

CISCO PRODUCTS QUICK REFERENCE GUIDE

AUGUST 2000

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Customer Order Number: DOC-785983=



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Overview

The *Cisco Products Quick Reference Guide* (CPQRRG) is a handy, compact reference tool that details Cisco's product line. This guide includes product overviews, photos, when to sell sections, technical specifications, plus much more.

Cisco products are presented in the following categories:

- Routers and Access Products
- Wireless, DSL, and IP Telephony Products
- Switches and Hubs
- IP and ATM Products
- Security Products
- Internet Products
- Network Management Products

This book is published and printed in English three times a year and is posted online at www.cisco.com/go/guide. (You must have a valid CCO login to view the online guide.)

If you have questions or comments regarding the contents or structure of the book, please send an e-mail to guide@cisco.com.

Ordering Information

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If you have questions regarding the ordering process, please send an e-mail to subscription@external.cisco.com.

What's New?

Changes since the last edition (April 2000) include the following:

- New Products
 - Cisco 827 and 827-4V ADSL Routers
 - Cisco IAD1101 Integrated Access Device
 - Cisco 2650 and 2651 Routers
 - Cisco Aironet 340 Series Ethernet Bridges, Client Adapters, and Access Points
 - Cisco Aironet Antennas and Accessories
 - Cisco 600 DSL CPEs

- Cisco 6000 IP DSL Switch Family
- Catalyst 2980G Switch
- Catalyst 3524-PWR XL Switch
- Cisco IP/TV 3411 Control Server, 3415 Video Starter System, 3422 and 3423 Broadcast Servers, and 3431 Archive Server
- CiscoWorks2000 Service Management Solution
- Discontinued Products
 - Catalyst 2926
 - Cisco IP/TV 3410 Control Server, 3420 Broadcast Server, and 3430 Archive Server
 - Cisco 6510 Service Selection Gateway

Cisco Systems Overview

Cisco Systems is the worldwide leader in networking for the Internet. Cisco's products and services give people access to the information they need by connecting information devices through intelligent, secure, and reliable networks. Our hardware and software products link computers so people have access to information, regardless of differences in time, place, or type of computer system. Customers benefit from Cisco networking solutions through more efficient exchange of information, which in turn leads to cost savings, process efficiencies, and closer relationships with customers, business partners, and employees.

Cisco solutions are the networking foundation of thousands of companies, universities, utilities, and government agencies worldwide. We are also a driving force behind the global Internet, where more than 80 percent of the backbone routers are from Cisco.

Cisco uses the Internet to conduct a substantial amount of its business. For example, we provide more than 70 percent of our customer support over the Internet while maintaining a high level of customer satisfaction. Our goal is to help our customers improve their business by establishing interactive and engaging electronic business relationships with their global customers, partners, prospects, suppliers, and employees.

Cisco Connection Online (CCO) Login

Cisco Connection Online (CCO) access is one of the many benefits available to Premier Partners and Cisco Resellers. Cisco Premier or Reseller level CCO access is required to use many valuable sales tools and privileged information on the Cisco Web site. Much of this information is not visible to you until you login.

To register your company as a Cisco Reseller, submit an online application located at www.cisco.com/go/reseller. Contacts with valid email addresses will receive CCO access notification in three to five days. If you are a registered Cisco Reseller or Partner and you do not have your login information, please send an email to cdbadmin@cisco.com with your company name and address and request your CCO access numbers.

Cisco Contact Information

Cisco Web Sites	URL
Sales Tools Central Helpful, easy-to-use Web Site with detailed product information, sales tools, sample configurations, and more.	http://www.cisco.com/go/tools
Distribution Product Reference Guide (DPRG) Complete list of pricing information, part numbers, and more for distribution (2-tier) products. Data is refreshed nightly. CCO login required.	http://www.cisco.com/dprg
Networking Products Marketplace for Resellers An ecommerce web site with a configuration tool to validate channel product options; also select and compare products, check price and availability, and submit your order to your distributor online. CCO login required.	cisco.com/go/npmr
Cisco University Offers detailed course material on the latest technical topics throughout the year targeted for Resellers, Partners and Cisco Sales representatives.	cisco.com/go/ciscou
Worldwide Contacts Cisco office locations; directions; maps; and sales, partners, and channel contacts.	http://www.cisco.com/go/wwwcontacts
Worldwide Distributors Web Site List, by country, of authorized Cisco Distributors who stock and resell Cisco products.	http://www.cisco.com/go/disti
End-of-Life Web Site Last order and end-of-life dates for Cisco products.	http://www.cisco.com/go/eol
Technical Support For customer support tips, software center, online documents, and more.	http://www.cisco.com/go/support
Cisco Products Quick Reference Guide This guide is available on line (in PDF and HTML); it is continually updated between tri-yearly printings. CCO login required.	http://www.cisco.com/go/guide
Cisco Subscription Service Ordering service for one-time purchase of or annual subscriptions to this guide or other Cisco documents and CDs; phone order by calling 800 768-7162 (U.S. or Canada) or 925 327-4072 (outside the U.S.).	http://www.cisco.com/go/subscription

FaxBack Systems	Phone Number
Product Information FaxBack System For data sheets, overviews, white papers, and more to fax to you or your end users.	800 770-4866 (within U.S.) 650 596-4488 (outside U.S.)
Technical Support FaxBack System For sample configurations, troubleshooting tips, and more to fax to you or your end users.	888 502-4726 (within U.S.) 650 596-4408 (outside U.S.)

Customer Helplines	Contact Information
Presales—Reseller Helpline	800 553-6387 (within U.S.) 408 526-7208 (outside U.S.) reseller-help@cisco.com (e-mail) www.cisco.com/go/presaleshelp
Post-Sales—Technical Assistance Center (TAC)	800 553-2447 (within U.S.) 408 526-7209 (outside U.S.) 408 526-8898 (fax) tac@cisco.com (e-mail)

Service and Support Matrix

The following table lists Cisco's packaged service products.

	Warranty Extension	Online Support (CCO)	Technical Assistance Center (TAC)	Cisco Software Updates	Hardware Replacement	Onsite Service	Configuration Services
SMARTnet Maintenance	—	Yes	Unlimited	Yes (Cisco IOS Software)	Next business day	—	—
SMARTnet Onsite	—	Yes	Unlimited	Yes (Cisco IOS Software)	4 hour	4 hour	—
Software Application Support Plus Upgrades	—	Yes	Unlimited	Yes	—	—	—
Install Plus Config	—	—	—	—	—	Physical hardware setup	Simple configuration
Advance Replacement	—	—	One incident	—	Next business day	—	—

Service and Support Offerings

Cisco offers a variety of startup services, maintenance services, and consultation services. Cisco has recently replaced all previous installation and implementation services with the Total Implementation Solutions (TIS) program. TIS demonstrates Cisco's commitment to helping customers install and implement advanced networking technologies. Through this program, customers can deliver new services faster, more cost-effectively, and with less risk than ever before.

The integration of data, voice and video onto packet- or cell-based networks is a key direction for Cisco's enterprise customers. These customers are also interested in reducing equipment and connection costs, simplifying network integration and improving application performance. What could customers achieve if they deployed cutting-edge solutions more efficiently and cost-effectively? How much more could they accomplish if they had experienced, expert resources available globally?

Through the TIS program, Cisco delivers the tools, expertise, and resources customers need to quickly build their networks and deliver new services. Through the Cisco Ecosystem of partners, the industry's best expertise is utilized at the right time.

The following table gives a brief description of Cisco's service and support offerings.

Product	Description
Startup Services	
Total Implementation Services (TIS)	<p>Provides a portfolio of solutions designed to consolidate and simplify Cisco's implementation and installation programs. Prior to TIS, there were several different programs for installation and/or implementation that were cumbersome to position, sell, and deliver. TIS replaces the following services: Advanced Installation Services (AIS) for LAN, AIS Plus, AIS Deployment, Network Implementation Services (NIS) for WAN; NIS for Multiservice; and Total Cisco. TIS includes:</p> <ul style="list-style-type: none"> • Upgrade services—delivers support for hardware, software, or memory upgrades of Cisco products. These offerings help to maximize network functionality and reliability while extending the life of the communications infrastructure. • Installation services—solves the resource problem with the tactical personnel needed to supplement customer's project management to ensure the successful installation of the network components. • Implementation services—delivers the tools, expertise, and resources customers need to quickly build their networks and deliver new services. <p>Optional services—delivers customized solutions to meet the needs of Enterprise customers</p>
Maintenance Services	
SMARTnet Maintenance	<p>Provides customers with software maintenance, registered access to CCO, advance replacement of hardware, and technical support required for self-maintenance. SMARTnet maintenance has three delivery options:</p> <ul style="list-style-type: none"> • SMARTnet Next Business Day (NBD)—8 hours/day, 5 days/week, next-business-day hardware replacement • SMARTnet 8 x 5 x 4—8 hours/day, 5 days/week, 4-hour hardware replacement • SMARTnet 24 x 7 x 4—24 hours/day, 7 days/week, 4-hour hardware replacement <p>Each level of SMARTnet services is available in a shrink-wrapped package, allowing it to be effectively marketed through resellers</p>
SMARTnet Onsite	<p>Provides all the benefits of SMARTnet maintenance, plus one of the following remedial onsite hardware services:</p> <ul style="list-style-type: none"> • SMARTnet Onsite—8 hours/day, 5 days/week, next-business-day response • SMARTnet Onsite 8 x 5 x 4—8 hours/day, 5 days/week, 4-hour response • SMARTnet Onsite 24 x 7 x 4—24 hours/day, 7 days/week, 4-hour response <p>Packaged SMARTnet OnSite 24 x 7 x 4 provides SMARTnet OnSite 24x7x4 service in a shrink-wrapped package, allowing it to be effectively marketed through resellers.</p>
Cisco Advance Replacement	<p>Provides customers with next-business-day replacement of hardware, and assistance from the TAC, by telephone, on a single occasion.</p> <p>Packaged Cisco Advance Replacement provides Cisco Advanced Replacement in a shrink-wrapped package, enabling it to be effectively marketed through resellers.</p>
Global Solution Services (GSS)	<p>SMARTnet and SMARTnet Onsite support for multinational customers; the customer has two options for service delivery:</p> <ul style="list-style-type: none"> • Single point of contact (SPOC)—worldwide service delivered from Cisco • Local support—in-country service provided by a network of authorized GSS providers <p>In addition, GSS offers central purchasing for purchases destined for multiple countries, with local product delivery supplied by in-country partners.</p>
Noncontract Services	<p>Cisco provides the following noncontract services:</p> <ul style="list-style-type: none"> • 24-Hour Telephone Support—telephone consultation to help troubleshoot hardware, software, or configuration problems • Billable Onsite Field Services—onsite remedial service, installation, ECO/FCO installation, and system updates and upgrades • Advance Replacement Parts—advance replacement parts shipped overnight on an as-required basis via next-business-day delivery service • Return for Exchange—a service that exchanges customer-returned parts with parts of equal or better type, function, or quality
Consultive Services	
Network Supported Accounts	<p>Provides personalized, proactive support, including a designated team of Cisco Certified Internetwork Expert (CCIE) support engineers who act as a remote extension of a customer's internal network operations group</p>
Professional Services	<p>Offers four services, which are performed by Cisco Professional Services Providers:</p> <ul style="list-style-type: none"> • Program and Project Management • WAN Audit • LAN Assessment • Consulting Services

Service and Support Key Selling Points

- Broad range of services and programs—Cisco offers the broadest choice of network services in the industry, including self-maintenance, assistance, online resources, remote TAC, remote consultation, 24 x 7 onsite service, and other onsite professional services.

- **Corporate commitment**—Cisco Systems is making substantial investments in all customer services. Cisco sets goals for and measures customer satisfaction each year. Manager and individual contributor bonuses are tied to these goals.
- **Innovative online support and services**—Cisco Connection Online (CCO) provides the industry's best information retrieval, technical support, and electronic commerce (DataComm Award, 1999).
- **Experience**—All of Cisco's support teams are staffed by experienced customer service engineers, professionals, and certified consultants and partners. Cisco has rigorous certification programs to ensure that all technical personnel have the knowledge they need to support its customers' mission-critical applications.
- **Global presence, experience, and capability**—Cisco has a network of global service partnerships to ensure that qualified local service is available no matter how remote the location. Cisco Partner reps follow rigorous certification programs to ensure that they have the knowledge needed to support Cisco customers. Cisco has depots located in the United States, Canada, Europe, Latin America, and Asia so that parts are quickly available when customers need them.
- **Quality**—Cisco has received ISO 9001 certification, a clear indication of the company's commitment to quality management and customer satisfaction.
- **Software value**—Cisco IOS Software updates and upgrades, an entitlement of SMARTnet and SMARTnet Onsite support contracts, make Cisco hardware "evergreen," allowing for greater bandwidth, performance, features, and security.
- **Extending the value of the product**—Cisco services increase performance, utility, and life span of Cisco products.

Choosing the Best Network Service Provider

Cisco Systems recognizes the challenges our customers often face when selecting a service provider for Internet access, voice, DSL, virtual private network, cable, or other services. That's why we created the Cisco Powered Network program, which enables Cisco resellers and Cisco end-user customers to easily identify service providers that offer high levels of quality and reliability. Service providers who display the Cisco Powered Network mark have made a significant commitment to Cisco equipment in their networks and maintain high standards of customer service and support.

As a Cisco reseller, when your customer asks about data networking (Internet or WAN) services, you can be confident in your recommendation when you suggest a Cisco Powered Network service. Service providers running a Cisco Powered Network will deliver New World network design, operations, and innovative solutions to your customers and help complete the overall Cisco networking solution. And because your networking customers are already familiar with Cisco equipment, by recommending a service provider with a

Cisco Powered Network, you offer your customers the additional benefits of end-to-end networking: higher availability, end-to-end quality of service, simplified network management, and streamlined support.

Key Customer Benefits Using a Cisco Powered Network

Factor	End-User Benefit
Interoperability	Fast response to service request
Security	Secure and private data
Availability	Around-the-clock access
Support	Quicker problem resolution
Reliability	Support for mission-critical users
New Services	Best choices in the marketplace
Technology	Latest features with no service interruptions
Training	Faster response and troubleshooting
Lower Costs	Most competitive prices

You can learn more about the Cisco Powered Network program by going to the Web site: www.cisco.com/cpn.

Cisco Reseller Service and Support

Cisco's service solutions are designed to provide resellers and distributors the service foundation to fulfill their customers' service requirements. Cisco has developed a support strategy to meet the needs of both resellers that wish to provide support to their customers and those who choose not to.

Other Cisco Resources

Cisco provides technical tools and tips on line to assist customers and resellers. More information on these tools can be found at the following Web site: www.cisco.com/public/Tech_support.shtml. Information on technical tips can be found at www.cisco.com/public/serv_tips.shtml.

Ordering Information and Channel Part Numbers

The service products listed below are available in Australia, Canada, EU countries, Norway, Switzerland, and the United States.

Cisco Service Products¹

CON-SNT-PKG(x)	SMARTnet 8 x 5 x Next Business Day
CON-MYSNT-PKG(x)	3-year SMARTnet 8 x 5 x Next Business Day
CON-SNTE-PKG(x)	SMARTnet 8 x 5 x 4 ²
CON-SNTP-PKG(x)	SMARTnet 24 x 7 x 4 ²
CON-OS-PKG(x)	SMARTnet Onsite 8 x 5 x Next Business Day
CON-OSE-PKG(x)	SMARTnet Onsite 8 x 5 x 4 ²
CON-OSP-PKG(x)	SMARTnet Onsite 24 x 7 x 4 ²
CON-SAU-PKG(x)	Software Application Support plus Upgrades
BS-INSTALL-PKG	Install plus Config
CON-AR-PKG(x)	Cisco Advance Replacement

1. Cisco has assigned most of its service products to one of 18 categories. The (x) in the part number signifies the category number.
2. This service is available only within the following distance from a parts depot or Cisco-authorized service location: in the U.S., 75 driving miles; in Europe and Canada, 120 driving kilometers; in Australia, 75 driving kilometers.

Warranty Information

Warranty	Description	Products ¹
90 Day	<ul style="list-style-type: none"> • H/W Advanced Replacement - 5 days ship with RMA approval • Internet Operating Software (IOS) - access to maintenance releases • Technical Assistance Center (TAC) • Cisco Connection Online (CCO) 	<ul style="list-style-type: none"> • All Cisco hardware and software products unless otherwise listed on this page.
1-Year Limited Software	<ul style="list-style-type: none"> • H/W Return to Factory (RTF) for replacement - 10 days ship with RMA approval • Technical Assistance Center (TAC) for problem identification only • Software maintenance releases only 	<ul style="list-style-type: none"> • VCO, VCO4K, VCO20, VCO80
One Year	<ul style="list-style-type: none"> • H/W Return to Factory (RTF) - 10 days ship with RMA approval • Internet Operating Software (IOS) - 90 days of access to maintenance releases • Cisco Connection Online (CCO) 	<ul style="list-style-type: none"> • AP, CPRO-A, MWEB, NSS, UBR900, UBR7200, WEBSERV, XDSLCP (Cisco 600) • VPN3000, VPN5000, VPN5XXX • Catalyst 2948², Selsius, 6900 • Aironet AIRANT (Antenna)
One Year Plus	<p>Day 1 through day 90:</p> <ul style="list-style-type: none"> • H/W Advanced Replacement - next business day ship with RMA approval • Internet Operating Software (IOS) - access to maintenance releases • Technical Assistance Center (TAC) • Cisco Connection Online (CCO) <p>Day 91 through day 365:</p> <ul style="list-style-type: none"> • H/W Advanced Replacement - 10 days ship with RMA approval • Cisco Connection Online (CCO) 	<ul style="list-style-type: none"> • Cisco 700, 800, 1000, 1400, 1600, 1700 • Aironet AIR (Bridge, Access Point & some Adapter)
Limited Lifetime ³	<p>Day 1 through day 90:</p> <ul style="list-style-type: none"> • H/W Advanced Replacement - next business day ship with RMA approval • Internet Operating Software (IOS) - access to maintenance releases • Technical Assistance Center (TAC) • Cisco Connection Online (CCO) <p>Day 91 through Lifetime:</p> <ul style="list-style-type: none"> • H/W Advanced Replacement - 10 days ship with RMA approval • Cisco Connection Online (CCO) <p>First 5 years:</p> <ul style="list-style-type: none"> • Fan tray and power supply Advanced Replacement (see above for turn-around time) 	<ul style="list-style-type: none"> • Cisco 1500, 1516 • Catalyst 1900, 2820, 2900XL, 3500XL • FastHub 400 • Aironet AIRCA (Adapter)
3-Year Full Hardware	<ul style="list-style-type: none"> • H/W Return to Factory (RTF) - 10 days ship with RMA approval • Internet Operating Software (IOS) - 1 year of access to maintenance releases • Engineer on site next business day 	<ul style="list-style-type: none"> • Cisco 15400, 15900
5 Year RTF	<ul style="list-style-type: none"> • H/W Return to Factory (RTF) - 10 days ship with RMA approval • Internet Operating Software (IOS) - access to maintenance releases • Cisco Connection Online (CCO) 	<ul style="list-style-type: none"> • Cisco 90-1

1. All Cisco hardware and software products, unless otherwise listed on this page, are covered under the 90 Day Warranty. Please refer to the Cisco Information Packet shipped with the product to confirm the warranty, or ask your supplier.
2. The 2948 is covered by the 90-Day and One Year warranties, please refer to the "Product Listing" located on the Warranty Home Page for more detail.
3. "Lifetime" Warranty is limited to original owner only and support is subject to product end-of-life terms.

For More Information

See the Cisco Warranty Web site:

http://www.cisco.com/warp/public/cc/serv/mkt/sup/smb/warran/warty_ai.pdf

Capital Financing

Cisco Systems Capital offers a variety of financing and equipment leasing alternatives, both short term and long term, to customers and partners in the United States, Canada, Europe, Asia, Australia, and Latin America. Cisco Capital's financial solutions offer customers the ability to acquire new technologies or refresh existing equipment through flexible, easy-to-use programs.

Program	Description
Leasing Options	
Operating Lease	The Operating lease program is a flexible lease program to finance network equipment, help manage cash flow, and enable a company to take advantage of future changes and advancements in networking technology through low monthly payments.
Fixed Purchase Lease	The Fixed Purchase lease program offers a flexible term, 12 to 36 months, with the option to purchase the equipment at any time during the lease or for a fixed amount at lease end.
One Dollar Purchase Lease	The One Dollar Purchase lease program is a flexible term lease, 12 to 36 months, with the option to purchase the equipment at lease end for one dollar. For tax accounting purposes, the customer is considered the owner of the equipment from the beginning of the term.
Exchange Lease	The Exchange lease program is available as a periodic Exchange or Total Exchange Program that lets companies return leased Cisco equipment for new products before lease-end.
EasyNet Lease	The EasyNet lease program helps finance network equipment and manage cash flow by offering an equipment rental program with low payments during the initial term. This program offers organizations a low-cost way to deploy and update their network.
Leasing Programs	
Venture Lease	The Venture lease program is available to start-up service providers in the United States who have acquired angel investor or venture funding. Lease amounts ranging from a minimum of \$1 million to a maximum of \$5 million are available to qualified companies for terms up to 36 months. Qualified SPs can finance up to 100% of their Cisco equipment
Service Provider Access	The Service Provider Access program offers start-up service providers immediate credit up to \$85,000 to lease Cisco equipment, with no down payment, and the first payment deferred for 90 days. SPs can go directly to the distributor of choice for specially priced equipment.
Direct Access Partner	The Direct Access Partner Program offers start-up service providers immediate credit up to \$85,000 to lease Cisco equipment, with no down payment, and the first payment deferred for 90 days. SPs can bypass two-tier resellers and go to the largest Cisco DVARS for specially priced equipment and special leasing terms.
Smart Start	The Smart Start Program for Venture Capital funded start-up Dot Com's offers up to \$450,000 in pre-approved lease credit to qualified companies. With no payments for the first 90 days.
Business Builder	The Business Builder Program is available to any larger service provider in the United States who can qualify for up to \$450,000 by meeting five verifiable criteria. 1) One year in business; 2) Cash, or equivalents, equal to 4 times the lease amount; 3) Tangible net worth equal to cash; 4) Monthly revenues greater than \$500k; and 5) No derogatory credit history.
Technology Service Lease	The Technology Service lease program bundles the SmartNet maintenance software into the equipment lease for one easy, monthly payment.
Technology Migration Lease	The Technology Migration lease program offers operating leases with a unique upgrade option that lets companies return leased Cisco equipment before the lease term is up. This program is ideal for companies planning for partial or large-scale upgrades, or who want to retain the flexibility to migrate to new technologies as they become available.
Cisco Edge	The Cisco Edge Program offers flexible financing options, from working capital to leases to loans, to customers in any Latin American country. Offering competitive rates and terms from 45 days to five years, making it easier to obtain loans from US \$75,000 to US \$2.5 million.
Cisco Facil	The Cisco Facil Program is especially tailored to the needs of small- and medium-sized businesses that purchase equipment through the two-tier reseller channel in Brazil. Lease amounts average US \$150,000 with terms from 24- to 36 months.
Cisco Pyme Plus	The Cisco Pyme Plus Program is especially tailored to the needs of small- and medium-sized businesses that purchase equipment through the two-tier reseller channel in Argentina. Lease amounts average US \$15,000 with terms from 24- to 36 months.
Channel Financing Programs	
Distribution Financing	The Distribution financing program offers channel partners interest-free 45 and 60 day terms on all Cisco products to better match customer payment cycles.
Purchase Order Financing	The Purchase Order financing program offers authorized resellers incremental purchasing power to make a large sale and match the customer payments terms with 45 to 60 days interest free.

Program	Description
Accounts Receivable Financing	The Accounts Receivable financing program enables Cisco authorized resellers and partners who need to improve cash flow, expand credit capacity, and build capital reserves, to establish a revolving credit line secured by their receivables.
Extended Terms Financing	The Extended Terms financing program is available to authorized resellers and qualified Cisco enterprise and service provider customers, and offers extended payment terms up to 180 days on specific sales depending on qualifications and requirements.
E-Rate Financing	The E-Rate financing program is available to Cisco resellers and partners who have won an E-Rate-financed contract with an educational institution. This extended-terms loan covers that portion of the purchase covered by the E-Rate grant, with 90-day interest-free terms for purchases directly from Cisco or through a Cisco authorized distributor.
Trade Financing Programs	
Draft Purchase	The Draft Purchase financing program provides creative financing options to support the growing business in Latin America and Asia. The Draft Purchase program allows companies to leverage their existing credit line up to 180 days to preserve their cash position and coordinate timing between receiving and payables.
Extended Terms with Insurance Option	The Extended Terms Financing program with Insurance Option is available to Cisco partners with excellent payment history in the following countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, Uruguay, and Venezuela.
Ex-Im Bank	The Ex-Im Bank financing program offers financing to companies located in emerging market countries. The Export-Import Bank of the United States is an independent agency that promotes export of goods manufactured in the United States. Ex-Im financing is most appropriate for transactions that require financing of one year or longer, where it is difficult to obtain competitive financing by conventional methods.
Forfaiting Program	The Forfaiting Program coordinates financing of large purchases (US\$500,000 and up) of Cisco Systems equipment between forfaiters and Cisco customers in Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, Uruguay, and Venezuela.
Structured Financing Programs	
Structured Financing	The Structured financing program offers financing for high dollar-volume projects. This program offers financing up to the entire cost—including equipment and soft costs. Structured Financing is broken into two phases: the deployment phase (1-3 years) and the repayment phase (1-5 years) to match company expenses and revenue models. This program is subject to qualifications.

Why Choose Cisco Capital Financing?

- Cisco Capital is backed by Cisco Systems the world wide leader for networks for the Internet
- Cisco Capital provides one-stop financial solutions for all your business needs
- Cisco Capital is the fastest growing finance companies in the industry
- Cisco Capital is a global finance company with coverage in the United States, Canada, Europe, Asia, Australia, and Latin America
- Cisco Capital finance rates are among the most aggressive in the industry

Key Advantages of Financing Through Cisco Capital

- *One-stop financing* for all your business needs
- *Flexibility* to expand and upgrade your network system through technology upgrade and refresh programs
- *Competitive* leasing rates, flexible terms and conditions
- *Increased buying power* through increased credit lines
- *Fast* credit approvals
- *Customized programs* to provide the best overall solution for your business

How to Get Started with Leasing

Work with your VAR or Cisco sales representative to determine equipment configuration and see steps below:

- 1 Cisco or VAR sales representative determines that the customer is interested in leasing.
- 2 Sales representative determines if the customer is participating in a special program, or if they are Enterprise, Service Provider, or Small Medium Business.
- 3 Call: 1 800 730-4030
Press 1 for Enterprise
Press 2 for Service Provider
Press 3 for Small Medium Business
- 4 Your leasing representative will provide assistance with the leasing process by: a.) Submitting financials; b.) Receiving approval; c.) Signing the lease; d.) Ordering equipment; e.) Beginning payments.

How to Get Started With Distribution Financing

Contact your Cisco or distributor sales representatives and see steps below:

- 1 Identify reseller partner's needs.
- 2 Partner contacts DFS and indicates if a Cisco direct or Premier VAR reseller.
- 3 DFS Business Development Manager meets with reseller and reviews program.
- 4 Credit approval is secured through DFS and documentation is provided to partner.
- 5 Reseller places purchase order with Cisco or distributor and references DFS as financing source.
- 6 Cisco or distributor ships product per reseller instructions and invoices DFS.
- 7 DFS pays Cisco or distributor and invoices reseller as if billed by vendor.
- 8 Reseller pays DFS according to schedule and creates new credit availability.

How to Get Started With Purchase Order Financing

Contact Worldwide Financial Services and see steps below:

- 1 Reseller identifies opportunity for large sale and is awarded bid or contract.
- 2 Reseller contacts Cisco for credit qualification of the end user, and receives documents from DFS.
- 3 Reseller signs documentation and forwards Notice of Assignment letter to end user for signature.
- 4 Submit purchase order to Cisco/distributor, referencing bill to DFS.
- 5 Cisco or distributor ships product to reseller and invoices DFS.
- 6 Reseller ships/installs product to end user and bills end user with remit to address of DFS.
- 7 End User remits payment to DFS lock box.
- 8 DFS pays reseller the margin less any financing costs if payment is received after the free period.

Program Brochure Ordering Information

Publication Number	Publication Description
Leasing Programs	
954658	Venture Leasing Program
953485	Technology Service Lease Program
953127	Technology Migration Lease Program
954660	Cisco Edge Program (Latin America)
954662	Cisco Facil Lease Program (Brazil)
954661	Cisco Pyme Plus Program (Argentina)
953128	Operating Lease Program
953481	Fixed Purchase Lease
953482	One Dollar Purchase Lease
953483	Exchange Lease
953484	EasyNet Lease

Channel Financing Programs

953139	Accounts Receivable Financing Program
953471	Distribution Financing Program (Europe)
953137	Distribution Financing Program (US)
953131	Draft Purchase Program (Asia)
953132	Draft Purchase Program (Latin America)
953138	E-Rate Financing Program
953472	Extended Terms Financing Program (Europe)
953140	Extended Terms Financing Program (US)
953133	Extended Terms Financing with Insurance Program (Latin America)
953141	Purchase Order Financing Program

Structured Finance Program

953126	Structured Financing Program
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Trade Finance Programs

953130	Ex-Im Bank Financing Program (Latin America)
953129	Forfaiting Program (Latin America)

Misc.

