS GLSB
- F5 Labs: 3DNS
- Foundry Networks: ServerIron Switch with Internet IronWare

- Resonate, Inc.: Global Dispatch
- RND Networks, Inc.: Web Server Director - Network Proximity (WSD-NP)

For More Information

See the DistributedDirector Web site at <http://www.cisco.com/go/dd>

Cisco GSS 4492R Global Site Selector Appliance

The Cisco GSS 4492R Global Site Selector is part of the Cisco ACE Application Control Engine family and a crucial component of any data center architecture that requires an appliance-based, security-focused, universal global load balancer. It is deployed with Cisco ACE Application Control Engine Modules. Using a special protocol (keepalive application protocol [KAL-AP]) enables the exchange of application load and availability between the Cisco ACE GSS 4492R and the Cisco ACE module



Key Features

- Provides resilient architecture critical for disaster recovery and multi-site Web applications deployments
- Optional software supporting full DNS and DHCP services allowing the GSS to be deployed as a DNS appliance
- Advanced traffic management for multi-site Web application deployments
- Unique DNS-focused DDoS protection software that can mitigate the effects of DNS-based DDoS attack
- Centralized command and control of DNS resolution process for direct and precise control of global load-balancing process
- Site persistence for e-commerce applications
- Supports a Web-based GUI, role-based access and DNS wizard to simplify the DNS command and control

Competitive Products

- F5 Networks 3DNS
- Nortel/Alteon Content Director

Specifications

Feature	Cisco GSS 4492R
Number of Ports	Two 10/100/1000 Fast Ethernet autosensing, one console port
Port Description	Network Ports: Two 10/100Base TX; Console Port
DNS requests per second	Up to 30,000, depending on configuration
Network management	Console port-CLI; Access to system through Telnet; Secure copy (SCP) or FTP; GUI-Secure HTTP (HTTPS) for Internet Explorer and Netscape Navigator; Network management MIBs; Read-only monitoring of network and device status, including RFC 1213; (MIB-II) and RFC 1514 (HOST-RESOURCES-MIB)
Storage	One 80-GB hard drive; Software image SF-GSS-V1.3-K9; 2 GB RAM; Pentium CPU
Physical	One-rack unit size chassis; 1 GB RAM; Prescott 3.2-GHz CPU
Power	Integrated AC power (autosensing 110V/60 Hz)
Weight	28 lb (12.7 kg)
Temperature	Operational: 50 to 95°F (10 to 35°C); Storage: -40 to 140°F (-40 to 60°C)
Dimensions (H x W x D)	1.67 x 16.9 x 20 in. (42.4 x 429 x 508 mm)

Selected Part Numbers and Ordering Information¹

Cisco GSS 4492R

GSS 4492R-K9

SF-GSS-V2.0-K9

SF-GSS-DDOSLIC

SF-GSS-DNSLIC

Cisco GSS 4492R Global Site Selector

Cisco Global Site Selector Software 2.0

DDoS Mitigation Software (requires Cisco Global Site Selector Software 2.0)

Cisco GSS DNS license (requires Cisco Network Registrar 6.2 software [CNR-6.2-BASE1K] for full DNS capability) and Cisco Global Site Selector Software 2.0

For More Information

See the Cisco GSS 4492R Web site: <http://www.cisco.com/go/gss>



Broadband and Dial Access

Broadband and Dial Access Products at a Glance

Broadband Cable

Product	Features	Page
Headend and Distribution Hub Equipment		
Cisco uBR7100 Series Universal Broadband Router	Entry-level, standards-based fixed-configuration CMTS and integrated router for lower-density residential and MxU customers serviced by cable operators or ISPs. <ul style="list-style-type: none"> • Compact form factor (2RU) • Supports up to 2,000¹ broadband subscribers • Layer 2 bridging and full Layer 3 routing • DOCSIS 1.0, 1.1 and Euro--DOCSIS 1.0 qualified; supports DOCSIS Set-top Gateway (DSG) • Fixed-configuration models including: Cisco uBR7111, Cisco uBR7111E, Cisco uBR7114, and Cisco uBR7114E • Integrated upconverter/modulator • Embedded dual 10/100 BaseT Ethernet network interface • Selection of LAN and WAN interfaces 	7-2
Cisco uBR7246VXR Universal Broadband Router	Modular, standards-based communications-grade CMTS and integrated router for high-growth broadband cable deployments Supports up to 10,000 ¹ broadband subscribers <ul style="list-style-type: none"> • Offers large variety of LAN and WAN interface options and processors • Full Layer 3 implementation • DOCSIS, 1.0, 1.1, Euro-DOCSIS 1.0, 1.1, 2.0 (ATDMA-only) and PacketCable 1.1 qualified; Supports Advanced Mode DSG • Selection of cable line cards that includes Cisco uBR7200 Series MC28U, MC28X, MC16U, and MC16X Broadband Processing Engines (BPEs) 	7-3
Cisco uBR10012 Universal Broadband Router	Highest-capacity communications-grade CMTS on the market today. Delivers the services, performance, scale, and carrier-class reliability large cable operators and ISPs demand <ul style="list-style-type: none"> • Supports up to 64,000¹ broadband subscribers • A-TDMA and advanced spectrum management • Full Layer 3 implementation • DOCSIS, 1.0, 1.1, Euro-DOCSIS 1.0, 1.1 and PacketCable 1.1 qualified; Supports Advanced Mode DSG • High-performance aggregation platform with Parallel Express Forwarding patented by Cisco • Cisco 5x20U Broadband Processing Engine (BPE) • Network interfaces that includes 1 Gbps over Gigabit Ethernet and OC-48-Dynamic Packet Transport (DPT) Interface Module Set 	7-4
Cisco uBR3x10 RF Switch	RF cabling multiplexer switch that enables a fully redundant uBR10012 configuration with no single point of failure <ul style="list-style-type: none"> • Allows operators to exceed packetcable system availability requirements, minimize service disruptions and simplify operations • Maximizes density with more than 250 MCX-type connectors in 3 RU 	7-5

1. Numbers are for reference only. Actual numbers for specific systems will vary depending on network/service loading, traffic, and other parameters.

Network Management

Product	Features	Page
Cisco Broadband Troubleshooter	<ul style="list-style-type: none"> Provides a diagnostic tool for RF technicians to quickly and easily isolate problems in the cable plant Analyzes and sorts RF conditions into specific categories such as attenuation, provisioning, noise or packet corruption (CRC) errors Provides dashboard views of network health, CMTS and CM statistics, and CM snapshots Correlates CM to subscriber information Works with an optional tool to map CMs and status to subscriber street-level views 	9-24
Broadband Access Center	<ul style="list-style-type: none"> A distributed, scalable, subscriber-device-management application Enables automated flow-through provisioning of subscriber services Provides a centralized, automated platform for service providers to control and configure residential home gateways, as well as IP devices behind the gateways 	9-25
Cisco Broadband Policy Manager	<ul style="list-style-type: none"> Helps deploy, administer, and deliver multiple services on converged IP networks Multivendor network device control Reduced time and expense for system integration Highly scalable distributed deployment High-availability characteristics 	9-26

DSL (Digital Subscriber Line) Access

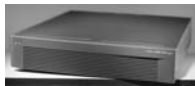
Product	Features	Page
DSL Access CPE¹	Wide variety of Cisco router-based DSL CPE solutions for business-class to small office applications	7-6

1. For ADSL, ISDN, and IDSL small office/home office (SOHO) customer premise equipment (CPE), see Chapter 1: Routing

ATM Multiservice WAN Switching

Product	Features	Page
Cisco MGX 8850 Series Advanced ATM Multiservice Switches	<ul style="list-style-type: none"> Multiservice switch, scales from DS0 to OC-48c/STM-16 speeds Serves as a stand-alone device for narrowband services, an integrated edge concentrator or a broadband edge switch when equipped with 45 Gbps switch card and broadband ATM modules Supports PNNI routing 	7-7
Cisco MGX 8830 Series Multiservice Switches	<ul style="list-style-type: none"> Multiservice switch scales from DS0 to OC-3c/STM-1 speeds A standalone switch with narrowband interfaces and broadband trunking to remote sites with low density and high service mix requirements with 1.2 Gbps or 45 Gbps switch fabric in the enhanced chassis Supports PNNI routing 	7-7

Cisco uBR7100 Series Universal Broadband Router



The Cisco uBR7100 Series is a complete, compact, easy-to-use product that enables cost-effective, high-speed Internet access in the hospitality multidwelling (MDU) and multitenant (MTU) market space using the coaxial cable already in a building. The product requires exceptionally low capital investment and minimal setup time to provide online Internet access and support residential voice services. For Tier 2 or Tier 3 cable operators, it is the industry's most cost-effective, feature-rich CMTS and integrated router. The Cisco uBR7111 and Cisco uBR7114 models are CableLabs qualified to DOCSIS 1.0 and 1.1 specifications. The Cisco uBR7111E and Cisco uBR7114E models are tComLabs qualified to EuroDOCSIS 1.0 and supports EuroDOCSIS 1.1 specifications. The series supports DSG. The Cisco uBR7111 and Cisco uBR7111E contain one downstream port and one upstream port. The Cisco uBR7114 and Cisco uBR7114E contain one downstream port and four upstream ports.

When to Sell

Sell This Product

Cisco uBR7100 Series

When a Customer Needs These Features

- For MxU customers: the Cisco uBR7100 Series enables high-value Internet and residential voice services over a DOCSIS or EuroDOCSIS cable infrastructure
- For cable operators: Given the small subscriber base of a typical multitenant/dwelling unit (MxU) setting, the challenge has been to deliver robust services quickly and cost-effectively for an accelerated break-even point and a quicker return on investment

Key Features

- Complete package that includes a full Layer 3 router and CMTS with an integrated upconverter, and embedded Network Interface
- Standards-based: DOCSIS and EuroDOCSIS
- Reliable operation to ensure the system remains online

Specifications

Feature	Cisco uBR7111 and uBR7114	Cisco uBR7111E and uBR7114E
Memory	Flash: 48 MB; System: 128 MB	Flash: 48 MB; System: 128 MB
Line Card with Integrated Upconverter (Cable Plant Interface)	uBR7111: 1 downstream and 1 upstream uBR7114: 2 downstream and 4 upstreams	uBR7111E: 1 downstream and 1 upstream uBR7114E: 2 downstream and 4 upstreams
Integrated Upconverter	DOCSIS Annex B, 6 MHz High level output: $\approx +61$ dBmV, 55 to 858 MHz Optimized for 64 and 256 QAM	DOCSIS Annex A, 8 MHz, High level output: $\approx +61$ dBmV, 55 to 858 MHz Optimized for 64 and 256 QAM
Power Options	Single; 100 to 240 VAC input voltage	Same as Cisco uBR7111 and Cisco uBR7114
Recommended Cisco IOS Software Release	12.3(13)BC	12.3(13)BC
Port Adapter (WAN or backbone Interface)	Embedded dual 10/100 BaseT Ethernet (FE TX) provided; Same as Cisco uBR7111 and Cisco uBR7114 supports one additional PA that includes: Ethernet, Serial, ATM, and POS.	

For More Information

See the Cisco uBR7100 series Web site:

<http://www.cisco.com/en/US/products/hw/cable/ps2211/index.html>

Cisco uBR7246VXR Universal Broadband Router



The Cisco uBR7246VXR Universal Broadband Router, a member of the Cisco uBR7200 Series, provides a single, Layer 3 routing, multiservice, scalable platform that gives cable companies the ability to deliver IP data, voice and video services to DOCSIS, Euro-DOCSIS, and PacketCable-compliant cable modems, set-top boxes and multimedia terminal adapters.

When to Sell

Sell This Product
Cisco uBR7246VXR

When a Customer Needs These Features

- Flexible port expansion for multiservice deployment options
- Service support of up to 10,000 subscribers per chassis with 3.2 Gbps back plane¹
- Powerful processor and edge intelligence; Field proven and carrier class reliability
- Support for multimedia services
- High tolerance to HFC network/spectrum noise

1. Numbers are for reference only. Actual numbers for specific systems will vary depending on network/service loading, traffic, and other parameters

Key Features

- Modular design—1,000- 10,000 subscribers per chassis supported based on different configurations
- Five 9's availability for low cost maintenance
- Advanced PHY
- ATDMA / DOCSIS compliant; Euro-DOCSIS 2.0 (A-TDMA only), DOCSIS 1.1 qualified, and PacketCable 1.1 qualified; tComLabs qualified to Euro-DOCSIS 1.0, 1.1, and 2.0 (ATDMA-only) specifications. The product also supports Advanced Mode DSG.
- Powerful Layer 3 routing intelligence and sophistication

Specifications

Feature	Cisco uBR7246VXR
Number of Cable Line Card Slots	4
Supported cable line cards (Cable Plant Interfaces)	uBR7200 Series MC28U, MC28X, MC16U, and MC16X Broadband Processing Engines uBR-MC28C and uBR-MC16C Universal Broadband Line Cards
Port Adapter Slots (LAN/WAN interfaces)	2
Supported PA categories	Ethernet Serial, HSSI, ATM, POS, DPT
Power Supply Shots	2
Power Supply Option	AC; Dual AC; DC; Dual DC
Input/Output (I/O) controller	uBR7200-I/O-2FE/E, not required if uBR7200-NPE-G1 is installed in the system
I/O flash options for PCMCIA slots	Flash disk (48 MB); Flash disk (128 MB)
Network processing engines (NPE)	uBR7200-NPE-G1 and NPE-400
Add-on processor memory options	128 MB, 256 MB, or 512MB for NPE-400 256 MB, 512 MB, or 1 GB for uBR7200-NPE-G1
Router Bandwidth	3.2 Gbps

For More Information

See the uBR7200 Web site:

<http://www.cisco.com/en/US/products/hw/cable/ps2217/index.html>

Cisco uBR10012 Universal Broadband Router

The Cisco uBR10012 Universal Broadband Router addresses the volume, capacity, and complexity of large cable headends or distribution hubs. The Cisco uBR10012 delivers the highest level of service availability and capacity of any production CMTS available today. It employs a mix of distributed, centralized, and parallel processing to enable consistently high, real-world performance. The Cisco uBR10012 is CableLabs qualified to PacketCable 1.1, DOCSIS 1.0 and 1.1 specifications. The product is also tComLabs qualified to EuroDOCSIS 1.0 and 1.1 specifications. The product further supports Advanced Mode DSG.



When to Sell

Sell This Product
Cisco uBR10012

When a Customer Needs These Features

- Large subscriber bases
- Edge routing or aggregation of DOCSIS traffic
- High-end throughput, capacity, and service handling
- Advanced multimedia service delivery
- Sophisticated Layer 3 routing intelligence
- Complex network interface configurations

Key Features

- Highest density and capacity: 5,000 - 64,000 subscribers
- Powerful process and throughput
- Five 9's availability
- GE line rate -> OC-48
- Scalable performance
- A-TDMA / DOCSIS 2.0
- Advanced intelligence features

Specifications

Feature	Cisco uBR10012
Modular Slots	8 slots for cable line cards; 4 slots for LAN/WAN interfaces; 2 slots for Performance Routing Engines (PREs); 2 slots for Timing Communication and Control Plus (TCC+) modules
Supported Cards	Cable line cards that include Cisco MC5X20U Broadband Processing Engine (BPE), Cisco 5X20H BPE Timing, Communications, and Control Plus (TCC+) card Gigabit Ethernet Half-Height (HH-1GE) network uplink card and OC-48 DPT Interface
Processor Type	Parallel Express Forwarding (PXF)
Flash Memory	64 MB (default); 128 MB (maximum)
DRAM Memory	1 GB DRAM (default PRE2)
Software Supported	Cisco IOS Software Release 12.3(17)BC2 recommended; Minimum software requirement: Cisco IOS Software Release 12.2(11)BC1 minimum for the Cisco 5X20 BPE, Cisco IOS Software Release 12.2(13)BC minimum for the Cisco OC-48 DPT Interface, Cisco IOS Software Release 12.3(9)BC minimum to support the Cisco PRE-2, Cisco IOS Software Release 12.3(13)BC minimum to support the Cisco Gigabit Ethernet Half-Height Line Card, Cisco IOS Software Release 12.3(17)BC2 minimum to support the Cisco MC5X20H BPE
Power Supply	DC, AC
Hot-Swappable	Yes
Backplane Capacity	51.2 Gbps
Dimensions (H x W x D)	31.25 x 17.2 x 22.75 in. (79.4 x 43.7 x 57.8 cm)—18 rack units (RU) Mounting: 19 in. rack mountable (front or rear), 2 units per 7 ft. rack Note: Mounting in 23 in. racks is possible with optional third-party hardware
Weight	Weight: 235 lb (106.6 kg) fully configured chassis

For More Information

See the Cisco uBR10012 Web site:

<http://www.cisco.com/en/US/products/hw/cable/ps2209/index.html>

Cisco uBR 3x10 RF Switch

The Cisco uBR 3x10 RF Switch is an integral part of the Cisco uBR10012 High Availability solution. It enables a fully redundant system that helps cable operators exceed PacketCable system availability, minimize service disruptions, and simplify operations.



When to Sell

Sell This Product
Cisco uBR 3x10 RF Switch

When a Customer Needs These Features

- Advanced services, like VoIP, DSG STB deployments, and highly available commercial services
- Carrier class N+1 network and service architecture
- High density HA service support
- Scalability to tens of thousands of subscribers

Key Features

- N+1 redundancy
- Hot swap capability of all RF switch modules with no RF service disruption
- Support of DOCSIS and Euro-DOCSIS RF performance specifications
- Most comprehensive set of high availability features
- Redundancy Readiness Verification, for proactive redundancy health monitoring and reporting
- Fully passive working path
- Active components only in protect path
- Position-sensing latching relays
- Unmatched port density and flexibility

Specifications

Feature	Cisco uBR 3x10 RF Switch
Input Power Requirements	AC: 100 to 240 VAC, 50 or 60 Hz, operating range: 90 to 254 VAC DC: -48 to -60 VDC, operating range: -40.5 to -72 VDC, 200 mVpp ripple/noise
Environmental	Operational temperature range: 0 to +40C Operating temperature range: -5 to +55C
Unit Control	10BaseT Ethernet—SNMP Switching time from active (working) to standby (protect): 150 mS maximum after SNMP command
Connectors	RF connectors: MCX; AC power: IEC320 type; DC power: Three terminal block; Ethernet: RJ-45; RS-232 Bus: 9-pin male D
Reliability	41,000 MTBF @ +50C as calculated by Bellcore 5, 80 percent confidence factor
Dimensions (H x W x D)	5.25 x 17.5 x 14.8 in. (13.335 x 44.45 x 37.592 cm)
Weight	36 lbs
RF requirements	Input/output impedance: 75 ohms; Maximum RF input power: +15 dBm (63.75 dBmV); Switch type: Electro-mechanical, absorptive for working path, non-absorptive; on the protect path; Switch setting time per switch module: 20 ms maximum; Downstream frequency range: 54 to 860 MHz; Typical downstream insertion loss: +/- 1.1 dB from CMTS to cable plant; +/- 2.1 dB from protect to cable plant; 5.5 dB from working to output; 8.0 dB from protect to output Downstream insertion loss flatness: +/- 1.1 dB from CMTS to cable plant; +/- 2.1 dB from protect to cable plant Downstream output return loss: >15.0dB at <450 MHz, > 12.0 dB at >= 450 MHz; Downstream input return loss: >15.0 dB; Downstream isolation: > 60 dB from channel to channel in working mode; > 52 dB from CMTS to protect when in protect mode; Upstream frequency range: 5 to 70 MHz; Typical upstream insertion loss: 4.1 dB from cable plant to CMTS; 5.2 dB from cable plant to protect; Upstream insertion loss flatness: +/- 0.4 dB from cable plant to CMTS, +/- 0.6 dB from cable plant to protect; Upstream input return loss: > 16 dB; Upstream isolation: > 60 dB from channel to channel in working mode; > 60 dB from CMTS to protect when in protect mode; Protect mode: CMTS return loss >10 dB, cable plant return loss: >10dB

For More Information

See the Cisco uBR 3x10 RF Switch Web site:

<http://www.cisco.com/en/US/products/hw/cable/ps2929/index.html>

DSL Remote Access—Customer Premise Equipment (CPE)

Cisco offers the industry's broadest array of business-class DSL (G.SHDSL and ADSL) CPE solutions, from Enterprise to branch office, to SOHO applications. CPE offers Firewall VPN, IPS, Voice-over DSL support and IOS-based capabilities enabling QoS, policy management, and standardized set-up and configuration. Cisco CPE Products include:

- Cisco 800 Series Routers with a range of interfaces like Ethernet, ADSL over ISDN (ADSL, ADSL2 and ADSL2+), ADSL over POTS (ADSL, ADSL2, ADSL2+ and ADSL2/2+ Annex M), and G.SHDSL (2-wire & 4-wire)
- Cisco 1800 Series Routers with a range of interfaces like Ethernet, ADSL over ISDN (ADSL, ADSL2 and ADSL2+), ADSL over POTS (ADSL, ADSL2, ADSL2+ and ADSL2/2+ Annex M), and G.SHDSL (2-wire & 4-wire)
- ADSL over ISDN, ADSL over POTS and G.SHDSL (2-wire & 4-wire) WAN Interface Cards (WICs) for 1700, 1800, 2600XM, 2800, and 3800 Series
- ADSL over ISDN (ADSL, ADSL2 and ADSL2+) and ADSL over POTS (ADSL, ADSL2, ADSL2+ and ADSL2/2+ Annex M) High-Speed WAN Interface cards (HWICs) for 1800, 2800, and 3800 series. (see Chapter 1: Routing)



Note

Refer to Chapter 1: Routing section for easy-to-order xDSL bundles.

ATM Multiservice WAN Switching

Cisco MGX 8850 ATM Multiservice Switch

The Cisco MGX 8850 ATM Multiservice Switch enables delivery of a complete portfolio of service offerings while scaling from DS0 to OC-48c/STM-16 speeds. It enables service providers to offer high-margin voice and data services. The MGX 8850 universal chassis provides a unified ATM architecture that delivers a complete portfolio of differentiated services -from circuit emulation to IP VPNs-all within a single chassis with 16 double-height slots, to enable service providers to easily add new services. Two different operation modes are offered:

- 1.2Gbps configuration—Operates as a stand alone switch for low density narrowband services, it includes a 1.2 Gbps switch card (PXM-1E)with PNNI routing. There are various PXM-1E integrated network interface cards such as the T1/E1, T3/E3 and OC-3/STM1; Supports up to 12 Double-Height / 24 Single-Height User Service Modules to support FR, ATM, CES, IP and Voice Services
- 45 Gbps configuration—Serves as a broadband edge switch and includes the 45 Gbps switch card (PXM-45) and broadband ATM modules. The PXM-45 configuration also supports standards-based PNNI routing; Supports up to 12 Double-Height / 24 Single-Height User Service Modules to support FR, ATM, CES, IP and Voice Services

Key Features

- Flexible ATM Multiservice platform
- Highly scalable—from 1.2 to 45 Gbps of non-blocking throughput in single chassis
- Highest reliability, availability, and serviceability in the industry
- IP VPNs using Cisco IOS software-based Multiprotocol Label Switching (MPLS)
- Market-leading Frame Relay capabilities, with price-per-port leadership and advanced QoS
- High-density Point-to-Point protocol (PPP) for Internet access and aggregation
- Full-featured narrowband ATM for managed data, voice, and video services; high-density broadband ATM for wholesale ATM services
- Circuit Emulation for Private Line replacement
- Highly scalable packet voice gateway providing VoIP and VoATM(AAL1 & AAL2),

For More Information

See the Cisco MGX 8850 Web site: <http://www.cisco.com/go/mgx8850>

Cisco MGX 8830 ATM Multiservice Switch

The Cisco MGX 8830 Advanced ATM Multiservice Switch is a compact and cost-effective solution to extend a full suite of narrowband and broadband services, voice gateway functionality and broadband trunking to edge of service provider network. Interface speed ranges from DS0 to OC-12/STM-4. It features a 7-slot chassis for smaller footprint and lower power consumption than the MGX 8850. The Cisco MGX 8830/B chassis supports switching capacity of 1.2 Gbps or 45 Gbps and acts as a standalone switch. It inherits the proven reliability and shares the service modules with the MGX 8850. It offers a full range of service interfaces including ATM, FR, CE, MPLS, VoIP and VoATM(AAL1 & AAL2).

For More Information

See the Cisco MGX 8830 Series Web site: <http://www.cisco.com/go/mgx8830>



Optical Networking

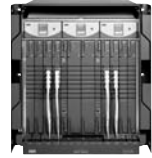
Optical Networking at a Glance

Product	Features	Page
Metro Core		
Cisco ONS 15600 Multiservice Provisioning Platform (MSPP)	<p>Allows service providers to seamlessly integrate their metro core and metro edge networks, 8-3 while dramatically reducing initial turn up costs.</p> <p>Provides 320 gigabits of switching, grooming, aggregation, and bandwidth management capacity in a single shelf</p> <p>Supports 32, OC-192/STM-64 long reach or 128, OC-48/STM-16 long reach optical interfaces in a single shelf</p> <p>Offers any service/any port (ASAP) service cards that hold up to four pluggable I/O (ASAP 4-PIO) modules each capable of supporting up to four - 2.5 Gbps SFP optics capable of both fixed-rate and multirate formats</p> <p>Combines the functionality of multiple metro systems including SONET/SDH multiplexers and digital cross-connect network elements</p> <p>Provides carrier-class availability, serviceability, and management</p> <p>Scalable, easy-to-use platform supports all metro topologies</p>	
Cisco ONS 15454 Multiservice Provisioning Platform (MSPP)	<p>Integrates the functions of legacy SONET or SDH network elements with next-generation SONET/SDH transport, integrated wavelength division multiplexing (WDM) optical networking, and multiservice interfaces:</p> <p>Multiservice TDM and Data aggregation over 2.5-Gbps and 10-Gbps wavelengths</p> <p>SONET/SDH wavelength and aggregated services—OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, OC-192/STM-64</p> <p>Data services—private-line, switched and wavelength-based, including 10/100BASE-T, Gigabit Ethernet, 10 Gigabit Ethernet LAN physical layer, and 10 Gigabit Ethernet WAN physical layer</p> <p>Storage services—1-Gbps and 2-Gbps Fibre Channel, 10-Gbps Fibre Channel, IBM Fiber Connection (FICON), and Enterprise Systems Connection (ESCON), ETR/CLO, ISC-1</p> <p>Video services—D1 and high-definition television (HDTV)</p> <p>Combines multiplexing, optical networking, and switching functionality in one easy-to-use platform that supports all metro topologies</p>	8-3
Metro DWDM		
Cisco ONS 15454 SONET/SDE Multiservice Transport Platform (MSTP)	<p>Delivers integrated, intelligent DWDM functionality, including fully reconfigurable optical add/drop multiplexer (ROADM) technology, for metropolitan and regional networks (up to 32 wavelengths per node):</p> <p>Multiservice TDM and Data aggregation over 2.5-Gbps and 10-Gbps wavelengths</p> <p>SONET/SDH wavelength and aggregated services—OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, OC-192/STM-64</p> <p>ROADM functionality—Zero to 32 channels of pass through or add/drop, A-Z wavelength provisioning and full, realtime power monitoring of each individual wavelength</p> <p>Data services—private-line, switched and wavelength-based, including 10/100BASE-T, Gigabit Ethernet, 10 Gigabit Ethernet LAN physical layer, and 10 Gigabit Ethernet WAN physical layer</p> <p>Storage services—1-Gbps and 2-Gbps Fibre Channel, 10-Gbps Fibre Channel, IBM Fiber Connection (FICON), and Enterprise Systems Connection (ESCON), ETR/CLO, ISC-1</p> <p>Video services—D1 and high-definition television (HDTV)</p>	8-4
Cisco ONS 15530 Metro DWDM Aggregation Platform	<p>High-density and scalable DWDM multiservice aggregation platform</p> <p>Ideal for both enterprises and managed service providers</p> <p>Network consolidation of storage, data, and legacy applications</p> <p>Up to 8 Fibre Channel / FICON / GbE services or up to 40 ESCON services per wavelength</p> <p>Support for up to 4-ports of 2 Gbps Fibre Channel services per wavelength</p> <p>8-port Multi Service Muxponder supports up to 8 multiservice interfaces (T1/E1, OC3-STM-1, ESCON, D1 Video, FE, GE, 1GFC, and ITS) per wavelength</p> <p>Scales from 2.5Gbps to 10Gbps</p> <p>Supports wide range of protocols over a highly-available optical infrastructure</p> <p>Highly resilient network with flexible topology design options</p>	8-4

Product	Features	Page
Cisco ONS 15540 Extended Services Platform	Highly modular and scalable next-generation DWDM platform offering Industry Leading Wavelength Density Ideal for enterprises requiring Business Continuance (BC) and Disaster Recovery (DR) Solutions and service providers offering Enterprise BC and DR Managed Services Delivers the integration of data, storage and metro networking Ultra-high bandwidth intelligent optical infrastructure	8-5
Cisco ONS 15216 and 15501 Optical Transmission Families	Cisco ONS 15216 Metro DWDM Series Supports 32 ITU-grid wavelengths at 100 GHz spacing and provides unprecedented transport flexibility with optical filtering Combines wavelengths launched by the Cisco ONS 15454, and ONS 15530-creates a more desirable cost per-wavelength Optical Add/Drop Multiplexing (OADM) Optical Performance Monitoring and Amplification Compact, modular design Cisco ONS 15501 Optical Amplifier Constant flat gain of 17 dB over the 1530nm to 1563nm band simplifies network design. Metro optimized auto gain control and variable gain Low noise figure of <6.0 dB allows the use multiple amplifiers in cascade Input power range of -29 to 0 dBm	8-6
Metro Edge Access		
Cisco ONS 15327 SONET Multiservice Provisioning Platform (MSPP)	Integrated optical networking platform and unprecedented multiservices on demand for the metro access or customer location: Offers optimized bandwidth management, high-speed IP-based data services, rapid service provisioning, and multiple optical interfaces Aggregates and switches TDM, 10/100 BaseT Ethernet and GigE, data and video services Compact footprint (3 rack-units), modular design and industrially hardened	8-6
Cisco ONS 15310-MA SONET Multiservice Provisioning Platform (MSPP)	High density aggregation and transports up to 168 DS1s, 6 DS3s, or 32 L1 or L2/3 Ethernet ports Offers tremendous service flexibility, supporting DS1, DS3/EC1, L1 and L2/3 Ethernet, and SFP enabled optics for OC3, OC12, OC48. Environmentally hardened design supporting up to 99.999 percent reliability for both access and edge networks. Compact six Rack Unit design	8-7
Cisco ONS 15310-CL SONET Multiservice Provisioning Platform (MSPP)	Compact 1 RU single system controller design, optimized for data and TDM services over protected SONET transport for the customer location. 1RU AC or dual-DC power chassis Single system controller/timing/synchronization 2x small form-factor pluggable (SFP) optical ports for rings 21 DS1s, 3 DS3s 1 expansion slot Fan-cooled	8-7
Cisco ONS 15302/15305 SDH Multiservice Provisioning Platforms (MSPP)	Ultra-compact integrated systems that extend next-generation optical networks (access nodes or CPE): Low-cost access/customer premise equipment (CPE) platform E1, E3, DS3, 10/100 BaseT Ethernet and GigE STM-1 (15302) or STM-1/4/16 (15305)	8-8
Optical Network Management		
Cisco Transport Manager (CTM 8.0)	Advanced optical transport domain manager that delivers element and network management layer functionality: Efficiently manages the entire Cisco ONS product family and Cisco CRS-1 and XR-12000 Series routers Provides a resilient, adaptable, and integrated carrier-class EMS solution Powerful GUI-based management system makes advanced management capabilities such as A-to-Z circuit provisioning easy to learn and use Cost-effective, using industry-standard platforms such as Sun Solaris, Oracle, and Microsoft Windows to fit smoothly into various IT environments Offers a variety of northbound interface options (e.g., SNMP, TL1 and CORBA)	8-8
Metro edge access routers		
Cisco 10720 Internet Router	Service provider-class metro access services router Equipped with 24 ports of Ethernet technology for customer access and dynamic packet transport (DPT) technology for metro optical connectivity With DPT architecture, enables optimal fiber connectivity as well as features such as IP class of service, TLS, VoIP and VPN services See Chapter 1—Routers for more information on the Cisco 10720 Internet Router	1-46
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco ONS 15600 Multiservice Provisioning Platform

The Cisco ONS 15600 provides unparalleled flexibility in designing next generation metro networks. Fully engineered and optimized for metro applications, the Cisco ONS 15600 MSPP simplifies and revolutionizes bandwidth management in the metro core by allowing service providers to seamlessly integrate their metro core and metro edge networks, while dramatically reducing initial turn up costs. The Any Service Any Port (ASAP) interface cards of the Cisco ONS 15600 provide 1 to 16 ports of capacity to aggregate and transport mission-critical regional/metropolitan-area (metro) traffic using a modular, flexible and scalable design that allows single- and multiple-rate optics from OC-3 to OC-48, including Gigabit Ethernet SFP optics. Delivering scalability to 960 Gbps of traffic in a single rack, it complements the market-leading Cisco ONS 15454 MSPP by leveraging its proven architecture and operating software. This allows service providers to dramatically simplify their metro networks and realize immediate cost, space and operational benefits. The Cisco ONS 15600 MSPP provides complete integration of metro core and edge networks for service provisioning and network management.



For More Information

See the ONS 15600 Series Web site: <http://www.cisco.com/go/ons15600>

Cisco ONS 15454 Multiservice Transport Platform

The Cisco ONS 15454 Multiservice Transport Platform (MSTP) sets the industry benchmark for metropolitan and regional dense wavelength-division multiplexing solutions by using proven Cisco MSPP networking technologies to deliver simple, fast, and intelligent DWDM capabilities and lower capital and operating expenditures. A metropolitan network, being close to or on a customer's premises-unlike its long-haul counterpart-requires support for a great diversity of service interfaces. The service interfaces allow network providers to offer new tariffs and enable enterprise customers to natively transport a wide variety of services over a common transport network without unnecessary conversion stages and equipment. Additionally, a wide service mix simplifies the planning for services. The Cisco ONS 15454 MSTP, with its MSPP capabilities, supports a broad range of standards-based services in a single platform



Critical to offering a wide service mix is a DWDM system's ability to offer the level of transparency required by the service. The ultimate in network management flexibility is achieved through an industry leading, fully reconfigurable optical add/drop multiplexer (ROADM) that allows zero to 32 channels of pass through or add/drop, A-Z wavelength provisioning, and full realtime power monitoring of each individual wavelength. The Cisco ONS 15454 MSTP solution offers the choice of multiservice aggregation, wavelength aggregation, and wavelength transport, combined with integrated, intelligent DWDM transmission, in a single platform to optimize network costs for any mix of service types. Using digital-wrapper technology (defined in ITU-T G.709) enables transparency while still allowing enhanced wavelength management and providing extended optical reach with integrated Forward Error Correction (FEC).