952981	Cisco Capital Folder
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For More Information

See the Cisco Systems Capital Web site: www.cisco.com/go/financingprograms

Within the United States, call 800-730-4090

Routers and Access Products at a Glance

Product	Features	Page
Cisco 700 Series	ISDN router <ul style="list-style-type: none"> • Cisco 76x models: 1 Ethernet port (10BaseT) and 1-port BRI (NT1 models available) • Cisco 77x models: 4 Ethernet ports (10BaseT) and two analog telephone ports (NT1 models available) • Supports up to 30 users 	26
Cisco 800 Series	ADSL, IDSL, ISDN, and serial routers with Cisco IOS Technologies <ul style="list-style-type: none"> • 1-port ADSL or 1-port BRI (optional NT1), IDSL or 1-port serial • Optional 4-port Ethernet hub and 2 analog telephone ports (ISDN models) • Advanced security features • Toll quality voice with VoIP (Cisco 827-4V) 	29
Cisco 1000 Series	Fixed-configuration desktop access router <ul style="list-style-type: none"> • 1-port Ethernet • 1-port BRI (optional NT1) or 1-port sync or async serial 	33
Cisco IAD1101	Low-cost, compact (1RU), carrier-class integrated access CPE device <ul style="list-style-type: none"> • Scalable platform supports 16 on-board analog voice ports with built-in ring generation (expansion slot supports 8 additional voice ports) • Provides on-board Ethernet, V.35, two T1 ports and IP routing functionality • Standards-based solution includes Access List privacy/security features 	35
Cisco 1400 Series	ADSL routers <ul style="list-style-type: none"> • Either 1-port Ethernet (10BaseT) and 1-port ATM-25 (1401) or 1-port Ethernet (10BaseT) and 1-port ADSL (DMT-2)(1417) • Designed for DSL access up to 8 Mbps • Part of Cisco's end-to-end DSL solutions 	37
Cisco 1600 Series	Modular desktop access router <ul style="list-style-type: none"> • 1- or 2-port Ethernet (10BaseT) • 1-port BRI (optional NT1) or 1-port sync or async serial • 1 WAN interface card (WIC) slot 	39
Cisco 1700 Series	Flexible, secure, modular access routers <ul style="list-style-type: none"> • 1-port autosensing 10/100 Fast Ethernet LAN • Modular slots support a wide variety of WAN and analog voice interface cards • Supports secure Internet, intranet, and extranet access as well as new WAN applications including VPNs, integrated voice/data (VOIP), and broadband services 	42
Cisco 2500 Series	Fixed and modular configuration access routers and servers <ul style="list-style-type: none"> • Single or dual LAN; Ethernet or Token Ring • Router/hub or access server • Single, dual serial, or high-density serial models 	46
Cisco 2600 Series	Modular multiservice router and dial access server <ul style="list-style-type: none"> • Single or dual LAN (Ethernet, 10/100 Mbps Ethernet, Token Ring and mixed Ethernet, and Token Ring options) • Wide variety of interface support, including analog and digital, voice, async and sync serial, ISDN, Fractional and channelized T1/E1, Ethernet, analog modems, and ATM • Shares WAN interface cards and network modules with Cisco 1600,1700, and 3600 series 	51
Cisco 3300 Series	Carrier-class SONET access device <ul style="list-style-type: none"> • Fully redundant platform • Combines SONET reliability and layer three awareness • Ethernet interfaces support a variety of service interfaces that can be configured for bridging or routing, and connect to a local LAN via 10BaseT to a hub, switch, or router 	57
Cisco 3600 Series	Modular, high-density access router <ul style="list-style-type: none"> • 2-, 4-, and 6-slot models • Wide variety of media support, including async and sync serial, ISDN, channelized T1/E1, Ethernet, Fast Ethernet, Token Ring, digital modems, and ATM • Voice/fax over IP or Frame Relay 	59
Cisco MC3810	Compact, low-cost, multiservice access concentrator <ul style="list-style-type: none"> • 1-port Ethernet and 2-ports serial • 6-ports analog or 24/30-ports digital voice • Data, voice, and video integration 	66
Cisco 4000 Series	Modular, high-density router <ul style="list-style-type: none"> • 3-slots for all models • Choice of 100-MHz or 133-MHz processor • Wide variety of media support, including async and sync serial, ISDN, channelized T1/E1, Ethernet, Fast Ethernet, Token Ring, FDDI, HSSI, and ATM 	69

Product	Features	Page
Cisco AS5300 Series	Hybrid async and ISDN access servers <ul style="list-style-type: none"> • 3 network interface card slots • 4- and 8-ports PRI (T1/E1) and 4-ports serial • Up to 240 integrated modems 	73
Cisco AS5300/Voice Gateway	High performance T1/E1 VoIP Gateway <ul style="list-style-type: none"> • 4 T1/E1 ports (96/120 voice/fax channels) and 4-ports serial • One 10/100 Fast Ethernet, and one 10 Base T Ethernet • G.711, G.729, G.729a, G.723.1, G.726, G.728 voice CODECs, and 14.4 kbps Group III fax relay 	77
Cisco AS5800 Series	High-end dial products <ul style="list-style-type: none"> • Hybrid, asynchronous and ISDN termination • Accommodate both mobile and high-bandwidth requirements 	79
Cisco 6400 Series	A carrier-class aggregation device for termination of large number of subscribers and multidomain services in a POP or central office <ul style="list-style-type: none"> • Up to 14,000 subscriber termination per platform • L2TP, LAC/LNS, multidomain services • Full ATM capability 	81
Cisco 6700 Series	MultiService access platform for circuit switched and packet-based voice/data traffic <ul style="list-style-type: none"> • Modular, scalable, high-density platform that delivers end-to-end integrated voice (GR-303 TDM Gateway) and data services • 5 line card slots for RT and CPE applications (Cisco 6705) • 32 line card slots for CO and RT applications (Cisco 6732) 	83
Cisco 7100 Series	Large branch and central site VPN router <ul style="list-style-type: none"> • Comprehensive suite of VPN services, including encryption, tunneling, firewall, and bandwidth management • Embedded I/O for ease of deployment • Service module slot for IPsec and PPTP encryption coprocessing 	85
Cisco 7200 Series	WAN-edge router for intelligent services, modularity, high performance, and scalability <ul style="list-style-type: none"> • Fully modular, chassis-based • 4- or 6-slot models and choice of three system processors • Wide variety of LAN and WAN options, including Ethernet, Fast Ethernet, Token Ring, FDDI, serial, ISDN, HSSI, ATM, Packet over DS3/E3 	89
Cisco 7500 Series	Premier high-end services-enabled core and WAN aggregation router for voice, video, and data in enterprise and service provider applications. <ul style="list-style-type: none"> • 5-, 7-, and 13-slot models • 1-, 2-, or 4-Bus models offering 1, 2, or 4 Gbps backplanes Wide variety of LAN and WAN options including Ethernet, Fast Ethernet, Gigabit Ethernet, Token Ring, FDDI, serial, ISDN, HSSI, ATM, packet over DS3/E3	94
Cisco 12000 Series	The scalable Gigabit Switch Router (GSR) is the premier, high performance routing platform for SP customer aggregation, sever aggregation, and backbone applications. <ul style="list-style-type: none"> • 8-, 12-, or 16-slot models • 40, 60, or 80 Gbps Switching Fabric, depending on model • Optimized for IP • Carrier class • Wide variety of interface options including POS, DS3, ATM, DPT, Gigabit Ethernet, and Fast Ethernet 	98

Memory Information for Distribution Routers

Router	Memory Type	Slots	Default Memory	Max Memory	Default Config. (Notes)
700 Series	Flash	0	1 MB	1 MB	
	DRAM	1	1.5 MB (On board)	2 MB	
801 - 804, 802 IDSL, 804 IDSL	Flash	1	8 MB	12 MB	4 MB On board + 4 MB Mini Flash
	DRAM	1	4 MB (On board)	12 MB	
805	Flash	1	4 MB	12 MB	
	DRAM	1	8 MB (On board)	16 MB	4 MB On board + 4 MB Mini Flash
827 & 827-4V	Flash	1	12 MB	20 MB	4 MB On board + 4 MB Mini Flash
	DRAM	1	16 MB (827) 24 MB (827-4V)	32 MB	
1000 Series	Flash (PCMCIA)	1	2 MB	4 MB	Flash is optional
	DRAM	1	8 MB	8 MB	
1400 Series	Flash	1	4 MB	16 MB	
	DRAM	1	16 MB	16 MB	
1600 Series	Flash	1	4 MB	16 MB	
	DRAM	1	8 MB (On board)	24 MB	
1700 Series (base models)	Flash	1	4 MB	16 MB	Uses Mini Flash
	DRAM	1	16 MB (On board)	48 MB	
2500 Series	Flash	2	8 MB	16 MB	Slot 0 = 8 MB
	DRAM	1	4 MB	16 MB	
2600 Series	Flash (261x, 262x)	1	8 MB	16 MB	Slot 0 = 8 MB
	Flash (265x)	1	8 MB	32 MB	Slot 0 = 8 MB
	DRAM (261x, 262x)	2	32 MB	64 MB	Slot 0 = 16 MB; Slot 1 = 16 MB
	DRAM (265x)	2	32 MB	128 MB	Slot 0 = 32 MB; Slot 1 = empty
3620	Flash (PCMCIA)	2	0	32 MB	
	Flash (SIMM)	2	8 MB	32 MB	Slot 0 = 8 MB
	DRAM	4	32 MB	64 MB	Slot 0 = 16 MB; Slot 1 = 16 MB
3640	Flash (PCMCIA)	2	0	32 MB	
	Flash (SIMM)	2	8 MB	32 MB	Slot 0 = 8 MB
	DRAM	4	32 MB	128 MB	Slot 0 = 16 MB; Slot 1 = 16 MB
3660	Flash (PCMCIA)	2	0	32 MB	
	Flash (SIMM)	2	8 MB	64 MB	
	SDRAM	2	32 MB	256 MB	
3810	Flash	1	8 MB	16 MB	
	DRAM	1	32 MB	32 MB	
4500 / 4700	Flash	2	4 MB	16 MB	Slot 0 = 4 MB
	DRAM	2	16 MB	32 MB (4500-M) 64 MB (4700-M)	Slot 0 = 8 MB; Slot 1 = 8 MB (DRAM must be in pairs)
	Shared Boot Helper	1	4 MB	16 MB	Slot 0 = 4 MB
		1	4 MB	16 MB	
AS5300	System Flash	2	16 MB	16 MB	Slot 0 = 8 MB
	DRAM	2	64 MB	128 MB	Slot 0 = 32 MB; Slot 1 = 32 MB
	Shared	1	16 MB	16 MB	
	Boot Flash	1	8 MB	8 MB	
AS5300/Voice Gateway	Flash	2	16 MB	16 MB	Slot 0 = 8 MB
	DRAM	2	64 MB	64 MB	Slot 0 = 32 MB
	Shared		16 MB	16 MB	
	Boot Flash		8 MB	8 MB	
AS5800 Access Server/Voice Gateway	Flash (PCMCIA)	1	16 MB	40 MB	
	Flash (Internal)	1	4 MB	4 MB	
	Shared (NPE-200)		4 MB		
	Shared (NPE-300)		32 MB		
	DRAM (NPE-200)		128 MB	128 MB	
	DRAM (NPE-300)		256 MB	256 MB	
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 (PCMCIA)	2	16 MB	110 MB	
	Flash (Internal)	1	4 MB	4 MB	
	Shared (NPE-200)		4 MB		
	Shared (NPE-300)		32 MB		
	DRAM (NPE-200)	4	64 MB	128 MB	Slots 0-3 = 8 MB DIMMs
	DRAM (NPE-300)	4	64 MB	256 MB	

Cisco Routers and Access Products Port Matrix

	Cisco 700 Series	Cisco 800 Series	Cisco 1000 Series	Cisco IAD1101	Cisco 1400 Series	Cisco 1600 Series	Cisco 1700 Series	Cisco 2500 Series	Cisco 2600 Series	Cisco 3600 Series	Cisco MC3810	Cisco 4000 Series	Cisco AS5300	Cisco AS5300	Cisco AS5800	Cisco 6700 Series	Cisco 7100 Series	Cisco 7200 Series	Cisco 7500 Series	Cisco 12000 Series
Fixed Ports Only	X	X	X		X						X									
Fixed & Modular Ports				X		X	X	X	X	1			X	X	X		X			
Modular Ports Only										2		X				X		X	X	X
LAN Ports																				
10-MB Ethernet	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3	X	X	X	
10-MB Ethernet (fiber)										X					X		X	X	X	
100-MB Ethernet							X		X	X		X			X		X	X	X	X
100-MB Ethernet (fiber)										X					X		X	X	X	X
10/100-MB Eth							X		X	X			X	X			X	X		
Integrated Eth. Hub	X	X						X												
100 VG															X					X
Token Ring								X	X	X		X			X		X	X	X	
FDDI/CDDI												X			X			X	X	
ATM									X	X	X	X			X	4		X	X	X
Gigabit Ethernet																		X	X	X
WAN Ports																				
Sync Serial		X	X	X		X	X	X	X	X	X	X	X	X	X	5		X	X	
Sync Serial w/ CSU						X	X	X	X	X	X									
ISDN BRI (S/T)	X	X	X			X	X	X	X	X	X	X			X		X	X		
ISDN BRI (U)	X	X	X			X	X	X	X	X					X	X	X	X		
ISDN PRI/Ch T1									X	X	X	X	X	X	X	X		X	X	
ISDN PRI w/ CSU									X	X	X		X	X	X			X	X	
Async			X			X	X	X	X	X	X	X			X					
POTS	X	X														X				
Integrated Modems									X	X			X		X					
HSSI										X		X			X		X	X	X	
DS3									X			X			X	X	X	X	X	X
ATM OC-3									X	X		X			X	4		X	X	X
ATM OC-12																				X
ATM					X				X	X	X	X			X	4		X	X	X
ATM - T1/E1									X	X	X				X	6	X	X		
SONET															X	7		X	X	8
ADSL		X			X															
IDSL		X							X											
DPT																		X	X	X
Voice Ports																				
Analog	X	X		X			X		X	X	X					X				
Digital									X	X	X		X	X	X		X	X		

1. Cisco 3660 only.
2. Cisco 3620 and 3640.
3. Ethernet port is provided for network connection of the 6700 Series product only. No user services are currently supported via Ethernet.
4. ATM over TDM (proprietary AAL1) with current 6700 Series products; does not support QoS and other advanced features.
5. Sync serial is V.35 port available on T1 plug-in card.
6. Supported through HDLU.
7. SONET requires external multiplexer to provide access to optical SONET network; product does not interface directly to SONET network; no SONET ring support; SONET requires OC3c or STS-1 cards.
8. Supports Cisco-developed Packet over SONET (POS) in a variety of configurations up to OC-192 performance.

Cisco Routers and Access Products Overview

Cisco's full line of routers ranges from home office access routers to central site access servers. The scope of Cisco's products supports a significant number of solution scenarios.

Ease of Use

Cisco's router configuration tools make it easy for end users, network administrators, resellers and consultants to install Cisco routers.

Cisco FastStep is an easy-to-use Microsoft Windows 95-, 98-, and NT 4.0-based software tool that simplifies the setup, monitoring, and troubleshooting of Cisco routers for small office and home office users. Cisco FastStep leads the user through a step-by-step, wizards-based procedure that simplifies the configuration of a Cisco router connected to an Internet Service Provider (ISP) or remote corporate network. A user can set up a Cisco 700, 800, or 1600 series router with FastStep software.



FastStep uses a graphical display of the process and a help box to lead the user through setting up the router.

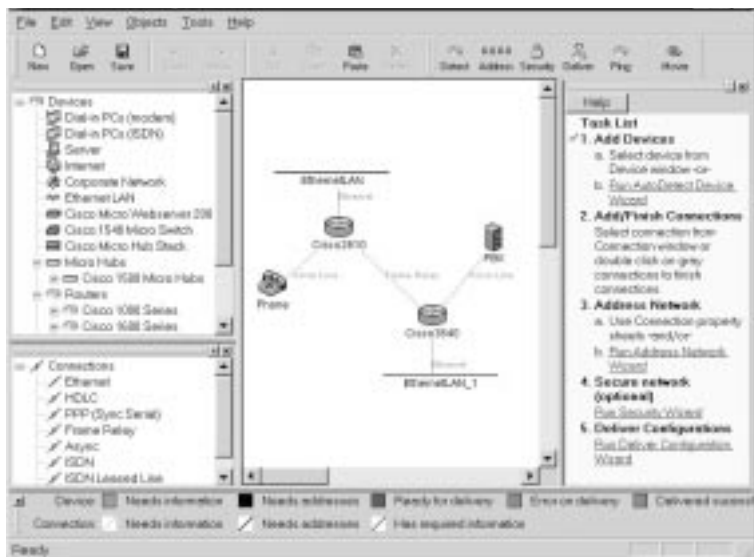
FastStep software is available (no login required) from the CCO Software Center, or on a separate CD-ROM located in every accessory kit for supported products. For more information, see the Cisco FastStep Web site at <http://www.cisco.com/go/faststep>.

ConfigMaker 2.4

Cisco ConfigMaker is designed to configure a small to medium sized network of Cisco routers, switches, hubs, and other network devices from a single PC. Cisco ConfigMaker is an easy-to-use Microsoft Windows 95, 98, and NT 4.0-based software tool. Cisco ConfigMaker is designed for resellers, consultants, and network administrators who are proficient in LAN and WAN fundamentals and basic network design.

For fast and efficient configuration of Ethernet networks and WAN connectivity, Cisco ConfigMaker prompts users through the setup process. Online WAN configuration worksheets list important information that the network administrator must obtain from the Internet service provider or WAN service provider before configuring the devices. To configure devices:

- The user drags and drops devices and connections from the device palette to create a network topology diagram.
- Individual devices and connections are configured using the task wizards and information collected using the worksheets.
- Configurations are downloaded to the appropriate devices from a standalone PC or over the network.
- ConfigMaker can also read Cisco IOS Software configurations from previously configured routers.



The ConfigMaker graphical user interface displays a network diagram that shows the network devices in relationship to each other. ConfigMaker supports 800, 1000, 1600, 1700, 2500, 2600, 3600, and 4000 series routers, switches, hubs, and other network devices.

Cisco ConfigMaker helps you configure many Cisco IOS Software features, including:

- Voice over IP (with QoS settings)
- Cisco IOS Firewall
- IPSec (encryption for VPNs)
- Network Address Translation (NAT)
- Committed Access Rate (CAR)
- Dynamic Host Configuration Protocol (DHCP)

Check documentation for more details on specific modules and models supported. No previous experience with the Cisco IOS® Software command line interface is required. ConfigMaker is available (no login required) from the CCO Software Center, or on a separate CD-ROM located in every Software Feature Pack for supported products. For more information, See the Cisco ConfigMaker Web site at <http://www.cisco.com/go/configmaker>.

Bandwidth Optimization

Cisco IOS Technologies deliver bandwidth optimization with these features:

- Multichassis Multilink PPP—A Cisco IOS Software value-added feature that allows you to stack multiple Cisco NASs and configure them as a single, logical dial-in entity for multilink PPP; allows multilink member links to terminate to separate physical NASs while still being treated by Cisco IOS Software as a single multilink bundle, thereby allowing the administrator to share NAS links to the PSTN more cost effectively (no need to provision separate NASs for multilink users)
- Bandwidth Allocation Protocol (BACP)—an enhancement for PPP that allows the administrator to control the admission of new links in a multilink PPP bundle
- Callback—a wide range of support for MS callback, ISDN callback, PPP standard callback, Caller ID callback, and Dialer callback
- Dial-on-demand routing (DDR)—minimizes ownership cost by allowing a router to automatically initiate and close a circuit-switched session
- Bandwidth on demand (BOD)—dynamically increases network throughput by allowing a router to automatically establish a new, load-sharing connection to the destination, in response to a definable load level
- Snapshot routing—a routing update mechanism that minimizes ownership costs by eliminating the need for configuring and maintaining large static tables, allowing dynamic routing protocols to be used on DDR lines

- Virtual bandwidth reservation and priority queuing—enhances throughput by reserving bandwidth and prioritizing traffic based on the type of application, its source, or its destination
- IPX® Protocol spoofing—optimizes Novell networking by responding to a server's Watchdog requests on behalf of a remote client
- Cisco IOS Software compression solutions—accomplished with header compression for TCP/IP, per-interface compression (one set of dictionaries per hardware link), and per-virtual circuit compression (one set of dictionaries per compressed virtual circuit)

Security

Cisco's powerful suite of security technologies includes:

- Network Address Translation (NAT) and Port Address Translation (PAT)—hides private topology and IP addresses from an external network
- Digital Signature Standard (DSS) and digital certification—positively authenticates users or devices
- IPSec—enables secure communications of data over public networks
- Time-based Access Control Lists (ACLs)—implements access lists based on time of day
- Password Authentication Protocol (PAP)—allows a remote node to establish its identity using a two-way handshake
- Terminal Access Controller Access Control System Plus (TACACS+) and Remote Access Dial-in User Service (RADIUS)—gives complete network access security for dial-in connections
- Challenge Handshake Authentication Protocol (CHAP)—allows a remote node to establish its identity using a three-way handshake
- Calling line identification—uses calling line identification to compare the ISDN number of a calling device against a list of known callers
- Access lists—checks source address of packets (standard access lists) and checks source and destination addresses and other parameters (extended access lists)
- Context-based access control (CBAC)—provides secure, application-based stateful filtering for the most popular protocols and a wide variety of advanced applications; available in the Cisco IOS Firewall feature set

Multimedia Features

Cisco IOS Software network services that support multimedia applications with multimedia and multicast capabilities include:

- RSVP—dynamically reserves end-to-end bandwidth for delay-sensitive IP traffic
- IP Multicast-Protocol Independent Multicast (PIM)—a multicast protocol that can be used in conjunction with all unicast IP routing protocols

- Internet Group Management Protocol (IGMP)—indicates to the router if any hosts on a given physical network belong to a multicast group
- AppleTalk Simple Multicast Routing Protocol (SMRP)—provides connectionless, best-effort delivery of multicast datagrams

Quality of Service

Cisco IOS Software quality-of-service network services readily support bandwidth-intensive traffic:

- Committed Access Rate (CAR)—performs two QoS functions:
 - Bandwidth management through rate limiting, which allows you to control the maximum rate for traffic transmitted or received on an interface
 - Packet classification through IP precedence and QoS group setting, which allows you to partition your network into multiple priority levels or classes of service (CoS)
- Resource Reservation Protocol (RSVP)—establishes priority bandwidth allocation
- Weighted Fair Queuing (WFQ)—adds new levels of control to previous queuing methods
- Random Early Detection (RED)—monitors traffic levels on very large networks to prevent congestion and guarantee priority traffic delivery
- Cisco IOS Technologies that manage resource allocation include PIM, Private Network-Network Interface (PNNI), and available bit rate (ABR)

Cisco 700 Series

The Cisco 700 series ISDN router provides affordable, fast Internet access for every PC in a small office or home-based business of up to five users.



Small offices that want to provide Internet access with ISDN for every PC can use a single Cisco 700, instead of multiple modems or TAs and multiple phone lines. Routers are more secure, easier to deploy, less expensive to manage, and cost less to use than modems.

When to Sell

Sell This Product

Cisco 761M

When a Customer Needs These Features

- Simple Internet Access
- Built-in NT1 for U.S. and Canada

Cisco 775M, 776M

- Internet access for home-based businesses
- Two plain old telephone service (POTS) interfaces to allow standard telephone, fax, or modem to share ISDN line
- A cost-effective, 10BaseT, unmanaged hub
- Built-in NT1 for U.S. and Canada (Cisco 776M)
- Interfaces allow standard telephone, fax, or modem to share ISDN line

**Cisco 761M-1CAPI,
775M-1CAPI**

- CAPI for access to leading Internet Service Providers and online services including faxing, e-mail, and banking
- RVS-COM-lite applications

Key Features

- IP and IPX routing for up to 1500 PCs (recommended up to 5)
- Some modules include a 4-port hub and 2 POTS ports for all-in-one device supporting fax, phone, and PCs
- Security features include PAT/NAT, PAP, CHAP, caller ID callback, and access lists, for more security than a modem or TA
- Dynamic Host Configuration Protocol (DHCP) relay agent and server for dynamic addressing of attached workstations
- Two B-channels for phone or data and automatic B-channel aggregation with Multilink PPP
- Always-on ISDN
- Low ISDN usage cost with bandwidth optimization—compression, Bandwidth-on-Demand B-channel aggregation, Dial-on-Demand, and X.25 over D channel
- X.25 over B channel for BTs CARDWAY TPAD Services

Specifications

Feature	Cisco 761M	Cisco 775M	Cisco 776M
Fixed LAN Ports (connections)	1-port Ethernet (10BaseT)	4-port Ethernet hub (10BaseT)	4-port Ethernet hub (10BaseT)
Fixed WAN Ports (connections)	1-port ISDN BRI (S/T)	1-port ISDN BRI (S/T) 2-port POTS	1-port ISDN BRI (U) 2-port POTS
Modular Slots	None	None	None
Processor Speed (type)	25-MHz (80386)	25-MHz (80386)	25-MHz (80386)
Flash Memory	1 MB	1 MB	1 MB
DRAM Memory	1.5 MB (default) 2 MB (max)	1.5 MB (default) 2 MB (maximum)	1.5 MB (default) 2 MB (maximum)
Dimensions (HxWxD)	1.6 x 8.3 x 9 in.	1.6 x 8.3 x 9 in.	1.6 x 8.3 x 9 in.
Service Category	1	1	1

Competitive Products

- 3Com: Office Connect LAN Modem
- AVM: ISDN cards with KEN! or Network Distributed ISDN software; ISDN cards with NetWare MultiProtocol Router for ISDN
- Nortel/Bay: NetGear RT328
- BinTec: Bingo
- Intel: Express ER8011
- Eicon: Diva T/A ISDN LAN Modem
- Elsa: Lancom 1000
- Netopia: R3100-UP or R3100U
- Zyxel: Presige 100 or 1001H

Cisco IOS Software and Memory Requirements

The Cisco 700 Series ships with the latest version of Cisco 700 Software. No Software Feature Packs are needed.

Distribution Part Numbers and Ordering Information

Cisco 700 Series Router Chassis¹

CISCO761M	ISDN Router
CISCO775M	ISDN Router w/ 4-port Hub, 2 POTS (U.S., MX)
CISCO776M	ISDN Router w/ NT-1, 2 POTS, w/ 4-port Hub (U.S.)
CISCO761M-1CAPI	1-port 10bT, 1-port BRI (S/T), 1-user CAPI
CISCO775M-1CAPI	4-port 10bT Hub, 1-port BRI (S/T), 2 POTS ports, 1-user CAPI
CISCO775M-G1	ISDN Router w/ 4-port Hub, 2 POTS (CA, NL, TW, SG, KO)
CISCO775M-G2	ISDN Router w/ 4-port Hub, 2 POTS (EURO, AU, HK)
CISCO776M-G1	ISDN Router w/ NT-1, 2 POTS, w/ 4-port Hub (CA.)

Cisco 700 Series Memory Options

MEM760-512D=	Cisco 700 Series 0.5 MB DRAM Memory
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Cisco 700 Series Software Upgrades

CD700-1CAPI-4.4=	Cisco 700 1-user Remote CAPI Software
CD700-5CAPI-4.4=	Cisco 700 5-user Remote CAPI Software

Cisco 700 Series Accessories

CAB-760-CON=	Cisco 700 Series Console Cable
PWR760-770=	Cisco760-770 Family AC Power Supply - Spare

Cisco 700 Series Basic Maintenance

CON-SNT-PKG1	Cisco 700 Series SMARTnet Maintenance (8 x 5 x NBD)
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 700 Series Web site: <http://www.cisco.com/go/700>

Cisco 800 Series

The Cisco 800 series router provides enhanced network security and proven reliability through Cisco IOS Software tailored for small offices and telecommuters. It is recommended for



small offices of up to 20 users, connecting every user to the Internet or to a corporate LAN via one ADSL, IDSL, ISDN, or serial connections (up to 512 Kbps). Those who will especially benefit from Cisco 800 series routers are companies who have invested in Cisco IOS Software at the head-end and want to add telecommuters; service providers who offer value-added services to small offices; and VARs who are familiar with Cisco IOS Software and want a fast, profitable way to service small office customers.

When to Sell

Sell This Product When a Customer Needs These Features

Cisco 801	• 1 Ethernet and 1 ISDN Basic Rate Interface (BRI) S/T (for outside North America)
Cisco 802	• 1 Ethernet and 1 ISDN BRI U (for North America)
Cisco 803	• 4-port shared Ethernet hub, 2 analog POTS, and 1 ISDN BRI S/T (for outside North America)
Cisco 804	• 4-port shared Ethernet hub, 2 analog POTS, and 1 ISDN BRI U (for North America)
Cisco 805	• 1 Ethernet and 1 serial WAN port for Frame Relay, leased line (up to 512 Kbps), or async dialup access
Cisco 802 IDSL	• 1 Ethernet and 1 IDSL
Cisco 804 IDSL	• 4-port shared Ethernet hub and 1 IDSL
Cisco 827	• 1 ADSL and 1 Ethernet
Cisco 827-4V	• 1 ADSL and 1 Ethernet with 4 analog phone ports for VoIP

Key Features

- Supports Cisco IOS Software—the industry standard software that powers 80 percent of the Internet
- Fixed configuration support for several WAN connections including ADSL, IDSL, ISDN, serial
- Standard security with ACLs, PAT/NAT, PAP/CHAP, MS-CHAP, Lock and Key, and Generic Routing Encapsulation (GRE) tunneling
- Enhanced security with optional Cisco IOS Firewall and IPSec encryption
- Toll quality voice with VoIP on Cisco 827-4V
- Optional integrated 4-port hub and 2 analog POTs (Cisco 802 and 804) for all-in-one capability of data, phone, and fax over one ISDN line
- Bandwidth optimization features such as compression, Bandwidth-on-Demand, Dial-on-Demand, Always-On-Dynamic-ISDN (AODI), and X.25 over D channel (Cisco 801- 804)
- Support for CAPI applications in the European market

Specifications

Cisco 801, 802, 803, 804, and 805

Feature	801	802	803	804	805
Fixed LAN Port Connections	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)	4-port Ethernet hub (10BaseT)	4-port Ethernet hub (10BaseT)	1-port Ethernet (10BaseT)
Fixed WAN Port Connections	1-port ISDN BRI (S/T)	1-port ISDN BRI (U) NT-1	1-port ISDN BRI (S/T) 2 analog telephone ports	1-port ISDN BRI (U) NT-1 2 analog telephone ports	1-port serial (up to 512 Kbps)
Modular Slots	None	None	None	None	None
Processor Speed (type)	33 MHz (MPC 850)	Same as Cisco 801	Same as Cisco 801	Same as Cisco 801	Same as Cisco 801
Flash Memory	8 MB (default) 12 MB (max)	Same as Cisco 801	Same as Cisco 801	Same as Cisco 801	4 MB (default) 12 MB (max)
DRAM Memory	4 MB (default) 12 MB (max)	Same as Cisco 801	Same as Cisco 801	Same as Cisco 801	8 MB (default) 16 MB (max)
Power Supply	External	External	External	External	External
Dimensions (HxWxD)	2.0 x 9.9 x 8.3 in.	Same as Cisco 801	Same as Cisco 801	Same as Cisco 801	Same as Cisco 801
Service Category	1	1	1	1	1

Cisco 800 Series IDSL Models (802 IDSL, 804 IDSL, 827, and 827-4V)

Feature	802 IDSL	804 IDSL	827	827-4V
Fixed LAN Port Connections	1-port Ethernet (10BaseT)	4-port Ethernet hub (10BaseT)	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)
Fixed WAN Port Connections	1-port IDSL	1-port IDSL	1-port ADSL	1-port ADSL
Modular Slots	None	None	None	None
Processor Speed (type)	33 MHz (MPC 850)	33 MHz (MPC 850)	50 MHz (MPC 855T)	50 MHz (MPC 855T)
Flash Memory	8 MB (default) 12 MB (max)	8 MB (default) 12 MB (max)	12 MB (default) 20 MB (max)	12 MB (default) 20 MB (max)
DRAM Memory	4 MB (default) 12 MB (max)	4 MB (default) 12 MB (max)	16 MB (default) 32 MB (max)	24 MB (default) 32 MB (max)
Power Supply	External	External	External	External
Dimensions (HxWxD)	2.0 x 9.9 x 8.3 in.	2.0 x 9.9 x 8.3 in.	2.0 x 9.9 x 8.3 in.	2.0 x 9.9 x 8.3 in.
Service Category	1	1	1	1

Competitive Products

- 3Com: Office Connect Remote 511/521
- Ascend: Pipeline 75/85
- Netopia: R3100
- Nortel/Bay: Nautica 250
- Intel: Express 8100

Cisco IOS Software and Memory Requirements

In distribution, the Cisco 801-804 ship with	In distribution, the Cisco 805 ships with	In distribution, the Cisco 827 ship with	In distribution, the Cisco 827AV ships with
8-MB Flash memory	4-MB Flash memory	12-MB Flash memory	12-MB Flash memory
4-MB DRAM memory	8-MB DRAM memory	16-MB DRAM memory	24-MB DRAM memory

To run the Cisco IOS Feature Packs, you need, at a minimum, the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
CD08-C-12.0.5=	IP	12.0(5)T	8 MB (801-804) 4 MB (805)	4 MB (801-804) 8 MB (805)
CD08-CP-12.0.7=	IP Plus	12.0(5)T	8 MB (801-804) 4 MB (805)	4 MB (801-804) 8 MB (805)
CD08-BP-12.0.5=	IP/IPX Plus	12.0(5)T	8 MB (801-804) 4 MB (805)	4 MB (801-804) 8 MB (805)
CD08-CH-12.0.5=	IP/FW	12.0(5)T	8 MB (801-804) 4 MB (805)	4 MB (801-804) 8 MB (805)
CD08-CHP-12.0.7=	IP/FW Plus	12.0(5)T	8 MB (801-804) 4 MB (805)	4 MB (801-804) 8 MB (805)
CD08-CHL-12.0.7=	IP/FW Plus IPSec56	12.0(5)T	8 MB (801-804) 8 MB (805)	8 MB (801-804) 8 MB (805)
CD08-BHL-12.0.7=	IP/IPX/FW Plus IPSec56	12.0(5)T	8 MB (801-804) 8 MB (805)	8 MB (801-804) 8 MB (805)
DSL Products				
S8C-12101XB=	IP Plus	12.1(1)XB	12 MB	16 MB
S8CVP-12101XB=	IP Voice Plus (827-4V only)	12.1(1)XB	12 MB	16 MB (827) 24 MB (827-4V)
S8BP-12101XB=	IP/IPX Voice Plus (827-4V only)	12.1(1)XB	12 MB	16 MB (827) 24 MB (827-4V)

1. Bold numbers indicate that more memory than the default amount is needed to run the Feature Pack.

Distribution Part Numbers and Ordering Information

Cisco 801-805 Routers¹

CISCO801	1-port 10bT, 1-port BRI (S/T), IP s/w
CISCO802	1-port 10bT, 1-port BRI (U) w/ NT-1, IP s/w
CISCO803	4-port 10bT Hub, 1-port BRI (S/T), 2-port POTS, IP s/w
CISCO804	4-port 10bT Hub, 1-port BRI (U) w/ NT-1, 2-port POTS, IP s/w
CISCO805	1-port 10bT, 1-port serial, IP s/w

Cisco 802 IDSL & Cisco 804 IDSL

Cisco802IDSL	IDSL/Ethernet Router with Internet DSL
Cisco804IDSL	IDSL/Ethernet Router, 4 Port Hub with Internet DSL

Cisco 801 & Cisco 803 w/CAPI

CISCO801-CAPI	ISDN/Ethernet Router with one-user CAPI license
CISCO803-CAPI	ISDN/Ethernet Router with one-user CAPI license, 4 Port Hub

Cisco 801-805 Series Software Feature Packs

CD08-C-12.0.5=	IP for Cisco 801-805
CD08-CP-12.0.7=	IP Plus for Cisco 801-805
CD08-BP-12.0.5=	IP/IPX Plus for Cisco 801-805
CD08-CH-12.0.5=	IP/FW for Cisco 801-805
CD08-CHP-12.0.7=	IP/FW Plus for Cisco 801-805
CD08-CHL-12.0.7=	IP/FW Plus IPSec56 for Cisco 801-805
CD08-BHL-12.0.7=	IP/IPX/FW Plus IPSec56 for Cisco 801-805

Cisco 802 IDSL & 804 IDSL CD Feature Packs

CD08-IC-12.0.5T=	Cisco 800 Series Internet DSL
CD08-ICHL-12.0.5T=	Cisco 800 Series Internet DSL FW IPSec56
CD08-IBHL-12.0.5T=	Cisco 800 Series Internet DSL IPX FW IPSec56

Cisco 801 CAPI & 803 CAPI CD Feature Packs

CD08-BHL-12.0.7XV=	Cisco 800 Series IP/IPX/FW Plus IPsec 56
CD08-BP-12.0.7XV=	Cisco 800 Series IP/IPX/Plus

Cisco 827 & 827-4V Software

S8BP-12101XB=	Cisco 827 Series IP/IPX Voice PLUS
S8C-12101XB=	Cisco 827 Series IOS IP
S8CVP-12101XB=	Cisco 827 Series IOS IP Voice PLUS

Cisco 800 Series Memory Options

MEM800-4F=	Cisco 800 Series, 4 MB Flash Mini-Card
MEM800-8F=	Cisco 800 Series, 8 MB Flash Mini-Card
MEM800-4D=	Cisco 800 Series, 4 MB DRAM DIMM
MEM800-8D=	Cisco 800 Series, 8 MB DRAM DIMM

Cisco 800 Series Accessories

PWR-800-WW1=	Cisco 800 Series, AC Power Supply Spare
PWR-805-WW1=	Cisco 805 Series, AC Power Supply Spare
PWR-820-WW1	Cisco 820 Series Universal, External AC Power Supply

Cisco 800 Series Basic Maintenance

CON-SNT-PKG1	Cisco 800 Series SMARTnet Maintenance (8x5xNBD)
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- For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

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

Cisco 1000 Series

The Cisco 1000 series of compact, fixed-configuration desktop routers provides low-cost, high-speed connectivity for branch and small offices. These products offer a range of synchronous and asynchronous WAN capabilities and features.