For More Information

See the ONS 15454 MSTP Web site:
<http://www.cisco.com/en/US/products/hw/optical/ps2006/ps5320/index.html>

Cisco ONS 15454 Multiservice Provisioning Platforms



The Cisco ONS 15454 Multi-service Provisioning Platforms (MSPP) are key building blocks in optical networks due to its unprecedented transport performance and economics. It offers supercharged transport capability by combining the best of traditional SONET time division multiplexing (TDM) and statistical multiplexing in single units. The Cisco ONS 15454 aggregates traditional facilities such as DS1, DS3, STS-1, OC-3, OC-12, and OC-48 including multi-wavelength DWDM optics, and also supports data interfaces for 10/100/GigE, data and video. This enables drastically improved efficiencies in the transport layer and breakthrough cost savings for initial and life cycle deployment. A single ONS 15454 shelf can support combinations of OC-3/c, OC-12/c, OC-48/c, and OC-192. It also offers an international optical transport solution that combines the best of traditional SDH TDM and statistical multiplexing in a single platform.

For More Information

See the ONS 15454 SONET Web site: <http://www.cisco.com/go/ons15454>

See the ONS 15454 SDH Web site: <http://www.cisco.com/go/15454sdh>

Cisco ONS 15530 Metro DWDM Aggregation Platform



The Cisco ONS 15530 is a highly scalable DWDM multiservice aggregation platform that integrates storage, data networking, and legacy applications over an ultra-high-bandwidth, intelligent optical infrastructure. The ONS 15530 supports Fibre Channel extension over DWDM via buffer-to-buffer credit support to significantly increase disaster recovery distances; Industry-leading aggregation of IBM Coupling Facility Links used in IBM GDPS storage networks; New Low-band Variable Rate SFP Optics for expanded protocol support.

Key Features

- ONS 15530 4-Port 1-Gbps/2-Gbps Fibre Channel Aggregation Card provides efficient wavelength usage by aggregating up to four 2-Gbps Fibre Channel, IBM Fiber Connection (FICON), and IBM Intersystem Channel (ISC) services onto a single 10-Gbps wavelength
- 8-port Multi Service Muxponder provides the aggregation of up to 8 low speed services such as T1/E1, OC3-STM-1, ESCON, D1 Video, FE, GE, 1 Gbps FC, and ITS per 2.5 Gbps wavelength
- Industry leading Service Aggregation—up to 4 ports of 2 Gbps Fibre Channel, up to 8 ports of Fibre Channel, FICON, or Gigabit Ethernet or up to 40 ports of ESCON per wavelength
- Capacity—Fiber capacity is maximized when used with a 32-wavelength system providing up to 256 Fibre Channel, FICON, or Gigabit Ethernet services or up to 1280 ESCON services on a single fiber pair.
- Scalability—up to 32 wavelengths ranging from 2.5 Gbps to 10 Gbps
- Multiservice Interfaces—Customers have a single scalable platform that supports low speed copper legacy services such as T1/E1 (PBX interconnect), OC-3/STM-1, Fast Ethernet and D1 Video, in addition to high density ESCON, GE, and 1Gb FC services

- Service mixing—Ability to mix a combination of Fibre Channel, FICON, ESCON, and Gigabit Ethernet services over the same wavelength
- Complete Amplification Solution—Enables enterprises and service providers to further expand their optical DWDM networks over greater distances when used with EDFA optical amplifiers

For More Information

See the Cisco ONS 15530 Web site: <http://www.cisco.com/go/ons15530>

Cisco ONS 15540 Extended Services Platform

The ONS 15540 Extended Services Platform with external cross connect capability (ESPx) is a highly modular, flexible, and scalable next generation DWDM platform that integrates data networking, storage area networking (SAN), TDM Synchronous Optical Network (SONET) and Synchronous Digital Hierarchy (SDH) technologies over an ultra high bandwidth, intelligent optical infrastructure that can support any packet, over any wavelength on any platform.



- Flexible Multi-Protocol Support—The Cisco ONS 15540 offers both variable rate transparent and fixed rate multi-protocol transponders that feature user selectable SFPs and support a variety of industry standard data rates between 16Mbps to 2.5Gbps as well as 10Gb Ethernet
- Scalable, flexible, and modular architecture in a high-density compact footprint—Provides superior operational support and network expansion on an as needed basis through its hot swappable modular lines cards, transponders, and optical multiplexers
- Simple Network Consolidation and Comprehensive Multi Service Support provided by the available ONS 15540 2.5GB and 10GbE transponders
- Optical, Service, and Application Level Performance Monitoring—provides industry-leading supports for service level agreements (SLAs)
- High Availability for mission critical networks—Provides 99.999% availability for demanding Managed Network Service Providers and enterprise business continuance applications, with hardware redundancy and automatic protection switching to protect against fiber cuts and equipment failures
- Multi-Service Integration—Transports ESCON, FICON, 1Gb/2GB Fibre Channel for SAN, Fast and Gigabit Ethernet, and 10 Gb Ethernet for data networking, and SONET/SDH at OC-3/STM1, OC-12/STM4, and OC-48/STM12

Key Features

- Compact modular design with external connectorization: External Direct Connect system from Line card to OADMs; Optional cross connect and fiber management system
- Tunable Type 2 Transponders with Multi Protocol Small form Factor Pluggables (SFPs): Variable data rate support between 16Mbps to 2.5Gbps; 16 Tunable transponders support 32 channels for reduced sparing costs; Multi-protocol SFP Support—Now featuring Variable Rate SFPs and support for IBM Sysplex/GDPS applications.
- Standards based Management support for SNMP, Ciscoview and CTM

- Protection Switch Module provides highly cost effective solution for fiber trunk protection
- Standards based Optical architecture conforming to ITU G.692 100GHz channel spacing
- This system has been qualified by IBM for Geographically Dispersed Parallel Sysplex (GDPS), and by EMC for Symmetrix Synchronous support as tested in their E-LAB environment

For More Information

See the Cisco ONS 15500 Series Web site: <http://www.cisco.com/go/ons15500>

Cisco ONS 15216 Metro DWDM Series

The Cisco ONS 15216 Metro DWDM solution supercharges wavelength services by supporting up to 32 ITU-grid wavelengths, and provides unprecedented transport flexibility with optical filtering, Optical Add/Drop Multiplexing (OADM), Optical Performance Monitoring and Amplification. It allows service providers to deliver more services per wavelength and more wavelengths per fiber.



The Cisco ONS 15216 Metropolitan Dense Wavelength-Division Multiplexing (DWDM) FlexLayer filter solution is an ultraflexible filter architecture that allows cable multiple system operators and service providers to build “pay-as-you-grow” networks with the flexibility to upgrade in-service without pre-provisioning channels that are not required. This approach creates a more desirable per-wavelength cost.

The FlexLayer architecture allows for deployment of point-to-point, point-to-multipoint, ring, bus, and tree-and-branch architectures. These networks can be deployed as unprotected or protected networks, and they may also be deployed in transmit-only applications for broadcast networks. This flexibility is inherent in the design of the FlexLayer architecture.

For More Information

See the ONS 15216 Metro DWDM System Web site:
<http://www.cisco.com/en/US/products/hw/optical/ps1996/ps1999/index.html>

Cisco ONS 15327 SONET Multiservice Provisioning Platform



The Cisco ONS 15327 combines high-bandwidth capacity and service diversity in a very compact footprint, enabling service providers to achieve increased economics at the metro edge. Based on the same technology as the industry leading Cisco ONS 15454, the ONS 15327 supports high optical bandwidth and has the ability to support OC-3/12/48, DS1, DS3, 10/100 and Gigabit Ethernet. With the ability to support either customer located or metro access, the ONS 15327 includes comprehensive STS- and VT-level bandwidth management and integrated data switching. The Cisco ONS 15327 also may serve as a digital cross-connect without the need for additional equipment. It aggregates and switches TDM and Ethernet services, and can be managed using the Cisco Transport Controller (CTC) element management system and CTM for network management.

For More Information

See the ONS 15300 Web site: <http://www.cisco.com/go/ons15300>

Cisco ONS 15310-MA SONET Multiservice Provisioning Platform



The Cisco ONS 15310-MA is a compact but high density SONET device capable of multiservice TDM and Data aggregation and transport. The ONS 15310-MA offers tremendous service flexibility, supporting DS1, DS3/EC1, L1 and L2/3 Ethernet, and SFP enabled optics for OC3, OC12, OC48. The ONS 15310-MA is a hardened design, and supports up to 99.999 percent reliability for both access and edge networks. The Cisco ONS15310-MA is a carrier-class MSPP that efficiently switches Ethernet and TDM traffic for use in metropolitan and regional optical networks. The ONS 15310-MA can be managed using the Cisco Transport Controller (CTC) element management system and Cisco Transport Manager (CTM) for network management.

For More Information

See the ONS 15300 Web site: <http://www.cisco.com/go/ons15300>

Cisco ONS 15310-CL SONET Multiservice Provisioning Platform



By extending the metropolitan (metro) edge to customer premises and providing direct high-speed LAN connectivity, the Cisco ONS 15310-CL allows service providers to cost-effectively offer scalable, high-speed data services over their transport networks. For the enterprise, the Cisco ONS 15310-CL offers the efficiency, scalability, and high availability to meet the bandwidth demands of the mission-critical e-business infrastructure. These features are available without implementing new technology or upgrading the existing transport network infrastructure.

Optimized for the customer location, this evolutionary platform is based on the same technology as the industry leading Cisco ONS 15454 and the ONS 15327, supporting high optical bandwidth and can support DS1, DS3 and layer 1/2 10/100 Ethernet. The Cisco ONS 15310-CL also provides comprehensive STS- and VT-level bandwidth management and integrated data switching.

The integrated multiservice optical networking functions of the Cisco ONS 15310-CL dramatically reduce service-delivery costs. Packaged in a 1RU, industrially temperature-hardened Network Equipment Building Standards (NEBS) 3-compliant assembly, the Cisco ONS 15310-CL delivers fast provisioning and low initial cost, while maintaining a small footprint and low operational cost throughout the life of the product and can be managed using the CTC element management system and CTM for network management.

For More Information

See the ONS 15300 Web site: <http://www.cisco.com/go/ons15300>

Cisco ONS 15302/15305 SDH Multiservice Access Platforms (MSAP)



The Cisco ONS 15302/ONS 15305 Multiservice CPE and Aggregation solutions are ultra-compact integrated systems that offer cost effective solutions. These platforms provide native multiservice capabilities (i.e., TDM interfaces, multiplexing and Ethernet data interfaces).

The ONS 15302 CPE platform provides the STM-1 uplink (protected or unprotected STM-1 optical uplink, 1+1 MSP, future SNCP) and E1 customer interfaces (12 E1 ports) interfaces. It provides native Ethernet customer access via 4-port 10/100BaseT module that supports full layer 2 capacity, bridging, VLANs, spanning tree, and priority management. An optional WAN module is available for point to multi-point applications.

The ONS 15305 Aggregation platform provides the following TDM interfaces—protected or unprotected optical interfaces (8 port S-1.1 optical module, 2 port S-4.1 optical module, 1 port S-16.1 optical module, 1+1 MSP, SNCP, 2F MS-SPRing for STM-16) and electrical customer interfaces (8 and 63 port E1 modules and a 6 port E3/DS3 module). This product also provides native Ethernet customer access via an 8-port 10/100BaseT module and a 2-port GigE module (supports full layer 2 capacity, bridging, VLANs, spanning tree, and priority management). An optional WAN module is available for point to multi-point applications.

For More Information

See the ONS 15300 Web site: <http://www.cisco.com/go/ons15300>

Cisco Transport Manager (CTM 8.0) (Optical Element/Network Management)

Cisco Transport Manager (CTM) is an integrated optical element management system for Cisco ONS 15000 series optical networking platforms. CTM manages configuration, fault isolation, performance, and security for Cisco optical network elements. With integrated support for SONET, SDH, DWDM and Ethernet, along with open interfaces to operations support systems (OSS), CTM delivers the full power of Cisco's wide range of advanced optical systems to today's network operators and enterprises.

CTM is a powerful tool that increases the productivity of the network operations staff. The system provides GUI-based point-and-click network management. As such, CTM has a low learning curve while providing advanced management capabilities such as A-to-Z circuit provisioning. Explorer-style navigation, the extensive use of wizards, tool tips, legends, and online help make it easy for an operator to perform tasks quickly and efficiently. Many otherwise tedious, time-consuming, and error-prone tasks can be fully streamlined using CTM's features.

CTM works for small networks, but can also scale up to 3000 network elements and 100 concurrent clients per server. This solution is appropriate for small enterprise networks as well as large service provider networks. CTM is extremely cost-effective (uses industry-standard platforms such as Sun Solaris, Oracle8i, and Microsoft Windows). CTM fits smoothly into most companies' information technology environments. Using scalable Sun server platforms, customers can minimize up-front investment, but still accommodate growth by adding additional processors, memory, and disk space.

For More Information

See the CTM Series Web site:
<http://www.cisco.com/en/US/products/sw/opticsw/ps2204/index.html>



Network Management

Network Management at a Glance

Product	Features	Page
Cisco Network Application Performance Analysis Solution (NAPA)	<ul style="list-style-type: none"> A comprehensive set of tools and services that provide information about application and network performance Faster identification and resolution of problems Significantly enhanced network planning capabilities Reduces risk Access to Cisco advanced services 	9-3
Cisco Application Analysis Solution	<ul style="list-style-type: none"> Part of the Network Application Performance Analysis Solution (NAPA) Provides a visual and quantitative breakdown of the complex interactions among applications, servers, and networks to cost-effectively troubleshoot and reliably deploy networked applications Improves business continuity by rapidly illustrating whether performance problems are due to network versus application issues 	9-3
Cisco Network Planning Solution	<ul style="list-style-type: none"> Part of the Network Application Performance Analysis Solution (NAPA). Reduce the risks associated with network growth, migration, and consolidation An impact analysis tool that can help you optimize network capacity and performance, ensure resiliency, plan for new technology deployments, and validate planned configuration changes 	9-4
Cisco Performance Visibility Manager	<ul style="list-style-type: none"> Part of the Network Application Performance Analysis Solution (NAPA) A Proactive network and application performance monitoring, reporting, and troubleshooting system for maximizing network availability Increases early visibility into network and application behavior issues, to identify them before they become critical 	9-5
Cisco Proactive Automation of Change Execution (PACE) Solution	<ul style="list-style-type: none"> Combines products and services that accelerate operational success by helping IT organizations securely automate and control network changes and configurations Helps enterprises meet compliance requirements, accelerate growth, ensure business continuity, and increase user productivity 	9-7
Cisco Configuration Assurance Solution	<ul style="list-style-type: none"> Part of the Proactive Automation of Change Execution solution (PACE) Automatically diagnoses device mis-configurations, policy violations, inefficiencies, and security gaps using a combined visualization of network topology, traffic, and configuration Improves network availability and security, and documents compliance with best practices and important regulatory and IT Governance requirements 	9-8
CiscoWorks Network Compliance Manager	<ul style="list-style-type: none"> Part of the Proactive Automation of Change Execution solution (PACE) Tracks and regulates configuration and software changes throughout a multivendor network infrastructure (including Cisco routers, switches, firewalls, load balancers, and wireless access points) Provides unparalleled visibility into network changes and can track compliance with a broad variety of regulatory, IT, corporate governance, and technology best practices 	9-8
Cisco Managed Services Solution	<ul style="list-style-type: none"> Enables Service Providers to accelerate the deployment of managed services for their customers. Allows valuable management functions such as zero-touch provisioning, configuration management, and fault and event monitoring to enable managed security services which include Firewall, IPsec VPN, and NAT. 	9-9
Cisco Active Network Abstraction	<ul style="list-style-type: none"> A flexible and powerful product suite for device, network, and service management Creates a virtual network model helping service providers and carriers effectively manage multiple services and technologies in a multi-vendor network environment. 	9-10
CiscoWorks LAN Management Solution	<ul style="list-style-type: none"> Provides key applications needed to manage Cisco switch-based Enterprise campus networks. Campus Manager Device Fault Manager Resource Manager Essentials; CiscoView Internetwork Performance Manager Part of the Cisco Network Application Performance Analysis Solution (NAPA) and Cisco Proactive Automation of Change Execution solution (PACE) 	9-5

Product	Features	Page
CiscoWorks VPN/Security Management Solution	Combines general device management tools for configuring, monitoring, and troubleshooting enterprise networks with powerful security solutions for managing VPNs, firewalls, and network and host-based IPS. <ul style="list-style-type: none"> • Firewall Management • IPS Management, network and host-based • Host Intrusion Prevention System Management • VPN Router Management; Security and VPN Monitoring 	9-11
CiscoWorks Security Information Management Solution and CiscoWorks Security Information Management Solution Engine	A solution that collects, analyzes, and correlates security event data from across the enterprise—letting you detect and respond to security events as they occur. The Solution Engine requires minimal setup and installation. <ul style="list-style-type: none"> • Event monitoring of multivendor security environments • Extensive reporting for operators and high-level administrators • Risk assessment information to understand overall vulnerability of critical network assets within the enterprise • Forensics tools to investigate attacks 	9-12
Cisco Unified Communications Management Suite	<ul style="list-style-type: none"> • Sophisticated toolset to ease provisioning of Unified Communications network elements and services • Monitors communications traffic across the network, to manage the servers and network elements providing the services, to troubleshoot any events that might threaten the user experience, and to provide statistical analysis and trending of performance. • Designed to address the specific needs of voice and video communications across a network 	9-13
Cisco Unified Provisioning Manager	<ul style="list-style-type: none"> • Provides provisioning for Cisco Unified Communications initial deployments and implementations • Remains in place to provide ongoing operational provisioning and activation services for individual subscriber changes • Part of the Cisco Unified Communications Management Suite 	9-14
Cisco Unified Operations Manager and Cisco Unified Service Monitor	Both are part of the Cisco Unified Communications Management Suite <ul style="list-style-type: none"> • Cisco Unified Operations Manager 1.1—Provides contextual diagnostic tools to facilitate trouble isolation and troubleshooting to increase the productivity of your network managers; Provides a real-time, service-level view of the entire Cisco Unified Communications system and presents the current operational status of each element • Cisco Unified Service Monitor—Provides a low-cost, reliable method of monitoring and evaluating voice quality in Cisco Unified Communications solutions 	9-15
Cisco Unified Service Statistics Manager	<ul style="list-style-type: none"> • Part of the Cisco Unified Communications Management Suite • Provides advanced statistics analysis and reporting capabilities 	9-18
Cisco netManager - Unified Communications	<ul style="list-style-type: none"> • Built to manage small and medium-sized voice and data networks up to 1000 phones or users • Provides easy-to-use, out-of-the-box monitoring and diagnostics 	9-19
Cisco Monitor Manager	Monitors key device parameters on Cisco SMB class routers, switches, voice gateways, and elements of Cisco Unified Communications networks, including the new Cisco Unified Communications 500 Series for Small Business.	9-20
Cisco Monitor Director	<ul style="list-style-type: none"> • Centralized, proactive network management application for Cisco Managed Service Providers planning to offer 24-hour, proactive voice and data network monitoring and management services to their SMB customers • Works in conjunction with Cisco Monitor Manager 	9-20
CiscoWorks QoS Policy Manager	<ul style="list-style-type: none"> • Enables centralized administration and automated deployment of bandwidth reservation and prioritization policies for network applications across converged voice, video and data networks. • Differentiates services of Web applications, voice traffic, and business-critical applications • Validate QoS settings and results with traffic analysis • Real time and historical reports for QoS troubleshooting • Control roles and privileges for policy view, modification and deployment 	9-21
CiscoWorks Wireless LAN Solution Engine and CiscoWorks Wireless LAN Solution Express	<ul style="list-style-type: none"> • Centralized, systems-level application for managing and controlling an entire Cisco Aironet WLAN 9-23 infrastructure • Ease Cisco Aironet wireless LAN (WLAN) deployments, enhance network security, maximize network availability, and reduce operating expenses 	9-23
Cisco Catalyst 6500 Series Network Analysis Modules 1 and 2	NAM is an integrated, network monitoring instrumentation and Web-browser based traffic analysis solution for the Catalyst 6500 based environments. It enables greater visibility into traffic at all layers of the network by providing real time traffic analysis and troubleshooting capabilities.	9-24
Cisco Broadband Troubleshooter	<ul style="list-style-type: none"> • Provides a diagnostic tool for RF technicians to quickly and easily isolate problems in the cable plant • Analyzes and sorts RF conditions into specific categories such as attenuation, provisioning, noise or packet corruption (CRC) errors • Provides dashboard views of network health, CMTS and CM statistics, and CM snapshots • Correlates CM to subscriber information • Works with an optional tool to map CMs and status to subscriber street-level views 	9-24
Broadband Access Center	<ul style="list-style-type: none"> • A distributed, scalable, subscriber-device-management application • Enables automated flow-through provisioning of subscriber services • Provides a centralized, automated platform for service providers to control and configure residential home gateways, as well as IP devices behind the gateways 	9-25

Product	Features	Page
Cisco Broadband Policy Manager	Helps deploy, administer, and deliver multiple services on converged IP networks <ul style="list-style-type: none"> • Multivendor network device control • Reduced time and expense for system integration • Highly scalable distributed deployment • High-availability characteristics 	9-26
Cisco Network Analysis Module for Branch Routers	An integrated traffic-monitoring network module that enables network managers to gain application-level visibility into network traffic with the ultimate goal of improving performance, reducing failures, and maximizing return on network investments	1-1
Cisco Secure Access Control Server for Windows and Cisco Secure Access Control Server Solution Engine	A user authentication, authorization and accounting (AAA) access control framework that manages 5-20 user and administrative access to the network <ul style="list-style-type: none"> • Part of the Proactive Automation of Change Control solution (PACE) • Extends access security by combining authentication, user or administrator access, and policy control from a centralized identity networking solution, thereby allowing for greater flexibility and mobility, increased security, and user productivity gains • A key component of Cisco's IBNS solution, an architecture built upon the 802.1X port based network access control IEEE standard, and Cisco Network Admission Control (NAC) 	
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco Network Application Performance Analysis (NAPA) Solution

Cisco Network Application Performance Analysis solution is a comprehensive set of tools and services that provides valuable information about the performance of the network and the applications running on it.

Key Features

- Faster identification and resolution of problems—Identify whether problem is related to the network, servers, or applications. Once diagnosed, the Cisco NAPA Solution provides the insight required to fix it
- Significantly enhanced network planning capabilities —Helps with predictive planning and optimization for successful deployment of new applications and network services
- Reduced risk—By modeling network scenarios, reduces the risks associated with new network deployments; Better network performance
- Access to Cisco advanced services

For More Information

See the Cisco Network Application Performance Analysis (NAPA) Solution Web site: www.cisco.com/go/napas

Cisco Application Analysis Solution (AAS)

Create a visual and quantitative breakdown of the complex interactions among applications, servers, and networks to cost-effectively troubleshoot and deploy networked applications with the Cisco Application Analysis solution (AAS). Cisco AAS rapidly illustrates whether performance problems were caused by network or application issues.

When to Sell

Sell This Product

Cisco Application Analysis Solution

When a Customer Needs These Features

- Need to automatically pinpoint the root cause for application-related issues in complex, multitier transactions
- Need to accurately predict the performance that could be achieved with alternative approaches
- Need to diagnose whether problems in application performance are caused by the application, server

Key Features

- Part of the NAPA solution
- Enables you to visualize end-to-end application transaction dynamics graphically, from the view of both the network and application layers.
- Diagnoses whether problems in application performance are caused by the application, server, or network; automatically pinpoint the root cause for application-related issues in complex, multitier transactions; and assess proposed solutions, accurately predicting the performance that could be achieved with alternative approaches.
- Bridges organizational gaps between application development and IT infrastructure teams, helping speed deployment of new applications and reducing disputes over responsibility that often accompany end-to-end performance troubleshooting.

Selected Part Numbers and Ordering Information

Cisco Application Analysis Solution (AAS)

CAAS-2.0UR-K9	Cisco Application Analysis Solution 2.0 - Unrestricted
CAAS-2.0R-K9	Cisco Application Analysis Solution 2.0 - Restricted
CAAS-ACM-2.0R-LC	Cisco AAS-Advanced Capture Module - 2.0 Restricted
CAAS-ACM-2.0UR-LC	Cisco AAS-Advanced Capture Module - 2.0 Unrestricted
CAAS-2.0UP-LC	Cisco Application Analysis Solution 2.0 - Upgrade from Restricted to Unrestricted
CAAS-ACM-2.0UP-LC	Cisco AAS-Advanced Capture Module 2.0 Upgrade from Restricted to Unrestricted

For More Information

See the Cisco Application Analysis Solution at:

<http://www.cisco.com/en/US/products/ps6362/index.html>

Cisco Network Planning Solution (NPS)

The Cisco Network Planning solution (NPS) reduces the risks associated with network growth, migration, and consolidation. It is an impact analysis tool that can help you optimize network capacity and performance, ensure resiliency, plan for new technology deployments, and validate planned configuration changes. It is part of NAPA.

When to Sell

Sell This Product

Cisco Network Planning Solution

When a Customer Needs These Features

- Accurately models the network infrastructure, Clarify routing dynamics and end-to-end connectivity, Show which traffic flows will be most affected by outages and where resulting bottlenecks are likely to occur, Predict the impact of deploying new technologies, protocols, or hosted applications, including VPNs, VLANs, and voice over IP (VoIP)
- Automates capacity planning, resilient link dimensioning, and topology design; Scores the network's readiness for VoIP deployment and provides design guidance

Selected Part Numbers and Ordering Information

Cisco Network Planning Solution (NPS)

CNPS-2.0R-K9	Cisco Network Planning Solution 2.0 - Restricted
CNPS-2.0UR-K9	Cisco Network Planning Solution 2.0 - Unrestricted
CNPS-2.0UP-LC	Cisco Network Planning Solution 2.0 - Upgrade from Restricted to Unrestricted
CNPS-NVM-2.0R-LC	Cisco NPS-Network Validation Module 2.0 - 1 Restricted License
CNPS-NVM-2.0UR-LC	Cisco NPS-Network Validation Module 2.0 - 1 Unrestricted License
CNPS-NVM-2.0UP-LC	Cisco NPS-Network Validation Module 2.0 - Upgrade from Restricted to Unrestricted
CVNDS-2.0-K9	Cisco Virtual Network Data Server - 1 license
CNPS-SPM-1.1UR-K9=	Cisco NPS- SP Module 1.1 - Unrestricted

For More Information

See the Cisco Network Planning Solution Web site at:

<http://www.cisco.com/en/US/products/ps6363/index.html>

Cisco Performance Visibility Manager (PVM)

Cisco Performance Visibility Manager (PVM) is a proactive network- and application-performance monitoring, reporting, and troubleshooting system for maximizing network availability. Part of the NAPA solution, it increases early visibility into network and application behavior issues, to identify them before they become critical.

When to Sell

Sell This Product

**Cisco Performance
Visibility Manager**

When a Customer Needs These Features

- Need network managers to understand how application traffic effects network performance and preventing misuse of critical network resources
- Need to immediately identify whether or not poor application performance is being caused by the network or the application
- Need to proactively manage problems by continuously monitoring for conditions that may represent an emerging problem, facilitating early detection of potential performance issues
- Need comprehensive reports in capacity planning, trending analysis, and ongoing status monitoring

Selected Part Numbers and Ordering Information

Cisco Performance Visibility Manager (PVM)

CPVM-1.0-6K10-LIC=	Cisco PVM 1.0 10-C6K-NAM License Add-on
CPVM-1.0-6K25-LIC=	Cisco PVM 1.0 25-C6K-NAM License Add-on
CPVM-1.0-6K50-LIC=	Cisco PVM 1.0 50-C6K-NAM License Add-on
CPVM-1.0-BASE-K9	Cisco PVM 1.0 Base software kit and documents only; Linux
CPVM-1.0-NM10-LIC=	Cisco PVM 1.0 10-NM-NAM License Add-on
CPVM-1.0-NM25-LIC=	Cisco PVM 1.0 25-NM-NAM License Add-on
CPVM-1.0-NM50-LIC=	Cisco PVM 1.0 50-NM-NAM License Add-on

For More Information

See the Cisco Performance Visibility Manager Web site at:

<http://www.cisco.com/en/US/products/ps6768/index.html>

CiscoWorks LAN Management Solution (LMS)

CiscoWorks LAN Management Solution (LMS) is a suite of powerful management tools that simplify the configuration, administration, monitoring and troubleshooting of Cisco networks. It integrates these capabilities into a world-class solution for improving the accuracy and efficiency of your operations staff, increasing the overall availability of your network through proactive planning, and maximizing network security. These tools provide IT organizations with an integrated system for sharing device information across applications. This rich data environment allows the automation of device manageability tasks, visibility to the network's health and capability, and identifying and localizing network trouble.

When to Sell

Sell This Product

LAN Management Solution

When a Customer Needs These Features

- A centralized system for sharing device information across all LMS applications, improving manageability and system-wide awareness of changes in the network
- Network discovery, topology views, end-station tracking and VLAN management
- Real-time network fault analysis with easy-to-deploy device specific best-practice templates
- Hardware and software inventory management, centralized configuration tools, and Syslog monitoring
- Network response time and availability monitoring and tracking
- Real-time device, link, and port traffic management, analysis, and reporting
- Flexible license model allowing CiscoWorks LMS to be effectively utilized in a wide range of enterprise deployments without restricting functionality or expandability

Key Features

- Part of the NAPA
- Detailed network inventory reporting; automated software and configuration distribution; audit of adds, moves, and changes; Graphical and table views of topology; VLAN connectivity, paths, and user tracking; ATM management
- LAN and WAN response time, latency, and jitter analysis; selectable threshold tracking between pairs of devices

Specifications

Feature	Description
LAN Management Solution—Server	
Disk Space	20 GB or more free space for LMS applications and data
Memory	2 GB (CiscoWorks LMS 2.6 Enterprise) or 4 GB (LMS 2.6 Large Enterprise) <ul style="list-style-type: none"> · Solaris: 4 GB swap space (LMS 2.6 Enterprise) or 8 GB swap space (LMS 2.6 Large Enterprise) · Windows: 4 GB virtual memory (LMS 2.6 Enterprise) or 8 GB virtual memory (LMS 2.6 Large Enterprise) Note: Recommended swap space/virtual memory is twice the RAM size.
Hardware	Solaris: <ul style="list-style-type: none"> Sun UltraSPARC IIIi or Sun UltraSPARC IIICu for CiscoWorks LMS 2.6 Enterprise Dual Sun UltraSPARC IIIi or dual Sun UltraSPARC IIICu for CiscoWorks LMS 2.6 Large Enterprise Windows: <ul style="list-style-type: none"> 2.8 GHz Intel Pentium IV or 2.8 GHz Intel Xeon processor for CiscoWorks LMS 2.6 Enterprise Dual 2.8 GHz Intel Pentium IV or dual 2.8 GHz Intel Xeon processor for CiscoWorks LMS 2.6 Large Enterprise Note: NTFS file system required
Software	Windows 2000 Professional with Service Pack 4; Windows 2000 Server with Service Pack 4; Windows 2000 Advanced Server with Service Pack 4; Windows Server 2003 Standard and Enterprise Editions with Service Pack 1; Windows 2003 R2 Server Standard and Enterprise Editions; Solaris 8, Solaris 9 (English and Japanese only)
Network Management Solution (NMS) integration	CiscoWorks CiscoView with Network Management Integration Module (NMIM) and Device Fault Manager supports integration with Hewlett Packard OpenView 6.4 and 7.01 IBM Tivoli NetView 7.1 and 7.1.4 are supported by Dynamic Contact Replication (DCR) and NMIM
LAN Management Solution—Client	
Disk Space	Solaris: 1 GB swap space Windows: 1 GB virtual memory
Memory	512 MB
Hardware	IBM PC-compatible system with at least Intel Pentium IV processor running
Software	IBM PC-compatible system with at least Intel Pentium IV processor running: Windows 2000 Professional with Service Pack 4; Windows 2000 Server with Service Pack 4; Windows 2000 Advanced Server with Service Pack 4; Windows Server 2003 Standard and Enterprise Edition with Service Pack 1; Windows 2003 R2 Server Standard and Enterprise Editions; Windows XP with Service Pack 2; Solaris 8, Solaris 9 (English and Japanese only)
Browser	Internet Explorer 6.0, Service Pack 2; Windows 2000, Windows Server 2003: Internet Explorer 6.0.2900.2180; Windows XP; Netscape Navigator 7.1 and 7.2; Windows 2000, Windows Server 2003; Netscape Navigator 7.0; Solaris 8, Solaris 9; Mozilla 1.7.13; Windows 2000, Windows Server 2003, Windows XP, Solaris 8, Solaris 9; Java Plug-in version 1.4.2_10 (CiscoWorks Campus Manager and Internetwork Performance Monitor only)

Selected Part Numbers and Ordering Information¹

LAN Management Solution

CWLMS-2.6-UR-K9	CiscoWorks LMS 2.6 Large Enterprise for Windows and Solaris, with unrestricted device license and one server-installation license.
CWLMS-2.6-R-K9	CiscoWorks LMS 2.6 Enterprise for Windows and Solaris, with 300-device restricted license and one server-installation license.

LAN Management Solution Upgrades

CWLMS-2.6-URUP-K9	Upgrade from CiscoWorks LMS 1.x, LMS 2.0, or RWAN 1.x to CiscoWorks LMS 2.6 Large Enterprise for Windows and Solaris server systems with unrestricted device license and one server-installation license. (Note: CiscoWorks SNMS 1.x customers must upgrade to CiscoWorks LMS 2.6 Enterprise through part number CWLMS-2.6-RUP-K9 before purchasing the conversion upgrade to CiscoWorks LMS 2.6 Large Enterprise through part number CWLMS-2.6-RCONV-K9.)
CWLMS-2.6-URMRL-K9	Minor release update kit for existing CiscoWorks LMS 2.1 and 2.2 releases to CiscoWorks LMS 2.6 Large Enterprise for Windows and Solaris server systems with unrestricted device license and one server-installation license.

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the LAN Management Solution Web site: <http://www.cisco.com/go/lms>

Cisco Proactive Automation of Change Execution (PACE) Solution

Combines products and services that accelerate operational success by helping IT organizations securely automate and control network changes and configurations. This solution helps enterprises meet compliance requirements, accelerate growth, ensure business continuity, and increase user productivity. The Cisco PACE solution is optimized to help medium-sized to large enterprises with challenges relating to compliance, in-house expertise, network complexity, and growth.