When to Sell

Sell This Product

When a Customer Needs These Features

Cisco 1003

- Multiprotocol routing for small remote sites
- One ISDN BRI S/T port, one console port, field-upgradeable flash and DRAM
- Cisco IOS Software feature sets for IP, IPX and Appletalk protocols, and support for features such as HSRP and OSPF

Cisco 1004

- Same features and software feature sets as the Cisco 1003
- Integrated NT1

Cisco 1005

- Serial port with synchronous speeds up to T1 (2.048 Mbps), 10BaseT Ethernet port, console port, one slot for Flash and one for DRAM
- Cisco IOS Software feature sets for IP, IP/Async, IPX and Appletalk protocols, and support for features such as HSRP and OSPF

Key Features

- Support for Cisco IOS Software; only the IP feature set is supported in version 12.1(1) and higher. No feature sets in version 12.1(X)T are supported
- Support up to T1 speeds
- Integration with enterprise networks that are based on asynchronous serial lines, leased lines, Frame Relay, Switched 56, and X.25 services (Cisco 1005) or ISDN (Cisco 1003 and 1004)
- Setup with Cisco ConfigMaker, a free tool for configuring a network of routers

Specifications

Feature	Cisco 1003 ISDN Router	Cisco 1004 ISDN Router	Cisco 1005 Serial Router
Fixed LAN Ports (connections)	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)
Fixed WAN Ports (connections)	1-port ISDN BRI (S/T)	1-port ISDN BRI (U)	1-port sync serial (DB-60)
Modular Slots	None	None	None
Processor Speed (type)	25 MHz (MC68360)	25 MHz (MC68360)	25 MHz (MC68360)
Flash Memory	2 MB (default) 4 MB factory-configurable	2 MB (default) 4 MB factory-configurable	2 MB (default) 4 MB factory-configurable
DRAM Memory	One slot 8MB DRAM included field-replaceable with 16 MB	One slot 8MB DRAM included field-replaceable with 16 MB	One slot 8MB DRAM included field-replaceable with 16 MB
Dimensions (HxWxD)	1.75 x 8 x 8.3 in.	1.75 x 8 x 8.3 in.	1.75 x 8 x 8.3 in.
Service Category	2	2	2

Cisco 700 Software and Memory Requirements

The Cisco 1000 Series -CH models ship with a default configuration including:

- 2-MB Flash memory
- 8-MB DRAM memory
- Cisco 700 Software IP Feature Set Version 12.0 X

Distribution Part Numbers and Ordering Information

Cisco 1000 Series Chassis¹

CISCO1003-CH	Cisco 1003 Ethernet / ISDN BRI Router, IP S/W
CISCO1004-CH	Cisco 1004 Ethernet / ISDN BRI Router with NT1, IP S/W
CISCO1005-CH	Cisco 1005 Ethernet / Sync Serial Router

Cisco 1000 Series Software Feature Packs

CD10-C-12.08=	Cisco 1000 Series, All-In-One Feature Pack Release 12
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Cisco1000 Series Memory Options

MEM-1000-4MF=	Cisco 1000 Series, 4 MB Flash Card
MEM-1000-8MD=	Cisco 1000 Series, 8 MB DRAM SIMM
MEM-1000-16MD=	Cisco 1000 Series, 16 MB DRAM SIMM

Cisco 1000 Series Accessories

CAB-1000-CON=	Cisco 1000 Series, Console Cable
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Cisco 1000 Series Basic Maintenance

CON-SNT-PKG2	Cisco 1000 Series SMARTnet Maintenance (8 x 5 x NBD)
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 1000 Web site: <http://www.cisco.com/go/1000>

Cisco IAD1101 Integrated Access Device



The Cisco IAD1101 “pizza box” is an integrated access device (IAD) designed for customer premise equipment (CPE) applications. This product simultaneously manages circuit-switched and packet-switched voice and data traffic from a single, compact platform. This standards-based network element (FCC Class A, Class B and UL1950) provides feature rich, scalable voice and data services to a variety of applications including small-to-medium businesses (SMBs) and multiple dwelling/tenant units (MDUs/MTUs). The IAD1101 is designed for North American CLECs, ILECs, IXCs, and Telcos that want to deliver time division multiplexed (TDM) telephony services and migrate to emerging data services in the future.

When to Sell

Sell This Product

Cisco IAD1101 Integrated Access Device

When a Customer Needs These Features

- Carrier-class, low cost, customer premises equipment (CPE) for North American service providers wanting to manage voice and data (circuit-switch and packet-switched) communications simultaneously from a single chassis
- Compact, high-density “pizza box” device (1.75 in. x 19 in. x 12 in.)
- Scalable platform that supports migration to emerging data services
- Time division multiplexed (TDM) telephony services and IP routing features
- Up to 24 analog voice ports with built-in ring generation (16 on-board ports and 8 expansion ports) and additional data ports
- Wideband T1 transport options
- Cisco 6700 Series users looking for a seamless end-to-end (CO, RT, MDU, CPE) integrated access solution
- Terminate IP link over frame relay

Key Features

- 16 on-board foreign exchange station (FXS) ports with built-in ring generation, plus a general-purpose expansion slot extending analog voice port capacity to 24 ports
- Integrates seamlessly with Cisco 6732 Series Multiservice Access Platform (MSAP) and Cisco 6705 Integrated Access Device (IAD) solutions
- Combines an Ethernet port, a V.35 port, 2 T1 ports, IP routing functionality, and analog voice ports in a single, compact 1RU chassis
- Standards-based for industry interoperability
- Access List functionality provides privacy/security features
- Can be deployed as a standalone CPE solution or as the CPE component of an end-to-end Cisco solution with the Cisco 6700 Series
- Field upgradable voice expansion (FXS/16 line interface module provides 8 additional analog voice ports)
- Battery backup option

Specifications

Feature	Cisco IAD1101 Integrated Access Device
Integrated Service Offerings	T1 (2 on-board ports) V.35 (1 on-board port) 10BaseT Ethernet (1 on-board port) FXS/16 (16 on-board ports with built-in ring generation)
Element Management System (EMS)	Description: Intuitive graphical user interface (GUI) allows users to provision, manage and monitor their system with ease (SNMP) Access: RJ-45 Ethernet, RS-232 Protocol: SNMP
Hardware Specifications	Power Input: AC Input Voltage: 110 VAC (50/60 Hz) DC Input Voltage: Dual Feeds, -42.5VDC to 56VDC, 50A Fused (battery back-up option, requires purchase of optional adapter cable) Operating Temperature: 0 to 45C Relative Humidity: 5 to 95% non-condensing Cooling: Not required Certification/Standards: FCC Class A and B, UL 1950
Dimensions (H x W x D) and Weight	IAD1101 Chassis: 1.75 in x 17.5 in x 12 in (Rack mount) "pizza box" (approx. 5 lbs.) Battery Back-up Unit-Optional: 8.8 in x 8.3 in x 6.2 in (49 lbs.)

Competitive Products

Feature	Cisco Systems IAD1101	Carrier Access Access Bank I&I	Vina Technologies T1 Integrator	Accelerated Networks AN20,24/28,30
System Information				
End-to-end System Solution	Yes	No	No	Yes
"Pizza Box" Dimensions	Yes	Yes	Yes	Yes
TDM or ATM Based	TDM-only	TDM-only	TDM-only	Both
TR-008 Signaling	Yes	Yes	Yes	No
UpLink Interfaces				
Optical	No	No	No	No
Electrical	2 T1 ports	T1 (up to 2 ports)	T1 (1 or 2 ports), HDSL	T1, SDSL
Voice Services Supported				
FXS Services (ports)	Up to 24	Up to 24	48	Up to 12
FX0 Services	Available October 2000	Yes	Yes	No
ISDN	No	No	No	No
Others	T1	T1 (up to 2), 4W E&M, T0	T1	T1 (up to 2)
Data Services Supported				
Voice Over DSL	No	ABII w/SDSL	No	
LAN	10BaseT	No	10BaseT	10BaseT
V.35	Yes	Yes	Yes	Yes
IP Routing	Yes	No	Yes	Yes
Special Functionality				
IAM	No	No	No	Yes
Local Call Routing	No	No	Yes	No
PBX Switching	No	No	Yes	No

For More Information

See the Cisco 6700 MultiService Access Platforms Web site:
www.cisco.com/go/MSAP

Cisco 1400 Series

For small businesses or small branch offices that need to connect seamlessly to the Internet or to corporate networks, the Cisco 1400 Series routers provide high-performance connectivity from Ethernet to DSL-based WAN infrastructures. The Cisco 1401 ATM25 WAN router provides high-performance connectivity from Ethernet to ATM cell-based WAN infrastructure and allows an external demarcation point as required by telcos. The Cisco 1417 provides direct connectivity to market-leading DSLAM products that support the ANSI T1.413 standard (such as the Alcatel ASAM, for example). The 1400 series is part of Cisco's end-to-end DSL solutions.



When to Sell

Sell This Product

When a Customer Needs These Features

Cisco 1401

- Flexibility in connecting to several different flavors of legacy xDSL modems (ADSL, HDSL, or SDSL)
- Allows for connectivity to an ATM cell-based WAN infrastructure
- ATM25 interface provides an external demarcation point as required by many telcos and can be combined with an external ATM 25 asymmetric DSL (ADSL) modem to provide high-speed Internet/intranet access up to 8 Mbps

Cisco 1417

- Connection to DSL access multiplexors (DSLAMs) which implement the ANSI ADSL DMT Issue-2 specification, such as the Alcatel DMT Issue 2 DSLAMs
- Features an integrated ADSL DMT Issue 2 ATU-R, with integrated ATM capabilities

Key Features

- DSL for high-speed Internet/intranet access
- Powered by Cisco IOS Software, the industry's most robust, scalable, and feature-rich internetworking software
- Quality of Service (QoS) for high-performance applications such as Video-on-Demand (VoD), desktop video conferencing, and distance learning
- Advanced security with optional integrated Cisco IOS Firewall software
- VPN-capable router with IPSec and encryption

Specifications

Feature	Cisco 1401	Cisco 1417
Fixed LAN Ports (connections)	1-port Ethernet (10BaseT), RJ-45	1-port Ethernet (10BaseT), RJ-45
Fixed WAN Ports (connections)	1-port ATM-25	1-port ADSL (DMT-2), RJ-11
Processor Speed (type)	33 MHz (68360)	33 MHz (68360)
Flash Memory	4 MB (default); 16 MB (maximum)	4 MB (default); 16 MB (maximum)
DRAM Memory	16 MB (default); 16 MB (maximum)	16 MB (default); 16 MB (maximum)
Dimensions (HxWxD)	1.9 x 11.5 x 10.56 in.	1.9 x 11.5 x 10.56 in.
Service Category	2	2

Competitive Products

- Ascend: Cell Pipe 50A
- Cayman: ADSL 3220
- Efficient: Speed Stream 5660
- Flowpoint: Smart Switch Router 250 (also sold under Alcatel and Cabletron brands)
- Zyxel: Prestige 641

Distribution Part Numbers and Ordering Information

Cisco 1400 Series Router Chassis¹

CISCO1401	Cisco 1401 Ethernet/ATM25 WAN router
CISCO1417	Cisco 1417 ADSL router (Alcatel DMT-2 Interoperable)

Cisco 1400 Series Memory Options

MEM1400-8D=	8MB DRAM SIMM for Cisco 1400
MEM1400-16D=	16MB DRAM SIMM for Cisco 1400
MEM1400-6FC=	6MB Flash Card for Cisco 1400
MEM1400-8FC=	8MB Flash Card for Cisco 1400
MEM1400-12FC=	12MB Flash Card for Cisco 1400
MEM1400-16FC=	16MB Flash Card for Cisco 1400

Cisco 1400 Series Software Options

CD14-C-12.0.5T=	Cisco 1400 IP Feature Pack
CD14-CP-12.0.5T=	Cisco 1400 IP Plus Feature Pack
CD14-B-12.0.5T=	Cisco 1400 IP/IPX Feature Pack
CD14-BP-12.0.5T=	Cisco 1400 IP/IPX Plus Feature Pack
CD14-BHP-12.0.5T=	Cisco 1400 IP/IPX/FW Plus Feature Pack

Cisco 700 Series Basic Maintenance

CON-SNT-PKG2	Cisco 1400 Series SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 1400 Web site: www.cisco.com/go/1400

Cisco 1600 Series

The Cisco 1600 is the proven choice for flexible Internet/intranet access for small branch offices and small businesses. In addition to one fixed WAN port and one Ethernet port, the Cisco 1600 models support one WAN interface card, which allows customers to add or change WAN ports as needed. WAN options include ISDN, leased lines (T1/E1), Frame Relay, Switched 56, Switched Multimegabit Data Service (SMDS), and X.25.



When to Sell

Sell This Product	When a Customer Needs These Features
Cisco 1601 R	<ul style="list-style-type: none"> • One serial port with synchronous performance up to T1/E1 speeds for Frame Relay, leased line, Switched 56, SMDS, and X.25 WAN services, or async performance up to 115.2 kbps • Higher speeds than ISDN or Switched 56 kbps
Cisco 1602 R	<ul style="list-style-type: none"> • A 56-kbps serial port (Frame Relay, leased line, Switched 56, SMDS, and X.25) • Low-cost integrated channel service unit (CSU)/data service unit (DSU) at 56 kbps • Ability to get CSU/DSU diagnostics information and configuration remotely via Cisco IOS Software command-line interface
Cisco 1603 R and 1604 R	<ul style="list-style-type: none"> • ISDN (BRI) and ISDN leased-line connectivity • Built-in NT1 for U.S. and Canada (Cisco 1604)
Cisco 1605 R	<ul style="list-style-type: none"> • Two Ethernet ports to isolate internal secure LAN from perimeter LAN (exposed to Internet) • Single flexible WAN connection (any WAN interface card)

Key Features

- Support for Cisco IOS Software
- Modular WAN interface card slot for adding and changing WAN connections for flexibility and investment protection
- Optional firewall and virtual private network software
- Optional integrated DSU/CSU up to T1 speed and integrated NT1 for North America
- Flash Memory (PC Card) and primary memory upgrade capability for easy software image maintenance
- FastStep configuration utility, GUI-based software for easy setup and troubleshooting
- Setup with Cisco ConfigMaker, a free tool for configuring a network of routers

Competitive Products

- 3Com: NETBuilder 1xx, 22x, 422
- Ascend: Pipeline 130, 220
- Nortel/Bay: AN, Nautica Clam

Specifications

Feature	Cisco 1601 R	Cisco 1602 R	Cisco 1603 R	Cisco 1604 R	Cisco 1605 R
Fixed LAN Ports (connections)	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)	1-port Ethernet (10BaseT)	2-ports Ethernet (10BaseT)
Fixed WAN Ports (connections)	1-port sync/async serial	1-port sync serial, 56 kbps 4-wire DSU/CSU	1-port ISDN BRI (S/T)	1-port ISDN BRI (U)	None
WAN Card Slots	1	1	1	1	1
WAN Interface Card Modules	1-port ISDN BRI (S/T) 1-port ISDN BRI (U) 1-port sync/async serial 1-port serial w/ 56/64 CSU 1-port serial w/ FT1/T1 CSU	Same as Cisco 1601 R	1-port ISDN BRI (S/T) for leased line 1-port sync/async serial 1-port serial w/ 56/64 CSU 1-port serial w/ FT1/T1 CSU	1-port ISDN BRI (S/T) for leased line 1-port sync/async serial 1-port serial w/ 56/64 CSU 1-port serial w/ FT1/T1 CSU	Same as Cisco 1601 R
Processor Speed	33 MHz (68360)	33 MHz (68360)	33 MHz (68360)	33 MHz (68360)	33 MHz (68360)
Flash Memory	4 MB (default) 16 MB (max)	Same as Cisco 1601 R	Same as Cisco 1601 R	Same as Cisco 1601 R	Same as Cisco 1601 R
DRAM Memory	8 MB (default) 24 MB (max)	Same as Cisco 1601 R	Same as Cisco 1601 R	Same as Cisco 1601 R	Same as Cisco 1601 R
Dimensions (HxWxD)	2.19 x 11.15 x 8.67 in.	Same as Cisco 1601 R	Same as Cisco 1601 R	Same as Cisco 1601 R	Same as Cisco 1601 R
Service Category	2	2	2	2	2

Cisco IOS Software and Memory Requirements

The Cisco 1600 Series in distribution ships with:

- 4-MB Flash memory
- 8-MB DRAM memory

To run the Cisco IOS Software Feature Packs, you need the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
CD16-C-12.0=	IP only	12.0(3) or 12.0(3)T	4 MB	8 MB
CD16-CP-12.0=	IP Plus	12.0(3) or 12.0(3)T	4 MB	10 MB
CD16-CW-12.0=	IP Plus 40	12.0(3) or 12.0(3)T	4 MB	10 MB
CD16-CY-12.0=	IP Plus 56	12.0(3) or 12.0(3)T	4 MB	10 MB
CD16-CL-12.0=	IP Plus IPsec 56	12.0(3) or 12.0(3)T	4 MB	12 MB
CD16-CH-12.0=	IP/Firewall	12.0(3) or 12.0(3)T	4 MB	8 MB
CD16-CHL-12.0=	IP/Firewall Plus IPsec 56	12.0(3) or 12.0(3)T	4 MB	12 MB
CD16-B-12.0=	IP/IPX	12.0(3) or 12.0(3)T	4 MB	8 MB
CD16-BPH-12.0=	IP/IPX/Firewall Plus	12.0(3) or 12.0(3)T	4 MB	10 MB
CD16-Q-12.0=	IP/IPX/AT/IBM	12.0(3) or 12.0(3)T	4 MB	12 MB
CD16-OHL-12.0=	IP/IPX/AT/IBM/Firewall Plus IPsec 56	12.0(3) or 12.0(3)T	6 MB	16 MB
CD16-OP-12.0=	IP/IPX/AT/IBM Plus	12.0(3) or 12.0(3)T	6 MB	16 MB

1. Bold numbers indicate that more memory than the default amount is needed to run the Feature Pack.

Distribution Part Numbers and Ordering Information

Cisco 1600 Series Router Chassis¹

CISCO1601-R	Cisco 1601 R Ethernet/Serial Modular Router
CISCO1602-R	Cisco 1602 R Ethernet/Serial Modular Router w/56 K DSU 4-wire
CISCO1603-R	Cisco 1603 R Ethernet/ISDN-BRI Modular Router
CISCO1604-R	Cisco 1604 R Ethernet/ISDN-BRI Modular Router w/NT1
CISCO1605-R	Cisco 1605 R Dual Ethernet/WAN Interface Card Slot Router

Cisco 1600 Series WAN Interface Cards (WICs)

WIC-1T=	1-port Serial WAN Interface Card
WIC-1B-S/T=	1-port BRI (S/T) WAN Interface Card (Dial & Leased Line)
WIC-1B-S/T-LL=	1-port BRI Leased Line WAN Interface Card (1603/1604 only)
WIC-1B-U=	1-port BRI (U) w/ NT-1 WAN Interface Card (Dial & Leased Line)
WIC-1DSU-T1=	1-port Serial w/ T1/FrT1 DSU/CSU WAN Interface Card
WIC-1DSU-56K4=	1-port Serial w/ 4-Wire 56/64Kbps DSU/CSU WAN Interface Card

Cisco 1600 Series Software Feature Packs

CD16-C-12.0=	Cisco 1600 Series, IP only Feature Pack
CD16-CP-12.0=	Cisco 1600 Series, IP Plus Feature Pack
CD16-CW-12.0=	Cisco 1600 Series, IP Plus 40 Feature Pack
CD16-CY-12.0=	Cisco 1600 Series, IP Plus 56 Feature Pack
CD16-CL-12.0=	Cisco 1600 Series, IP Plus IPsec 56 Feature Pack
CD16-CH-12.0=	Cisco 1600 Series, IP/Firewall Feature Pack
CD16-CHL-12.0=	Cisco 1600 Series, IP/Firewall Plus IPsec 56 Feature Pack
CD16-B-12.0=	Cisco 1600 Series, IP/IPX Feature Pack
CD16-BHP-12.0=	Cisco 1600 Series, IP/IPX/Firewall Plus Feature Pack
CD16-Q-12.0=	Cisco 1600 Series, IP/IPX/AT/IBM Feature Pack
CD16-QHL-12.0=	Cisco 1600 Series, IP/IPX/AT/IBM/Firewall Plus IPsec 56 Feature Pack
CD16-QP-12.0=	Cisco 1600 Series, IP/IPX/AT/IBM Plus Feature Pack

Cisco1600 Series Memory Options

MEM1600-4FC=	Cisco 1600 Series, 4 MB Flash Card
MEM1600-6FC=	Cisco 1600 Series, 6 MB Flash Card
MEM1600-8FC=	Cisco 1600 Series, 8 MB Flash Card
MEM1600-12FC=	Cisco 1600 Series, 12 MB Flash Card
MEM1600-16FC=	Cisco 1600 Series, 16 MB Flash Card
MEM1600-2D=	Cisco 1600 Series, 2 MB DRAM SIMM
MEM1600-4D=	Cisco 1600 Series, 4 MB DRAM SIMM
MEM1600-8D=	Cisco 1600 Series, 8 MB DRAM SIMM
MEM1600-16D=	Cisco 1600 Series, 16 MB DRAM SIMM

Cisco 1600 Series Accessories

CAB-1600-CON=	Cisco 1600 Series, Console Cable
PWR-1600-WW1=	Cisco 1600 Series, AC Power Supply (Worldwide)

Cisco 1600 Series Basic Maintenance

CON-SNT-PKG2	Cisco 1600 Series SMARTnet Maintenance
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- For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 1600 Series Web site: <http://www.cisco.com/go/1600>

Cisco 1700 Series

The Cisco 1700 Series of modular access routers provides flexible, secure, access solutions for small- and medium-sized businesses and small branch offices. The modular architecture of the Cisco 1700



Series enables users to customize a secure access solution to suit their current access requirements and to cost-effectively implement new applications including Virtual Private Network (VPN) access, multiservice voice/data integration, and broadband services. Integrated network functions including an optional firewall, CSU/DSU, and VPN features reduce deployment and management time and effort.

The Cisco 1720 supports traditional data access applications today as well as new WAN services—including VPNs and broadband technologies—now or in the future.

The Cisco 1750 supports integrated multiservice voice/fax/data applications in addition to data applications. Businesses can start with a robust data access solution today and cost-effectively integrate voice and fax over data when ready.

When to Sell

Sell This Product

Cisco 1720

When a Customer Needs These Features

- Two modular WAN slots that support the same data WAN interface cards (WICs) as the Cisco 1600, 2600 and 3600 routers for flexibility and investment protection
- A broad array of WAN services supported, including Frame Relay, leased line, ISDN BRI, X.25, SMDS and more

Cisco 1750

- Three modular slots (2 slots for WICs or Voice Interface Cards; 1 slot for WICs) that support the same data WICs and analog WICs as the Cisco 2600 and 3600 routers for flexibility and investment protection
- Integrated multiservice voice/data applications
- A broad array of WAN services supported, including Frame Relay, leased line, ISDN BRI, X.25, SMDS and more

Key Features

- Cisco IOS Software
- Support for up to four serial interfaces or two ISDN BRI
- One autosensing 10/100 Mbps Fast Ethernet LAN connection
- One auxiliary (AUX) port for dial-up management or low-speed asynchronous connections (up to 112.5 kbps)
- An expansion slot on the motherboard to support future hardware-assisted encryption
- Optional integrated DSU/CSU up to T1 speed and integrated NT1 for North America
- Optional integrated Cisco IOS Firewall and virtual private network software for encryption, tunneling, and quality of service

Specifications

Feature	Cisco 1720	Cisco 1750
Fixed LAN Ports (connections)	1-port autosensing 10/100 Mbps Ethernet (10/100BaseT)	1-port autosensing 10/100 Mbps Ethernet (10/100BaseT)
Fixed WAN Ports	None	None
Modular Slots	2 WAN slots	3 slots (2 WAN or Voice slots and 1 Voice slot)
WAN Interface Cards (WICs)	1-port serial sync/async 2-port serial sync/async 2-port low-speed serial (up to 128 kbps) 1-port ISDN BRI S/T 1-port ISDN BRI U with integrated NT-1 1-port serial with integrated 56/64 kbps DSU/CSU 1-port serial with integrated T1/Fractional T1 DSU/CSU	Same as Cisco 1720
Voice Interface Cards (VICs)	None	2-port voice - FXS voice/fax interface card 2-port voice - E&M voice/fax interface card 2-port voice - FXO voice/fax interface card 2-port FXO Voice/Fax card for Europe 2-port FXO Voice/Fax card for Australia
Processor Speed (type)	48 MHz (RISC)	48 MHz (RISC)
Flash Memory	4 MB (default); 16 MB (max)	1750 base model: 4 MB (default); 16 MB (max) 1750-2V multiservice-ready configuration: 8 MB 1750-4V multiservice-ready configuration: 8 MB
DRAM Memory	16 MB (default); 48 MB (max)	1750 base model: 16 MB (default); 48 MB (max) 1750-2V multiservice-ready configuration: 24 MB 1750-4V multiservice-ready configuration: 24 MB
Dimensions (HxWxD)	3.1 x 11.2 x 8.7 in.	4.0 x 11.2 x 8.7 in.
Service Category	2	1750 base model: 3 1750-2V and 1750-4V: 4

Competitive Products

Cisco 1720

3Com: OfficeConnect NETBuilder
Ascend: Pipeline 130
Nortel/Bay: AN

Cisco 1750

3Com: OfficeConnect NETBuilder
Ascend: Pipeline 130
Motorola: Vanguard 6425
Nortel/Bay: AN
Nortel/Micron: V/IP Gateway

Cisco IOS Software and Memory Requirements

In distribution, the Cisco 1700 series ships with the following memory:

Product Number	DRAM Memory	Flash Memory
CISCO1720	16 MB	4 MB
CISCO1750	16 MB	4 MB
CISCO1750-2V	24 MB	8 MB
CISCO1750-4V	24 MB	8 MB

To run the Cisco IOS Software Feature Packs, you need the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required	DRAM Memory Required
Cisco 1720 and 1750				
CD17-C-12.0.5=	IP only	12.0(5)XQ	4 MB	16 MB
CD17-CP-12.0.5=	IP Plus	12.0(5)XQ	8 MB	20 MB
CD17-CH-12.0.5=	IP/FW	12.0(5)XQ	4 MB	16 MB
CD17-CL-12.0.5=	IP Plus IPSEC 56	12.0(5)XQ	8 MB	24 MB
CD17-CK2-12.0.5=	IP Plus IPSEC 3DES	12.0(5)XQ	8 MB	24 MB
CD17-CHL-12.0.5=	IP/FW Plus IPSEC 56	12.0(5)XQ	8 MB	24 MB
CD17-CHK2-12.0.5=	IP/FW Plus IPSEC 3DES	12.0(5)XQ	8 MB	24 MB
CD17-B-12.0.5=	IP/IPX	12.0(5)XQ	4 MB	16 MB
CD17-BHP-12.0.5=	IP/IPX/FW Plus	12.0(5)XQ	8 MB	20 MB
CD17-Q-12.0.5=	IP/IPX/AT/IBM	12.0(5)XQ	8 MB	20 MB
CD17-OP-12.0.5=	IP/IPX/AT/IBM Plus	12.0(5)XQ	8 MB	24 MB
CD17-QHL-12.0.5=	IP/IPX/AT/IBM/FW Plus IPSEC 56	12.0(5)XQ	8 MB	32 MB
CD17-QHK2-12.0.5=	IP/IPX/AT/IBM/FW Plus IPSEC 3DES	12.0(5)XQ	8 MB	32 MB
Cisco 1750 Only				
CD17-CVP-12.0.5=	IP/Voice Plus	12.0(5)XQ	8 MB	24 MB
CD17-CHV-12.0.5=	IP/FW/Voice Plus	12.0(5)XQ	8 MB	24 MB
CD17-CVL-12.0.5=	IP/Voice Plus IPSEC 56	12.0(5)XQ	8 MB	32 MB
CD17-CVK2-12.0.5=	IP/Voice Plus IPSEC 3DES	12.0(5)XQ	8 MB	32 MB
CD17-CHVL-12.0.5=	IP/FW/Voice Plus IPSEC 56	12.0(5)XQ	8 MB	32 MB
CD17-CHVK2-12.0.5=	IP/FW/Voice Plus IPSEC 3DES	12.0(5)XQ	8 MB	32 MB
CD17-BHPV-12.0.5=	IP/IPX/FW/Voice Plus	12.0(5)XQ	8 MB	24 MB
CD17-QHVL-12.0.5=	IP/IPX/AT/IBM/FW/Voice Plus IPSEC 56	12.0(5)XQ	8 MB	32 MB
CD17-QHVK2-12.0.5=	IP/IPX/AT/IBM/FW/Voice Plus IPSEC 3DES	12.0(5)XQ	8 MB	32 MB