Solution Overview

Cisco Proactive Automation of Change Execution (PACE) Solution

Products Included

- Cisco Configuration Assurance Solution
- CiscoWorks Network Planning Solution
- Cisco Secure Access Control Server
- CiscoWorks LAN Management Solution
- Cisco Advanced Services

Key Features

- Scalability of the CiscoWorks NCM software across geographies protects the software investment of high-growth companies
- Prevents revenue loss by reducing network downtime due to misconfigurations.
- Reduces costs by identifying network inconsistencies that would require labor-intensive diagnosis
- Configuration automation saves money by allowing fewer administrators to manage large complex networks
- Helps to prevent the potentially expensive repercussions of noncompliance

For More Information

See the Cisco Proactive Automation of Change Execution (PACE) Solution Web site:

www.cisco.com/go/pace

CiscoWorks Network Compliance Manager (NCM)

CiscoWorks Network Compliance Manager (NCM) tracks and regulates configuration and software changes throughout a multivendor network infrastructure (including Cisco routers, switches, firewalls, load balancers, and wireless access points). Part of the PACE solution, it provides unparalleled visibility into network changes and can track compliance with a broad variety of regulatory, IT, corporate governance, and technology best practices. This helps IT staff identify and correct trends that could lead to problems such as network instability and service interruption.

When to Sell

Sell This Product

CiscoWorks Network Compliance Manager

When a Customer Needs These Features

- Need to track all changes to the network-configuration, software, and hardware changes-in real time and need a detailed audit trail
- Need to immediately screen all changes against authorized policies to help ensure that changes comply with regulatory requirements or IT best practices
- Need to automatically validate new changes against appropriate policies before they are pushed to the network
- Need to automate the change-review process
- Need to limit network configuration information to users on a need-to-know basis

Selected Part Numbers and Ordering Information

CiscoWorks Network Compliance Manager

CWNCM-1.2-CORE-K9	CiscoWorks NCM core license, includes 100 managed nodes
CWNCM-1X-INC100	CiscoWorks NCM incremental core license for 100 managed nodes
CWNCM-1X-INC500	CiscoWorks NCM incremental core license for 500 managed nodes
CWNCM-1X-INC1K	CiscoWorks NCM incremental core license for 1000 managed nodes
CWNCM-1.2-HA-K9	CiscoWorks NCM high-availability license, includes 100 managed nodes
CWNCM-1X-HAINC100	CiscoWorks NCM incremental high-availability license for 100 managed nodes
CWNCM-1X-HAINC100	CiscoWorks NCM incremental high-availability license for 100 managed nodes
CWNCM-1.2-SAT-K9	CiscoWorks NCM satellite single instance proxy for remote distribution
CWNCM-1X-CONOV-K9	CiscoWorks NCM connector with HP OpenView NNM
CWNCM-1X-CONAR-K9	CiscoWorks NCM connector with Remedy AR

For More Information

See the CiscoWorks Network Compliance Manager at:
<http://www.cisco.com/en/US/products/ps6923/index.html>

Cisco Configuration Assurance Solution (CAS)

Automatically perform regular, systematic audits of the production network to diagnose device misconfigurations, policy violations, inefficiencies, and security gaps with the Cisco Configuration Assurance Solution (CAS). Cisco CAS helps you improve network availability, security, and compliance with regulatory and IT governance requirements. Part of the PACE solution.

When to Sell

Sell This Product

Cisco Configuration Assurance Solution

When a Customer Needs These Features

- Needs to automatically perform regular, systematic audits of the production network to diagnose device misconfigurations, policy violations, inefficiencies, and security gaps
- Needs to improve network availability, security, and compliance with regulatory and IT governance requirements
- Verify network security policies have been implemented effectively using tests that:
 - Simulate unauthorized traffic flows in a virtual model of the production network
 - Identify security gaps and pinpoint misconfigured nodes that block valid connectivity
 - Inspect complex backup configurations across the network, diagnosing latent problems by simulating failures to test network resiliency and predict the impact on applications, resources, and security

Selected Part Numbers and Ordering Information

Cisco Configuration Assurance Solution (CCAS)

CCAS-2.0-50-K9	Cisco Configuration Assurance Solution 2.0 - 50 nodes, no VNDS
CCAS-2.0-100-K9	Cisco Configuration Assurance Solution 2.0 - 100 nodes with VNDS
CCAS-2.0-300-LC	Cisco CAS 2.0 - 300 nodes - 1 License. Requires CCAS-2.0-100-K9
CCAS-FAM-2.0-LC	Cisco CAS - Flow Analysis Module 2.0 - 1 License

For More Information

See the Cisco Configuration Assurance Solution Web site at:
<http://www.cisco.com/en/US/products/ps6364/index.html>

CiscoWorks Network Compliance Manager (NCM)

CiscoWorks Network Compliance Manager (NCM) tracks and regulates configuration and software changes throughout a multivendor network infrastructure (including Cisco routers, switches, firewalls, load balancers, and wireless access points). Part of the PACE solution, it provides unparalleled visibility into network changes and can track compliance with a broad variety of regulatory, IT, corporate governance, and technology best practices. This helps IT staff identify and correct trends that could lead to problems such as network instability and service interruption.

When to Sell

Sell This Product **CiscoWorks Network Compliance Manager**

When a Customer Needs These Features

- Need to track all changes to the network-configuration, software, and hardware changes-in real time and need a detailed audit trail
- Need to immediately screen all changes against authorized policies to help ensure that changes comply with regulatory requirements or IT best practices
- Need to automatically validate new changes against appropriate policies before they are pushed to the network
- Need to automate the change-review process
- Need to limit network configuration information to users on a need-to-know basis

Selected Part Numbers and Ordering Information

CiscoWorks Network Compliance Manager

CWNCM-1.2-CORE-K9	CiscoWorks NCM core license, includes 100 managed nodes
CWNCM-1X-INC100	CiscoWorks NCM incremental core license for 100 managed nodes
CWNCM-1X-INC500	CiscoWorks NCM incremental core license for 500 managed nodes
CWNCM-1X-INC1K	CiscoWorks NCM incremental core license for 1000 managed nodes
CWNCM-1.2-HA-K9	CiscoWorks NCM high-availability license, includes 100 managed nodes
CWNCM-1X-HAINC100	CiscoWorks NCM incremental high-availability license for 100 managed nodes
CWNCM-1X-HAINC100	CiscoWorks NCM incremental high-availability license for 100 managed nodes
CWNCM-1.2-SAT-K9	CiscoWorks NCM satellite single instance proxy for remote distribution
CWNCM-1X-CONOV-K9	CiscoWorks NCM connector with HP OpenView NNM
CWNCM-1X-CONAR-K9	CiscoWorks NCM connector with Remedy AR

For More Information

See the CiscoWorks Network Compliance Manager at:
<http://www.cisco.com/en/US/products/ps6923/index.html>

Cisco Managed Services Solution (MSS)

The Cisco Managed Services Solution provides a cost-effective management platform for the Cisco Integrated Services Router and for basic managed security services that are offered on top of the WAN transport service. It includes a solid device management strategy as well as service management functions for control and surveillance of each individual service.

Solution Overview

Cisco Managed Services Solution (MSS)

- Products Included**
- Cisco IP Solution Center (ISC) Security Management
 - Cisco CNS Configuration Engine
 - Cisco Active Network Abstraction
 - Cisco Advanced Services

Key Features

- For rapid and trouble-free deployments—Includes analysis of the existing OSS environment and implementation recommendations to best utilize the management software
- An additional security analysis service package is available for specific managed security applications
- Additional advanced services—requested for the Operate and Optimize lifecycle phases
- Advanced partner services—Available in some regions for integration to existing OSS environment and for the implementation of additional solution components

For More Information

See the Cisco Managed Services Solution (MSS) Web site: <http://www.cisco.com/go/mss>

Cisco Active Network Abstraction (ANA)

Cisco ANA is an open solution that allows integration of both internal and external OSS applications into the working network. It includes a set of device, network, and service management applications that take advantage of its virtual network technology.

The core technology of Cisco ANA includes a unique Virtual Network Element abstraction model that dynamically discovers and identifies basic network components, while obtaining end-to-end visibility of network resources, connections, and dependencies. The building blocks of this model are autonomous virtual software-based network devices—each one cloning the characteristics and properties of its real-world counterpart. The aggregation of these devices creates the virtual model in the same way an aggregation of network elements creates a real-world network.

When to Sell

Sell This Product Cisco Active Network Abstraction

When a Customer Needs These Features

- Multi-vendor device support
- Support for multiple technologies, including IP, Layer 2/3 VPN, xDSL, ATM, Frame Relay, Gigabit Ethernet, Metro Ethernet, Ethernet, 802.1Q, Inter-Switch Link (ISL), Layer 2 Tunneling Protocol (L2TP), ISDN, and routing protocols (such as Enhanced Interior Gateway Routing Protocol [EIGRP], Open Shortest Path First [OSPF], Border Gateway Protocol [BGP], and Intermediate System-to-Intermediate System [IS-IS])
- Open northbound interfaces for integration with multiple operations support system (OSS) and business support system (BSS) applications

Key Features

- Cisco Configurable Device Management Platform—Provides a single solution for multi-device, multi-technology, and multi-vendor element management. Featuring unified monitoring and configuration; Comes complete with prepackaged, commonly used EMS functionality
- Cisco Network Fault Isolation and Service Fault Isolation—Provide extensive fault analysis capabilities for quick and accurate fault detection, isolation, and correlation; Reduces trouble ticket flooding by analyzing the structure, configuration, and dependencies (logical and physical) of the virtual network to track down the virtual source of the fault to accurately reveal the real problem; No costly rule maintenance is required.
- Cisco Network Discovery and Service Discovery—Provides accurate, real-time discovery of the network inventory, topology, and services; Allows users to view physical network aspects and topological relationships; Accurately displays the logical inventory, complete with a service view that spans network layers
- Cisco Service Activation—Facilitates automatic configuration of any device regardless of vendor, model, or software version; The combined activation and configuration process dramatically quickens deployment, while eliminating unnecessary and error-prone manual processes; All activation and configuration activities are done in parallel with no single point of congestion.

For More Information

See the Cisco Active Network Abstraction Web site: www.cisco.com/go/ANA

CiscoWorks VPN/Security Management Solution (VMS)

CiscoWorks VPN/Security Management Solution (VMS), an integral part of the SAFE Blueprint for network security, combines Web-based tools for configuring, monitoring, and troubleshooting enterprise VPNs, firewalls, and network and host-based IPS. It offers the ability to monitor remote access links, and IPSec based site to site VPN links. VMS is a Web-based solution that provides a “dashboard” view of critical VPN resources and their performance, VPN hardware and configuration and troubleshooting reports.

When to Sell

Sell This Product

CiscoWorks VPN/Security Management Solution

When a Customer Needs These Features

- Complete management of a SAFE infrastructure environment
- Configuring and monitoring VPN, PIX, IOS routers, and IDS devices.
- Monitoring large remote access, and site-to-site hub and spoke VPNs from a single management console and focus on problem areas and performance.

Key Features

- Management and Monitoring Centers—Offering features such as a consistent user experience, auto update, command and control workflow, and role-based access control
- VPN Monitor—Allows network administrators to collect, store, and view information on IPSec VPN connections for remote-access or site-to-site VPN terminations. Multiple devices can be viewed from an easy-to-use dashboard that is configured using a Web browser
- Cisco IPS Host Sensor Console—Provides real-time analysis and reaction to network hacking attempts by identifying an attack and preventing access to critical server resources before any unauthorized transactions occur
- RME—Provides the tools needed to manage Cisco devices.
- CiscoWorks Server—Provides the common management desktop services and security across the CiscoWorks family of solutions. It also provides the foundation for integrating with other Cisco and third-party applications
- Support for secure browser communications with CiscoView and RME sessions via SSL and SSH protocol

Specifications

Feature	CiscoWorks VPN/Security Management Solution
Server	
Hardware	IBM PC-compatible computer with 1-GHz or faster Pentium processor; Sun UltraSPARC 60 MP with 440-MHz or faster processor; Sun UltraSPARCIII (Sun Blade 1000 Workstation or Sun Fire 280R Workgroup Server)
Software	Windows 2000 Professional, Server, and Advanced Server (Service Pack 3); Sun Solaris 2.8
Client	
Hardware	IBM PC-compatible computer with 300-MHz or faster Pentium; Solaris SPARCstation or Sun Ultra 10
Software	Windows 2000 Server or Professional Edition with Service Pack 3, or Windows XP SP1 with Microsoft VM; Solaris 2.
Browser	Internet Explorer 6.0 Service Pack 1, on Windows operating systems; Netscape Navigator 4.79, on Windows 2000 Server or Professional Edition with Service Pack 3, or Windows XP; Netscape Navigator 4.76 on Solaris 2.8

Selected Part Numbers and Ordering Information

CiscoWorks VPN/Security Management Solution

CWVMS-2.2-UR-K9	CiscoWorks VMS 2.2 Windows (unrestricted device usage; 1 server installation license); Includes: Management Center for Firewalls 1.1, for IDS Sensors 1.2, for Cisco Security Agents 4.0, and for VPN Routers 1.1, CiscoWorks Auto Update Server 1.1, CiscoWorks Monitoring Center for Security 1.2, CiscoWorks VPN Monitor 1.2, RME 3.5, and Common Services 2.2 ¹
CWVMS-2.2-WINR-K9	CiscoWorks VMS 2.2 Windows (20-device restricted usage; 1 server installation license); Includes: Management Center for Firewalls 1.1, for IDS Sensors 1.2, for Cisco Security Agents 4.0, and for VPN Routers 1.1, CiscoWorks Auto Update Server 1.1, CiscoWorks Monitoring Center for Security 1.2, CiscoWorks VPN Monitor 1.2, RME 3.5, and Common Services 2.2
CWVMS-2.2-WUPGR-K9	Upgrade from CSPM 2.x (unrestricted license), CiscoWorks VMS 1.X or 2.X (restricted licenses) to CiscoWorks VMS 2.2 for Windows and Solaris (unrestricted license) ¹

- | | |
|--------------------|---|
| CWVMS-2.2-UPGUR-K9 | Upgrade from CSPM 2.X (restricted license) or CiscoWorks VMS 1.X (restricted license) to CiscoWorks VMS 2.2 for (20-device restricted license) ¹ |
| CWVMS-DEC03URMR-K9 | Minor update kit for existing VMS 2.X Windows and Solaris (unrestricted license) ¹ |
| CWVMS-DEC03RMR-K9 | Minor update kit for existing VMS 2.X Windows Only (20-device restricted license) ¹ |
1. Contains Windows-only versions of Management Center for Firewalls 1.1, for IDS Sensors 1.2, for Cisco Security Agents 4.0 and for VPN Routers 1.1, CiscoWorks Auto Update Server 1.1, and CiscoWorks Monitoring Center for Security 1.2

For More Information

See the CiscoWorks VPN/Security Management Solution Web site:
<http://www.cisco.com/go/vms>

CiscoWorks Security Information Management Solution and CiscoWorks Security Information Management Solution Engine

The CiscoWorks Security Information Management Solution (SIMS) is a solution for effectively gathering and analyzing the overwhelming amount of security event data that companies receive through growing numbers of multi-vendor security devices and systems installed throughout their network. SIMS is based on technology from netForensics and incorporates powerful features to help companies better manage their growing security infrastructure and effectively monitor millions of event messages, without additional staff. The hardware based solution engine provides regional scalability for customers with small to medium deployments and the software only solution provides global scalability for larger deployments.

CiscoWorks SIMS helps focus security teams on real threats, providing them with both the information and tools needed to respond quickly, accurately, and efficiently. Rules Based Correlation, Incident Resolution Management, Vulnerability Correlation, Enterprise Security Portal, Quick Connect modules provide enhanced correlation, customization, reporting capability of security events monitoring and management.

When to Sell

Sell This Product

CiscoWorks Security Information Management Solution

When a Customer Needs These Features

- Security regulatory compliance and security policy enterprise-wide enforcement
- Managed security services for medium or large or global enterprises
- Security monitor with advanced visualization for quickly detecting known and unknown threats
- Manage and correlate events from SAFE and multi-vendor security environments

Key Features

- Regulatory compliance, auditing, and event monitoring of multi-vendor security environments
- Extensive reporting for operators and high-level administrators
- Risk assessment information to understand overall vulnerability of critical network assets within the enterprise
- Event correlation for rapidly detecting emerging attacks that may not be apparent from a single event

Specifications

Feature ¹	CiscoWorks Security Information Management Solution
CiscoWorks SIMS Version	3.3
Software Compatibility	For updates, Version 3.2.1.x must be installed and running
Supported Platforms	Red Hat Linux Advanced Server 2.1, 3.0, Solaris 8, 9.0
System Requirements	Java 2 Runtime Environment (JRE) 1.4.2_05 Java WebStart
Minimum Disk Space	270 MB
Minimum Hardware Requirements	

Feature ¹	CiscoWorks Security Information Management Solution
Processor	Linux: Dual Intel Pentium 4; 1.5 GHz (server class); Solaris: Dual UltraSPARC-IIi; 444 MHz (server class)
Memory	4-GB total system memory
Free Disk Space	18 GB (refer to the section "Disk Partitions" in the CiscoWorks SIMS Quick Start Guide)
Storage Device	CD-ROM
Software Packages	Linux: Anonymous FTP, development libraries, and kernel development; Solaris 8: Refer to Quick Start documentation

1. For complete Server and Client Hardware and Software requirements, please refer to the Product Literature or Installation documentation for specific details and requirements; Information on the CiscoWorks Security Information Management Solution Engine can be found in the Product Literature

Selected Part Numbers and Ordering Information¹

CiscoWorks Security Information Management Solution

CWSIM-ELTE-SL-K9	Enterprise Lite Bundle for Linux
CWSIM-ELTE-SS-K9	Enterprise Lite Bundle for Solaris
CWSIM-EPCK-SL-K9	Enterprise Pack Bundle for Linux
CWSIM-EPCK-SS-K9	Enterprise Pack Bundle for Solaris
CWSIM-ENGN-K9	Distributed Engine ñ Additional Module
CWSIM-EQC-K9	Quick Connect ñ Additional Module
CWSIM-ESP-K9	Enterprise Security Portal ñ Additional Module
CWSIM-IRM-K9	Incident Resolution Management ñ Additional Module
CWSIM-RBC-K9	Rule Based Correlation Engine ñ Additional Module
CWSIM-VCE-K9	Vulnerability Correlation Engine ñ Additional Module

1. This is only a small subset of all parts available via URL listed under "For More Information". Some parts have restricted access or are not available through distribution channels.