Distribution Part Numbers and Ordering Information

Cisco 1700 Series Modular Access Routers¹

CISCO1720	10/100BaseT Modular Router w/ 2 WAN slots, Cisco IOS IP SW
CISCO1750	10/100 Modular Router w/1 VIC, 2WIC/VIC slots, Cisco IOS IP SW
CISCO1750-2V	10/100 Modular Router w/2 Voice channels, IOS IP/VOICE + SW
CISCO1750-4V	10/100 Modular Router w/4 Voice channels, IOS IP/VOICE + SW

Cisco 1700 Series Software Feature Packs (for 1720 and 1750)

CD17-C-12.0.5=	IP only Feature Pack
CD17-CP-12.0.5=	IP Plus Feature Pack
CD17-CH-12.0.5=	IP/FW Feature Pack
CD17-CL-12.0.5=	IP Plus IPSEC 56 Feature Pack
CD17-CK2-12.0.5=	IP Plus IPSEC 3DES Feature Pack
CD17-CHL-12.0.5=	IP/FW Plus IPSEC 56 Feature Pack
CD17-CHK2-12.0.5=	IP/FW Plus IPSEC 3DES Feature Pack
CD17-B-12.0.5=	IP/IPX Feature Pack
CD17-BHP-12.0.5=	IP/IPX/FW Plus Feature Pack
CD17-Q-12.0.5=	IP/IPX/AT/IBM Feature Pack
CD17-OP-12.0.5=	IP/IPX/AT/IBM Plus Feature Pack
CD17-QHL-12.0.5=	IP/IPX/AT/IBM/FW Plus IPSEC 56 Feature Pack
CD17-QHK2-12.0.5=	IP/IPX/AT/IBM/FW Plus IPSEC 3DES Feature Pack

Cisco 1750 Series Software Feature Packs (for 1750 only)

CD17-CVP-12.0.5=	IP/Voice Plus Feature Pack
CD17-CHV-12.0.5=	IP/FW/Voice Plus Feature Pack
CD17-CVL-12.0.5=	IP/Voice Plus IPSEC 56 Feature Pack
CD17-CVK2-12.0.5=	IP/Voice Plus IPSEC 3DES Feature Pack

CD17-CHVL-12.0.5=	IP/FW/Voice Plus IPSEC 56 Feature Pack
CD17-CHVK2-12.0.5=	IP/FW/Voice Plus IPSEC 3DES Feature Pack
CD17-BHPV-12.0.5=	IP/IPX/FW/Voice Plus Feature Pack
CD17-OHVL-12.0.5=	IP/IPX/AT/IBM/FW/Voice Plus IPSEC 56 Feature Pack
CD17-OHVK2-12.0.5=	IP/IPX/AT/IBM/FW/Voice IPSEC 3DES Feature Pack

Cisco 1700 Series Memory Options

MEM-1700-4MFC=	Cisco 1700 Series, 4 MB Mini-Flash Card
MEM1700-4U8MFC=	Cisco 1700 series, 4MB to 8MB Mini-Flash Card Upgrade
MEM-1700-8MFC=	Cisco 1700 Series, 8 MB Mini-Flash Card
MEM-1700-16MFC=	Cisco 1700 Series, 16 MB Mini-Flash Card
MEM-1700-4D=	Cisco 1700 Series, 4 MB DRAM DIMM
MEM-1700-8D=	Cisco 1700 Series, 8 MB DRAM DIMM
MEM-1700-16D=	Cisco 1700 Series, 16 MB DRAM DIMM
MEM-1700-32D=	Cisco 1700 Series, 32 MB DRAM DIMM

Cisco 1700 Series WAN Interface Cards (WICs)

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-1B-S/T	1-port BRI (S/T) WAN Interface Card (dial and leased line)
WIC-1B-U	1-port BRI w/ NT-1 WAN Interface Card (dial and leased line)
WIC-1DSU-56K4	1-port 4-Wire 56/64 Kbps w/ (DSU/CSU) WAN Interface Card
WIC-1DSU-T1	1-port T1/Fr T1 w/ (DSU/CSU) WAN Interface Card

Cisco 1750 Series Voice Interface Cards (for 1750 only)

VIC-2FXS	2-port Voice Interface Card FXS
VIC-2FXO	2-port Voice Interface Card FXO
VIC-2E/M	2-port Voice Interface Card E&M
VIC-2FXO-EU	2-port Voice Interface Card FXO for Europe
VIC-2FXO-M	32-port Voice Interface Card FXO for Australia

Cisco 1700 Series Spares and Accessories

PWR-1700-WW1=	Cisco 1700 AC Power Supply - WORLD-WIDE
PVDM-4=	4-Channel Packet Voice/Fax DSP Module
PVDM-8=	8-Channel Packet Voice/Fax DSP Module

Cisco 1700 Series Basic Maintenance

CON-SNT-PKG4	Cisco 1750-2V and 1750-4V SMARTnet Maintenance
CON-SNT-PKG3	Cisco 1750 SMARTnet Maintenance
CON-SNT-PKG2	Cisco 1720 SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 1700 Web site: <http://www.cisco.com/go/1700>

Cisco 2500 Series

The Cisco 2500 series of routers, the world's most popular brand of branch office router, provides a wide variety of models to suit a broad range of data-networking needs. These routers are typically fixed configuration with at least two of the following interfaces: Ethernet Token Ring, synchronous serial, asynchronous serial, ISDN BRI, and 10Base-T hub ports. Two modular models are also available.



When to Sell

Sell This Product	When a Customer Needs These Features
Cisco 2500 Series	<ul style="list-style-type: none"> • Data-only network requirement
Cisco 2501, 2502, 2503, 2504	<ul style="list-style-type: none"> • Multiprotocol routing between WANs and LANs • A single Ethernet LAN and dual serial ports (Cisco 2501, 2503) • A single Token Ring LAN and dual serial ports (Cisco 2502, 2504) • An ISDN BRI S/T interface (Cisco 2503, 2504)
Cisco 2513, 2514, 2515	<ul style="list-style-type: none"> • Dual LAN configuration for network segmentation or security (physical firewall) • A single Ethernet port, a single Token Ring port, and dual serial ports (Cisco 2513) • Dual Ethernet ports and dual serial ports (Cisco 2514) • Dual Token Ring and dual serial ports (Cisco 2515)
Cisco 2505, 2507, 2516	<ul style="list-style-type: none"> • Multiprotocol routing with integrated 10BaseT hubs and dual serial ports • An ISDN BRI S/T interface (Cisco 2516)
Cisco 2509, 2511, 2512, AS2509-RJ, AS2511-RJ	<ul style="list-style-type: none"> • An access server combining a terminal server, protocol translator, and a router in a single device • One Ethernet LAN and dual serial ports • One Token Ring and two synch serial ports (Cisco 2512) • 8- or 16-port asynchronous • External cable assembly (Cisco 2509, 2511) • RJ-11 jacks integrated in unit (AS2509-RJ, AS2511-RJ)
Cisco 2520, 2521, 2522, 2523	<ul style="list-style-type: none"> • WAN aggregation routers that can be used as communication servers • A single Ethernet LAN, ISDN BRI S/T, and dual sync/multiple sync/async serial ports (Cisco 2520, 2522) • A single Token Ring LAN, ISDN BRI S/T, and dual sync/multiple sync/async serial ports (Cisco 2521, 2523) • High-density asynchronous ports (Cisco 2522, 2523)
Cisco 2524, 2525	<ul style="list-style-type: none"> • Modular WAN connectivity for flexibility to support Switched 56, fractional T1/T1, sync serial, and ISDN

Key Features

- Proven technology with a full suite of Cisco IOS Software
- Setup with Cisco ConfigMaker, a free tool for configuring a network of routers
- With CiscoWorks Windows, allows remote management and maintenance from a central location

Specifications

Cisco 2500 Series—All Models

Feature	Specifications
Processor Speed (type)	20 MHz (68030)
Flash Memory	8-MB dual Flash bank option (default) 16 MB (max)
DRAM Memory	4 MB, upgrades to 8 or 16 MB
Power Supply	AC, with optional DC or redundant power supply (RPS)

Cisco 2500 Series—Single LAN Routers (fixed configurations)

Feature	Cisco 2501	Cisco 2502	Cisco 2503	Cisco 2504
Fixed LAN Ports	1-port Ethernet	1-port Token Ring	1-port Ethernet	1-port Token Ring
Fixed WAN Ports	2-port sync serial	2-port sync serial	2-port sync serial 1-port ISDN BRI (S/T)	2-port sync serial 1-port ISDN BRI (S/T)
Slots	None	None	None	None
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.
Service Category	4	4	4	4

Cisco 2500 Series—Router/Hub Combinations (fixed configurations)

Feature	Cisco 2505	Cisco 2507	Cisco 2516
Fixed LAN Ports	8-port Ethernet hub	16-port Ethernet hub	14-port Ethernet hub
Fixed WAN Ports (connections)	2-port sync serial	2-port sync serial	2-port sync serial 1-port ISDN BRI (S/T)
Slots	None	None	None
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.
Service Category	4	4	5

Cisco 2500 Series—Access Servers (fixed configurations)

Feature	Cisco 2509	AS 2509-RJ	Cisco 2511	AS 2511-RJ	Cisco 2512
Fixed LAN Ports (connections)	1-port Ethernet	1-port Ethernet	1-port Ethernet	1-port Ethernet	1-port Token Ring
Fixed WAN Ports (connections)	2-port sync serial 8-port async	1-port sync serial 8-port async	2-port sync serial 16-port async	1-port sync serial 16-port async	2-port sync serial 16-port async
Slots	None	None	None	None	None
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.
Service Category	4	4	4	4	4

Cisco 2500 Series—High-Density Serial Routers (fixed configurations)

Feature	Cisco 2520	Cisco 2521	Cisco 2522	Cisco 2523
Fixed LAN Ports	1-port Ethernet	1-port Token Ring	1-port Ethernet	1-port Token Ring
Fixed WAN Ports (connections)	2-port high-speed sync serial 1-port ISDN BRI (S/T) 2-port low-speed sync/async serial	Same as Cisco 2520	2-port sync serial 1-port ISDN BRI (S/T) 8-port sync/async serial	Same as Cisco 2522
Slots	None	None	None	None
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.
Service Category	4	4	4	5

Cisco 2500 Series—Dual LAN Routers (fixed configurations)

Feature	Cisco 2513	Cisco 2514	Cisco 2515
Fixed LAN Ports	1-port Ethernet 1-port Token Ring	2-port Ethernet	2-port Token Ring
Fixed WAN Ports	2-port sync serial	2-port sync serial	2-port sync serial
Slots	None	None	None
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.
Service Category	4	4	5

Cisco 2500 Series—Single LAN Routers (modular configurations)

Feature	Cisco 2524	Cisco 2525
Fixed LAN Ports	1-port Ethernet	1-port Token Ring
Fixed WAN Ports	None	None
LAN Modules	None	None
WAN Modules	1-port ISDN BRI (S/T) or 1-port ISDN BRI (U) Plus any two of the following: 1-port 2-wire Switched 56 DSU/CSU 1-port 4-wire 56K/64K DSU/CSU 1-port fractional/full T1 DSU/CSU 1-port sync serial (5-in-1 cable adapter)	Same as Cisco 2524
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in.	1.75 x 17.5 x 10.56 in.
Service Category	5	5

Competitive Products

- 3Com: SuperStack NETBuilder
- Nortel/Bay: Advanced Node (AN)
- IBM: 2210

Cisco IOS Software and Memory

The 2500 Series in distribution ships with:

- 8-MB Flash memory
- 4-MB DRAM memory

To run the Cisco IOS Software Feature Packs, you need the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
CD25-C-12.0=	IP only	12.0(6)	8 MB	4 MB
		12.0(5)T	8 MB	6 MB
		11.3(9)	8 MB	4 MB
		11.3(9)T	8 MB	4 MB
		11.2(18)	8 MB	4 MB
CD25-CP-12.0=	IP Plus	12.0(6)	8 MB	6 MB
		12.0(5)T	16 MB	8 MB
		11.3(9)	8 MB	4 MB
		11.3(9)T	8 MB	4 MB
		11.2(18)	8 MB	4 MB
CD25-CHL-12.0=	IP/FW Plus IPSEC 56	12.0(6)	16 MB	8 MB
		12.0(5)T	16 MB	10 MB
CD25-B-12.0=	IP/IPX/AT/DEC	12.0(6)	8 MB	6 MB
		12.0(5)T	8 MB	8 MB
		11.3(9)	8 MB	4MB
		11.3(9)T	8 MB	4 MB
		11.2(18)	8 MB	4 MB
CD25-BP-12.0=	IP/IPX/AT/DEC Plus	12.0(6)	16 MB	6 MB
		12.0(5)T	16 MB	8 MB
		11.3(9)	8 MB	6 MB
		11.3(9)T	8 MB	6 MB
		11.2(18)	8 MB	6 MB
CD25-AP-12.0=	Enterprise Plus	12.0(6)	16 MB	8 MB
		12.0(5)T	16 MB	10 MB
		11.3(10)	16 MB	6 MB
		11.3(10)T	16 MB	6 MB
		11.2(18)	8 MB	6 MB

1. Bold numbers indicate that more memory than the default amount is needed to run the Feature Pack.

Distribution Part Numbers and Ordering Information

Cisco 2500 Series Router Chassis¹

CISCO2501-CH	1-port Ethernet AUI, 2-port Serial, IP s/w
CISCO2502-CH	1-port Token Ring, 2-port Serial, IP s/w
CISCO2503-CH	1-port Ethernet AUI, 2-port Serial, 1-port BRI (S/T), IP s/w
CISCO2504-CH	1-port Token Ring, 2-port Serial, 1-port BRI (ST), IP s/w
CISCO2505-CH	8-port 10bT hub, 2-port Serial, IP s/w
CISCO2507-CH	16-port 10bT hub, 2-port Serial, IP s/w
CISCO2513-CH	1-port Ethernet AUI, 1-port Token Ring, 2-port Serial, IP s/w
CISCO2514-CH	2-port Ethernet AUI, 2-port Serial, IP s/w
CISCO2515-CH	2-port Token Ring, 2-port Serial, IP s/w
CISCO2516-CH	14-port 10bT hub, 2-port Serial, 1-port BRI (S/T), IP s/w
CISCO2520-CH	1-port Ethernet AUI, 2-port Serial, 1-port BRI (S/T), 2-port Async/Sync Serial, IP s/w
CISCO2521-CH	1-port Token Ring, 2-port Serial, 1-port BRI (S/T), 2-port Async/Sync Serial, IP s/w
CISCO2522-CH	1-port Ethernet AUI, 2-port Serial, 1-port BRI (S/T), 8-port Async/Sync Serial, IP s/w
CISCO2523-CH	1-port Token Ring, 2-port Serial, 1-port BRI (S/T), 8-port Async/Sync Serial, IP s/w
CISCO2524-CH	1-port Ethernet AUI, 3 slots (1 for BRI Mod, 2 for Serial Mods), IP s/w
CISCO2525-CH	1-port Token Ring, 1 BRI slot, 2 Serial slots, IP s/w

Cisco 2524/2525 WAN Modules

SM25-BRI-S/T=	1-port BRI (S/T) Module
SM25-BRI-U=	1-port BRI (U) w/ NT-1 Module
SM25-56K2=	1-port Serial w/ 2-Wire 56Kbps DSU/CSU Interface Module
SM25-56K4=	1-port Serial w/ 4-Wire 56/64Kbps DSU/CSU Interface Module
SM25-T1=	1-port Serial w/ FrT1/T1 DSU/CSU Module
SM25-5IN1=	1-port Serial 5-in-1 Interface Module

Cisco 2500 Series Access Router Chassis

CISCO2509-CH	1-port Ethernet AUI, 2-port Serial, 8-port Async Serial, IP s/w
AS2509-RJ-CH	1-port Ethernet AUI (RJ-45), 1-port Serial, 8-port Async Serial, IP s/w
CISCO2511-CH	1-port Ethernet AUI, 2-port Serial, 16-port Async Serial, IP s/w
AS2511-RJ-CH	1-port Ethernet AUI (RJ-45), 1-port Serial, 16-port Async Serial, IP s/w

Cisco 2500 Series Software Feature Packs

CD25-C-12.0=	IP only Feature Pack
CD25-CP-12.0=	IP Plus Feature Pack
CD25-CHL-12.0=	IP/FW Plus IPSEC 56 Feature Pack
CD25-B-12.0=	IP/IPX/AT/DEC Feature Pack
CD25-BP-12.0=	IP/IPX/AT/DEC Plus Feature Pack
CD25-AP-12.0=	Enterprise Plus Feature Pack

Cisco 2500 Series Bundles

Y2K-25A=	Cisco 2500 Y2K IOS Enterprise Bundle (Flash, DRAM, Boot ROM)
Y2K-25B=	Cisco 2500 Y2K IOS Desktop Bundle (Flash, DRAM, Boot ROM)
Y2K-25BS=	Cisco 2500 Y2K IOS Desktop & IBM Bundle (Flash, DRAM, Boot ROM)
Y2K-25CS=	Cisco 2500 Y2K IOS IP & IBM Bundle (Flash, DRAM, Boot ROM)
Y2K-25D=	Cisco 2500 Y2K IOS IP/IPX Bundle (Flash, DRAM, Boot ROM)
Y2K-25DS=	Cisco 2500 Y2K IOS IP/IPX & IBM Bundle (Flash, DRAM, Boot ROM)
Y2K-25LF=	Cisco 2500 Y2K IOS LANFRAD Bundle (DRAM, Boot ROM)

Cisco 2500 Series Memory Options

MEM-1X4F=	Cisco 2500 Series, 4 MB Flash Upgrade
MEM-1X8F=	Cisco 2500 Series, 8 MB Flash Upgrade
MEM-1X8D=	Cisco 2500 Series, 8 MB DRAM Upgrade
MEM-1X16D=	Cisco 2500 Series, 16 MB DRAM Upgrade

Cisco 2500 Series Accessories

ACS-2500RM-19=	Cisco 2500 Series, Rack-Mount Kit, 19 Inches
ACS-2500RM-24=	Cisco 2500 Series, Rack-Mount Kit, 24 Inches
ACS-2500ASYN=	Cisco 2500 AUX/Console Part Cable Kit
ACS-2500RPS=	Cisco 2500 Series, RPS Field Upgrade

Cisco 2500 Series Basic Maintenance

CON-SNT-PKG4	Cisco 2500 Series (2501-2514, 2520-2522) SMARTnet (8 x 5 x NBD)
CON-SNT-PKG5	Cisco 2500 Series (2515, 2516, 2523-2525) SMARTnet (8 x 5 x NBD)

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 2500 Series Web site: <http://www.cisco.com/go/2500>

Cisco 2600 Series

Cisco Systems extends enterprise / provider-class versatility, integration, and power to branch offices with the



Cisco 2600 series. The Cisco 2600 series' modular architecture provides the versatility needed to adapt to network technology changes as new services and applications become available. Driven by a powerful RISC processor, the Cisco 2600 series supports advanced Quality of Service (QoS), security, and network integration features required in today's evolving networks. By integrating the functions of multiple separate devices into a single unit, the Cisco 2600 Series reduces the complexity of managing remote networks. The Cisco 2600 series shares modular interfaces with the Cisco 1600, 1700, and 3600 series, providing a cost-effective solution for applications such as Internet/intranet access, multiservice voice/data integration, analog and digital dial access services, VPN access, ATM access concentration, VLANs, and routing bandwidth management.

When to Sell

Sell This Product

Cisco 2600 Series

When a Customer Needs These Features

- LAN to LAN routing, including bandwidth management
- Remote access server (analog and digital dial services)
- Multiservice voice/fax/data integration
- VPN/Extranet access with optional Firewall Security
- Serial device concentration
- WAN access, including ATM services

Cisco 2651

- High performance CPU, two autosensing 10/100 Mbps Ethernet ports with VLAN support

Cisco 2650

- High performance CPU, one autosensing 10/100 Mbps Ethernet ports with VLAN support

Cisco 2621

- Two autosensing 10/100 Mbps Ethernet ports with VLAN support

Cisco 2620

- One autosensing 10/100 Mbps Ethernet port with VLAN support

Cisco 2613

- One Token Ring port

Cisco 2612

- One Token Ring port and one Ethernet port for mixed LANs and migrating from Token Ring to Ethernet

Cisco 2611

- Two Ethernet ports for LAN segmentation or secure LAN isolation

Cisco 2610

- One Ethernet port

Key Features

- Versatility/investment protection—field-upgradable modular interfaces enable thousands of customized solutions and easy migration to future network requirements
- Integration/manageability—lowers cost of ownership and improves ease of remote management, providing integrated “branch-in-a-box” networking that combines CSU/DSUs, multiplexors, modems, voice/data gateways, ISDN NT1s, firewalls, VPNs, encryption, and compression devices
- Multiservice voice/data networks—reduces phone/fax costs between offices; using Cisco IOS Software QoS features (such as RSVP, WFQ, CAR, and RED), voice/fax traffic is digitized and encapsulated in Frame Relay or IP packets and consolidated with data traffic

Specifications

Feature	Cisco 2651 and Cisco 2650	Cisco 2621 and Cisco 2620	Cisco 2613 and Cisco 2612	Cisco 2611 and Cisco 2610
Throughput (max, fast-switching)	34-37K packets per second (pps)	23-25Kpps	12-15Kpps	12-15Kpps
Fixed LAN Ports	2-port 10/100 Mbps Ethernet (Cisco 2651) 1-port 10/100 Mbps Ethernet (Cisco 2650)	2-port 10/100 Mbps Ethernet (Cisco 2621) 1-port 10/100 Mbps Ethernet (Cisco 2620)	1-port Token Ring (Cisco 2613) 1-port Ethernet and 1-port Token Ring (Cisco 2613)	2-port Ethernet (Cisco 2611) 1-port Ethernet (Cisco 2610)
Fixed WAN Ports	1-115.2 Kbps async only (aux port)	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Network Module Slots	1	1	1	1
WAN Interface Card Slots	2	2	2	2
Advanced Integration Slots (AIM)	1	1	1	1
WAN Interface Cards	1-port ISDN BRI (S/T) 1-port ISDN BRI (U) 1-port 4-wire 56/64-kbps CSU/DSU 1-port T1/FT1 CSU/DSU 1- and 2-port high-speed (4 Mbps) sync serial 2-port low-speed (134 Kbps) async/sync serial	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Multiflex Voice and WAN Interface Cards¹	1- and 2-port T1/FT1 with CSU/DSU and optional Drop and Insert 1- and 2-port E1/E1 with DSU and optional Drop and Insert and unframed G.703 support	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Voice/Fax Network Modules	1- and 2-slot voice/fax 1-port T1 24 channel voice/fax 1-port T1 24 enhanced channel voice/fax 2-port T1 48 channel voice/fax 1-port E1 30 channel voice/fax 1-port E1 30 enhanced channel voice/fax 1-port E1 60 channel voice/fax	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Voice Interface Card Modules	2-port voice—FXS 2-port voice—E&M 2-port voice—FXO 2-port voice—BRI (S/T-TE)	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
LAN Modules	1- and 4-port Ethernet 10BaseT	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
WAN Modules	4- and 8-port BRI (S/T) 4- and 8-port BRI (U) w/ NT1 4- and 8-port async/sync serial 16- and 32-port async serial 1- and 2-port Channelized T1/PRI 1- and 2-port Channelized T1/PRI w/CSU 1- and 2-port Channelized E1/PRI balanced 1- and 2-port Channelized E1/PRI unbalanced	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650

Feature	Cisco 2651 and Cisco 2650	Cisco 2621 and Cisco 2620	Cisco 2613 and Cisco 2612	Cisco 2611 and Cisco 2610
ATM Modules	1-port ATM-25 4- and 8-port T1 ATM IMA with CSU/DSU 4- and 8-port E1 ATM IMA 1-port DS3 ATM 1-port E3 ATM 1-port OC-3 ATM with Circuit Emulation (AAL-1)	1-port ATM-25 4- and 8-port T1 ATM IMA with CSU/DSU 4- and 8-port E1 ATM IMA 1-port DS3 ATM 1-port E3 ATM	1-port ATM-25 4- and 8-port T1 ATM IMA with CSU/DSU 4- and 8-port E1 ATM IMA	1-port ATM-25 4- and 8-port T1 ATM IMA with CSU/DSU 4- and 8-port E1 ATM IMA
Modem Modules	8- and 16-port analog	8- and 16-port analog	8- and 16-port analog	8- and 16-port analog
AIM Modules	Data Compression AIM (8 Mbps)	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Processor	80-MHz (RISC)	50-MHz (RISC)	40-MHz (RISC)	40-MHz (RISC)
Flash Memory	8 MB (default) 32 MB (max)	8 MB (default) 16 MB (max)	8 MB (default) 16 MB (max)	8 MB (default) 16 MB (max)
DRAM Memory	32 MB (default) 128 MB (max)	32 MB (default) 64 MB (max)	32 MB (default) 64 MB (max)	32 MB (default) 64 MB (max)
Power Supply	AC, DC optional, redundant power (external unit)	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Dimensions (HxWxD)	1.69 x 17.5 x 11.8 in.	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650	Same as Cisco 2651 and Cisco 2650
Cisco IOS Release(s) Supported	12.1.2T or later "T" releases	12.0.T, 12.1T, 12.1 mainline or later	11.3T, 12.0 mainline, 12.0.T, 12.1T, 12.1 mainline or later	11.3T, 12.0 mainline, 12.0.T, 12.1T, 12.1 mainline or later
Service Category	5	5	5	5

1. Packet Voice applications require the use of the high-density voice/fax network module.

Competitive Products

- 3Com: SuperStack II NETBuilder SI and Pathbuilder S400
- Nortel/Bay: Advanced Remote Node (ARN)
- Motorola: Vanguard 645x/643x
- Intel/Shiva: LanRover Family

Cisco IOS Software and Memory Requirements

The Cisco 2600 Series in distribution ships with:

- 8-MB Flash memory
- 32-MB DRAM memory

Most Cisco IOS software CD feature packs for the Cisco 2600 series include several selected Cisco IOS releases. To run the latest Cisco IOS Software Feature Packs with version 12.0(7)XK, you need, at a minimum, the amount of memory shown in the following table. Some configurations will require more than the recommended minimum.

The Cisco 2651 and Cisco 2650 will initially be supported with unique Cisco 265x-designated feature packs including Cisco IOS version 12.1.2T. These feature packs can be identified by part numbers starting CD265-xxxx-12.1.2.

Future Cisco 2600 feature packs will include versions compatible with the Cisco 2650 and Cisco 2651.