For More Information

See the CiscoWorks Security Information Management Solution Web site:

<http://www.cisco.com/go/sims>

Cisco Unified Communications Management Suite (CUCMS)

Cisco Unified Communications is a comprehensive portfolio of communications applications integrated with a secure network infrastructure. To take full advantage of such a system, you need a communications management solution that provides a dashboard view of the entire system status.

Solution Overview

Cisco Unified Communications Management Suite (CUCMS)

Products Included	<ul style="list-style-type: none"> • Cisco Unified Provisioning Manager • Cisco Unified Operations Manager • Cisco Unified Service Monitor • Cisco Unified Service Statistics Manager
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Key Features

- Deploy and provision the network; Manage moves, additions, and changes
- Monitor network elements, including Communications Manager, Unity, gateways, and endpoints, including the underlying network
- Identify and diagnose problems, and test and track changes
- Maintain network inventory
- Track and report on user experience and mean opinion scores
- Collect, analyze, and report statistical information from the network

For More Information

See the Cisco Unified Communications Management Suite Web site:

http://www.cisco.com/en/US/products/ps5747/Products_Sub_Category_Home.html

Cisco Unified Provisioning Manager

Cisco Unified Provisioning Manager provides a reliable and scalable Web-based solution for managing a company’s crucial next-generation communications services. It manages unified communications services in an integrated IP telephony, voicemail, and messaging environment that includes Cisco Unified Communications Manager (formerly known as Cisco Unified Communications Manager), Cisco Unified Communications Manager Express (formerly known as Cisco Unified Communications Manager Express), Cisco Unity, Cisco Unity Express, and Cisco Unity Connection systems.

When to Sell

Sell This Product

Cisco Unified Provisioning Manager

When a Customer Needs These Features

- Initial installation and deployment of Cisco Unified Communications network elements and services
- Ongoing operational provisioning and activation of services and subscriber changes
- Control costs of deployments and ongoing service provisioning
- Expedite “time-to-dialtone”
- Policy control of management and services

Key Features

- Service ordering uses a simple wizard GUI; Orders can be scheduled to run at a later time; A single batch order may contain multiple types of orders: add, change, or cancel, and multiple types of services, such as phone and voicemail additions or changes
- Policies and service parameters can be defined by domains, service areas, and locations, and applied by configuration templates during initial deployment, rollout of new offices, locations, remote sites, and organizational overlays
- User roles define access to certain functions exposed through the Web interface to the user of the system; Subscriber role dictates the services to which the subscriber is entitled
- Inventory Tracking—Tracks information about all services and subscribers in an internal asset management and inventory system; Advanced searches can be created and saved to produce reports in HTML or Microsoft Excel format; Sample configuration and phone information reports are provided

Specifications

Feature	Cisco Unified Provisioning Manager 1.1		
Server Requirements	Up to 1000 Phones	Up to 10,000 Phones	Up to 30,000 Phones
CPU	Single 3.0-GHz Intel P4 processor	Single 3.0-GHz Intel P4 processor	2-machine deployment with both: 1 single 3.0-GHz Intel P4 processor for Web and application servers 1 single 3.0-GHz Intel P4 processor for database
Memory	2 GB RAM	4 GB RAM	4 GB RAM on each machine
Disk space	1 x 30 GB hard disk	1 x 60 GB hard disk	1 x 30-GB hard disk on machine for Web and application servers, and 1 x 80-GB hard disk on machine for database
Network	100 Mbps NIC	100 Mbps NIC	100 Mbps NIC

Selected Part Numbers and Ordering Information¹

Cisco Unified Provisioning Manager

CUPM-1.1-1K-K9	Cisco Unified Provisioning Manager 1.1 Max 1K Phones
CUPM-1.1-2K-K9	Cisco Unified Provisioning Manager 1.1 Max 2K Phones
CUPM-1.1-5K-K9	Cisco Unified Provisioning Manager 1.1 Max 5K Phones
CUPM-1.1-10K-K9	Cisco Unified Provisioning Manager 1.1 Max 10K Phones
CUPM-1.1-20K-K9	Cisco Unified Provisioning Manager 1.1 Max 20K Phones
CUPM-1.1-30K-K9	Cisco Unified Provisioning Manager 1.1 Max 30K Phones
CUPM-1.1-1KLIC	Cisco Unified Provisioning Manager 1.1 1K phone license
CUPM-1.1-2KLIC	Cisco Unified Provisioning Manager 1.1 2K phone license
CUPM-1.1-5KLIC	Cisco Unified Provisioning Manager 1.1 5K phone license
CUPM-1.1-10KLIC	Cisco Unified Provisioning Manager 1.1 10K phone license
CUPM-1.1-BMR-K9	Cisco Unified Provisioning Manager 1.0 to 1.1 Update Base Software Minor Release
CUPM-1.1-BSR-K9	Cisco Unified Provisioning Manager 1.0 to 1.1 Update Service Release Only

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels. .

For More Information

See the Cisco Unified Provisioning Manager Web site at:

<http://www.cisco.com/en/US/products/ps7125/index.html>

Cisco Unified Operations Manager

Cisco Unified Operations Manager provides a real-time, service-level view of the entire Cisco Unified Communications system and presents the current operational status of each element. It continuously monitors the current operational status of elements such as Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity, Cisco Unity Express, Cisco Unified Contact Center Enterprise, Cisco Unified Contact Center Express, and Cisco Unified MeetingPlace Express, as well as Cisco gateways, routers, switches, and IP phones, and provides an integrated set of diagnostic capabilities for faster trouble isolation and resolution. Part of the Cisco Unified Communications Management Suite.

When to Sell

Sell This Product

Cisco Unified Operations Manager

When a Customer Needs These Features

- Need real-time notifications and report the status of the network monitored to a higher-level entity (typically a manager of managers)
- Management of multi-site and multi-cluster Unified Communications environments
- Reduced administrative overhead by sharing device and credential information with other CiscoWorks tools deployed in the enterprise

Key Features

- **Service-Level View**—A real-time auto-refresh display provides status information about all the IP Communications clusters and the elements of the clusters in the deployment. Drill down views show the operational status of each element of the IP Communications cluster and its interrelationships with other elements
- **Real-Time Alerts**—Built-in intelligence monitors every device in an IP Communications deployment for faults or outages. Alerts present the most up-to-date status; Instant access to signaling-related and IP connectivity-related outage information
- **Diagnostic Tests**—A rich set of diagnostic tests can be used to aid in trouble isolation and resolution; Synthetic tests serve to replicate user activity; Phone status tests can be used to determine the current operational status of the IP phones in terms of signaling and IP connectivity; Test IP service level agent to simulate traffic in the network and then determine network characteristics such as reach ability status, response time, latency, jitter, packet loss, and network quality

- Service-Quality Reporting—Monitors and provides detailed information about devices to enable further troubleshooting; Initiate a probable path trace between the endpoints to identify any potential problems in intermediate nodes that could influence service quality
- Reports—Historical alert, event, and service-quality reports for up to 30 days; Customizable reports for review via e-mail or the Cisco Unified Communications Operations Manager GUI

Specifications

Cisco Unified Operations Manager			
Server			
System Parameters	Up to 1000 phones Pentium 4 processor > 2 GHz	Up to 10,000 phones Dual Pentium 4 or Xeon processor > 3 GHz	Up to 30,000 phones Dual Pentium 4 or Xeon processor > 3 GHz
Memory	3 GB RAM	4 GB RAM	4 GB RAM
Swap file	4 GB swap file	8 GB swap file	8 GB swap file
Disk space	60 GB recommended	60 GB recommended	60 GB recommended
Hardware	Server platform	Server platform	Server platform
Software	Windows 2003 Server	Windows 2003 Server	Windows 2003 Server
Client			
Processor	Pentium 4 processor > 1 GHz		
Memory	512 MB RAM (1 GB recommended)		
Swap file	1 GB		
Hardware	Any PC/server platform		
Software	Microsoft Internet Explorer 6.0		

Selected Part Numbers and Ordering Information¹

Cisco Unified Operations Manager

CUOM-1.1-K9	Cisco Unified Operations Manager 1.1
CUOM-1.1-1K-K9	Usage license for up to 1000 phones
CUOM-1.1-2K-K9	Usage license for up to 2000 phones
CUOM-1.1-5K-K9	Usage license for up to 5000 phones
CUOM-1.1-10K-K9	Usage license for up to 10,000 phones
CUOM-1.1-15K-K9	Usage license for up to 15,000 phones
CUOM-1.1-20K-K9	Usage license for up to 20,000 phones
CUOM-1.1-25K-K9	Usage license for up to 25,000 phones
CUOM-1.1-30K-K9	Usage license for up to 30,000 phones
CUOM-1.1-MMB-K9	Cisco Unified Management Mid-Market Bundle (Cisco Unified Operations Manager 1.1-with usage license for up to 1000 phones plus Cisco Unified Service Monitor 1.1 software with 2 Cisco 1040 sensors and usage license for up to 10 sensors)
CUOM-1.1-ENT-K9	Cisco Unified Management Enterprise Bundle (Cisco Unified Operations Manager 1.1-with usage license for up to 5000 phones plus Cisco Unified Service Monitor 1.1 software with 6 Cisco 1040 sensors and usage license for up to 10 sensors)

1. This is only a small subset of all parts available via URL listed under “For More Information.” Some parts have restricted access or are not available through distribution channels. Resellers: For latest part number and pricing info, see the *Distribution Product Reference Guide* at: <http://www.cisco.com/dprg> (limited country availability).

For More Information

See the CiscoWorks Unified Operations Manager Web site at:
<http://www.cisco.com/en/US/products/ps6535/index.html>

Cisco Unified Service Monitor

Part of the Cisco Unified Communications Management Suite, the Cisco Unified Service Monitor 1.1 provides a low-cost, reliable method of monitoring and evaluating voice quality in Cisco Unified Communications solutions. It continuously monitors active calls supported by the Cisco Unified Communications system and provides near-real-time notification when the voice quality of a call fails to meet a user-defined quality threshold. The end-user experience is expressed as Mean Opinion Score (MOS), which is calculated based on ITU G107 standard.

When to Sell

Sell This Product

Cisco Unified Service Monitor

When a Customer Needs These Features

- Need a real-time management information and diagnostic tools to help ensure an efficient deployment and subscriber satisfaction
- Need immediate monitoring and assessment of the quality of IP-based calls without elaborate setup or complicated installation issues

Key Features

- Evaluates the performance of the actual RTP data streams of the monitored calls
- Uses the standards-based ITU G.107 R-factor to evaluate and score the monitored call; IEEE 802.3af PoE; FCC Class B compliant and can be installed in any office environment
- The phone-based Cisco VTQ solution (for Cisco Unified Communications Manager versions 4.2, Cisco Unified Communications Manager 4.3, 5.0, 5.1 or higher) provides user experience metrics at the end of all active calls in the network expressed as an MOS
- Provides a distributed, scalable solution to facilitate cost-effective quality-of-voice monitoring
- Voice-quality alerts present the information in a specialized Service Quality Alerts display that provides a launching point for diagnostic tools and processes

Specifications

Feature ¹	Cisco Unified Service Monitor
Product compatibility	Cisco Unified Communications deployments consisting of Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity software, Cisco Unity Express, Cisco Unified Contact Center, Cisco Unified Contact Center Express, Cisco Unified MeetingPlace® Express, and Cisco routers, gateways, switches, and Cisco Unified IP phones
Software compatibility	Windows 2003 Server for the server platform Windows 2003 or Windows XP for the client platform with Microsoft Internet Explorer 6.0
System Capacity	System ScalabilityA single instance of Cisco Unified Service Monitor 2.0, when licensed to do so, can support up to 30,000 IP phones or up to 30 Cisco Unified Communications Manager clusters. Number of monitored calls80 simultaneous active calls per Cisco 1040 Sensor. Phone-based Cisco VTQ support provides user experience metrics at the end of all active calls in the network. Number of Cisco 1040 sensors Up to 50 sensors supported by each instance of Cisco Unified Service Monitor
Server requirements	
Processor	Pentium 4 processor, 2 GHz or greater
Memory	2 GB RAM
Swap file	4 GB swap file
Disk space	40 GB hard drive
Hardware	Server platform
Software	Windows 2003 Server
Client requirements	
Processor	Pentium 4 processor, 1 GHz or greater
Memory	512 MB RAM
Swap file	1 GB swap file
Hardware	Any PC or server platform
Software	Windows XP Home, Windows XP Professional, Windows 2003 Server

1. Multiple instances of Cisco Unified Service Monitor can be deployed (each supporting up to 50 Cisco 1040 sensors) to cover the needs of a very large or distributed enterprise. These can report results to a single instance or multiple instances of Cisco Unified Operations Manager or other Manager of Managers applications.

Selected Part Numbers and Ordering Information

Cisco Unified Service Monitor

CUSM-1040A-2PK	Two Cisco 1040 sensors
CUSM-1040A-5PK	Five Cisco 1040A sensors
CUSM-2.0-1K-K9=	Cisco Unified Service Monitor 2.0 Software and 1K Phones
CUSM-2.0-10K-K9=	Cisco Unified Service Monitor 2.0 Software and 10K Phones
CUSM1X-20UPK9	Cisco Unified Service Monitor 1.x to 2.0 Upgrade (Sensors Based VQ Measurement)
CUCMS-MON-1K-SK9	Cisco UCMS Monitoring Bundle Standard Edition 1K License Cisco OM/SM 2.0
CUCMS-MON-1K-PK9	Cisco UCMS Monitoring Bundle Premium Edition 1K License Cisco OM/SM 2.0

For More Information

See the Cisco Unified Service Monitor Web site at:

<http://www.cisco.com/en/US/products/ps6535/index.html>

Cisco Unified Service Statistics Manager

Cisco Unified Service Statistics Manager is an easy-to-use Web-based software product that features a variety of advanced reports for executive, operations, and capacity planning functions. Cisco Unified Service Statistics Manager provides both out-of-the-box reports as well as customizable reports that provide visibility into key metrics including call volume, service availability, call quality, resource utilization, and capacity across the Cisco Unified Communications System, including across multiple clusters, gateways, and related devices. It enables users to view information based on network, service, business, and user criteria and to define service-level agreement constructs as well as to measure and verify them based on collected Unified Communications statistics.

When to Sell

Sell This Product

Cisco Unified Service Statistics Manager

When a Customer Needs These Features

Small, medium, and large Cisco Unified Communications deployments that need statistical reporting, trending, and analysis.

Key Features

- Integrates with and uses the data collection capabilities of Cisco Unified Operations Manager and Cisco Unified Service Monitor to harvest and consolidate statistics information from a variety of Cisco devices and systems.
- The collected data is stored in a consolidated database that can be partitioned based on a variety of network, service, user, and business criteria for detailed analysis and reporting.
- Out-of-the-box reports on key metrics including; IP phone and inventory reports; SLA reports; Customizable reports with data export as HTML, PDF, and CSV; Automatic report scheduling, generation and distribution
- Call volume, call duration, service availability, service quality, call completion, and mean opinion score (MOS)
- Top-N calls, users, endpoints, called numbers
- Gateway and trunk traffic and utilization reports with capacity trending
- Call failure analysis including cause code information
- IP telephony testing

For More Information

See the Cisco Unified Service Statistics Manager Web site at

<http://www.cisco.com/go/cusssm>

Cisco netManager

Cisco netManager-Unified Communications monitors all components of small and medium-sized Cisco Unified Communications systems including the underlying IP transport infrastructure and provides the current operational status of all the elements in the network through a real-time, service-level view.

When to Sell

Sell This Product

**Cisco netManager -
Unified Communications**

When a Customer Needs These Features

Monitoring Cisco Unified Communications deployments for up to 1000 users

Key Features

- Monitors and evaluates status of the Cisco Unified Communications system, including the underlying transport infrastructure.
- Presents current operational status of the Cisco Unified Communications system through service-level views of the network
- Provides contextual tools to view current alert status and historical information, and to determine the service effects of any outages
- Enables faster trouble isolation by providing contextual diagnostic tools and easy one-click access to embedded device management systems.
- Performance metrics of different Cisco Unified Communications elements, such as resource usage (e. g. CPU, memory) through real-time trend charts
- Provides current information about connectivity-related and registration-related outages affecting all the Cisco Unified IP phones (both SIP- and SCCP-based phones)
- Enables tracking of Cisco Unified Communications devices and IP phone inventory, and tracks IP phone status changes
- Creates a variety of reports that conveniently summarize move, add, and change operations on IP phones in the network
- Does not deploy any agent software on the devices being monitored and thus is completely nondisruptive to system operations
- Built-in rules and thresholds; automatic device identification and data collection enable easy setup and immediate monitoring of the managed network

Selected Part Numbers and Ordering Information

Cisco netManager - Unified Communications

CNMUC1.0-250-K9	Cisco netManager - Unified Communications 1.0 for up to 250 phones with a perpetual right-to-use (RTU) license
CNMUC1.0-500-K9	Cisco netManager - Unified Communications 1.0 for up to 500 phones with a perpetual right-to-use (RTU) license
CNMUC1.0-250-1Y-K9	Cisco netManager - Unified Communications 1.0 for up to 250 phones with a one year right-to-use (RTU) license
CNMUC1.0-500-1Y-K9	Cisco netManager - Unified Communications 1.0 for up to 500 phones with a one year right-to-use (RTU) license
CNMUC1.0-250-LIC	Cisco netManager - Unified Communications 1.0 license upgrade from 250 phones to 500 phones with a perpetual right-to-use (RTU) license

For More Information

See the Cisco netManager - Unified Service Statistics Manager Web site at
<http://www.cisco.com/go/cnmuc>

Cisco Monitor Manager and Director

A comprehensive management application designed solely for the SMB market, the Cisco VAR Managed Service Provider solution encompasses two complementary components—Cisco Monitor Manager and Cisco Monitor Director—offering an economical and scalable path for Cisco partners to migrate to managed services.

Deployed at the partner location, Cisco Monitor Director is a centralized, proactive network management application for Cisco MSPs planning to offer 24-hour, proactive voice and data network monitoring and management services to their SMB customers. It works in conjunction with Cisco Monitor Manager, which is deployed at many SMB corporate headquarters and remote offices.

Cisco Monitor Manager collects customer network data and reports it back over a secure communication channel to Cisco Monitor Director, giving MSPs secure access and visibility into the customer's network. It provides monitoring of key device parameters on Cisco SMB class routers, switches, voice gateways, Cisco Unified Communications Manager Express, Cisco Unity Express, security appliances, access points, and Cisco Unified IP Phones.

When to Sell

Sell This Product

Cisco Monitor Manager and Director

When a Customer Needs These Features

- Small-Medium Business that wants to monitor and manage their own Cisco network
- VARs that want to provide Managed Service Provider functions for their customers (with Monitor Director)

Key Features

- Voice and ATA network discovery and topology display; Network-wide inventory collection and reporting
- Cisco Unified Communications / IP telephony monitoring; Cisco device performance monitoring; Interface status and traffic monitoring; Interface to common trouble-ticketing applications
- Highly secure and reliable communication; Real-time alerts and notifications through email and paging based on time-of-day settings
- Ease of use and low initial investment; does not require time-consuming training
- Distributed architecture and intelligence for present and future network scalability
- Secure, reliable communication between VAR MSPs and SMB customers; Central customer dashboard for VAR MSPs
- Cisco End-of-Sale and End-of-Life database reference and notifications
- Remote access to all Cisco Monitor Manager features and capabilities
- Enable partners to remotely monitor up to five SMB customers economically and scale to supporting up to 50 SMBs as partner business expands.

Specifications

Feature	Cisco Monitor Manager	
Scalability	Limited deployments	Standard deployments
Networking devices	5	20
Access points	5	50
IP phones	48	250
Operating Systems	Windows 2000 Professional (Service Pack 4) Windows XP Professional (Service Pack 2)	
Protocols	HTTP/HTTPS, SNMP, Cisco Discovery Protocol, TFTP	
Processor	Pentium 4 processor, 1.2 GHz or greater	
Memory	1 GB RAM and up	2 GB RAM and up
Disk space	1 GB and up	

Feature	Cisco Monitor Director
Scalability	Supports up to 50 SMB headquarter sites and remote offices
Operating systems	Windows XP Professional (Service Pack 2); Windows 2000 Server (Service Pack 4); Windows 2003 Server (Service Pack 1)
Protocols	HTTPS
Processor	Pentium IV with 3 GHz of memory
Memory	2 GB or more of RAM
Disk space	Recommended: 60-GB hard disk (minimum: 1 GB hard disk)

Selected Part Numbers and Ordering Informationr

Cisco Monitor Manager

MON-1.1-LTD-K9	Cisco Monitor Manager 1.1 Single SW, Perpetual
MON-1.1-STD-K9	Cisco Monitor Manager 1.1 LTD to STD 20 Device, Perpetual

Cisco Monitor Director Limited Deployments

DIR-1.1-LTD-K9	Cisco Monitor Director Combo,1 Reseller DIR license, 5 Limited MON licenses, 1 year
MON-LTD-5-LIC-K9	Cisco Monitor Manager, Ext Limited Package, 5 MON licenses, 1 year
MON-LTD-10-LIC-K9	Cisco Monitor Manager, Ext Limited Package, 10 MON licenses, 1 year
MON-LTD-15-LIC-K9	Cisco Monitor Manager, Ext Limited Package, 15 MON licenses, 1 year
MON-LTD-25-LIC-K9	Cisco Monitor Manager, Ext Limited Package, 25 MON licenses, 1 year
MON-1.1-LSMSPUP-K9	Cisco Monitor Manager 1.1 MSP Limited to MSP Standard 20 Device
DIR-1.1-LMSPUP-K9	Cisco Monitor Director 1.1 Limited Self-Managed to Limited MSP

Cisco Monitor Director Standard Deployment

DIR-1.1-STD-K9	Cisco Monitor Director Combo,1 Reseller DIR license, 5 Standard MON licenses, 1 year
MON-STD-5-LIC-K9	Cisco Monitor Manager, Ext Standard Package, 5 MON licenses, 1 year
MON-STD-10-LIC-K9	Cisco Monitor Manager, Ext Standard Package, 10 MON licenses, 1 year
MON-STD-15-LIC-K9	Cisco Monitor Manager, Ext Standard Package, 15 MON licenses, 1 year
MON-STD-25-LIC-K9	Cisco Monitor Manager, Ext Standard Package, 25 MON licenses, 1 year
DIR-1.1-SMSPUP-K-K9	Cisco Monitor Director Standard Self-Managed to Standard MSP

For More Information

See the Cisco Monitor Director Web site at:

<http://www.cisco.com/en/US/products/ps7246/index.html>

See the Cisco Monitor Manager Web site at:

<http://www.cisco.com/en/US/products/ps7244/index.html>

CiscoWorks QoS Policy Manager (QPM)

QoS Policy Manager allows you to centrally define and administer IOS and CAT parameters needed for differentiating network traffic. This ensures high availability and predictable performance for business-critical which rely on advanced voice and video services.

When to Sell

Sell This Product

Cisco QoS Policy Manager

When a Customer Needs These Features

- End-to-end QoS configuration and automated, reliable policy deployment, while eliminating device-by-device command streams
- Rules-based policies that combine static and dynamic port applications and host system traffic filters
- QoS Policy Manager's services, including congestion management & avoidance, and traffic-shaping
- Efficiently translate policies to specific QoS config commands, ensuring consistency across domains
- Validate policies prior to deploying them quickly and reliably to LAN and WAN policy domains
- Generate Web-based reports on QoS policies deployed in the network

Key Features

- Measure traffic throughput for top applications and service classes plus troubleshoot problems with real-time and historical QoS feedback
- Centrally define roles and permissions for use with the Cisco Secure ACS privilege control of policy view, modification and deployment for different device groups
- Partition network into administrative and deployment domains and use policy libraries for global QoS configuration; Modify, scale and monitor IOS AutoQoS voice policies on routers

- Use the secure, Web-based GUI for accurate end-to-end QoS configuration and automated, reliable policy deployment, while eliminating device-by-device command streams; Setup wizard intelligently determines QoS policies and properties at each network point that requires IP telephony QoS configuration based on Cisco AVVID design recommendations
- Expose QoS policy conflicts, uploads existing device configurations, presents CLI syntax that corresponds to policies, allows previewing configuration changes before deployment, supports incremental ACL updates, defines ACL ranges, and restores or applies a previous version of a policy database and backup to a remote server
- An integral part of Cisco content networking, QPM 3.2 delivers the appropriate service levels to business-critical applications by supporting the extension of IP packet classification to include application signature, Web URLs, and negotiated ports
- Enables congestion management, congestion avoidance, and bandwidth control by selectively activating QoS mechanisms on intelligently grouped LAN and WAN interfaces and providing support for external APIs to trigger event-based policy distribution
- Extend security by defining access control policies to permit or deny transport of packets into or out of device interfaces
- Supports device inventory import from CiscoWorks Resource Manager Essentials shortens configuration time for devices targeted for policy enforcement and QoS monitoring

Specifications

Feature	Cisco QoS Policy Manager
Server	Hardware: PC-compatible computer with 1-GHz or faster Pentium processor, CD-ROM drive, 10BASE-T or faster connection, 1-GB RAM, 9-GB available disk drive space, 2-GB virtual memory, Server Operating System Software: Windows 2000 Professional, Server, and Advanced Server (Service Pack 3 or 4)
Client	Hardware—PC-compatible computer with 300-MHz or faster Pentium processor Client Operating System— Windows 2000 (Server or Professional Edition) with Service Pack 3 or 4, or Windows XP SP1 (Server or Professional) Client Browser—Windows with SP 3 and Windows XP clients: Microsoft Internet Explorer 6.0 or Internet Explorer 6.0 with Service Pack 1, Netscape Navigator 7.1; Windows clients with SP 4: Microsoft Internet Explorer 6.0 with Service Pack 1, Netscape Navigator 7.1
Port Usage	CiscoWorks QPM on Windows uses the following ports, in addition to the ports used by CiscoWorks Common Services: 51099 Java Naming and Directory Interface (JNDI) lookup port; 51199 JRMP lookup port; 51299 Admin page port; 10033 (Windows) Database port; 51899 Protocol Data Packet (PDP) port

Selected Part Numbers and Ordering Information

Cisco QoS Policy Manager

QPM-4.0-COMB-K9	QPM combined (configuration and monitoring) base license, includes 500 managed nodes
QPM-4.0-MON-K9	QPM monitoring-only base license, includes 500 managed nodes
QPM-4.X-INCR-500	QPM incremental core license for 500 managed nodes
QPM-3T04-UPGR-K9	QPM upgrade from 3.x version to combined (configuration and monitoring) 4.x base license
QPM-4.0-SMB-K9	QPM SMB (configuration and monitoring) base license, includes 20 managed nodes - not upgradeable

For More Information

See the Cisco QoS Policy Manager Web site: <http://www.cisco.com/go/qpm>

CiscoWorks Wireless LAN Solution Engine and CiscoWorks Wireless Solution Engine Express

CiscoWorks WLSE is a centralized network management solution for managing the Cisco Aironet WLAN infrastructure. It is the integrated security and management solution for managing Cisco Aironet access points located in one or multiple locations.

When to Sell

Sell This Product

CiscoWorks Wireless LAN Solution Engine and CiscoWorks Wireless LAN Solution Express

When a Customer Needs These Features

- Comprehensive air/radio frequency (RF) and device-management
- Simplified deployment and reduced operational complexity with visibility into the WLAN
- For remote branch office deployments with limited WAN bandwidth, an integrated and embedded user authentication and authorization server

Key Features

- Management component of the Cisco Systems Distributed WLAN Solution
- Zero-touch deployment—Device (access point/bridge)-specific settings such as host name, radio power, and channel can be imported into CiscoWorks WLSE Express via a comma-separated value (CSV) file, with unique Ethernet MAC address mapping allowing CiscoWorks WLSE Express to automatically apply device-specific settings without touching each access point
- Enhancements to the Site Survey Wizard—Specific RF settings such as channel and power can be applied to devices based on a schedule
- Friendly to rogue reclassification—Periodically monitor for changes in the status of rogue access points that are marked “friendly” to alert the administrator in case location or received signal strength indicator (RSSI) values change
- CiscoWorks WLSE Express—Supports popular Extensible Authentication Protocol (EAP) types, including Cisco LEAP, PEAP, EAP-Flexible Authentication via Secure Tunneling (EAP-FAST), and EAP-Transport Layer Security (EAP-TLS); Standard version—Supports up to 500 users which supports 50 Cisco Aironet access points; License-upgraded version—Supports up to 1000 users which supports 100 Cisco Aironet access points

Selected Part Numbers and Ordering Information¹

CiscoWorks Wireless LAN Solution Engine and CiscoWorks Wireless LAN Solution Express

CWWLSE-1130-19-K9	Wireless LAN Solution Engine 2.12; includes the Cisco 1130 hardware platform and wireless LAN management software version 2.12
CWWLSE-2.12-SWUP-K9	Software only upgrade kit for Wireless LAN Solution Engine 1.x customers wanting to upgrade their Cisco 1130-19 hardware to Wireless LAN management software version 2.x to 2.12
CWWLSE-2.12-MR-K9	Maintenance release kit for customers with existing CiscoWorks 1130-19 for WLSE hardware that need CiscoWorks WLSE Software 2.12 and do not have a Cisco Software Application Support (SAS) contract.
CWWLSE-1030-K9	Includes the CiscoWorks 1030 for WLSE Express hardware platform and CiscoWorks WLSE Express Software 2.12.
CWWLSE-2.12EXLCUK9	CiscoWorks WLSE Express Software 2.12 license upgrade option from 50 Cisco Aironet access points with a maximum of 500 users to 100 Aironet access points with a maximum of 1000 users.
CWWLSE-2.12EX-MR-K9	Maintenance release kit for customers with existing CiscoWorks 1030 for WLSE express hardware that need CiscoWorks WLSE Express Software 2.12 and do not have a Cisco Software Application Support (SAS) contract.

For More Information

See the CiscoWorks Wireless LAN Solution Engine Web site:

<http://www.cisco.com/go/wlse>

See the CiscoWorks Wireless LAN Solution Engine Express Web site:

<http://www.cisco.com/en/US/products/ps6379/index.html>

Cisco Catalyst 6500 Series Network Analysis Module (NAM) 1 and 2 and 2 and Cisco Branch Routers Series (NM-NAM) (with NAM software)

The Cisco Network Analysis Module (NAM) 1 and 2, second generation high performance network analysis modules for the Cisco Catalyst 6500 Series provides network monitoring instrumentation and web-browser based traffic analysis for Catalyst based AVVID environments.

When to Sell

Sell This Product

**Catalyst 6500 Series
Network Analysis Module
1 and 2 (with NAM
software version 3.3)**

When a Customer Needs These Features

- Needs Application-Level visibility built into the network
- Provides network managers visibility into all layers of network traffic
- Monitoring in a scalable switching environment that supports traffic monitoring in a scalable switching environment
- Offers investment protection by interfacing with both the bus and the crossbar switching fabric-based architectures in the Cisco Catalyst 6500 Series

Key Features

- Available in two models—NAM-1 and NAM-2
- Provides application-level Remote Monitoring (RMON) functions based on RMON2 and other advanced Management Information Bases (MIBs)
- Collects statistics on both data and VoIP streams flowing through the host switch
- Collects data from remote switches using the remote SPAN (RSPAN) feature of the Cisco Catalyst 6500 and 4000 Series switches
- Performance management provides valuable information about the delays in server responses to client requests

Selected Part Numbers and Ordering Information¹

Cisco Catalyst 6500 Series Network Analysis Module 1 and 2 (with NAM software version 3.3)

WS-SVC-NAM-1	Catalyst 6500 Series Network Analysis Module 1. To order the NAM individually, please use the spare part number of WS-SVC-NAM-1=
WS-SVC-NAM-2	Catalyst 6500 Series Network Analysis Module 2. To order the NAM individually, please use the spare part number of WS-SVC-NAM-2=

1. Some parts have restricted access or are not available through distribution channels.

For More Information

See the Cisco NAM Web site:

<http://www.cisco.com/en/US/products/hw/modules/ps2706/ps5025/index.html>

Cisco Broadband Troubleshooter

Cisco Broadband Troubleshooter is an easy-to-use tool that gives network administrators and technicians a GUI that streamlines RF problem resolution. The tool dynamically monitors RF characteristics on a per modem or per upstream basis, provides a measurement interface for the upstream that looks and feels like a spectrum analyzer, decentralizes RF monitoring and analysis, and automatically sorts and categorizes RF problem conditions. The product provides a fault-analysis tool that enabling isolation of performance, cable plant, and CM problems and characterizes upstream and downstream trouble patterns. Operators can quickly discern CPE connectivity impairments by identifying noise, attenuation, provisioning, and packet-corruption issues.

For More Information

See the Cisco Broadband Troubleshooter Web site:

<http://www.cisco.com/en/US/products/sw/netmgts/ps530/index.html>

Cisco Broadband Access Center

Cisco Broadband Access Center (BAC) allows service providers to centralize the provisioning and management of subscriber devices through fully redundant and distributed product architecture.

When to Sell

Sell This Product

Cisco Broadband Access Center

When a Customer Needs These Features

- Service providers who need to manage subscribers with network services using cable and DSL customer premises equipment (CPE) devices.

Key Features

- Automatically recognizes end-user devices coming onto the service provider network; Assigns an appropriate class of service, dynamically generates device configuration files, and activates subscribers
- Supports both pre-provisioning of devices giving customers a plug-and-play experience, and auto-provisioning so service providers can easily support self-registration of customer-provided cable and DSL access devices
- Embedded, high-performance data storage, optimized for device provisioning
- No additional external database needed
- Integrated Kerberos Protocol server for PacketCable voice service provisioning
- Java-based provisioning API
- Appliance-based distributed information caching and processing servers offer true scalability

Selected Part Numbers and Ordering Information¹

Cisco Broadband Access Center

BAC-BASE-2.7-K9	Cisco BAC software components (regional distribution unit [RDU] software, Cisco Network Registrar® software, KDC software)
BAC-DATA-10K=	10,000 subscriber data technology license (10,000 DOCSIS license; 30,000 computer license)
BAC-DATA-25K=	25,000 subscriber data technology license (25,000 DOCSIS license; 75,000 computer license)
BAC-DATA-100K=	100,000 subscriber data technology license (100,000 DOCSIS license; 300,000 computer license)
BAC-DATA-250K=	250,000 subscriber data technology license (250,000 DOCSIS license; 750,000 computer license)
BAC-DATA-1M=	1 million subscriber data technology license (1 million DOCSIS license; 3 million computer license)
BAC-PCABLE-10K=	10,000 subscriber PacketCable technology license (10,000 PacketCable license; 10,000 DOCSIS license)
BAC-PCABLE-25K=	25,000 subscriber PacketCable technology license (25,000 PacketCable license; 25,000 DOCSIS license)
BAC-PCABLE-100K=	100,000 subscriber PacketCable technology license (100,000 PacketCable license; 100,000 DOCSIS license)
BAC-PCABLE-250K=	250,000 subscriber PacketCable technology license (250,000 PacketCable license; 250,000 DOCSIS license)
BAC-PCABLE-1M=	1 million subscriber PacketCable technology license (1 million PacketCable license; 1 million DOCSIS license)
BAC-CHOME-10K=	10,000 subscriber CableHome technology license
BAC-CHOME-25K=	25,000 subscriber CableHome technology license
BAC-CHOME-100K=	100,000 subscriber CableHome technology license
BAC-CHOME-250K=	250,000 subscriber CableHome technology license
BAC-CHOME-1M=	1 million subscriber CableHome technology license
DPE-SOL-2.7=	One DPE license for the distributed processing and caching engine (Solaris-based)
BAC-ADDCPE-10K	10,000 additional computer license

For More Information

See the Cisco Broadband Access Center Web site:

<http://www.cisco.com/en/US/products/sw/netmgts/ps529/index.html>

Cisco Broadband Policy Manager

The Cisco Broadband Policy Manager helps service providers deploy, manage, and deliver multiple services on their customers' converged IP networks by applying policies and dynamically configuring the network in real time based on events from multiple sources including applications, network elements, and subscriber actions.