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
Cisco 2610, 2611, 2612, 2613, 2620, and 2621				
CD26-C-12.07=	IP only	12.0(7)XK1	8 MB	24 MB
CD26-CP-12.07=	IP Plus	12.0(7)XK1	8 MB	40 MB
CD26-CH-12.07=	IP/Firewall	12.0(7)XK1	8 MB	32 MB
CD26-CHL-12.07=	IP/Firewall Plus IPsec 56	12.0(7)XK1	16 MB	48 MB
CD26-CHK2-12.07=	IP/Firewall Plus IPsec 3DES	12.0(7)XK1	16 MB	48 MB
CD26-CK2-12.07=	IP Plus IPsec 3DES	12.0(7)XK1	16 MB	40 MB
CD26-CL-12.07=	IP Plus IPsec 56	12.0(7)XK1	16 MB	40 MB
CD26-B-12.07=	IP/IPX/AT/DEC	12.0(7)XK1	8 MB	32 MB
CD26-BP-12.07=	IP/IPX/AT/DEC Plus	12.0(7)XK1	16 MB	40 MB
CD26-BHP-12.07=	IP/IPX/AT/DEC/Firewall Plus	12.0(7)XK1	16 MB	48 MB
CD26-AP-12.07=	Enterprise Plus	12.0(7)XK1	16 MB	48 MB
CD26-AL-12.07=	Enterprise Plus IPsec 56	12.0(7)XK1	16 MB	48 MB
CD26-AHK2-12.07=	Enterprise/Firewall Plus IPsec 3DES	12.0(7)XK1	16 MB	48 MB
CD26-AHL-12.07=	Enterprise/Firewall Plus IPsec 56	12.0(7)XK1	16 MB	48 MB
CD26-AK2-12.07=	Enterprise Plus IPsec 3DES	12.0(7)XK1	16 MB	48 MB
CD26-E-12.07=	Remote Access Server	12.0(7)XK1	8 MB	24 MB
Cisco 2650 and 2651				
CD265-C-12.07=	IP only	12.1(2)T	8 MB	24 MB
CD265-CP-12.07=	IP Plus	12.1(2)T	16 MB	40 MB
CD265-CH-12.07=	IP/Firewall	12.1(2)T	8 MB	32 MB
CD265-B-12.07=	IP/IPX/AT/DEC	12.1(2)T	8 MB	32 MB
CD265-BP-12.07=	IP/IPX/AT/DEC Plus	12.1(2)T	16 MB	40 MB
CD265-AP-12.07=	Enterprise Plus	12.1(2)T	16 MB	48 MB

1. Bold numbers indicate that more memory than the default amount is needed to run the Feature Pack.

Distribution Part Numbers and Ordering Information

Cisco 2600 Series Router Chassis¹

CISCO2610	1-port 10bT, 1 network module slot, 1 AIM slot, 2 WIC slots, IP s/w
CISCO2610-DC	1-port 10bT, 1 network module slot, 1 AIM slot, 2 WIC slots, DC power supply, IP s/w
CISCO2610-RPS	1-port 10bT, 1 network module slot, 1 AIM slot, 2 WIC slots, RPS adapter, IP s/w
CISCO2611	2-port 10bT, 1 network module slot, 1 AIM slot, 2 WIC slots, IP s/w
CISCO2611-DC	2-port 10bT, 1 network module slot, 1 AIM slot, 2 WIC slots, DC power supply, IP s/w
CISCO2611-RPS	2-port 10bT, 1 network module slot, 1 AIM slot, 2 WIC slots, RPS adapter, IP s/w
CISCO2612	1-port 10bT, 1-port TR, 1 network module slot, 1 AIM slot, 2 WIC slots, IP s/w
CISCO2612-DC	1-port 10bT, 1-port TR, 1 network module slot, 1 AIM slot, 2 WIC slots, DC Power Supply, IP s/w
CISCO2612-RPS	1-port 10bT, 1-port TR, 1 network module slot, 1 AIM slot, 2 WIC slots, RPS adapter, IP s/w
CISCO2613	1-port Token Ring, 1 network module slot, 1 AIM slot, 2 WIC slots, IP s/w
CISCO2613-DC	1-port Token Ring, 1 network module slot, 1 AIM slot, 2 WIC slots, DC Power Supply, IP s/w
CISCO2613-RPS	1-port Token Ring, 1 network module slot, 1 AIM slot, 2 WIC slots, RPS adapter, IP s/w
CISCO2620	1-port 10/100, 1 network module slot, 1 AIM slot, 2 WIC slots, IP s/w
CISCO2620-DC	1-port 10/100 (autosensing), 1 network module slot, 1 AIM slot, 2 WIC slots DC Power Supply, IP s/w
CISCO2620-RPS	1-port 10/100 (autosensing), 1 network module slot, 1 AIM slot, 2 WIC slots, RPS adapter, IP s/w
CISCO2621	2-port 10/100 (autosensing), 1 network module slot, 1 AIM slot, 2 WIC slots, IP s/w
CISCO2621-DC	2-port 10/100 (autosensing), 1 network module slot, 1 AIM slot, 2 WIC slots, DC Power Supply, IP s/w
CISCO2621-RPS	2-port 10/100 (autosensing), 2 network module slot, 1 AIM slot, 2 WIC slot, RPS adapter, IP s/w

Cisco 2600 Series LAN Modules

NM-1E=	1-port 10bT network module
NM-4E=	4-port 10bT network module

Cisco WAN Interface Cards (WICs)

WIC-1B-S/T=	1-port BRI (S/T) WAN Interface Card (Dial and Leased Line)
WIC-1B-U=	1-port BRI (U) w/NT-1 WAN Interface Card (Dial and Leased Line)
WIC-1DSU-56K4=	1-port Serial W/ 4-Wire 56/64Kbps DSU/CSU WAN Interface Card
WIC-1DSU-T1=	1-port Serial w/ FrT1/T1 DSU/CSU WAN Interface Card
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

Cisco 2600 and 3600 Series Multiflex Voice and WAN Interface Cards²

VVIC-1MFT-T1=	1-port RJ-48 Multiflex Trunk - T1
VVIC-2MFT-T1=	2-port RJ-48 Multiflex Trunk - T1
VVIC-2MFT-T1-DI=	2-port RJ-48 Multiflex Trunk - T1 With Drop and Insert
VVIC-1MFT-E1=	1-port RJ-48 Multiflex Trunk - E1
VVIC-2MFT-E1=	2-port RJ-48 Multiflex Trunk - E1
VVIC-2MFT-E1-DI=	2-port RJ-48 Multiflex Trunk - E1 With Drop and Insert

Cisco 2600 and 3600 Series Voice/Fax Network Modules

NM-1V=	1-slot voice/fax network module
NM-2V=	2-slot voice/fax network module
NM-HDV-1T1-24=	1-port T1 24 channel voice/fax network module
NM-HDV-1T1-24E=	1-port T1 24 enhanced channel voice/fax network module
NM-HDV-2T1-48=	2-port T1 48 channel voice/fax network module
NM-HDV-1E1-30=	1-port E1 30 channel voice/fax network module
NM-HDV-1E1-30E=	1-port E1 30 enhanced channel voice/fax network module
NM-HDV-2E1-60=	2-port E1 60 channel voice/fax network module
NM-HDV=	High density voice network module, spare (no T1/E1 or DSPs)

Cisco 2600 and 3600 Series High-Density Voice/Fax DSP Upgrade Modules

PVDM-12=	12-channel Packet Voice/Fax DSP Module
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Cisco 2600 and 3600 Series Voice Interface Cards (VICs)

VIC-2E/M=	2-port E&M Voice Interface Card
VIC-2FXO=	2-port FXO Voice Interface Card
VIC-2FXS=	2-port FXS Voice Interface Card
VIC-2FXO-EU=	2-port FXO Voice Interface Card (for Europe)
VIC-2FXO-M3=	2-port FXO Voice Interface Card (for Australia)
VIC-2BRI-S/T-TE=	2-port BRI (S/T user side) Voice Interface Card
VIC-2FXO-M1=	2-port Voice Interface Card - FXO w/ Reversal (for US+)
VIC-2FXO-M2=	2-port Voice Interface Card - FXO w/ Reversal (for EU)

Cisco 2600 and 3600 Series WAN Network Modules

NM-4B-S/T	4-port BRI (S/T) network module
NM-8B-S/T	8-port BRI (S/T) network module
NM-4B-U	4-port BRI (U) w/ NT1 network module
NM-8B-U	8-port BRI (U) w/ NT1 network module
NM-4A/S=	4-port Async/Sync Serial network module
NM-8A/S=	8-port Async/Sync Serial network module
NM-16A=	16-port Async Serial network module
NM-32A=	32-port Async Serial network module
NM-1CT1	1-port Channelized T1/ISDN-PRI network module
NM-2CT1	2-port Channelized T1/ISDN-PRI network module
NM-1CT1-CSU	1-port Channelized T1/ISDN-PRI w/ CSU network module
NM-2CT1-CSU	2-port Channelized T1/ISDN-PRI w/ CSU network module
NM-1ATM-25	1-port ATM 25 network module

Cisco 2600 and 3600 Series Modem Network Modules

NM-8AM=	8-port Analog Modem network module
NM-16AM=	16-port Analog Modem network module

Cisco 2600 and 3600 Series Network Modules (International)

NM-1CE1B=	1-port Channelized E1/ISDN-PRI balanced network module
NM-1CE1U=	1-port Channelized E1/ISDN-PRI unbalanced network module
NM-2CE1B=	2-port Channelized E1/ISDN-PRI balanced network module
NM-2CE1U=	2-port Channelized E1/ISDN-PRI unbalanced network module

Cisco 2600 and 3600 Series Modem Management Technology Licenses (MMTL)³

MMTL-3600/2600-8=	MMTL for 8 Analog Modems
MMTL-3600/2600-16=	MMTL for 16 Analog Modems

Cisco 2600 Series Software Feature Packs

CD26-C-12.07=	Cisco 2600 Series, IP Feature Pack
CD26-CP-12.07=	Cisco 2600 Series, IP Plus Feature Pack

CD26-CH-12.07=	Cisco 2600 Series, IP/Firewall Feature Pack
CD26-CHL-12.07=	Cisco 2600 Series, IP/Firewall Plus IPsec 56 Feature Pack
CD26-CHK2-12.07=	Cisco 2600 Series, IP/Firewall Plus IPsec 3DES Feature Pack
CD26-CK2-12.07=	Cisco 2600 Series, IP Plus IPsec 3DES Feature Pack
CD26-CL-12.07=	Cisco 2600 Series, IP Plus IPsec 56 Feature Pack
CD26-B-12.07=	Cisco 2600 Series, IP/IPX/AT/DEC Feature Pack
CD26-BP-12.07=	Cisco 2600 Series, IP/IPX/AT/DEC Plus Feature Pack
CD26-BHP-12.07=	Cisco 2600 Series, IP/IPX/AT/DEC/Firewall Plus Feature Pack
CD26-AP-12.07=	Cisco 2600 Series, Enterprise Plus Feature Pack
CD26-AL-12.07=	Cisco 2600 Series, Enterprise Plus IPsec 56 Feature Pack
CD26-AHK2-12.07=	Cisco 2600 Series, Enterprise/Firewall Plus IPsec 3DES Feature Pack
CD26-AHL-12.07=	Cisco 2600 Series, Enterprise/Firewall Plus IPsec 56 Feature Pack
CD26-AK2-12.07=	Cisco 2600 Series, Enterprise Plus IPsec 3DES Feature Pack
CD26-E-12.07=	Cisco 2600 Series, RAS Feature Pack

Cisco 2600 Series Memory Options

MEM2600-4U8FS=	Cisco 2600 Series, 4 to 8 MB Flash Memory Upgrade
MEM2600-4U16FS=	Cisco 2600 Series, 4 to 16 MB Flash Memory Upgrade
MEM2600-8U16FS=	Cisco 2600 Series, 8 to 16 MB Flash Upgrade
MEM2600-4D=	Cisco 2600 Series, 4 MB DRAM DIMM
MEM2600-8D=	Cisco 2600 Series, 8 MB DRAM DIMM
MEM2600-16D=	Cisco 2600 Series, 16 MB DRAM DIMM
MEM2600-32D=	Cisco 2600 Series, 32 MB DRAM DIMM
MEM2600-24U32D=	Cisco 2600 Series, 24 to 32 MB DRAM Upgrade
MEM2600-24U48D=	Cisco 2600 Series, 24 to 48 MB DRAM Upgrade

Cisco 2600 Series Advanced Integration Modules

AIM-COMPR2=	Data Compression AIM for the Cisco 2600 series
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Cisco 2600 Series Accessories

ACS-2600RM-19=	Cisco 2600 Series, 19-Inch Rack Mount Kit
ACS-2600RM-24=	Cisco 2600 Series, 23/24-Inch Rack Mount Kit
ACS-2600ASYN=	Cisco 2600 Series, Auxiliary and Console Port Cable Kit
PWR-2600-AC=	Cisco 2600 Series, AC power supply (Spare)
PWR-2600-DC=	Cisco 2600 Series, DC power supply (Spare)
ACS-2600RPS=	Cisco 2600 Series, RPS adapter - Field Upgrade
WIC-BLANK-PANEL=	Blank WAN Interface Card (WIC) Panel

Cisco 2600 Series Basic Maintenance

CON-SNT-PKG5	Cisco 2600 Series SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)
2. VoIP and VoFR require use of a Voice/Fax network module
3. Requires Plus feature pack.

For More Information

See the Cisco 2600 Series Web site: <http://www.cisco.com/go/2600>

Cisco 3300 Series¹

The Cisco ISR 3303 combines SONET reliability and Layer 3 awareness at the edge of the network in a single platform. The Cisco ISR 3303 is generally deployed at the edge of the SONET network in a multitenant



environment. Traditional leased-line DS1 services can be offered to support PBX digital trunk interfaces, digital loop carrier systems, T1 channel banks, T1 interfaces to Frame relay FRADs, or ATM T1 multiplexers. The Ethernet interfaces can support a variety of service interfaces that can be configured for either bridging or routing, and connect to a local LAN via 10BaseT to a hub, switch, or router.

These DS1 and 10BaseT interfaces can be mapped into a channelized SONET OC-3 interface for WAN connectivity into a SONET network using Automatic Protection Switching (APS) or Uni-directional Path Switched Ring (UPSR) protection mechanisms. T1/DS1 services are mapped into VT 1.5s. Ethernet services are mapped into SONET compliant Wideband Packet-over-SONET (WPOS). WPOS provides data bandwidth scalability by mapping Ethernet services via PPP into a single DS1 for service rates of 1.4 Mbps, These DS1s encapsulating the data are then mapped directly into SONET to ensure network compatibility.

The system supports 1:1 redundancy for system processor/router, Cisco IOS and config file, Ethernet interfaces, DS1 interfaces, and system power.

When to Sell

Sell This Product

Cisco 3303

When a Customer Needs These Features

- When a SP is interested in providing a LAN/WAN service solutions
- When a SP is interested in providing traditional T1 leased line services
- When an Internet Service Provider is discussing plans to move from pure ISP to CLEC
- When an enterprise customer is thinking about deploying a fiber inter-campus network

Key Features

- Combines SONET access multiplexer equipment with Cisco IOS router in a single, cost-efficient, and redundant platform
- Integrated Cisco IOS Software
- Full system redundancy (processor/router, Cisco IOS Software and config file, Ethernet interfaces, DS1 interfaces, and system power)
- NEBS Compliant, 19" x 11.3" x 2U
- SONET UPSR or APS configurations (auto-provisioning of alarms and performance monitoring)

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco 3303
SAM Interface Module	1 OC-3 interface (IR, SC), 8 10BaseT ports, 8 DS1 ports; a second SAM provides interface and processor redundancy
Optical Specifications	Intermediate Reach: 1270-1380 nm IR-1 Line Rate: 155.52 Mbps Connector type: SC Launch power (max.): -8 dBm Launch power (min.): -15 dBm Receiver power (max.): -8 dBm Receiver power (min.): -31 dBm Power budget: 16 Db
DS1 Interfaces	Up to 655 feet @ DSX-1 w/5 LBO settings Framing: SF, ESF, UNF, SLC Linecoding: AMI or B8ZS
Ethernet Interfaces	10BaseT, 100 Meters
Performance Monitoring	Per T1.403 Near-end for OC-3 Section Near-end and Far-end for OC-3 Line, STS-1 Path, VT 1.5s and DS1s
Loopbacks	OC-3 Optical Line, STS-1, VT 1.5
Processor Speed (type)	200 MHz (RISC)
Flash Memory	8 MB
DRAM Memory	64 MB
Dimensions (HxWxD)	3.5 x 11.8 x 17.5 in.

Competitive Products

- Fujitsu: Fujitsu FLM-150 with FASTLANE Ethernet bridge module
- Lucent: DDM-2000 with Ethernet bridging module
- Nortel: OC-3 Express ADM with EIM Modules
- Positron (Marconi): OC-3 OSIRIS with Ethernet bridging module

For More Information

See the Cisco 3300 Series Web site: <http://www.cisco.com/go/3300>

Cisco 3600 Series

The Cisco 3600 Series is a family of modular, multifunction access platforms for medium and large-sized offices and Internet Service Providers. With over 70 modular interface options, the Cisco 3600 family provides solutions for voice/data integration, virtual private networks (VPNs), dial access, and multiprotocol data routing. Using Cisco's voice/fax network modules, the Cisco 3600 Series allows customers to consolidate voice, fax, and data traffic on a single network. The high-performance, modular architecture protects customers' investment in network technology and integrates the functions of several devices into a single, manageable solution. 3600 Bundles are also available to address specific RAS opportunities.



When to Sell

Sell This Product

When a Customer Needs These Features

Cisco 3620

- Medium-density WAN and dialup connectivity
- Medium-density LAN connectivity
- Low-density Voice over Data
- Low-density ATM connections
- Mid-density modem-over-PRI bundles

Cisco 3640

- High-density WAN and dialup connectivity
- Medium- to high-density LAN connectivity
- Mid-density Voice over Data
- Low- to mid-density ATM connections
- Low-density modem-over-BRI bundles

Cisco 3660

- Very high-density WAN and dialup connectivity
- High-density LAN connectivity
- Mid-density Voice over Data
- Mid-density ATM connections
- Mid- to high-density modem-over-PRI and BRI connectivity

Key Features

- Combines dial access, advanced LAN-to-LAN routing services, ATM connectivity and multiservice integration of voice, video, and data in a single platform
- Modular, scalable design provides performance, scalability, flexibility, and investment protection
- High-density ISDN PRI capabilities
- Preconfigured BRI and PRI modem bundles available
- Support for modem-over-BRI functionality
- Integrated Cisco IOS Software (price includes IP IOS software)
- Full VPN support

Specifications

Feature	Cisco 3620	Cisco 3640	Cisco 3660
Fixed Ports	None	None	1 or 2 10/100 Ethernet
Network Module Slots	2	4	6
Advanced Integration Module (AIM) Slots	None	None	2
LAN/Combo Modules	<ul style="list-style-type: none"> 1- and 4-port 10BaseT Module 1- and 2-port 10BaseT, 2 WIC Slots 1-port 10BaseT, 1-port Token Ring, 2 WIC Slots 1-port 10/100BaseTX Module 1-port 100BaseFX Module 1-port 10/100bTX, 1-port Ch T1/ISDN-PRI 1-port 10/100bTX, 2-port Ch T1/ISDN-PRI 1-port 10/100bTX, 1-port Ch T1/ISDN-PRI w/ CSU 1-port 10/100BbTX, 2-port Channelized T1/ISDN-PRI w/ CSU 1-port 10/100bTX, 1-port Ch E1/PRI Unbal 1-port 10/100bTX, 2-port Ch E1/PRI Unbal 1-port 10/100bTX, 1-port Ch E1/PRI Bal 1-port 10/100bTX, 2-port Ch E1/PRI Bal 1-port 10/100 Ethernet, 2 WIC Slots 2-port 10/100 Ethernet, 2 WIC Slots 1-port 10/100 Ethernet, 1-port Token Ring, 2 WIC Slots 2 WIC Slots 	Same as Cisco 3620	Same as Cisco 3620
WAN Modules	<ul style="list-style-type: none"> 4- and 8-port BRI (S/T) 4- and 8-port BRI (U) w/ NT-1 4-port serial 4- and 8-port async/sync serial 16- and 32-port async 1- and 2-port Channelized T1/ISDN-PRI 1- and 2-port Channelized T1/ISDN-PRI w/ CSU 1-port HSSI Compression 	Same as Cisco 3620	Same as Cisco 3620 (Hardware compression support only through AIM-COMPR4)
ATM Modules	<ul style="list-style-type: none"> 1-port 25-Mbps ATM 1-port OC3-155Mbps ATM 4- and 8-port T1 ATM (with IMA) 1-port DS3 ATM 1-port E3 ATM 1-port OC-3/STM-1 with CES ATM, Multimode, Singlemode Intermediate Reach and Singlemode Long Reach versions 	Same as Cisco 3620	Same as Cisco 3620
Voice/Fax Network Modules	<ul style="list-style-type: none"> 1- or 2-slot voice/fax 1-port T1 24 channel voice/fax 1-port T1 24 enhanced channel voice/fax 2-port T1 48 channel voice/fax 1-port E1 30 channel voice/fax 1-port E1 30 enhanced channel voice/fax 2-port E1 60 channel voice/fax 	Same as Cisco 3620	Same as Cisco 3620
WAN Interface Card (WIC) Modules	<ul style="list-style-type: none"> 1-port ISDN BRI (S/T) 1-port ISDN BRI (U) 1-port sync serial 1-port 4-wire 56-kbps CSU/DSU 1-port T1/FT1 CSU/DSU 2-port multiflex T1/E1 Drop and Insert 	Same as Cisco 3620	Same as Cisco 3620
Multiflex Voice/WAN Interface Cards	<ul style="list-style-type: none"> 1-port RJ-48 Multiflex Trunk - T1 2-port RJ-48 Multiflex Trunk - T1 2-port RJ-48 Multiflex Trunk - T1 With Drop and Insert 1-port RJ-48 Multiflex Trunk - E1 1-port RJ-48 Multiflex Trunk - E1 1-port RJ-48 Multiflex Trunk - E1 With Drop and Insert 	Same as Cisco 3620	Same as Cisco 3620

Feature	Cisco 3620	Cisco 3640	Cisco 3660
Voice Interface Card (VIC) Modules	2-port voice—FXS 2-port voice—E&M 2-port voice—FXO 2-port voice—BRI (S/T-TE)	Same as Cisco 3620	Same as Cisco 3620
Modem Modules	6-, 12-, 18-, 24-, and 30-port digital modem 8- and 16-port analog modem	Same as Cisco 3620	Same as Cisco 3620
Processor Speed (type)	80-MHz (IDT R4700 RISC)	100-MHz (IDT R4700 RISC)	225-MHz (QED RM5271 RISC)
Flash Memory	8 MB (default); 32 MB (max)	Same as Cisco 3620	8 MB (default); 64 MB (max)
DRAM Memory	32 MB (default) 64 MB (max)	32 MB (default) 128 MB (max)	32 MB SDRAM (default) 256 MB SDRAM (max)
Power Supply	AC, DC optional	AC, DC optional	Single or dual AC/DC
Dimensions (HxWxD)	1.75 x 17.5 x 13.5 in.	3.44 x 17.5 x 15 in.	8.7 x 17.5 x 11.8 in.
Service Category	7	10	Cisco 3661: 14 Cisco 3662: 15

Competitive Products

- 3Com: NETBuilder II and Netserver I-Modem
- IBM: 2212
- Intel/Shiva: Lanrover series
- Livingston: Portmaster 2E/2ER
- Nortel/Bay: ASN, ARN, and 5400

Cisco IOS Software and Memory Requirements

The Cisco 3600 Series in distribution ships with:

- 8-MB Flash memory
- 32-MB DRAM memory

To run the Cisco IOS Feature Packs, you need the following amount of memory:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
Cisco 3620 and 3640				
CD36-C-12.0.7=	IP only	12.0(7)XK	8 MB	32 MB
CD36-CP-12.0.7=	IP Plus	12.0(7)XK	16 MB	48 MB
CD36-CH-12.0.7=	IP/FW	12.0(7)XK	8 MB	32 MB
CD36-CHL-12.0.7=	IP/FW Plus IPsec 56	12.0(7)XK	16 MB	64 MB
CD36-CHK2-12.0.7=	IP/FW Plus IPsec 3DES	12.0(7)XK	16 MB	64 MB
CD36-CK2-12.0.7=	IP/ Plus IPsec 3DES	12.0(7)XK	16 MB	48 MB
CD36-CL-12.0.7=	IP Plus IPsec 56	12.0(7)XK	16 MB	48 MB
CD36-B-12.0.7=	IP/IPX/AppleTalk/DECnet	12.0(7)XK	8 MB	32 MB
CD36-BP-12.0.7=	IP/IPX/AppleTalk/DECnet Plus	12.0(7)XK	16 MB	48 MB
CD36-BHP-12.0.7=	IP/IPX/AT/DEC/FW Plus	12.0(7)XK	16 MB	64 MB
CD36-AP-12.0.7=	Enterprise Plus	12.0(7)XK	16 MB	64 MB
CD36-AL-12.0.7=	Enterprise Plus IPsec 56	12.0(7)XK	16 MB	64 MB
CD36-AHK2-12.0.7=	Enterprise/FW Plus IPsec 3DES	12.0(7)XK	16 MB	64 MB
CD36-AHL-12.0.7=	Enterprise/FW Plus IPsec 56	12.0(7)XK	16 MB	64 MB

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
Cisco 3660				
CD36-C-12.0.7=	IP only	12.0(7)XK	8 MB	32 MB SDRAM
CD36-CP-12.0.7=	IP Plus	12.0(7)XK	16 MB	64 MB SDRAM
CD36-CH-12.0.7=	IP/FW	12.0(7)XK	8 MB	64 MB SDRAM
CD36-CHL-12.0.7=	IP/FW Plus IPsec 56	12.0(7)XK	16 MB	64 MB SDRAM
CD36-CHK2-12.0.7=	IP/FW Plus IPsec 3DES	12.0(7)XK	16 MB	64 MB SDRAM
CD36-CK2-12.0.7=	IP/ Plus IPsec 3DES	12.0(7)XK	16 MB	64 MB SDRAM
CD36-CL-12.0.7=	IP Plus IPsec 56	12.0(7)XK	16 MB	64 MB SDRAM
CD36-B-12.0.7=	IP/IPX/AppleTalk/DECnet	12.0(7)XK	8 MB	64 MB SDRAM
CD36-BP-12.0.7=	IP/IPX/AppleTalk/DECnet Plus	12.0(7)XK	16 MB	64 MB SDRAM
CD36-BHP-12.0.7=	IP/IPX/AT/DEC/FW Plus	12.0(7)XK	16 MB	64 MB SDRAM
CD36-AP-12.0.7=	Enterprise Plus	12.0(7)XK	16 MB	64 MB SDRAM
CD36-AL-12.0.7=	Enterprise Plus IPsec 56	12.0(7)XK	16 MB	64 MB SDRAM
CD36-AHK2-12.0.7=	Enterprise/FW Plus IPsec 3DES	12.0(7)XK	16 MB	64 MB SDRAM
CD36-AHL-12.0.7=	Enterprise/FW Plus IPsec 56	12.0(7)XK	16 MB	64 MB SDRAM

1. Bold numbers indicate that more memory than the default amount is needed to run the Feature Pack.

Distribution Part Numbers and Ordering Information

Cisco 3600 Series Router Chassis¹

CISCO3620	2-slot Modular Router-AC Power Supply, IP s/w
CISCO3620-DC	2-slot Modular Router-DC Power Supply, IP s/w
CISCO3620-RPS	2-slot Modular Router, w/ RPS, IP s/w
CISCO3640	4-slot Modular Router-AC Power Supply, IP s/w
CISCO3640-DC	4-slot Modular Router-DC Power Supply, IP s/w
CISCO3640-RPS	4-slot Modular Router, w/ RPS, IP s/w
CISCO3661-DC	10/100 E Cisco 3660 6-slot Modular Router-DC with IP SW
CISCO3661-AC	10/100 E Cisco 3660 6-slot Modular Router-AC with IP SW
CISCO3662-DC	Dual 10/100 E Cisco 3660 6-slot Modular Router-DC with IP SW
CISCO3662-AC	Dual 10/100 E Cisco 3660 6-slot Modular Router-AC with IP SW

Cisco 3600 Series Bundles

3640MBUNDLE-4B-S/T	3640 BRI Dial bundle. Includes 1E2W,12DM, 4 BRI-S/T, IP IOS
3640MBUNDLE-4B-U	3640 BRI Dial bundle. Includes 1E2W,12DM, 4 BRI-U, IP IOS
3640MBUNDLE-8B-S/T	3640 BRI Dial bundle. Includes 1E2W,18DM, 8 BRI-S/T, IP IOS
3640MBUNDLE-8B-U	3640 BRI Dial bundle. Includes 1E2W,18DM, 8 BRI-U, IP IOS
3620MBUNDLE-24DM	3620 PRI Dial bundle. Includes 1FE2CT1-CSU, 24DM, IP IOS
3620MBUNDLE-30DM	3620 PRI Dial bundle. Includes 1FE2CE1-U, 30DM, IP IOS
AS3640-T1-48DM	3600 Access Concentrator, 48 MICA Modems, 2 PRI/T1, Ethernet, IP IOS
AS3640-E1-60DM	3600 Access Concentrator, 60 MICA Modems, 2 PRI/E1, Ethernet, IP IOS

Cisco 3600 Series LAN/Combo Network Modules

NM-1E=	1-port 10bT Network Module
NM-4E=	4-port 10bT Network Module
NM-1FE-TX=	1-port 100bTX Network Module
NM-1FE-FX=	1-port 100bFX Network Module
NM-1E2W=	1-port 10bT, 2 WIC Slots Network Module
NM-2E2W=	2-port 10bT, 2 WIC Slots Network Module
NM-1E1R2W=	1-port 10bT, 1-port Token Ring, 2 WIC Slots Network Module
NM-1FE1CT1=	1-port 100bTX, 1-port Channelized T1/ISDN-PRI Network Module
NM-1FE1CT1-CSU=	1-port 100bTX, 1-port Channelized T1/ISDN-PRI with CSU Network Module
NM-1FE1CE1B=	1-port 100bTX, 1-port Channelized E1/ISDN-PRI (Balanced) Network Module
NM-1FE1CE1U=	1-port 100bTX, 1-port Channelized E1/ISDN-PRI (Unbalanced) Network Module
NM-1FE2CT1=	1-port 100bTX, 2-port Channelized T1/ISDN-PRI Network Module
NM-1FE2CT1-CSU=	1-port 100bTX, 2-port Channelized T1/ISDN-PRI with CSU Network Module
NM-1FE2CE1B=	1-port 100bTX, 2-port Channelized E1/ISDN-PRI (Balanced) Network Module
NM-1FE2CE1U=	1-port 100bTX, 2-port Channelized E1/ISDN-PRI (Unbalanced) Network Module
NM-1FE2W=	1-port 10/100 Ethernet, 2 WIC Slots Network Module

NM-2FE2W=	2-port 10/100 Ethernet, 2 WIC Slots Network Module
NM-1FE1R2W=	1-port 10/100 Ethernet, 1-port Token Ring, 2 WIC Slots Network Module
NM-2W=	2 WIC Slots Network Module

Cisco 3600 Series WAN Interface Cards (WICs)

WIC-1B-S/T=	1-port ISDN WAN Interface Card (Dial and Leased Line)
WIC-1B-U=	1-port BRI (U) w/ NT-1 WAN Interface Card (Dial and Leased Line)
WIC-1DSU-56K4=	1-port Serial w/ 4-Wire 56/64Kbps DSU/CSU WAN Interface Card
WIC-1DSU-T1=	1-port Serial w/ FrT1/T1 DSU/CSU WAN Interface Card
WIC-1T=	1-port Serial WAN Interface Card

Cisco 3600 Multiflex Voice/WAN Interface Cards

VVIC-1MFT-T1=	1-port RJ-48 Multiflex Trunk - T1
VVIC-2MFT-T1=	2-port RJ-48 Multiflex Trunk - T1
VVIC-2MFT-T1-DI=	2-port RJ-48 Multiflex Trunk - T1 With Drop and Insert
VVIC-1MFT-E1=	1-port RJ-48 Multiflex Trunk - E1
VVIC-2MFT-E1=	2-port RJ-48 Multiflex Trunk - E1
VVIC-2MFT-E1-DI=	2-port RJ-48 Multiflex Trunk - E1 With Drop and Insert

Cisco 3600 Series Voice/Fax Network Modules

NM-1V=	1-slot voice/fax network module
NM-2V=	2-slot voice/fax network module
NM-HDV-1T1-24=	1-port T1 24 channel voice/fax network module
NM-HDV-1T1-24E=	1-port T1 24 enhanced channel voice/fax network module
NM-HDV-2T1-48=	2-port T1 48 channel voice/fax network module
NM-HDV-1E1-30=	1-port E1 30 channel voice/fax network module
NM-HDV-1E1-30E=	1-port E1 30 enhanced channel voice/fax network module
NM-HDV-2E1-60=	2-port E1 60 channel voice/fax network module
NM-HDV=	1-slot high-density voice network module (no T1/E1 or DSPs)

Cisco 2600 and 3600 Series High-Density Voice/Fax DSP Upgrade Modules

PVDM-12=	12-channel Packet Voice/Fax DSP Module upgrade spare
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Cisco 3600 Series Voice Interface (VIC) Cards

VIC-2E/M=	2-port Voice Interface Card - E&M
VIC-2FXO=	2-port Voice Interface Card - FXO
VIC-2FXS=	2-port Voice Interface Card - FXS
VIC-2BRI-S/T-TE=	2-port Voice Interface Card - BRI (S/T user side)
VIC-2FXO-EU=	2-port Voice Interface Card - FXO (for Europe)
VIC-2FXO-M3=	2-port FXO Voice Interface Card (for Australia)
VIC-2FXO-M1=	2-port Voice Interface Card - FXO w/ Reversal (for US+)
VIC-2FXO-M2=	2-port Voice Interface Card - FXO w/ Reversal (for EU)

Cisco 3600 Series WAN Modules

NM-4B-S/T=	4-port BRI (S/T) Module
NM-8B-S/T=	8-port BRI (S/T) Module
NM-4B-U=	4-port BRI (U) w/ NT-1 Module
NM-8B-U=	8-port BRI (U) w/ NT-1 Module
NM-4T=	4-port Serial Module
NM-4A/S=	4-port Async/Sync Serial Module
NM-8A/S=	8-port Async/Sync Serial Module
NM-16A=	16-port Async Module
NM-32A=	32-port Async Module
NM-1CT1=	1-port Channelized T1/ISDN-PRI Module
NM-1CT1-CSU=	1-port Channelized T1/ISDN-PRI w/ CSU Module
NM-2CT1=	2-port Channelized T1/ISDN-PRI Module
NM-2CT1-CSU=	2-port Channelized T1/ISDN-PRI w/ CSU Module
NM-1HSSI=	1-port HSSI Module
NM-1ATM-25	1-port ATM 25 Module
NM-COMPR=	Compression Module
NM-1A-OC3MM=	Single-Port 155-Mbps ATM OC-3 Multimode Network Module
NM-1A-OC3SMI=	Single-Port 155-Mbps ATM OC-3 Single-Mode Intermediate Reach Network Module
NM-1A-OC3SML=	Single-Port ATM 155-Mbps OC-3 Single-Mode Long-Reach Network Module
NM-4T-IMA=	4-port T1 ATM with Inverse Multiplexing over ATM (IMA) network module
NM-4E-IMA =	4-port E1 ATM with IMA network module +
NM-8T-IMA =	8-port T1 ATM with IMA network module +
NM-8E-IMA=	8-port E1 ATM with IMA network module +
AIM-COMPR4=	Data Compression AIM for the 3600 series