When to Sell

Sell This Product

Cisco Broadband Policy Manager

When a Customer Needs These Features

Larger Tier 1 and selected Tier 2 service providers who are deploying advanced services over broadband networks, DSL network deployments and for admission control over PPPoE and ATM access networks.

Key Features

- Logs and transmits accounting records to RADIUS or Extensible Markup Language (XML)-enabled accounting interfaces
- Includes integrated admission control capability to allow the service provider to control service delivery based on resource availability
- Enforce QoS, bandwidth limits, and limits on the number of sessions to help ensure a quality customer experience
- Creates and manages quota repositories to account for customer usage and set threshold limits to use for trigger execution of business rules while enforcing policies on the customer's session
- Gives retail partners control over policies for their customers and integrates retail policy requests with overall network policies administered by the wholesale provider
- Emits notifications to customers, network operators, and partners as needed using SNMP, XML, or HTTP messaging
- Delivers a full suite of standard interfaces to facilitate integration at both the system and the network levels, allowing support for multi-vendor equipment
- Supports an extremely high transaction rate to minimize session setup or service initiation request delays
- Designed to be deployed as a distributed system to scale in relation to the number of network elements; Ensures a responsive system independent of the size of the network

Selected Part Numbers and Ordering Information

Cisco Broadband Policy Manager

BPM-BASE-K9	Cisco Broadband Policy Manager 1.6, Software for Solaris
BPM-STBY-K9	Cisco Broadband Policy Manager 1.6, Resiliency Software for Solaris
BPM-DS-ANNUAL	Cisco Broadband Policy Design Studio 1.6, Annual License, 5 Seats
BPM-DS-ANNUAL-ADD	Cisco Broadband Policy Design Studio 1.6, Annual License, Additional 5 Seats
BPM-IPSERV-100K	Cisco Broadband IP Services Module 1.6, Supporting up to 100,000 subscribers (subs)
BPM-EVO-100K	Cisco Edge Voice Capacity Admission Control (CAC) Module 1.6, Supporting up to 100,000 subs
BPM-EVI-100K	Cisco Edge Video CAC Module 1.6, Supporting up to 100,000 subs

For More Information

See the Cisco Broadband Policy Manager Web site:

<http://www.cisco.com/en/US/products/ps6478/index.html>



Storage Networking

Storage Networking at a Glance

Product	Features	Page
Cisco MDS 9000 Family Multilayer Directors and Fabric Switches	<ul style="list-style-type: none">• Industry-leading port densities across the Cisco MDS 9000 Family• Intelligent network services including VSANs, Port, Channels, embedded diagnostics and advanced security• Embedded Fabric Manager, open API and integration with CiscoWorks RME and other third party SAN management platforms• Multiprotocol support including Fibre Channel, FICON, Fibre Channel over IP (FCIP) and iSCSI• Open platform for hosting third party storage applications (Cisco MDS 9500 Series and Cisco MDS 9200 Series) via a FAIS based intelligent storage API (iSAPI) and SANTap Protocol• High availability directors with non-disruptive software upgrades, stateful processor restart/failover and redundancy of all major components	10-1
Additional Storage Networking Solutions	<ul style="list-style-type: none">• Cisco MDS 9000 Port Analyzer Adapter encapsulates Fibre Channel frames into Ethernet packets for low cost Ethernet based storage/SCSI protocol analysis• Cisco Coarse Wave Division Multiplexing (CWDM) Extended Distance Solution offers Small Form-Factor Pluggable (SFP) optics in 8 different wavelengths, enabling 1/2/4 Gbps Fibre Channel and 1 Gbps Ethernet ports to be directly connected to passive add/drop CWDM multiplexers.• Cisco 7200 FCIP Port Adapter for long distance SAN connectivity over an IP network infrastructure• Cisco ONS 15530/15540/15454 are Dense Wave Division Multiplexing (DWDM) platforms that provide transport across dark fibre for business continuance applications	10-4
Product Ordering Web site	To place an order, visit the Cisco Ordering Web site: http://www.cisco.com/en/US/ordering/index.shtml	

Cisco MDS 9000 Family Multilayer Directors and Fabric Switches



The Cisco MDS 9000 SAN switch series delivers multiple layers of integrated intelligence including multi-protocol integration (Fibre Channel, iSCSI, FCIP, FICON), intelligent network services (VSANs/InterVSAN Routing, embedded diagnostics, role-based security, encryption), an open platform for hosting intelligent storage services and comprehensive, integrated management.

When to Sell

Sell This Product

Cisco MDS 9500 Multilayer Directors

When a Customer Needs These Features

- Maximum port densities—Up to 528 1/2/4-Gbps autosensing Fibre Channel ports and up to 44 10-Gbps Fibre Channel Ports in a single 13-slot chassis. Chassis also available in 9-slot and 6-slot configurations
- High availability—Non-disruptive software upgrades, stateful processor restart/failover and redundancy of all major components
- High performance—Up to 2.2 Terabit/sec. per system, with each crossbar providing 100% system throughput
- Multiprotocol support —integration of Fibre Channel, FICON, FCIP, and iSCSI in single platform for optimal consolidation and SAN extension
- Hosting intelligent storage applications (network-based virtualization, volume management, data replication, data migration, storage media encryption, backup, and snapshot capabilities)
- Optimal for data center consolidation
- Modularity and flexibility for future growth

Sell This Product**Cisco MDS 9200
Multilayer Fabric
Switches****Cisco MDS 9100 Series
Fabric Switches****When a Customer Needs These Features**

- Moderate port densities - Up to 66 Fibre Channel ports in a single 2-slot chassis
- Multiprotocol support—integrated Fibre Channel, FCIP, and iSCSI in single platform for optimal consolidation and SAN extension
- Hosting intelligent storage applications (network-based virtualization, volume management, data replication, backup, and snapshot capabilities)
- Modularity and flexibility for future growth
- Low base port count with pay as grow port licensing up to 64 4-Gbps Fibre Channel ports. Base configuration 8 4-Gbps Fibre Channel ports on the Cisco MDS 9124, and 16 4-Gbps Fibre Channel ports on the Cisco MDS 9134
- 1RU for space-constrained environments
- Fibre Channel-only connectivity
- Entry-level SAN where price per port more important than future modularity/flexibility

Key Features

- Flexibility and Investment Protection—Share common switching modules across all Cisco MDS 9500 Series products including Cisco MDS 9200 Series; Provides a 3-RU base system consisting of eighteen 1/2/4 and 4-Gigabit Ethernet ports; Expandable with a variety of optional modules
- Sophisticated Diagnostics—Provides intelligent diagnostics, protocol, decoding, and network analysis tools as well as integrated call-home capability for added reliability, faster problem resolution, and reduced service costs
- Configurable—Provides embedded Cisco Fabric Manager, open APIs and integration and third party SAN and network management platforms
- Open Platform—For hosting intelligent storage services such as network-based volume management, data migration, Network Accelerated Serverless Backup
- Integrated Mainframe Support—Mainframe-ready; Supports cascaded FICON fabrics, as well as intermix of FICON and open systems Fibre Channel Protocol (FCP) traffic on the same switch

Specifications

Feature	MDS 9513 Director	MDS 9509 Director	MDS 9506 Director	MDS 9222i Fabric Switch
Modular Slots	13 slots: 2 for supervisors, 11 for connectivity	9 slots: 2 for supervisors, 7 for connectivity	6 slots: 2 for supervisors, 4 for connectivity	2 slots: 1 fixed configuration - 18 1/2/4-Gbps Fibre Channel ports and 4 GE ports; 1 open slot for connectivity
Maximum Number of Ports per Switch	528 1/2/4-Gbps Fibre Channel ports	336 1/2/4-Gbps Fibre Channel ports	192 1/2/4-Gbps Fibre Channel ports	16 1/2/4-Gbps + 48 1/2/4-Gbps Fibre Channel ports + 4 GE ports
Multiprotocol/ Multi transport	Yes: Fibre Channel, FCIP, iSCSI, IP-FC and FICON			
High Availability:	Non-disruptive software upgrades, stateful failover, process re-start ability, system health monitoring, hot swap: optics, power supplies, fans, supervisors, crossbars, switching and services modules		Same as MDS 9509 Director	Stateful failover, process re-start ability, system health monitoring, hot swap: optics, power supplies, fans, switching and services modules
Dimensions (H x W x D)	24.5 x 17.37 x 28.0 in. (62.23 x 44.12 x 71.12 cm.)	24.5 x 17.37 x 18.4 in. (62.23 x 44.12 x 46.74 cm.)	12.25 x 17.37 x 21.75 in. (31.12 x 44.12 x 55.25 cm.)	5.25 x 17.32 x 22.66 in. (13.36 x 44.12 x 57.56 cm.)
Max Buffer Credits per port	4,095	4,095	4,095	4,095
Port Channel	Up to 16 ports per Port Channel across switching modules			
Optics Support	Fibre Channel, Ethernet, CWDM, and DWDM			
HW enforced Zoning Support	N_Port WWN, F_Port WWN, N_Port FCID, Port Broadcast,			
Default, LUN, Read Only Security	Yes	Yes	Yes	Yes
	Role-based access control, VSAN-based access control, Port security, RADIUS, TACACS+, SNMPv3, FC-SP, SSH, SSL, SFTP and IPsec			

Feature	MDS 9124 Fabric Switch	MDS 9134 Fabric Switch
Fixed Slot	fixed auto-sensing 1/2/4-Gbps Fibre Channel ports	fixed auto-sensing 1/2/4-Gbps Fibre Channel ports
Maximum Number of Ports per Switch	24 1/2/4-Gbps Fibre Channel ports	32 1/2/4-Gbps Fibre Channel ports + 2 10-Gbps Fibre Channel ports
Multiprotocol/ Multi transport	No: Fibre Channel only	Yes: Fibre Channel and FICON
High Availability:	Stateful failover, process re-start ability, system health monitoring, hot swap: optics, power supplies	
Intelligent Network Services	Yes	Yes
Dimensions (H x W x D)	1.75 x 17.5 x 16 in. (4.5 x 44.5 x 40.6 cm)	1.76 x 17.16 x 18.89 in. (4.47 x 43.59 x 47.98 cm)
Max Buffer Credits per port	61	64
Port Channel	Same as MDS 9513 Director	Same as MDS 9513 Director
Optics Support	Fibre Channel	Fibre Channel
HW enforced Zoning Support	Same as MDS 9513 Director	Same as MDS 9513 Director
Default, LUN, Read Only	Yes	Yes
Security	RADIUS and TACACS+, FC-SP host-to-switch and switch-to-switch authentication, SFTP, SSHv2, SNMPv3, VSANs, hardware-enforced zoning, and per-VSAN role-based access control	

Selected Part Numbers and Ordering Information¹

MDS 9500 Base Configuration

DS-C9506	MDS 9506 Chassis
DS-C9509	MDS 9509 Chassis
DS-C9513	MDS 9513 Chassis
DS-X9530-SF2-K9	MDS 9500 Supervisor/Fabric 2

MDS 9000 Modules

DS-X9032-SSM	MDS 9000 Storage Services Module
DS-X9112	MDS 9000 12-port 1/2/4-Gbps FC Module
DS-X9124	MDS 9000 24-port 1/2/4-Gbps FC Module
DS-X9148	MDS 9000 48-port 1/2/4-Gbps FC Module
DS-X9302-14K9	MDS 9000 2-port GE and 14-port FC Module
DS-X9304-18K9	MDS 9000 4-port GE and 18-port FC Module
DS-X9304-18FK9	MDS 9000 4-port GE and 18-port FC FIPS Module
DS-X9308-SMIP	MDS 9000 8-port 1GE IP Storage Services Module
DS-X9704	MDS 9000 4-port 10-Gbps FC Module
DS-SFP-FC-2G-SW	1/2-Gbps Fibre Channel-SW SFP, LC
DS-SFP-FC-2G-LW	1/2-Gbps Fibre Channel-LW SFP, LC
DS-SFP-FC4G-SW	1/2/4-Gbps Fibre Channel-Shortwave SFP, LC
DS-SFP-FC4G-MR	1/2/4-Gbps Fibre Channel-Longwave SFP, LC (4km reach)
DS-SFP-FC4G-LW	1/2/4-Gbps Fibre Channel-Longwave SFP, LC (10km reach)
DS-SFP-FCGE-SW	1-Gbps Ethernet and 2-Gbps Fibre Channel-SW SFP, LC
DS-SFP-FCGE-LW	1-Gbps Ethernet and 2-Gbps Fibre Channel-LW SFP, LC
DS-X2-FC10G-SR	10-Gbps Fibre Channel- Shortwave, SC
DS-X2-FC10G-LR	10-Gbps Fibre Channel- Longwave, SC
DS-SFP-GE-T	Gigabit Ethernet Copper SFP, RJ-45

MDS 9500 Memory Options

MEM-MDS-FLD512M=	MDS 9500 Sup Compact Flash Disk, 512MB, Spare
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MDS 9200 Base Configuration

DS-C9216i-K9	MDS 9216i 14-port FC and 2-port GE + 1-slot Modular Switch
DS-C9222i-K9	MDS 9222i 18-port FC and 4-port GE + 1-slot Modular Switch

MDS 9100

DS-C9124-K9	MDS 9124 8-port base
DS-C9134-K9	MDS 9134 16-port base
DS-C9134-1K9	MDS 9134 32-port enabled
DS-2C9134-K9	2x MDS 9134's stacked as a bundle via copper CX4 with 48-port enabled
DS-2C9134-1K9	2x MDS 9134's stacked as a bundle via copper CX4 with 64-port enabled
M9134PL2-10G=	2x10G license to enable 10G ports, Spare
DS-C24-300AC=	Redundant or spare power supply for MDS 9124 or MDS 9134
DS-C34-FAN=	MDS 9134 Fan Tray, spare
DS-X2-FC10G-CX4	10G Copper X2 transceiver
DS-CAB-15M=	15m Cable for 10G Copper X2 transceiver, spare
DS-CAB-1M=	1m Cable for 10G Copper X2 transceiver, spare

Port Analyzer Adapter

DS-PAA-2	MDS 9000 Port Analyzer Adapter
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For More Information

See the Cisco MDS 9000 Family Web site: <http://www.cisco.com/go/storagenetworking>

Additional Storage Networking Solutions**Cisco Storage Media Encryption**

Cisco Storage Media Encryption (SME) protects data at rest on heterogeneous tape drives and VTLs in a SAN environment using secure IEEE-standard AES algorithms. Supported natively on the Cisco MDS 9000 Family 18/4-Port Multiservice Module, and the Cisco MDS 9222i Multiservice Modular Switch, Cisco SME capabilities are provided as a fabric service so that traffic between any host and storage device on the fabric can use the Cisco SME services. Furthermore, these encryption and compression capabilities are transparent to the hosts and storage devices and are available for devices in all VSANs in the fabric without the need for reconfiguration or rewiring, eliminating downtime for deployment. Cisco SME provisioning and key management are both integrated into Cisco Fabric Manager; no additional software is required.

Cisco MDS Data Mobility Manager

Cisco MDS Data Mobility Manager (DMM) is a SAN fabric-based software application that enables movement of block data from a source block device to a destination block device. Cisco MDS DMM is designed so as to allow a Storage Administrator to complete the migration process without the application server requiring outages typically needed when the storage sub-system is re-configured.

Cisco MDS 9000 Port Analyzer Adapter—Reducing Time to Problem Resolution The Cisco MDS 9000 Port Analyzer Adapter enables effective, low-cost analysis of Fibre Channel traffic anywhere in the network at any time, simplifying debug of network problems and reducing time to problem resolution. The device is a “plug-and-play” accessory for the Cisco MDS 9000 Family that enables simple, transparent analysis of Fibre Channel traffic in a switched fabric, eliminating the need for expensive standalone protocol analyzers.

Cisco MDS 9000 Optical Modules—Optimizing SAN Interconnect

The Cisco MDS 9000 Family optical interface modules offer a broad range of SAN connectivity solutions for both local and extended reach. SFP modules for the Cisco MDS 9000 are available in either short-wave or long-wave options supporting Fibre Channel and Gigabit Ethernet connections over distances of up to 500 meters and 10 kilometers, respectively. Cisco CWDM SFPs and passive add/drop multiplexers provide cost-effective, multi protocol, extended-distance connectivity by optimizing the use of the existing optical infrastructure.



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