Cisco 3600 Series Modem Modules

NM-6DM=	6-port Digital Modem Module
NM-8AM=	8-port Analog Modem Module
NM-12DM=	12-port Digital Modem Module
NM-16AM=	16-port Analog Modem Module
NM-18DM=	18-port Digital Modem Module
NM-24DM=	24-port Digital Modem Module
NM-30DM=	30-port Digital Modem Module
MICA-6MOD=	6-port Digital Modem Module (Spare)

Cisco 2600 and 3600 Series Network Modules (International)

NM-1CE1B=	1-port Channelized E1/ISDN-PRI balanced network module
NM-1CE1U=	1-port Channelized E1/ISDN-PRI unbalanced network module
NM-2CE1B=	2-port Channelized E1/ISDN-PRI balanced network module
NM-2CE1U=	2-port Channelized E1/ISDN-PRI unbalanced network module

Cisco 3600 Series Modem Management Technology Licenses²

MMTL-3600-6=	Modem Management Technology License (6 modems)
MMTL-3600-12=	Modem Management Technology License (12 modems)
MMTL-3600-18=	Modem Management Technology License (18 modems)
MMTL-3600-24=	Modem Management Technology License (24 modems)
MMTL-3600-30=	Modem Management Technology License (30 modems)
MMTL-3600/2600-8=	Modem Management Technology License (for 8 Analog Modems)
MMTL-3600/2600-16=	Modem Management Technology License (for 16 Analog Modems)

Cisco 3600 Series Software Feature Packs

CD36-C-12.0.7=	IP only Feature Pack
CD36-CH-12.0.7=	IP/FW Feature Pack
CD36-CHK2-12.0.7=	IP/FW Plus IPsec 3DES Feature Pack
CD36-CK2-12.0.7=	IP Plus IPsec 3DES Feature Pack
CD36-CP-12.0.7=	IP Plus Feature Pack
CD36-CL-12.0.7=	IP Plus IPsec 56 Feature Pack
CD36-CHL-12.0.7=	IP/FW Plus IPsec 56 Feature Pack
CD36-B-12.0.7=	IP/IPX/AppleTalk/DECnet Feature Pack
CD36-BP-12.0.7=	IP/IPX/AppleTalk/DECnet Plus Feature Pack
CD36-BHP-12.0.7=	IP/IPX/AT/DEC/FW Plus Feature Pack
CD36-AP-12.0.7=	Enterprise Plus Feature Pack
CD36-AL-12.0.7=	Enterprise Plus IPsec 56 Feature Pack
CD36-AHL-12.0.7=	Enterprise/FW Plus IPsec 56 Feature Pack
CD36-AHK2-12.0.7=	Enterprise/FW Plus IPsec 3DES Feature Pack

Cisco 3600 Series Memory Options

MEM3600-4FC=	Cisco 3600 Series 4 MB Flash PCMCIA Card
MEM3600-8FC=	Cisco 3600 Series 8 MB Flash PCMCIA Card
MEM3600-16FC=	Cisco 3600 Series 16MB Flash Card
MEM3600-4FS=	Cisco 3600 Series 4 MB Flash
MEM3600-8FS=	Cisco 3600 Series 8 MB Flash
MEM3600-16FS=	Cisco 3600 Series 16 MB Flash
MEM3600-2X8FS=	Cisco 3600, 16 MB Flash (2x8 MB Flash SIMMs)
MEM3600-2X16FS=	Cisco 3600, 32 MB Flash (2x16 MB Flash SIMMs)
MEM3620-4D=	Cisco 3620, 4 MB DRAM SIMM
MEM3620-8D=	Cisco 3620, 8 MB DRAM SIMM
MEM3620-16D=	Cisco 3620, 16 MB DRAM SIMM
MEM3640-2X4D=	Cisco 3640, 8 MB DRAM (2x4 MB DRAM SIMMs)
MEM3640-2X8D=	Cisco 3640, 16 MB DRAM (2x8 MB DRAM SIMMs)
MEM3640-2X16D=	Cisco 3640, 32 MB DRAM (2x16 MB DRAM SIMMs)
MEM3640-2X32D=	Cisco 3640, 64 MB DRAM (2x32MB DRAM SIMMs)
MEM3640-4X32D=	Cisco 3640, 128 MB DRAM (4x32MB DRAM SIMMs)
MEM3660-32D=	Cisco 3660, 32 MB SDRAM Field Upgrade
MEM3660-128D=	Cisco 3660, 128 MB SDRAM Field Upgrade
MEM3660-2X64D=	Cisco 3660, 128 MB SDRAM (2x64 MB Flash DIMMs)
MEM3660-2X128D=	Cisco 3660, 256 MB Flash (2x128 MB Flash DIMMs)
BOOT-3600=	Boot ROM Upgrade for Cisco 3600

Cisco 3600 Series Accessories

ACS-3620RM-19=	Cisco 3620 - 19-Inch Rack Mount Kit
ACS-3620RM-24=	Cisco 3620 - 24-Inch Rack Mount Kit
PWR-3620-AC	Cisco 3620 - AC Power Supply
PWR-3620-DC	Cisco 3620 - DC Power Supply

ACS-3620RPS=	Cisco 3620 - RPS Field Upgrade
ACS-3640RM-19=	Cisco 3640 - 19-Inch Rack Mount Kit
ACS-3640RM-24=	Cisco 3640 - 24-Inch Rack Mount Kit
PWR-3640-AC	Cisco 3640 - AC Power Supply
PWR-3640-DC	Cisco 3640 - DC Power Supply
ACS-3640RPS=	Cisco 3640 - RPS Field Upgrade
NM-BLANK-PANEL=	Blank Network Module Panel
WIC-BLANK-PANEL=	Blank WAN Interface Card Panel
ACS-3660RM-19	19 inch Rack Mount Kit for the Cisco 3660
ACS-3660RM-23	23 inch Rack Mount Kit for the Cisco 3660
ACS-3660 NEBS/ETSI=	NEBS/ETSI Central Office Auxiliary Kit for Cisco 3660
PWR-3660-AC	AC Power Supply for Cisco 3660
PWR-3660-DC	DC Power Supply for Cisco 3660

Cisco 3600 Series Basic Maintenance

CON-SNT-PKG7	Cisco 3620 SMARTnet Maintenance
CON-SNT-PKG10	Cisco 3640 SMARTnet Maintenance
CON-SNT-PKG14	Cisco 3661 SMARTnet Maintenance
CON-SNT-PKG15	Cisco 3662 SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)
2. Requires Plus feature pack.

For More Information

See the Cisco 3600 Series Web site: <http://www.cisco.com/go/3600>

Cisco MC3810 Multiservice Concentrator



The Cisco MC3810 multiservice, integrated access platform enables organizations to integrate all traffic—voice, fax, video, legacy data, and LAN traffic—over a single network backbone. The Cisco MC3810 multiservice access concentrator can be deployed over private or public networks, dramatically reducing equipment and connection costs, simplifying network management, and improving application performance. The Cisco MC3810 combines switched voice, LAN traffic, and legacy data over Frame Relay, ATM, or leased lines at speeds up to T1/E1. The MC3810 is based on Cisco IOS Software and is designed to operate with all Cisco IOS-based routers, the Cisco IGX™ 8400, and the LightStream® 1010.

When to Sell

Sell This Product

Cisco MC3810

When a Customer Needs These Features

- Reduce access charges by integrating private branch exchange (PBX), video, and router access lines
- Multiservice branch connectivity
- Reduce interoffice voice costs (toll bypass)
- Voice ports can be analog or digital (channelized)
- Improve bandwidth efficiency by replacing TDM equipment

Key Features

- Seamlessly integrates data, voice, and video
- Leased line, Frame Relay, and ATM service compatible
- Complete Cisco IOS-based multiprotocol routing, bridging, and Systems Network Architecture (SNA)
- Quality voice compression at 8 kbps (G.729, G.729a), 32 kbps (adaptive differential pulse code modulation [ADPCM]), or 64 kbps pulse code modulation
- Wire-speed T1/E1 router and serial data device with voice, video, and ATM capability

Specifications

Feature	Cisco MC3810
Fixed LAN Ports (connections)	1-port Ethernet (10BaseT)
Fixed WAN Ports (connections)	2-port sync serial (DB-60)
Modular Slots	3
Voice Modules	6-port analog voice 1-port digital voice 4-port BRI voice 1-port RS-366 video module
WAN Modules	1-port channelized T1/E1 multiflex trunk with optional BRI backup
Processor Speed (type)	40 MHz (Motorola 860 Power PC)
Flash Memory	8 MB (default) 16 MB (max)
DRAM Memory	32 MB (default)
Power Supply	AC; optional DC and redundant
Dimensions (HxWxD)	1.75 x 17.5 x 10.25 in.
Service Category	7

Competitive Products

- Ascend: SA100 and SA50
- Lucent: Yuri AC 10 and AC 10x
- Motorola: Vanguard 64xx, 3xx, 6520, and 6560 MP Router
- Newbridge: 3606, 3608, 3612, and 3620 Main Street products
- Nortel: Passport 4430/4450/4700

Cisco IOS Software and Memory Requirements

The Cisco MC3810 in distribution ships with:

- 8-MB Flash memory
- 32-MB DRAM memory

To run the Cisco IOS Software Feature Packs, you need the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required	DRAM Memory Required
CD381-C-12.0.5=	IP	12.0.5T	4 MB	16 MB
CD381-CP-12.0.5=	IP Plus	12.0.5T	8 MB	32 MB
CD381-AP-12.0.5=	Enterprise Plus	12.0.5T	8 MB	32 MB
CD381-CM3P-12.0.5=	IP Plus/ATM Plus	12.0.5T	8 MB	32 MB
CD381-AM3P-12.0.5=	Enterprise Plus/ATM Plus	12.0.5T	8 MB	32 MB

Distribution Part Numbers and Ordering Information

Cisco MC3810 Multiservice Access Concentrator¹

MC3810-V-AL	Cisco MC3810 Voice Ready Analog Low Density
MC3810-V-AH	Cisco MC3810 Voice Ready Analog High Density
MC3810-V-DL	Cisco MC3810 Voice Ready Digital Low Density
MC3810-V-DH	Cisco MC3810 Voice Ready Digital High Density
MC3810-V-R	Cisco MC3810 Voice Ready

Cisco MC3810 Modules

MC3810-MFT-BNC=	3810 Multiflex Trunk w/ E1-BNC Interface
MC3810-MFT-E1=	3810 Multiflex Trunk w/ RJ-48 E1 Interface
MC3810-MFT-T1=	3810 Multiflex Trunk w/ RJ-48 T1 Interface
MC3810-MFT-TBS=	Multiflex Trunk w/ RJ-48 T1 and BRI S/T Interfaces
MC3810-APM-EM=	E&M Analog Personality Module
MC3810-FXO-UK=	FXO Analog Personality Module for UK
MC3810-FXO-GER=	FXO Analog Personality Module for Germany
MC3810-APM-FXO=	FXO Analog Personality Module
MC3810-APM-FXS=	FXS Analog Personality Module
MC3810-AVM6=	6-port Analog Voice Interface
MC3810-DVM-BNC=	MC3810 E1 Unbalanced Digital Voice Interface
MC3810-DVM-E1=	MC3810 Digital Voice Interface E1 Card
MC3810-DVM-T1=	MC3810 Digital Voice Interface T1 Card
MC3810-VCM3=	3 DSP Voice Compression Module
MC3810-VCM6=	6 DSP Voice Compression Module
MC3810-VDM=	MC3810 Video Dial Module

Cisco MC3810 Software Feature Packs

CD381-C-12.0.5=	Cisco MC3810, IP Feature Pack
CD381-CP-12.0.5=	Cisco MC3810, IP Plus Feature Pack
CD381-AP-12.0.5=	Cisco MC3810, Enterprise Plus Feature Pack
CD381-CM3P-12.0.5=	Cisco MC3810, IP Plus/ATM Plus Feature Pack
CD381-AM3P-12.0.5=	Cisco MC3810, Enterprise Plus/ATM Plus Feature Pack

Cisco MC3810 Memory Options

MEM-381-1X8F=	Cisco MC3810, 8 MB Flash Memory (spare)
MEM-381-1X16F=	Cisco MC3810, 16 MB Flash Memory (spare)
MEM-381-1X32D=	Cisco MC3810, 32 MB DRAM Memory

Cisco MC3810 Accessories

MC3810-DC48=	MC3810, -48 VDC Power Supply (Spare)
MC3810-AC40=	MC3810, 100-220VAC Power Supply (Spare)

Cisco MC3810 Basic Maintenance

CON-SNT-PKG7	Cisco 3810 Series SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco MC3810 Web site: <http://www.cisco.com/go/3800>

Cisco 4000 Series

The Cisco 4000 Series routers are the leading modular midrange/regional routers in the industry. The modular interfaces supported include Ethernet, Fast Ethernet, Token Ring, ISDN Basic Rate Interface (BRI), ISDN Primary Rate Interface (PRI), serial and channelized T1/E1, async, ATM, Fiber Distributed Data Interface (FDDI), and High-Speed Serial Interface (HSSI).



The full suite of high-speed LAN support (Fast Ethernet, FDDI, ATM) provides the investment protection necessary for a platform that can grow with the increased local bandwidth generated from multimedia applications and the migration from a shared to a switched environment. Their high-performance RISC CPUs make the Cisco 4500-M and 4700-M excellent choices for supporting software functionality that is either calculation intensive or process switched. This performance, in conjunction with high-density synchronous and asynchronous serial interfaces, makes the Cisco 4000 Series a particularly good fit for integrating legacy equipment and protocols such as SNA into a robust, end-to-end IP network.

When to Sell

Sell This Product

Cisco 4500-M

When a Customer Needs These Features

- Full suite of high-speed media (Fast Ethernet, FDDI, ATM, HSSI)
- Calculation-intensive or process-switched Cisco IOS Software features such as encryption and compression, certain IBM protocols, protocol translation, and X.25 switching
- High-density LAN connectivity (up to 12 Ethernet ports, or 6 Token Ring ports, or a combination thereof)
- Legacy environments requiring high-density synchronous and asynchronous serial support

Cisco 4700-M

- 30–50 percent higher performance for future growth, multiple high-speed interfaces, or configurations with multiple Cisco IOS security, QoS, and accounting features enabled
- 64-MB main memory for large Internet route tables

Key Features

- Supports a full suite of Cisco IOS Software feature sets; customers can cost-effectively choose from a rich set of protocols (IP, Internetwork Packet Exchange [IPX], AppleTalk, DEC, VINES, and so on), QoS, security, redundancy and WAN optimization, and management and accounting features supported by the Cisco IOS Software
- High-performance RISC architecture to support high-speed media (Fast Ethernet, ATM, FDDI, HSSI) and calculation/process switching-intensive features
- Optional redundant power system for very high reliability

Specifications

Feature	Cisco 4500-M	Cisco 4700-M
Fixed Ports	None	None
Modular Slots	3	3
LAN Modules	2-port 10 MB, Full Duplex 6-port 10BaseT Module 1-port 100BaseTX Module 1-port Token Ring Module 2-port Token Ring Module 1-port FDDI Module- Dual-Attached, multimode 1-port FDDI Module- Dual-Attached, single mode 1-port FDDI Module- Single-Attached	Same as Cisco 4500-M
WAN Modules	4-port BRI (S/T) 8-port BRI (S/T) 2-port Serial 4-port Serial 2-port Serial, 16-port Async/Sync Serial (low speed) w/ EIA/TIA232 & V.35 Support 2-port Serial, 16-port Async/Sync Serial (low speed) w/ EIA/TIA232 & X21 Support 2-port Serial, 16-port Async/Sync Serial (low speed) w/ EIA/TIA232 Support 2-port Serial, 16-port Async/Sync Serial (low speed) w/ V.35 Support 2-port Serial, 16-port Async/Sync Serial w X.21 Support 1-port Channelized T1/PRI 1-port HSSI	Same as Cisco 4500-M
Processor Speed (type)	100-MHz (IDT Orion RISC)	133-MHz (IDT Orion RISC)
Flash Memory	4 MB (default) 16 MB (max)	4 MB (default) 16 MB (max)
Shared Memory	4 MB (default) 8 or 16 MB (max)	4 MB (default) 16 MB (max) Secondary cache memory 512 KB
DRAM Memory	16 MB (default) 32 MB (max)	16 MB (default) 32 or 64 MB (max)
Power Supply	AC, DC, and RPS options	AC, DC, and RPS options
Dimensions (HxWxD)	3.4 x 17.6 x 17.7 in.	3.4 x 17.6 x 17.7 in.
Service Category	11	12

Competitive Products

- 3Com: NETBuilder II
- Nortel/Bay: ASN

Cisco IOS Software and Memory Requirements

The Cisco 4000 Series in distribution ships with

- 4-MB Flash memory
- 16-MB DRAM memory

To run the Cisco IOS Software Feature Packs, you need the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required ¹	DRAM Memory Required ¹
CD45-C-11.3=	IP Only	11.3(5)T	4 MB	16 MB
CD45-CL-11.3=	IP Plus IPSEC 56	11.3(5)T	8 MB	32 MB
CD45-CP-11.3=	IP Plus	11.3(5)T	8 MB	16 MB
CD45-CW-11.3=	IP Plus 40	11.3(5)T	8 MB	32 MB
CD45-CY-11.3=	IP Plus 56	11.3(5)T	8 MB	16 MB
CD45-B-11.3=	IP/IPX/AppleTalk/DECnet	11.3(5)T	4 MB	16 MB
CD45-BP-11.3=	IP/IPX/AppleTalk/DECnet Plus	11.3(5)T	8 MB	16 MB
CD45-AP-11.3=	Enterprise Plus	11.3(5)T	8 MB	32 MB
CD45-AW-11.3=	Enterprise Plus 40	11.3(5)T	8 MB	32 MB
CD45-AY-11.3=	Enterprise Plus 56	11.3(5)T	8 MB	32 MB
CD45-AL-11.3=	Enterprise Plus IPSec 56	11.3(5)T	8 MB	16 MB

1. Bold numbers indicate that more memory than the default amount is needed to run the Feature Pack.

Distribution Part Numbers and Ordering Information

Cisco 4000 Series Router Chassis¹

CISCO4500-M-CH	3-slot Modular Chassis (100-MHz Processor), IP s/w
CISCO4700-M-CH	3-slot Modular Chassis (133-MHz Processor), IP s/w

Cisco 4000 Series LAN Modules

NP-2E-FDX=	2-port 10bTX (full duplex)
NP-6E=	6-port 10bT Module
NP-1FE=	1-port 100bTX Module
NP-1RV2=	1-port Token Ring Module
NP-2R=	2-port Token Ring Module
NP-1F-D-MM=	1-port FDDI Module (dual-attached, multimode)
NP-1F-D-SS=	1-port FDDI Module (dual-attached, single mode)
NP-1F-S-M=	1-port FDDI Module (single-attached)

Cisco 4000 Series WAN Modules

NP-4B=	4-port BRI (S/T) Module
NP-8B=	8-port BRI (S/T) Module
NP-2T=	2-port Serial Module
NP-4T=	4-port Serial Module
NP-CT1=	1-port Channelized T1/PRI Module
NP-2T16S-232V35=	2-port Serial, 16-port Async/Sync Serial (low speed) w/ RS232 & V.35 Support
NP-2T16S-232X21=	2-port Serial, 16-port Async/Sync Serial (low speed) w/ RS232 & X21 Support
NP-2T16S-RS232=	2-port Serial, 16-port Async/Sync Serial (low speed) w/ RS232 Support
NP-2T16S-X21=	2-port Serial, 16-port Async/Sync Serial w/ X.21 Support
NP-2T16S-V.35=	2-port Serial, 16-port Async/Sync Serial (low speed) w/ V.35 Support
NP-1HSSI=	1-port HSSI Module

Cisco 4000 Series Network Modules (International)

NP-CE1B=	1-port Channelized E1/PRI NPM balanced
NP-CE1U=	1-port Channelized E1/PRI NPM unbalanced

Cisco 4000 Series Software Feature Packs

CD45-C-11.3=	Cisco 4500/4700 IP Feature Pack
CD45-CL-11.3=	Cisco 4500/4700 IP Plus IPSEC 56 Feature Pack
CD45-CP-11.3=	Cisco 4500/4700 IP Plus Feature Pack

CD45-CW-11.3=	Cisco 4500/4700 IP Plus 40 Feature Pack
CD45-CY-11.3=	Cisco 4500/4700 IP Plus 56 Feature Pack
CD45-B-11.3=	Cisco 4500/4700 IP/IPX/AppleTalk/DECnet Feature Pack
CD45-BP-11.3=	Cisco 4500/4700 IP/IPX/AppleTalk/DECnet Plus Feature Pack
CD45-AP-11.3=	Cisco 4500/4700, Enterprise Plus Feature Pack
CD45-AW-11.3=	Cisco 4500/4700, Enterprise Plus 40 Feature Pack
CD45-AY-11.3=	Cisco 4500/4700, Enterprise Plus 56 Feature Pack
CD45-AL-11.3=	Cisco 4500/4700, Enterprise Plus IPSec 56 Feature Pack

Cisco 4000 Series Memory Options

MEM-4500M-4F=	Cisco 4500/4700, 4 MB Flash Upgrade
MEM-4500M-16F=	Cisco 4500/4700, 16 MB Flash Upgrade
MEM-4500M-8S=	Cisco 4500/4700, 8 MB Shared Upgrade
MEM-4500M-16S=	Cisco 4500/4700, 16 MB Shared Upgrade
MEM-4500M-16D=	Cisco 4500/4700, 16 MB Main Upgrade
MEM-4500M-32D=	Cisco 4500/4700, 32 MB Main Upgrade
MEM-4700M-64D=	Cisco 4700, 64 MB Main Upgrade (for Cisco 4700M only)

Cisco 4000 Series Accessories

ACS-NPRM=	Cisco 4000 Series, 19-Inch Rack Mount Kit
ACS-4000RPS=	Cisco 4000 Series, RPS Field Upgrade

Cisco 4000 Series Basic Maintenance

CON-SNT-PKG11	Cisco 4500 Series SMARTnet Maintenance
CON-SNT-PKG12	Cisco 4700 Series SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 4000 Series Web site: <http://www.cisco.com/go/4000>

Cisco AS5300 Series

The AS5300 is a high-performance, high-density universal access server that delivers hybrid asynchronous serial and ISDN line service to accommodate both mobile users and high-bandwidth users. By terminating analog modem, ISDN, and voice calls on the same chassis from the same trunk line, the AS5300 enables ISPs and enterprise network managers to meet traditional analog dial access needs, while supporting the growing demand for multiservice access. Also available are the high-end dial platforms—AS5800 and AccessPath.



When to Sell

Sell This Product

Cisco AS5300

When a Customer Needs These Features

- High performance async/ ISDN/VoIP
- IP telephony option
- Full range of Cisco IOS Software options
- Best-of-breed modem management
- Distributed access pools with WAN backhaul

Key Features

- Universal access provides the ability to answer ISDN, 56K modem, and voice calls
- Full support for Cisco IOS Software
- Industry-leading price/performance in the remote access market
- Scalability and investment protection through redundant backhaul support
- Key component of Dial Access Stack Architecture (DASA)
- Supports all protocols and services on all asynchronous ports—including users dialing in, as well as asynchronous routing and users dialing out
- Accommodates eight PRI/TI or PRI/EI lines
- One 10-MB and one 10/100 MB Ethernet to allow for redundant, high-speed backhaul
- Terminates up to 240 concurrent modem/ISDN data calls or up to 120 voice and FAX calls (E1)
- Voice over IP-capable
- SS7 interoperability with signaling gateway

Specifications

Feature	AS5300
Fixed LAN Ports (connections)	2-port Ethernet (one 10BaseT and one 100BaseT)
Fixed WAN Ports (connections)	4-port PRI (T1/E1) 8-port PRI (T1/E1) 4-port T1/E1 sync serial
Modular Slots	3
Modules and Cards Available	MICA Carrier Card Quad T1/PRI Card Quad E1/PRI Card-Balanced/Unbalanced Octal T1/PRI Card Octal E1/PRI Card-Balanced/Unbalanced VFC Carrier Card 6-port MICA Modem Module 12-port MICA Modem Module 6-port Voice Module 12-port Voice Module
Processor Speed (type)	150-MHz (R4700)
Maximum Async Connections	240
Maximum Voice Sessions	120
Flash Memory	8 MB Boot Flash (default) 16 MB System Flash (default)
Shared Memory	16 MB packet (default) 16 MB main (max)
DRAM Memory	64 MB
Power Supply	Single AC/DC (default) Internal redundant/loadsharing AC/DC (optional)
Dimensions (HxWxD)	3.5 x 17.5 x 18.25 in.
Service Category	14

Competitive Products

- 3Com: TCH HiPer
- Ascend: TNT
- Lucent: MAX 6000 and PM-3
- Nortel: CVX 1800

Cisco IOS Software and Memory Requirements

The Cisco AS5300 in distribution ships with:

- 16-MB System Flash memory
- 64-MB DRAM memory
- 16-MB Shared memory
- 8-MB Boot Flash memory

To run the Cisco IOS Software Feature Packs, you need the amount of memory shown in the following table:

Distribution Part Number	Feature Pack Description	IOS Image Release	System Flash Memory Required	DRAM Memory Required	Shared Memory Required	Boot Flash Memory Required
CD53-C-12.0(5)T=	IP only	12.0(5)T	8 MB	32 MB	16 MB	4 MB
CD53-CP-12.0(5)T=	IP Plus	12.0(5)T	8 MB	32 MB	16 MB	4 MB
CD53-CL-12.0(5)T=	IP Plus IPSec 56	12.0(5)T	8 MB	32 MB	16 MB	4 MB
CD53-CW-12.0(5)T=	IP Plus 40	12.0(5)T	8 MB	32 MB	16 MB	4 MB
CD53-B-12.0(5)T=	Desktop	12.0(5)T	8 MB	32 MB	16 MB	4 MB
CD53-BP-12.0(5)T=	Desktop Plus	12.0(5)T	8 MB	32 MB	16 MB	4 MB
CD53-A-12.0(5)T=	Enterprise	12.0(5)T	8 MB	64 MB	16 MB	8 MB
CD53-AP-12.0(5)T=	Enterprise Plus	12.0(5)T	8 MB	64 MB	16 MB	8 MB
CD53-AL-12.0(5)T=	Enterprise Plus IPSec 56	12.0(5)T	8 MB	64 MB	16 MB	8 MB
CD53-AW-12.0(5)T=	Enterprise Plus 40	12.0(5)T	8 MB	64 MB	16 MB	8 MB

Distribution Part Numbers and Ordering Information

Cisco AS5300 Series Access Server Bundles¹

AS53-48-CH	AS5301-CH, 48 Modems w/ Quad T1/PRI, IP s/w
AS53-96-CH	AS5301-CH, 96 Modems w/ Quad T1/PRI, IP s/w
AS53-96-RPS-CH	AS5301-CH, 96 Modems w/ Quad T1/PRI, RPS, IP s/w
AS53-120-RPS-CH	AS5300, 120 Modems, Quad E1/PRI, Redundant AC Power, IP IOS
AS53-192-DC-RPS-CH	AS5300, 192 Modems, Octal T1/E1/PRI, Redundant DC Power, IP IOS
AS53-96DMM-RPS-CH	AS5300, 96 DMM Modems, Octal T1/PRI, IP IOS, RPS

Cisco AS5300 VoIP Bundles

AS5300-96VOIP-A	AS5300 VoIP Gateway-96 Voice Channels/4T1+,IOS IP+ S53CVP
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Cisco AS5300 Series Modem Management Technology Licenses²

FR53-MMTL-48=	Modem Management Technology License (48 Modems)
FR53-MMTL-60=	Modem Management Technology License (60 Modems)
FR53-MMTL-96=	Modem Management Technology License (96 Modems)
FR53-MMTL-108=	Modem Management Technology License (108 Modems)
FR53-MMTL-120=	Modem Management Technology License (120 Modems)
FR53-MMTL-192=	Modem Management Technology License (192 Modems), spare

Cisco AS5300 Series Software Feature Packs

CD53-C-12.0(5)T=	Cisco AS5300, IP only Feature Pack
CD53-CP-12.0(5)T=	Cisco AS5300, IP Plus Feature Pack
CD53-CL-12.0(5)T=	Cisco AS5300, IP Plus IPSec 56 Feature Pack
CD53-CW-12.0(5)T=	Cisco AS5300, IP Plus 40 Feature Pack
CD53-B-12.0(5)T=	Cisco AS5300, Desktop Feature Pack
CD53-BP-12.0(5)T=	Cisco AS5300, Desktop Plus Feature Pack
CD53-A-12.0(5)T=	Cisco AS5300, Enterprise Feature Pack
CD53-AP-12.0(5)T=	Cisco AS5300, Enterprise Plus Feature Pack
CD53-AL-12.0(5)T=	Cisco AS5300, Enterprise Plus IPSec 56 Feature Pack
CD53-AW-12.0(5)T=	Cisco AS5300, Enterprise Plus 40 Feature Pack

Cisco AS5300 Series Memory Options

MEM-16F-AS53=	Cisco AS5300, 8 MB to 16 MB Flash Upgrade
MEM-64M-AS53=	Cisco AS5300, 32 MB to 64 MB Main DRAM Upgrade
MEM-8BF-AS53=	Cisco AS5300, 4 MB to 8 MB Boot Flash Upgrade

Cisco AS5300 Feature Cards

AS53-4CT1=	QUAD T1/PRI Card
AS53-4CE1=	Quad E1/PRI Card-Balanced/Unbalanced, Spare
6DM=	MICA 6-Port Modem Module
12DMM=	12 Port Digital Modem Module (DMM), Spare
AS53-CC-DM=	MICA Carrier Card
AS53-4CT1+=	Quad T1/PRI Plus High Speed Serial, Spare
AS53-8CT1+=	Octal T1/PRI Plus High Speed Serial, Spare
AS53-CC2-DM=	HMM/DMM MICA2 Carrier Card, Spare
AS53-48-C=	MICA Carrier Card and 8 MICA 6-Port Modem Modules
AS53-96-CC2=	MICA CC2 carrier card and 8 MICA 12 port DMM modem modules

Cisco AS5300 Series Accessories

AS5300RM-19=	Cisco AS5300, 19-Inch Rack Mount Kit
AS5300RM-24=	Cisco AS5300, 24-Inch Rack Mount Kit
AS53-AC-RPS=	Cisco AS5300, Dual AC Power Supply
AS53-192-RPS-CH	AS5300, 192 Modems, Octal T1/PRI, Redundant AC Power, IP IOS

Cisco AS5300 Series Basic Maintenance

CON-SNT-PKG14	Cisco AS5300 Series SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)
2. Requires Plus feature pack.

For More Information

See the Cisco AS5300 Series Web site: <http://www.cisco.com/go/as5300>

Cisco AS5300/Voice Gateway

The Cisco AS5300/Voice Gateway is an award-winning, high performance, Voice-over-IP (VoIP) gateway. It interfaces directly to digital switches, PBXs, and public telephone networks to carry/switch voice traffic across IP/packet networks. The AS5300/Voice Gateway is fully equipped with high-density Voice



Feature Cards (VFCs) and voice-enabled Cisco IOS Software, to support carrier-class VoIP and FAX-over-IP services. Furthermore, it is H.323v2 compliant and includes a family of industry voice CODECs including G.711 (64kb/s), G.729 (8kbps), and G.723.1 (5.3/6.3kbps), and also supports up to 14.4kbps Fax Relay. In addition to an integrated IVR system, it also includes RADIUS for generating call detail records (for billing and authentication) and SNMP for network/element management applications. This feature-rich platform supports a wide range of services including debit card, international wholesale voice, SS7, Internet call waiting, and much more.

The AS5300/Voice Gateway supports 96 voice/fax channels in the 4-T1 configuration, and 120 voice/fax channels in the 4-E1 configuration.

When to Sell

Sell This Product

Cisco AS5300/Voice Gateway

When a Customer Needs These Features

- Carrier class/industry leading voice quality: essential for SP applications, especially for the most demanding wholesale voice, long-distance voice, and corporate/enterprise applications: feature rich for value-added services
- Digital T1/E1/PRI interfaces and integrated CSUs: essential for interfacing to digital switches, PBXs, and PSTN around the world, with no additional equipment.

Key Features

- Industry leading and award-winning H.323V2 and MGCP compliant Voice Gateway
- Supports up to 96 voice calls in 4 T1 configuration
- Supports up to 120 voice/fax calls in 4 E1 configuration
- Deployed world-wide
- 2 RU (rack unit) form factor
- Provides easy, low cost entry into voice applications vs. expensive TDM products
- Highly scalable
- Supports Direct Inward Dial (DID) and 2-Stage applications with integrated IVR
- Perfect for Service Provider and Enterprise applications
- Interfaces to digital switches and PBXs

Specifications

Feature	AS5300/Voice Gateway
Fixed LAN Ports (connections)	2-port Ethernet (one 10bT, one 10/100bT, FE)
Fixed WAN Ports (connections)	4-port sync serial 4 T1 (AS5300 - 96VoIP) 4 E1 (AS5300 - 120VoIP)
Modular Slots	3 (one for Quad T1/E1, two for VoIP feature cards)
Modules and Cards Available	All VoIP modules are already installed with this configuration
Maximum Voice/Fax Channels	96 voice channels with 4 T1 config; 120 with 4 E1 config
Processor Speed (type)	150-MHz (R4700 RISC)
Flash Memory	16 MB
DRAM Memory	64 MB main DRAM
Power Supply	Single AC/DC (default) Internal redundant/loadsharing AC/DC (optional)
Dimensions (HxWxD)	3.4 x 17.5 x 18.25 in.
Service Category	15

Competitive Products

- 3Com: Total Control
- Ascend: TNT, MAX 6000
- Clarent: Gateway 3.0
- Lucent: PM-4/PacketStar
- Nuera: F200ip
- VocalTec: Ensemble

Distribution Part Numbers

Cisco AS5300/Voice Gateway¹

AS5300-96VoIP-A	A fully configured, 96 channel, Cisco AS5300/Voice Gateway system for T1/North America applications; it includes: AS5300 base unit with AC power supply (DC or dual/redundant optional) 4 T1, 96 voice/fax channels IOS, IP Voice Plus, SF53-CVP All voice CODEC feature set software, VC-SWA-4.0x 16 MB Flash; 64 MB DRAM
AS5300-120VoIP-A	A fully configured, 120 channel, Cisco AS5300/Voice Gateway system for E1/International applications. It includes: AS5300 base unit with AC power supply (DC or dual/redundant optional) 4 E1, 120 voice/fax channels IOS, IP Voice Plus, SF53-CVP All voice CODEC feature set software, VC-SWA-4.0x 16 MB Flash; 64 MB DRAM

Cisco AS5300/Voice Gateway Series Basic Maintenance

CON-SNT-PKG15 Cisco AS5300-96VOIP-A SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco AS5300 Web site: <http://www.cisco.com/go/as5300>

Cisco AS5800 Series

The Cisco high-end dial products are high-performance, high-density universal access servers that deliver hybrid asynchronous serial and ISDN line service to accommodate both mobile users and high-bandwidth users. By terminating both analog modem and ISDN calls on the same chassis from the same trunk line, the AS5x00 enables carrier-class service providers and enterprise network managers to meet traditional analog dial access needs, while supporting the growing demand for high-speed ISDN access.



When to Sell

Sell This Product

Cisco AS5800

When a Customer Needs These Features

- High-density single system
- Highly available single system with multiple areas of redundancy
- Service provider or IP-focused installations
- Large scale system management with Cisco's System Controller
- Terminates up to 1344 concurrent data or VoIP calls
- Wholesale dial applications

Cisco AS5800 Access Server/Voice Gateway

- Hybrid async, ISDN, and VoIP
- Up to 48 T1/E1 or up to 2 CT3 ingress trunks
- Wide variety of LAN and WAN backhaul options
- Up to 1440 ISDN or 1344 modem connections
- Up to 1344 voice ports
- G.711, G.729, G.723.1 voice CODECs and Fax Relay capability

Key Features

- Universal access provides ability to answer both ISDN and 56K modems
- H.323V2 compliant Voice Gateway; supports single-stage and two-stage dial with Integrated Voice Response (IVR) and Fax Relay applications
- Key component of Dial Access Stack Architecture (DASA)
- NEBS Level 3 compliant
- Large scale system management with Cisco's System Controller
- Up to 48 Channelized T1/E1/PRI or 2 Channelized T3 interfaces
- Distributed, multiprocessor design for maximum performance and growth
- SS7 support
- Wholesale dial using Resource Pool Management

Specifications

Feature	AS5800
Expansion Slots	14
Maximum Port Capacity	1344 for voice and data; 1440 for ISDN only calls
Processor Speed (type)	Router shelf: 300 MHz (R7000)
Flash Memory	4 MB Boot Flash 16 MB PCMCIA
Shared Memory	4 MB SRAM
DRAM Memory	256 MB (RS726VXR) 128 MB (RS7206)
Ingress Options	CT3, T1, E1
Egress Options	Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, HSSI, FDDI, ATM, POS, T1, E1, T3, OC3, and others
Power Supply	Redundant/loadsharing AC or DC
Dimensions (HxWxD)	33.25 x 17.5 x 24 in.

Competitive Products

- 3Com: TCH HiPer
- Ascend: MAX TNT
- Lucent: PM-4
- Nortel: Aptis CVX 1800

Distribution Part Numbers and Ordering Information

Cisco AS5800 Modem Management Technology¹

FL58CP-72=	Cisco IOS AS5800, IP Plus 72 port modem license (Spare)
FL58CP-144=	Cisco IOS AS5800, IP Plus 144 port modem license (Spare)

Cisco AS5800 Spares, Feature Cards, and Accessories

DS58-12CT1=	DS5800 12 Port T1 Ingress Line Card (Spare)
DS58-144DM-CC=	AS5800 144 Modem Card (Spare)
DS58-72DM-CC=	AS5800 72 Modem Card (Spare)
DS5814-DC-FLT=	DS5814 DC Power Filter (Spare)
DS5814-DC-PEM=	DS5814 DC Power Entry Module (Spare)
DS58-1CT3=	DS5800 1 Port CT3 Ingress Line Card (Spare)
DS58-DSC=	DS5800 Dial Shelf Controller Card (Spare)
DS58-FAN=	DS5800 Blower Assembly (Spare)
DS58-PWR-2AC=	DS5800 Dual AC Power Option (Spare)
DS58-RMK=	DS5800 Rack Mount and Cable Management kit (Spare)
DS5814S=	DS5814 Dial Shelf, 14 slot, Dual DC Power (Spare)

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco AS5800 Web site: <http://www.cisco.com/go/AS5800>

Cisco 6400 Series

The Cisco 6400 is a new generation of carrier-class service gateways that enable network operators, Post, Telephone and Telegraphs (PTTs), and Internet service providers (ISPs) to break through digital subscriber line (DSL) profitability barriers by delivering a new generation of on-demand, high-speed, high-quality, new world services.



The Cisco 6400 offers a unique ability to make the DSL media manageable to service providers to enable high termination of subscribers. In addition, the dynamic selection and delivery of dedicated network services such as secure access to corporate networks (for both voice and data services), high-speed Internet access, multipoint video conferencing, streaming video, and entertainment-driven traffic are supported.

When to Sell

Sell This Product

Cisco 6400

When a Customer Needs These Features

- High aggregation and termination of DSL subscriber services
- Service selection gateway and multidomain functionality
- Benefit of Layer 2 and Layer 3 functionality and subscriber access to the network

Key Features

- Simultaneously supports over 14,000 Ethernet bridged, Point-to-Point Protocol (PPPoA or PPPoE), or combinations of subscribers through one fully configured system
- Scalability as a virtual router enables service providers to simultaneously route end-user traffic over secure, independent pathways to up to 3500 different domains (or end destinations)—with about 55,000 packet-per-second speed for each session, scalable to higher performance
- Integrated portal capabilities allow service providers to use existing Web-based software programs to create customized network “portals” or services screens, and offer subscribers their own services portfolio
- Integrated, flexible accounting software options allow service providers to carefully track all the services enabled by the product
- Cost effective traffic aggregation that includes DS3, OC-3/STM1, OC-12/STM4, Fast Ethernet, and (future) Gigabit Ethernet
- IP and ATM quality of service (QoS)/class of service (CoS) support including ABR, CBR, and VBR as well as CAR, WFQ, WRED, and RSVP
- Integrated service selection gateway
- Scalable switched virtual circuit (SVC) and permanent virtual circuit (PVC) support—up to 32,000 virtual channel connections (VCCs)

Specifications

Feature	Cisco 6400
Ports	ATM OC-3/STM1, OC-12/STM4, DS3, Fast Ethernet
Service selection gateway services	Layer 2 and Layer 3 connectivity from the subscriber to the service Pass-through service, proxy service, multicast, PPP termination aggregation, LAC/LNS services, L2TP tunneling, multidomain services
Processor Speed (type)	7200 200 Processor
Flash Memory	Node Switch Processor (NSP): 20, 220, 350 MB Node Route Processor (NRP): 8, 16 MB
DRAM Memory	NSP: 64, 128 MB NRP: 64, 128 MB
Power Supply	AC and DC
Dimensions (HxWxD)	21.85 x 17.5 x 12 in
Service Category	16

Competitive Products

- Nortel: Shasta 5000
- Redback: SMS 1000
- Redstone: RX 1400

Cisco IOS Software and Memory Requirements

In distribution, the Cisco 6400 series ships with 8-MB Flash memory, 64-MB DRAM memory, and Cisco IOS Software Image Release 12.0(5) DB/DC.

Distribution Part Numbers and Ordering Information

Cisco 6400 Series Bundles¹

CISCO6400-DC-DS3	Cisco 6400 - DS3, NSP, NRP, SCM with redundant DC
CISCO6400-DC-OC3	Cisco 6400 - OS3, NSP, NRP, SCM with redundant DC

Cisco 6400 Memory

MEM-NSP-128M=	NSP 128 MB DRAM
MEM-NRP-128M=	NRP 128 MB DRAM

Cisco 6400 Power Supplies

C6400-PWR-AC=	Cisco 6400 AC Power Supply Spare
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Cisco 6400 Spares and Accessories

NLC-2DS3-BNC	2 Port DS3 NLC
C6400-BLOWER=	Cisco 6400 Blower Assy Spare
C6400-NSP-1=	Cisco 6400 Node Switch Processor
C6400-NRP-1=	Cisco 6400 Node Route Processor
NLC-2OC3-SM=	2 port OC-3/STM-1 Single Mode
C6400-NSP-CVR=	Cisco 6400 Full-Height NSP Cover
C6400-NRP-CVR=	Cisco 6400 Full-Height NRP/NLC Cover
C6400-NLC-CVR=	Cisco 6400 Half-Height NLC Cover
C6400-PEM-CVR=	Cisco 6400 Half-Height PEM Cover
C6400-CARRIER=	Cisco 6400 Carrier Module

Cisco 6400 Series Basic Maintenance

CON-SNT-PKG16	Cisco 6400-DC-OC3 Series SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 6400 Series Web site: <http://www.cisco.com/go/6400>

Cisco 6700 Series¹

The Cisco 6700 Series is a carrier-class of Multiservice Access Platforms (MSAP) designed to provide cost effective solutions to many key Provider applications including GR-303/TR-008 gateway services for a



Class 5 switch. When deployed in a CLEC, ILEC, IXC, or Telco network, a Cisco 6732 and/or Cisco 6705 integrate voice and data services with a scalable and expanding range of features that include time division multiplexing (TDM) and packet-based ATM New World services. The result is a broader range of services for service providers to sell, complemented by a reduction in associated operating costs. The modular design and service flexibility of the Cisco 6700 Series family provides investment protection by enabling Providers to easily expand the platform in copper and fiber networks.

When to Sell

Sell This Product

Cisco 6732

When a Customer Needs These Features

- North American service provider TDM and ATM applications (CO and RT)
- Carrier class reliability
- Interface to Class 5 switch (GR-303 or TR-008)
- High-density, scalable, integrated voice/data access solution (up to 1984 voice subscribers, 248 long haul T1 ports or 992 DS1 ports from a 7' rack)
- High-density POTS/D4 channel bank replacement
- Common equipment redundancy and 1:1 broadband transport protection (DS3 and STS1)
- Supports copper and optical networks
- End-to-end managed features

Cisco 6705

- North American service provider TDM and ATM applications (RT and CPE)
- Carrier class reliability
- High-density, scalable integrated voice/data access solution (up to 56 voice subscribers, 8 T1 ports or 32 DS1 ports)
- Eight-hour battery back-up option
- End-to-end managed features
- Supports copper and optical networks

Key Features

- Scalable Multiservice Access Platform (MSAP) supporting a wide variety of Service Provider applications
- Integrated voice and data over single access network
- Supports TDM and ATM transport services
- Provides optical and copper deployment for today and tomorrow
- Cost effective GR-303 TDM gateway
- High-density voice/D4 channel bank replacement
- Migration to ATM/IP with same platform—no forklift upgrade
- All applications supported with intelligent, GUI-based element management system (SNMP)

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Interface Options/Feature	Cisco 6705	Cisco 6732
Bank Power Supply	AC/DC Converter (BPS/AC)	High Power (BPS/HP)
Main Control Card (MCC)	Stratum 4 Clock (MCC/INT)	Stratum 3 Clock (MCC/STR3) Stratum 4 Clock (MCC/STR4)
Alarm Maintenance and Management (AMM)	No	Yes
Bank Ring Generator (BRG)	Yes	Yes
Service Interface Options		
Foreign Exchange Station with Integrated Ringing (FXS/16)	Up to 56 ports	Up to 496 ports
Integrated Service Digital Network/Basic Rate Interface (ISDN/BRI/8)	Up to 32 ports	Up to 248 ports
Multi-Rate Symmetric DSL, 2-wire (MSDSL-2W)	Up to 16 ports	Up to 124 ports
Remote Plain Old Telephone Service (RPOTS)	Up to 56 ports	Up to 496 ports
Remote Universal Voice Grade (RUVG/8)	Up to 32 ports	Up to 248 ports
Transport Interfaces		
Digital Signal Cross-Connect Level 1 (DS1/8)	Up to 32 ports	Up to 248 ports
Long- and Short-Haul T1 Interface (1-2-V.35)	Up to 8 ports	Up to 62 ports
Digital Signal Cross-Connection Level 3 (DSX3/CHNL) - Supports Channelized DS1s/DS0s	Supports up to 4 Sub-utilized (10 DS1s)	Up to 4 Fully utilized line cards Up to 2 (1:1) Protected line cards Up to 27 Sub-utilized line cards
Optical Carrier Level 3 (OC-3c)	Supports up to 4 Sub-utilized (30Mb/s) OC-3c	Up to 4 Fully Utilized line cards Up to 8 Sub-utilized line cards
Synchronous Transport Signal Level 1, Electrical Interface (STS-1) - Channelized DS1s/DS0s	N/A	Up to 4 Fully Utilized line cards Up to 2 (1:1) Protected line cards Up to 27 Sub-utilized line cards
Redundancy and Broadband Part Protection		
Power Loss Feature	Optional 8-hour battery back-up	Standard 1:1 power (BPS/HP) and control (MCC/STR3 or MCC/STR4) redundancy
Protection Option	—	Optional 1:1 DS3 and STS1 broadband protection (slots 17-20 only)

Competitive Products

Top Competitors by Application	GR-303 TDM Gateway	Integrated Access	High-Density Voice Channel Bank D4 Replacement
Cisco: 6700 Series	X	X	X
Advanced Fibre Communications: UMC1000	X	X ¹	X
Lucent Technologies: AnyMedia	X	X ¹	X
Nortel: UE9000			X
Carrier Access Corp: Access Family	X	X	
Accelerated Networks: Accelerator Family	X	X	
Vina Technologies: T1 Integrator/MX		X	
Alcatel: Litespan-2000	X		X

1. Requires OEM or third-party equipment

For More Information

See the Cisco 6700 Web site: www.cisco.com/go/MSAP

Cisco 7100 Series

The Cisco 7100 series VPN router is a high-end, integrated VPN solution that melds high-speed, industry-leading routing with a comprehensive suite of advanced site-to-site VPN services. The Cisco 7100 series VPN router integrates



key features of VPNs—tunneling, data encryption, security, firewall, advanced bandwidth management, and service-level validation—to deliver self-healing, self-defending, VPN platforms that better and more cost-effectively accommodate remote-office and extranet connectivity using public data networks. The Cisco 7100 series VPN router offers specific hardware configurations optimized for VPN applications and network topologies. Optional embedded WAN and Fast Ethernet interfaces combined with high-performance routing and rich VPN services provide turnkey VPN routing solutions.

When to Sell

Sell This Product

Cisco 7120

When a Customer Needs These Features

- Entry-level Cisco 7100 Series Router designed for large branch or central site VPN with VPN services throughput of up to 50Mbps
- Designed primarily for site-to-site VPN deployments with incidental remote access requirements

Cisco 7140

- High-end site-to-site VPN platform for central site VPN applications with VPN services throughput up to full duplex DS-3 speeds (90 Mbps)
- Provides superior routing and VPN services performance for central site environments, as well as dual WAN interfaces and power supplies for increased solution reliability

Key Features

- Comprehensive suite of VPN services—tunneling, data encryption, security, firewall, advanced bandwidth management, and service level validation—integrated with industry leading routing
- High performance RISC processor delivering high-speed, scalable VPN services and routing throughput and extensive memory for reliable, high-speed VPN services delivery
- Single and dual-homed embedded WAN interfaces ranging from nxT1/E1 to DS-3/E3 and OC-3 for connectivity to the VPN and embedded dual autosensing 10/100BaseT Fast Ethernet ports for connectivity to the corporate LAN
- Integrated Services Module (ISM) can be installed to support up to 2000 simultaneous tunneling sessions with 90 Mbps encryption performance and Windows 95/98/NT4.0 and Windows 2000 compatibility for remote access

Specifications

Feature	Cisco 7120	Cisco 7140
Embedded Dual 10/100BaseT Fast Ethernet Interfaces	Autosensing, RJ-45	Autosensing, RJ-45
Embedded WAN interface (by model)	One of the following included, embedded: 7120-4T1: 4T1/E1 serial with 5-in-1 serial interface supporting EIA/TIA-232, EIA/TIA-449, EIA-530, X.21, and V.35 7120-T3: T3 serial with integrated DSU and BNC connectors 7120-E3: E3 serial with integrated DSU and BNC connectors 7120-AT3: T3 ATM with BNC connectors 7120-AE3: E3 ATM with BNC connectors 7120-SMI3: OC3 ATM with SC connectors	One of the following included, embedded: 7140-2FE: None, dual FEs only 7140-8T: 8 T1/E1 serial with 5-in-1 serial interface supporting EIA/TIA-232, EIA/TIA-449, EIA-530, X.21, and V.35 7140-2T3: Dual T3 with integrated DSU and BNC connectors 7140-2E3: Dual E3 with integrated DSU and BNC connectors 7140-2AT3: Dual T3 ATM with BNC connectors 7140-2AE3: Dual E3 ATM with BNC connectors 7140-2MM3: Dual OC3 ATM with SC connectors
Physical Interfaces	EIA/TIA-232, EIA/TIA-449, X.21, V.35, EIA-530, EIA/TIA-612, EIA/TIA-613, UNI 3.X, G.707, G.708, and SONET/SDH optical fiber (OC-3 or STM-1)	Same as Cisco 7120
WAN/LAN Interface Expansion Slot	1 slot	1 slot
Supported Network Port Adapters	Fast Ethernet 100BaseTX and 100BaseFX Fast Ethernet/ISL TX and ISL FX Ethernet 10BaseT and 10BaseFL Dedicated Token Ring ATM Synchronous Serial HSSI ISDN BRI High Capacity Digital Voice	Same as Cisco 7120
Service Module Slot	1 slot	1 slot
Supported Service Modules	Integrated Services Module (ISM)	Integrated Services Module (ISM)
Console and Auxiliary Ports	1 of each, RJ-45 interface	1 of each, RJ-45 interface
SDRAM	64 MB packet 64 MB system (expandable to 256 MB)	64 MB packet 64 MB system (expandable to 256 MB)
Flash Memory	48 MB	48 MB
PCMCIA Slots for Flash Memory	2	2
Power Supply	Single AC	Dual AC
Dimensions (HxWxD)	3.5 in. x 17.5 in. x 18.25 in.	3.5 in. x 17.5 in. x 18.25 in.
Service Category	13	14

Competitive Products

- Check Point: VPN-1 Appliance
- Nortel/Bay: Contivity 4000, 4500
- Xedia (Lucent): QVPN Series

Cisco IOS Software and Memory Requirements

The Cisco 7100 Series in distribution ships with:

- 40-MB Flash memory
- 64-MB DRAM memory

To run the Cisco IOS Software Feature Packs, you need, at a minimum, the amount of memory shown in the following table. Some configurations will require more than the recommended minimum.

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required	DRAM Memory Required
CD71-C-12.0XE=	IP only	12.0(4)XE	16 MB	64 MB
CD71-CL-12.0XE=	IP IPSEC 56	12.0(4)XE	16 MB	64 MB
CD71-CK2-12.0XE=	IP IPSEC 3DES	12.0(4)XE	16 MB	64 MB
CD71-CH-12.0XE=	IP/FW	12.0(4)XE	16 MB	64 MB
CD71-CHL-12.0XE=	IP/FW IPSEC 56	12.0(4)XE	16 MB	64 MB
CD71-CHK2-12.0XE=	IP/FW IPSEC 3DES	12.0(4)XE	16 MB	64 MB
CD71-A-12.0XE=	Enterprise	12.0(4)XE	16 MB	64 MB
CD71-AL-12.0XE=	Enterprise IPSEC 56	12.0(4)XE	16 MB	64 MB
CD71-AK2-12.0XE=	Enterprise IPSEC 3DES	12.0(4)XE	16 MB	64 MB
CD71-AH-12.0XE=	Enterprise/FW Feature Pack	12.0(4)XE	16 MB	64 MB
CD71-AHL-12.0XE=	Enterprise/FW IPSEC 56	12.0(4)XE	16 MB	64 MB
CD71-AHK2-12.0XE=	Enterprise/FW IPSEC 3DES	12.0(4)XE	16 MB	64 MB

Distribution Part Numbers and Ordering Information

Cisco 7120 Series¹

CISCO7120-4T1	Cisco 7120 Router, 4-Port Serial, Dual 10/100 FE, AC, IP SW
CISCO7120-T3	Cisco 7120 Router, T3, Dual 10/100 FE, AC, with IP SW
CISCO7120-E3	Cisco 7120 Router, E3, Dual 10/100 FE, AC, with IP SW
CISCO7120-AT3	Cisco 7120 Router, ATM T3, Dual 10/100 FE, AC, with IP SW
CISCO7120-AE3	Cisco 7120 Router, ATM E3, Dual 10/100 FE, AC, with IP SW
CISCO7120-SMI3	Cisco 7120 Router, OC3-SMI, Dual 10/100 FE, AC, with IP SW

Cisco 7140 Series

CISCO7140-2FE	Cisco 7140 Router, Dual 10/100 FE, dual AC, IP SW
CISCO7140-8T	Cisco 7140 Router, 8-port serial, Dual 10/100 FE, dual AC, IP SW
CISCO7140-2T3	Cisco 7140 Router, Dual T3, Dual 10/100 FE, Dual AC, IP SW
CISCO7140-2E3	Cisco 7140 Router, Dual E3, Dual 10/100 FE, Dual AC, IP SW
CISCO7140-2AT3	Cisco 7140 Router, Dual ATM T3, Dual 10/100 FE, Dual AC, IP
CISCO7140-2AE3	Cisco 7140 Router, Dual ATM E3, Dual 10/100 FE, Dual AC, IP
CISCO7140-2MM3	Cisco 7140 Router, Dual OC3-MM, Dual 10/100 FE, Dual AC, IP

Cisco 7100 Memory Options

MEM-7100-FLD110M=	Cisco 7100 I/O PCMCIA Flash Disk, 110 MB, Spare
MEM-7100-FLD40M=	Cisco 7100 I/O PCMCIA Flash Disk, 40 MB, Spare
MEM-7120/40-64P=	Cisco 7100 64 MB SDRAM Packet Memory Upgrade
MEM-7120/40-64S=	Cisco 7100 64 MB SDRAM System Memory Upgrade
MEM-7120/40-128S=	Cisco 7100 128 MB SDRAM System Memory Upgrade

Cisco 7100 Series Service Modules

SM-ISM	Integrated Services Module for PPTP and IPsec encryption processing
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Cisco 7100 Port Adapters

PA-4R-DTR=	Port Adapter:4-Port Dedicated Token Ring,4/16Mbps, HDX/FDX
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Cisco 7100 Series Software Feature Packs

CD71-C-12.0XE=	IP only
CD71-CL-12.0XE=	IP IPSEC 56
CD71-CK2-12.0XE=	IP IPSEC 3DES
CD71-CH-12.0XE=	IP/FW
CD71-CHL-12.0XE=	IP/FW IPSEC 56
CD71-CHK2-12.0XE=	IP/FW IPSEC 3DES
CD71-A-12.0XE=	Enterprise
CD71-AL-12.0XE=	Enterprise IPSEC 56
CD71-AK2-12.0XE=	Enterprise IPSEC 3DES
CD71-AH-12.0XE=	Enterprise/FW Feature Pack
CD71-AHL-12.0XE=	Enterprise/FW IPSEC 56
CD71-AHK2-12.0XE=	Enterprise/FW IPSEC 3DES

Cisco 7100 Series Basic Maintenance

CON-SNT-PKG13	Cisco 7120 Series SMARTnet Maintenance
CON-SNT-PKG14	Cisco 7140 Series SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 7100 Series Web site: <http://www.cisco.com/go/7100>

Cisco 7200 Series

The Cisco 7200 series routers deliver exceptional price/performance to meet the following requirements: regional and branch offices that need



gateway connectivity to the WAN and the Internet; remote site aggregation for enterprise and service providers where multiple dispersed locations are interconnected through a central site; sites that require IBM data center connectivity; and sites that require multifunction capabilities that combine all the above for multiservice voice, video, and data traffic.

A key strength of the Cisco 7200 is its modularity. With a choice of 4- and 6-slot chassis, five processors providing up to 300 kpps, an extensive range of LAN and WAN interfaces with up to 48 ports, and single or dual power supplies, the customer gets the performance and capacity required. This modularity also provides investment protection and a guaranteed expansion path.

When to Sell

Sell This Product

Cisco 7204VXR

When a Customer Needs These Features

- 4-slot chassis
- 200, 225, 300 kpps (NPE-200, NPE-225 or NPE-300) or accelerated services (NSE-1)
- Higher backplane bandwidth
- For using the MIX bus in multiservice applications

Cisco 7206

- 6-slot chassis
- 200 or 225 kpps

Cisco 7206VXR

- 6-slot chassis
- 200, 225, 300 kpps (NPE-200, NPE-225 or NPE-300) or accelerated services (NSE-1)
- Higher backplane bandwidth
- For using the MIX bus in multiservice applications

Key Features

- **High performance switching**—Supports high-speed media and high-density configurations; with its RISC-based and SRAM- or SDRAM-configured system processors, the Cisco 7200 can switch up to 300,000 packets per second
- **Full support for Cisco IOS Software and enhancements for high-performance network services**—Performs network services including quality of service, security, and encryption at high speed
- **High port density**—Provides high port density and an extensive range of LAN and WAN media, dramatically reducing the cost per port and allowing flexible configuration
- **Common port adapters**—Uses the same port adapters as the Cisco 7500 Versatile Interface Processor (VIP), which simplifies stocking spares and protects customer investment in interfaces

Specifications

Feature	Cisco 7204VXR	Cisco 7206	Cisco 7206VXR
Fixed Ports	None	None	None
Modular Slots	4	6	6
LAN Port Adapters	4- or 8-port 10BaseT 5-port 10BaseFL 1-port 100BaseTX 1-port 100BaseFX 2-port 100BaseTX (TR ISL) 2-port 100BaseFX (TR ISL) 1-port Gigabit Ethernet ¹ 4-port Token Ring 4/16Mbps, Half/Full Duplex ² 12-port Ethernet/2-port Fast Ethernet Etherswitch	4- or 8-port 10BaseT 5-port 10BaseFL 1-port 100BaseTX 1-port F100BaseFX 2-port 100BaseTX (TR ISL) 2-port 100BaseFX (TR ISL) 4-port Token Ring 4/16Mbps, Half/Full Duplex 1-port FDDI multimode or single mode 1-port FDDI full duplex multimode or single mode 12-port Ethernet/2-port Fast Ethernet Etherswitch	Same as Cisco 7204VXR
Serial Port Adapters	4-port Serial, enhanced 8-port Serial, V.35, RS-232, or X.21 4-port Serial E1 (G.703)	4-port Serial, enhanced 8-port Serial, V.35, RS-232, or X.21 4-port Serial E1 (G.703)	Same as Cisco 7204VXR
High Speed Serial Port Adapters	1- and 2-port HSSI 1- and 2-port High Speed T3 Serial (with DSU) 1- and 2-port High Speed E3 Serial (with DSU)	1- and 2-port HSSI 1- and 2-port High Speed T3 Serial (with DSU) 1- and 2-port High Speed E3 Serial (with DSU)	Same as Cisco 7204VXR
Multichannel and ISDN Port Adapters	2-port Enhanced Multichannel T3 1-port Multichannel T3 1-port Multichannel E3 2-, 4-, and 8-port Multichannel T1 (CSU/DSU & PRI) 2- and 8-port Multichannel E1 (G.703/G.704 & PRI) 8 port ISDN BRI (S/T) 4-port ISDN BRI (U), NT-1	2-port Enhanced Multichannel T3 1-port Multichannel T3 1-port Multichannel E3 2-, 4-, and 8-port Multichannel T1 (CSU/DSU & PRI) 2- and 8-port Multichannel E1 (G.703/G.704 & PRI) 8 port ISDN BRI (S/T) 4-port ISDN BRI (U), NT-1 1-port Channelized DS3 with 4 T1 breakout ports	Same as Cisco 7204VXR
Digital Voice Trunk Port Adapter	2 Port T1/E1 High Capacity Digital Voice 2 Port T1/E1 Medium Capacity Digital Voice	2 Port T1/E1 High Capacity Digital Voice 2 Port T1/E1 Medium Capacity Digital Voice	Same as Cisco 7204VXR
SONET Port Adapters	2- port Dynamic Packet Transport OC12/STM4 1 port Packet Over SONET OC3/STM1	2- port Dynamic Packet Transport OC12/STM4 1 port Packet Over SONET OC3/STM1	Same as Cisco 7204VXR
ATM Port Adapters	1-port ATM OC3/STM1 multimode and single mode 1-port ATM Enhanced OC12/STM4 multimode and single mode 1-port ATM Enhanced DS3 1-port ATM Enhanced E3 8-port ATM Enhanced T1 IMA 8-port ATM Enhanced E1 IMA ATM Circuit Emulation Services	1-port ATM OC3/STM1 multimode and single mode 1-port ATM Enhanced OC12/STM4 multimode and single mode 1-port ATM Enhanced DS3 1-port ATM Enhanced E3 8-port ATM Enhanced T1 IMA 8-port ATM Enhanced E1 IMA ATM Circuit Emulation Services	Same as Cisco 7204VXR
Mainframe Channel Connection Port Adapters	1-port ESCON Mainframe Channel Port Adapter 1-port Parallel Mainframe Channel Port Adapter	1-port ESCON Mainframe Channel Port Adapter 1-port Parallel Mainframe Channel Port Adapter	Same as Cisco 7204VXR
I/O Cards	FE 2FE/E GE + E	FE	FE 2FE/E GE + E
Service Adapter Modules	Encryption	Compression Encryption	Encryption
Processor Speed (type)	200, 250, or 263 MHz	200 or 250MHz	Same as Cisco 7204VXR

Feature	Cisco 7204VXR	Cisco 7206	Cisco 7206VXR
Network Processing Engines	NPE-200 NPE-225 NSE-1	NPE-200 NPE-225	NPE-200 NPE-225 NPE-300 NSE-1
Flash PCMCIA Memory	20 MB (default); 110 MB (max)	20 MB (default); 110 MB (max)	20 MB (default); 110 MB (max)
DRAM Memory	64 MB (default) 256 MB (max)	64 MB (default) 256 MB (max)	64 MB (default) 256 MB (max)
Power Supply	AC or DC, dual optional	AC or DC, dual optional	AC or DC, dual optional
Dimensions (HxWxD)	5.25 x 16.8 x 17 in.	5.25 x 16.8 x 17 in.	5.25 x 16.8 x 17 in.
Service Category	13	14	14

1. Requires a NPE-300 or later processor
2. PA-4R-DTR and PA-4R-FDX not supported

Competitive Products

- 3Com: NETBuilder II
- Nortel/Bay: Backbone Link Node (BLN)
- Packeteer: PacketShaper 4000
- Sentient: Ultimate 1000

Cisco IOS Software and Memory Requirements

The Cisco 7200 Series in distribution ships with:

- 20-MB Flash memory
- 64-MB DRAM memory

To run the Cisco IOS Feature Packs, you need, at a minimum, the amount of memory shown in the following table. Some configurations will require more.

Distribution Part Number	Feature Pack Description	IOS Image Release	Flash Memory Required	DRAM Memory Required
CD72-C-12.0T=	IP	12.0(5)T	20 MB	64 MB
CD72-CL-12.0T=	IP IPSEC 56	12.0(5)T	20 MB	64 MB
CD72-CK2-12.0T=	IP IPSEC 3DES	12.0(5)T	20 MB	64 MB
CD72-CH-12.0T=	IP/FW	12.0(5)T	20 MB	64 MB
CD72-CHL-12.0T=	IP/FW IPSEC 56	12.0(5)T	20 MB	64 MB
CD72-CHK2-12.0T=	IP/FW IPSEC 3DES	12.0(5)T	20 MB	64 MB
CD72-BS-12.0T=	Desktop/IBM	12.0(5)T	20 MB	64 MB
CD72-BSL-12.0T=	Desktop/IBM IPSEC 56	12.0(5)T	20 MB	64 MB
CD72-BHS-12.0T=	Desktop/IBM/FW	12.0(5)T	20 MB	64 MB
CD72-BHSL-12.0T=	Desktop/IBM/FW IPSEC 56	12.0(5)T	20 MB	64 MB
CD72-BHK2-12.0T=	Desktop/IBM/FW IPSEC 3DES	12.0(5)T	20 MB	64 MB
CD72-A-12.0T=	Enterprise	12.0(5)T	20 MB	64 MB
CD72-AL-12.0T=	Enterprise IPSEC 56	12.0(5)T	20 MB	64 MB
CD72-AK2-12.0T=	Enterprise IPSEC 3DES	12.0(5)T	20 MB	64 MB
CD72-AH-12.0T=	Enterprise/FW	12.0(5)T	20 MB	64 MB
CD72-AHL-12.0T=	Enterprise/FW IPSEC 56	12.0(5)T	20 MB	64 MB
CD72-AHK2-12.0T=	Enterprise/FW IPSEC 3DES	12.0(5)T	20 MB	64 MB

Distribution Part Numbers and Ordering Information

Cisco 7200 Series Base Chassis, NPE, and I/O Controller¹

CISCO7206-CH	Cisco 7206 Modular Router, 6 Slots, AC Power
NPE-200=	Cisco 7200 Network Processing Engine, 4 MB SRAM
NPE-225=	NPE-225 Network Processing Engine for 7200, spare
NPE-300=	Cisco 7200VXR Network Processing Engine 300, Spare
NSE-1	NSE-1 Network Services Engine
C7200-I/O=	Cisco 7200 Input/Output Controller, Spare
C7200-I/O-FE=	Cisco 7200 Input/Output Controller with Fast Ethernet Port
C7200-I/O-2FE/E=	Cisco 7200 Input/Output Controller with dual 10/100 Ethernet Ports
C7200-I/O-GE+E=	Cisco 7200 Input/Output Controller with GE and Ethernet Ports
CISCO7206/200	7206 Bundle with NPE-200 and I/O Controller W/O FE
CISCO7206VXR/300	7206VXR Bundle with NPE-300 and I/O Controller with FE
CISCO7204VXR/200	7204VXR Bundle with NPE-200 and I/O Controller with FE
CISCO7204VXR/225	7204VXR Bundle with NPE-225, FE and IOS with FE
CISCO7206VXR/225	7206VXR Bundle with NPE-225, FE and IOS with FE
CISCO7204VXR/1C-E	7204VXR System with NPE-225, IOS and ESCON Port Adapter

Cisco 7200 Series Software Feature Packs

CD72-C-12.0T=	Cisco 7200 Series IP Feature Pack
CD72-CL-12.0T=	Cisco 7200 Series IP IPSEC 56 Feature Pack
CD72-CK2-12.0T=	Cisco 7200 Series IP IPSEC 3DES Feature Pack
CD72-CH-12.0T=	Cisco 7200 Series IP/FW Feature Pack
CD72-CHL-12.0T=	Cisco 7200 Series IP/FW IPSEC 56 Feature Pack
CD72-CHK2-12.0T=	Cisco 7200 Series IP/FW IPSEC 3DES Feature Pack
CD72-BS-12.0T=	Cisco 7200 Series Desktop/IBM Feature Pack
CD72-BSL-12.0T=	Cisco 7200 Series Desktop/IBM IPSEC 56 Feature Pack
CD72-BHS-12.0T=	Cisco 7200 Series Desktop/IBM/FW Feature Pack
CD72-BHSL-12.0T=	Cisco 7200 Series Desktop/IBM/FW IPSEC 56 Feature Pack
CD72-BHK2-12.0T=	Cisco 7200 Series Desktop/IBM/FW IPSEC 3DES Feature Pack
CD72-A-12.0T=	Cisco 7200 Series Enterprise Feature Pack
CD72-AL-12.0T=	Cisco 7200 Series Enterprise IPSEC 56 Feature Pack
CD72-AK2-12.0T=	Cisco 7200 Series Enterprise IPSEC 3DES Feature Pack
CD72-AH-12.0T=	Cisco 7200 Series Enterprise/FW Feature Pack
CD72-AHL-12.0T=	Cisco 7200 Series Enterprise/FW IPSEC 56 Feature Pack
CD72-AHK2-12.0T=	Cisco 7200 Series Enterprise/FW IPSEC 3DES Feature Pack

Cisco 7200 Series License for Advanced Software Options

FR-WPP72=	Cisco IOS 7200 Series WAN Packet Protocols/Netflow License
FR-IR72=	Cisco IOS 7200 Series InterDomain Routing/Tag Switching License
FR-CES72=	CES software license for ATM CES PA*

Cisco 7200 Series Port Adapters

PA-4E=	4-Port Ethernet 10BaseT Port Adapter
PA-8E=	8-Port Ethernet 10BaseT Port Adapter
PA-5EFL=	5-Port Ethernet 10BaseFL Port Adapter
PA-4R ²	4-Port Token Ring 4/16 Mbps Port Adapter
PA-4R-FDX ²	4-Port Token Ring 4/16Mbps, Full Duplex Port Adapter
PA-FE-TX=	1-Port Fast Ethernet 100BaseTx Port Adapter
PA-FE-FX=	1-Port Fast Ethernet 100BaseFx Port Adapter
PA-F-MM ²	1-Port FDDI Multimode Port Adapter
PA-F-SM ²	1-Port FDDI Single-mode Port Adapter
PA-F/FD-MM ²	1-Port FDDI Full Duplex Multi-Mode Port Adapter
PA-F/FD-SM ²	1-Port FDDI Full Duplex Single-Mode Port Adapter
PA-4R-DTR=	4-Port Token Ring 4/16Mbps, Dedicated Token Ring Port Adapter
PA-4T+=	4-Port Serial Port Adapter, Enhanced
PA-8T-V35=	8-Port Serial, V.35 Port Adapter
PA-8T-232=	8-Port Serial, 232 Port Adapter
PA-8T-X21=	8-Port Serial, X.21 Port Adapter
PA-GE=	Gigabit Ethernet Port Adapter
PA-H=	Port Adapter: 1-Port HSSI
PA-2H=	Port Adapter: 2-Port HSSI
PA-4B-U=	4-Port BRI Port Adapter, U Interface
PA-8B-S/T=	8-Port BRI Port Adapter, S/T Interface
PA-4E1G/75=	4-Port E1 G.703 Serial Port Adapter (75ohm/Unbalanced)
PA-4E1G/120=	4-Port E1 G.703 Serial Port Adapter (120ohm/Balanced)

PA-A2-4T1C-0C3SM=	ATM CES Port Adapter, 4T1 CES Ports and 1 OC3 ATM SM Port
PA-A2-4T1C-T3ATM=	ATM CES Port Adapter, 4T1 CES Ports and 1 T3 ATM Port
PA-A2-4E1XC-0C3SM=	CES OC3 Port Adapter 4E1 Ports 120ohms
PA-A2-4E1XC-E3ATM=	CES Port Adapter E3/E1 120 ohms
PA-A3-0C3-MM=	ATM Port Adapter with OC-3c/STM-1 multi-mode physical interface
PA-A3-0C3-SMI=	ATM Port Adapter with OC-3c/STM-1 single-mode intermediate reach physical interface
PA-A3-0C3-SML=	ATM Port Adapter with OC-3c/STM-1 single-mode long reach physical interface
PA-A3-E3=	ATM Port Adapter with E3 physical interface
PA-A3-T3=	ATM Port Adapter with T3 physical interface
PA-A3-8T1MA=	8 port T1 with Inverse Multiplier over ATM
PA-A3-8E1MA=	8 port E1 with Inverse Multiplier over ATM
PA-CT3/4T1=2	Channelizes DS3 Port Adapter with 4 T1 breakout connectors
PA-MC-2T1=	2 port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-4T1=	4 port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-8T1=	8 port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-2E1/120=	2 port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-8E1/120=	8 port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-8DSX1=	8 port multichannel T1 port adapter with integrated DS1/DSU and DSO
PA-MC-E3=	1 port multichannel E3 port adapter
PA-MC-T3=	1 port multichannel T1 port adapter
PA-MC-2T3+=	2 port channelized T3 port adapter with BNC connectors
PA-E3=	1 port E3 with integrated DSU
PA-2E3=	2 port E3 with integrated DSU
PA-T3+=	1 port T3 port adapter
PA-2T3+=	2 port T3 port adapter
PA-SRP-0C12MM=	2 SC Duplex port dual wide OC12c multi-mode port adapter
PA-SRP-0C12SMI=	2 SC Duplex port dual wide OC12c single-mode intermediate reach port adapter
PA-SRP-0C12SML=	2 SC Duplex port dual wide OC12c single-mode long reach port adapter
PA-VXB-2TE1=	2 port T1/E1 medium capacity digital voice port adapter, Spare
PA-VXC-2TE1=	2 port T1/E1 high capacity digital voice port adapter, Spare

Cisco 7200 Series Service Adapters

SA-COMP/1=2	Service Adapter; Compression (64 VC's Stac) - Spare (non VXR Chassis only)
SA-COMP/4=2	Service Adapter; Compression (256 VC's Stac) - Spare (non VXR chassis only)
SA-ISA	Integrated Services Adaptor for encryption on 7200 VXR platform

Cisco 7200 Series Memory and Memory Upgrades

MEM-NPE-64MB=	64MB Memory Upgrade Kit for NPE-200/NPE-150/NPE-100
MEM-NPE-128MB=	128MB Memory Upgrade Kit for NPE-200/NPE-150/NPE-100
MEM-NPE-256MB=	256MB Memory Upgrade Kit for NSE-1
MEM-I/O-FLC20M=	Cisco 7200 I/O PCMCIA Flash Memory, 20MB
MEM-I/O-FLD48M=	Cisco 7200 I/O PCMCIA Flash Memory, 48MB
MEM-I/O-FLD110M=	Cisco 7200 I/O PCMCIA Flash Memory, 110MB
MEM-SD-NPE-32MB=	32MB Memory Upgrade Kit for NPE-300/NPE-225/NPE-175
MEM-SD-NPE-64MB=	64MB Memory Upgrade Kit for NPE-300/225/175
MEM-SD-NPE-128MB=	128MB Memory Upgrade Kit for NPE-300/NPE-225/NPE-175
MEM-SD-NPE-256MB=	256MB Memory Upgrade Kit for NPE-300

Cisco 7200 Series Accessories

PWR-7200-DC=	Cisco 7200 DC Power Supply
PWR-7200-AC=	Cisco 7200 AC Power Supply With United States Cord
ACS-7200-RMK=	Cisco 7200 Rack mount Kit and Cable Management Bracket

Cisco 7200 Series Basic Maintenance

CON-SNT-PKG13	Cisco 7204 Series SMARTnet Maintenance
CON-SNT-PKG14	Cisco 7206 Series SMARTnet Maintenance

- For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)
- Not supported on the 7200 VXR chassis. For additional port adapter compatibility information for the 7200 VXR, see: <http://www.cisco.com/warp/public/770/fn3028.html>.

For More Information

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

Cisco 7500 Series

The Cisco 7500 series is Cisco's premier high-end platform of multiprotocol routers. These systems combine Cisco's proven software technology with exceptional reliability, availability, serviceability, and performance features to meet the requirements of today's most mission-critical internetworks. The Cisco 7500 series provides information system professionals with the flexibility they need to meet the constantly changing requirements at the core and distribution points of the internetwork.



When to Sell

Sell This Product	When a Customer Needs These Features
Cisco 7505	<ul style="list-style-type: none"> • One CyBus • Solution for complex networking products in the data center, the workgroup, and the core of the network
Cisco 7507	<ul style="list-style-type: none"> • Dual CyBuses • High-bandwidth applications with medium-density requirements
Cisco 7513	<ul style="list-style-type: none"> • Dual CyBuses • Ideal solution for large, collapsed backbone environments or as an aggregation router supporting large numbers of remote users
Cisco 7576	<ul style="list-style-type: none"> • Four CyBuses for a total aggregate chassis bandwidth of over 4 Gbps • Ideal for high-density, high-bandwidth environments or as an aggregation router supporting access applications

Key Features

- High-performance switching—Delivers high performance for mission-critical applications by supporting high-speed media and high-density configurations; using the processing capabilities of the Versatile Interface Processors (VIPs) and Cisco Express Forwarding, the Cisco 7500 series system capacity can exceed a million packets per second
- Full support for Cisco IOS Software and enhancements for high-performance network services—Performs network services such as quality of service, security, compression, and encryption at high speed; VIP technology extends the performance of these services through distributed IP services
- High port density—Provides high port density and an extensive range of LAN and WAN media; this feature dramatically reduces the cost per port and allows a flexible configuration
- Common port adapters—VIPs use the same port adapters as Cisco 7200, which simplifies sparing and protects customer investment in interfaces

Specifications

Feature	Cisco 7505	Cisco 7507	Cisco 7513	Cisco 7576
Routers per Chassis	1	1	1	2
Fixed Ports	None	None	None	None
Modular Slots	5	7	13	13
Interface Processor Slots	4	5	11	11
RSPs	1 (100-MHz RSP2, 200-MHz RSP4, or 250-MHz RSP8)	2 (optional dual RSPs; 100-MHz RSP2, 200-MHz RSP4, or 250-MHz RSP8)	2 (optional dual RSPs; 100-MHz RSP2, 200-MHz RSP4, or 250-MHz RSP8)	2 (optional dual RSPs; 100-MHz RSP2, 200-MHz RSP4, or 250-MHz RSP8)
LAN Port Adapters	4- or 8-port Ethernet 10BaseT 5-port Ethernet 10BaseFL 1-port Fast Ethernet 100BaseTX 1-port Fast Ethernet 100BaseFX 2-port Fast Ethernet/ISL 100BaseTX (TR ISL) 2-port Fast Ethernet/ISL 100BaseFX (TR ISL) 4-port Token Ring 4/16 Mbps, Full Duplex 1-port FDDI multimode or single mode 1-port FDDI full duplex multi- or singlemode	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Serial Port Adapters	4-port Serial, enhanced 8-port Serial, V.35, RS-232, or X.21 4-port Serial E1 (G.703)	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
High-Speed Serial Port Adapters	1- and 2-port HSSI 1- and 2-port High Speed T3 Serial (w/ DSU) 1- and 2-port High Speed E3 Serial (w/ DSU)	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Multichannel and ISDN Port Adapters	2-port Enhanced Multichannel T3 1-port Multichannel T3 1-port Multichannel E3 2-, 4-, and 8-port Multichannel T1 (CSU/DSU & PRI) 2- and 8-port Multichannel E1 (G.703/G.704 & PRI)	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Digital Voice Trunk Port Adapter	2 Port T1/E1 High Capacity Digital Voice	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
SONET Port Adapters	2- port Dynamic Packet Transport OC12/STM4 1 port Packet Over SONET OC3/STM1	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
ATM Port Adapters	1-port ATM OC3/STM1 multimode and single mode 1-port ATM Enhanced OC12/STM4 multimode and single mode 1-port ATM Enhanced OC3/STM1 multimode and single mode 1-port ATM Enhanced DS3 1-port ATM Enhanced E3 8-port ATM Enhanced T1 IMA 8-port ATM Enhanced E1 IMA	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Cisco Mainframe Channel Connection Port Adapters	1-port ESCON Mainframe Channel Port Adapter 1-port Parallel Mainframe Channel Port Adapter	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505

Feature	Cisco 7505	Cisco 7507	Cisco 7513	Cisco 7576
Advanced Technology Interface Processors	1-port Gigabit Ethernet single mode 1-port Gigabit Ethernet multimode 1-port Packet-Over-SONET OC3/STM-1 single mode 1-port Packet-Over SONET OC3/STM-1 multimode 1-port Channelized DS3 with 4 T1 breakout ports 2-port Dynamic Packet Transport OC12/STM4	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Hardware Service Adapters	Compression Service Adapter (CSA) Encryption Service Adapters (ESA)	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
VIP Modules	VIP2-15, VIP2-40, VIP2-50	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Processor	Mips RISC	Mips RISC	Mips RISC	Mips RISC
High-Speed Backplane	5 Bus Slots 1 Gbps backplane 4 interface processor slots 1 RSP slot	7 Bus Slots 2 Gbps backplane 5 interface processor slots 2 RSP slots	13 Bus Slots 2 Gbps backplane 11 interface processor slots 2 RSP slots	13 Bus Slots 4 Gbps backplane 11 interface processor slots 2 RSP slots
Boot Memory	256 KB	256 KB	256 KB	256 KB
Shared Memory	16 MB (min) 40 MB (max)	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
DRAM Memory	32 MB (default) 128 MB (RSP2 max) 256 MB (RSP4 max) 256 MB (RSP8 max)	Same as Cisco 7505	Same as Cisco 7505	Same as Cisco 7505
Power Supply	AC or DC	AC, dual AC/DC, dual DC	AC, dual AC/DC, dual DC	2 standard, AC, dual AC/DC, dual DC
Dimensions (HxWxD)	10.5 x 17.5 x 17 in.	19.25 x 17.5 x 25 in.	33.75 x 17.5 x 22 in.	33.75 x 17.5 x 22 in.

Distribution Part Numbers and Ordering Information

Cisco 7500 Series Route Switch Processor¹

RSP4= Cisco 7500 Series Route Switch Processor 4
RSP8= Cisco 7500 Series Route Switch Processor 8

Cisco 7500 Series Blank Card Carrier

MAS-7KBLANK= Blank Card Carrier

Cisco 7500 Memory and Memory Upgrades

MEM-RSP4-FLC16M= RSP4 Flash Card: 16 MB Kit
MEM-RSP4-FLC20M= RSP4 Flash Card: 20 MB Kit
MEM-RSP4-32M= RSP4 32MB DRAM Upgrade Kit
MEM-RSP4-64M= RSP4 64MB DRAM Option
MEM-RSP4-128M= RSP4 128MB DRAM Upgrade Kit
MEM-RSP4-256M= RSP4 256MB DRAM Upgrade Kit
MEM-RSP8-FLC16M= RSP8 Flash Card: 16MB Kit
MEM-RSP8-FLC20M= RSP8 Flash Card: 20MB Kit
MEM-RSP8-64M= RSP8 64MB DRAM Option
MEM-RSP8-128M= RSP8 128MB DRAM Upgrade Kit
MEM-RSP8-256M= RSP8 256MB DRAM Upgrade Kit
MEM-VIP240-64M= 64 MB DRAM Option for VIP2-40 (Spare)
MEM-VIP250-8M-S= 8 MB SRAM Option for VIP2-50/XIP-50

Cisco 7500 License for Advanced Software Options

FR-WPP75= Cisco IOS RSPx Series WAN Packet Protocols/Netflow License
FR-IR75= Cisco IOS RSP Series InterDomain Routing License
FR-NF75= Cisco IOS RSPx Series NetFlow Switching License
FR75-C-DS= Cisco IOS RSPx Series IP to IP/IPX/IBM
FR75-C-BS= Cisco IOS RSPx Series IP to Desktop/IBM
FR75-C-A= Cisco IOS RSPx Series IP to Enterprise
FR75-40= Cisco IOS RSPx Encryption 40 Upgrade
FR75-56= Cisco IOS RSPx Encryption 56 Upgrade

FL75-K2=	Cisco IOS 7500 Series IPSEC 3DES Upgrade
FL75-L=	Cisco IOS 7500 Series IPSEC 56 Upgrade
Cisco 7500 Gigabit Interface Processors & Converters	
GEIP=	Gigabit Ethernet Interface Processor
GBIC-SX=	Gigabit Interface. Converter For 1000BASE-SX (Short Wavelength)
GBIC-LX/LH=	Gigabit Interface Converter for 1000BASE-LX standard

Cisco 7500 Fast Ethernet Interface Processor

FEIP2-DSW-2TX=	2-Port Fast Ethernet IP with Dist. Switching (100TX)
FEIP2-DSW-2FX=	2-Port Fast Ethernet IP with Dist. Switching (100FX)

Cisco 7500 Versatile Interface

VIP2-50=	Versatile Interface Processor 2, Model 50
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Cisco 7500 Channelized DS3

CT3IP-40=	Channelized DS3 with 2M SRAM, DSW, DS - Spare
CT3IP-50=	Channelized DS3 Model 50 Interface Processor

Cisco 7500 Port Adapters

PA-7KF-SPA=	Dual Serial Port Adapter
PA-7KF-E1/75=	Dual E1 G.703/G.704 75ohm/Ubal Port Adapter
PA-2FEISL-FX=	2-port Fast Ethernet/ISL 100BaseFx Port Adapter SPARE
PA-2FEISL-TX=	2-port Fast Ethernet/ISL 100BaseTx Port Adapter SPARE
PA-F-MM=	1-port FDDI Multimode Port Adapter
PA-F-SM=	1-port FDDI Single-mode Port Adapter
PA-F/FD-MM=	1-port FDDI Full Duplex Multi-Mode Port Adapter
PA-F/FD-SM=	1-port FDDI Full Duplex Single-Mode Port Adapter
PA-2H=	2-port HSSI Port Adapter
PA-A3-OC3MM=	1-port ATM Enhanced OC3c/STM1 Multimode Port Adapter
PA-A3-OC3SMI=	1-port ATM Enhanced OC3c/STM1 Singlemode (IR) Port Adapter
PA-A3-OC3SML=	1-port ATM Enhanced OC3c/STM1 Singlemode (LR) Port Adapter
PA-T3=	1-port T3 Serial Port Adapter with T3 DSUs
PA-T3+=	1-port T3 Serial Port Adapter Enhanced
PA-2T3=	2-port T3 Serial Port Adapter with T3 DSUs
PA-2T3+=	2-port T3 Serial Port Adapter Enhanced, Spare
PA-MC-T3=	1-port multichannel T3 port adapter
PA-MC-4T1=	4-port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-8T1=	8-port multichannel T1 port adapter with integrated CSU/DSUs
PA-MC-8DSX1=	8-port multichannel DS1 port adapter with integrated DSUs
PA-2JT2=	2-port JT2 6.3Mb/s Serial Port Adapter
PA-POS-OC3MM=	1-port Packet/SONET OC3c/STM1 Multimode PA
PA-POS-OC3SMI=	1-port Packet/SONET ONC3c/STM1 Singlemode (IR) PA
PA-POS-OC3SML=	1-port Packet/SONET OC3c/stm1 Singlemode (LR) PA
MAS-VIP-PABLANK=	Blank, Spare, Port Adapter

Cisco 7500 Service Adapters

SA-COMP/1=	Service Adapter; Compression (64 VC''s Stac) - Spare
SA-COMP/4=	Service Adapter; Compression (256 VC''s Stac) - Spare
SA-ENCRYPT=	Encryption Service Adapter - Spare

Cisco 7500 Packet Over SONET

POSIP-OC3-50-MM=	Packet Over SONET Model 50 - OC3/SDH Multi-Mode 1-port
POSIP-OC3-50-SM=	Packet Over SONET Model 50 - OC3/SDH Single-Mode 1-port

Cisco 7500 Power Supplies

PWR/7-DC=	Cisco 7000/7507 DC Power Supply (Spare)
PWR/7-AC=	Cisco 7000/7507 AC Power Supply, US (Spare)
PWR-7513-DC=	Cisco 7513 DC Power Supply (Spare)
PWR-7513-AC=	Cisco 7513 AC Power Supply Spare, US

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 7500 Series Web site: <http://www.cisco.com/go/7500>

Cisco 12000 Series¹

The Cisco 12000 series Gigabit Switch Router (GSR) family is Cisco's premier gigabit routing platform for service providers. The product provides a cost-effective solution for implementing high bandwidth, packet-optimized, core backbones. The GSR series combines carrier class design with Cisco's proven software technology to deliver a reliable and scalable (bandwidth and performance) system to meet the exponential growth in data traffic. The GSR series provides an industry-leading breadth of interfaces including DS3, Fast Ethernet, Gigabit Ethernet, Dynamic Packet Transport, OC-3/STM-1 and OC-12/STM-4, Packet over SONET (POS) and ATM, and OC-48/STM-16 POS.



When to Sell

Sell This Product

Cisco 12008

When a Customer Needs These Features

- 40 Gbps of non-blocking switching capacity
- High density broadband interfaces per system (up to 84 DS3 to 7 OC48/STM16 per system)
- Compact design, ideal solution for high port densities per 7 ft rack (up to 252 DS3 to 21 OC48/STM16 per rack)

Cisco 12012

- 60 Gbps of non-blocking switching capacity
- High density broadband interfaces per system (up to 132 DS3s, 11 OC48/STM16 per system)

Cisco 12016

- 80 Gbps of non-blocking switching capacity
- High density broadband interfaces per system (up to 180 DS3s, 15 OC48/STM16 per system)
- Support for OC-192/STM 64 interfaces

Key Features

- Scalable Performance
 - Innovative line card design supports virtual output queues (VoQs) to eliminate head-of-line blocking (HOLB) and increase overall system efficiency; supports partial fulfillment for multicast traffic
 - Distributed architecture delivers scalable Layer 3 switching performance through intelligent line cards (LCs) that can be added incrementally
- Scalable Services
 - Industry leading Cisco IOS Software
 - State-of-the-art queuing and congestion management techniques: weighted random early detection (WRED), and modified deficit round robin (MDRR) provide an enhanced weighted fair queuing (WFQ) mechanism
 - Smooth scalability to OC-192/STM 64 infrastructures
- Carrier-class design with redundancy in all key system components: Route Processor (RP), switching fabrics, power supplies, and fans to eliminate any single point of failure

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco 12008	Cisco 12012	Cisco 12016
Modular Slots	8 configurable 5 switch fabric	12 configurable 5 switch fabric	16 configurable 5 switch fabric
Line Card Slots	7 (maximum)	11 (maximum)	15 (maximum)
Supported Line Cards	1-port OC-48/STM-16 POS 1-port channelized OC-12 to DS3 1-port channelized OC-12 to STM1 1-port Gigabit Ethernet 3-port Gigabit Ethernet 1-port OC-12/STM-4 ATM 4-port OC-3/STM-1 ATM 1-port OC-12/STM-4 POS 4-port OC-3/STM-1 POS 8-port OC-3/STM-1 POS 16-port OC-3/STM-1 POS 12-port DS3 8-port Fast Ethernet 4-port OC-12/STM-4 POS 2-port/1 ring OC-12/STM-4 SRP	Same as Cisco 12008	Same as Cisco 12008
Processor Speed (type)	200 MHz (R5000) per GRP and line card	Same as Cisco 12008	Same as Cisco 12008
Flash Memory	20 MB (default) 128 MB (maximum)	20 MB (default) 128 MB (maximum)	20 MB (default) 128 MB (maximum)
DRAM Memory	128 MB GRP (default); 256 MB EDO (max) 64 MB line cards (default); 256 MB EDO (max) 128 MB packet buffered memory (default) to 512 MB (max) varies by line card	Same as Cisco 12008	Same as Cisco 12008
Power Supply	AC or DC	Same as Cisco 12008	Same as Cisco 12008
Dimensions (HxWxD)	24.85 x 17.4 x 21.2 in.	56 x 17.3 x 21 in.	71.5 x 19 x 22 in.

Competitive Products

- Juniper: M20, M40, M160

For More Information

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

Wireless, DSL, and IP Telephony at a Glance

Wireless Products	Features	Page
Cisco Aironet 340 Series Ethernet Bridges	<ul style="list-style-type: none"> • Supports wireless connections up to 25 miles apart • Offers up to 11 Mbps data rate • Links buildings into a single LAN • Requires no license 	102
Cisco Aironet 340 Series Client Adapters and Access Points	<ul style="list-style-type: none"> • 11 Mbps wireless LAN solutions • Security equivalent to wired networks • Wireless freedom and flexibility • IEEE 802.11b interoperability 	104
Cisco Aironet Antennas and Accessories	<ul style="list-style-type: none"> • A wide array of options • FCC-approved directional and omnidirectional antennas • Low-loss cable, mounting hardware, and other accessories available 	106

DSL Products¹

Cisco 600 Routers	<ul style="list-style-type: none"> • Entry-level residential/home office CPE • Compact full-featured DSL router • Splitterless design - no truck roll 	110
Cisco 6000 IP DSL Switch Family	<ul style="list-style-type: none"> • Multi-service IP+ATM solutions • 100 percent service coverage • DSL mobility 	112

1. For additional DSL products, see the Cisco 800 Series on page 29 and Cisco 1400 Series on page 37.

IP Telephony Products

Cisco IP Telephones	Full-featured telephone that can be plugged directly into a standard 10BaseT Ethernet connection <ul style="list-style-type: none"> • Easy to program and easy to use phones • Integrated Ethernet repeater 	114
Cisco Access Digital Gateways	Digital conversion gateways that enable IP telephones to send and receive telephone calls to and from the outside world <ul style="list-style-type: none"> • Models that support up to 23 or 30 simultaneous compressed calls • Fully manageable by Cisco CallManager 	116
Cisco Media Convergence Server 7830	High availability server platform for Cisco desktop IP telephony systems <ul style="list-style-type: none"> • Turnkey solution • Powerful enough for large enterprise IP telephony deployments 	118
Cisco CallManager	A suite of integrated voice applications <ul style="list-style-type: none"> • Call-processing software component of the Cisco Architecture for Voice, Video, and Integrated Data network • Solution for small, medium, and large telephony networks 	120

Cisco Aironet 340 Series Ethernet Bridges

Designed to connect two or more networks (typically located in different buildings), Cisco Aironet wireless bridges deliver high data rates and superior throughput for data-intensive, line-of-sight applications. The high-speed links between Cisco Aironet wireless bridges deliver throughput faster than E1/T1 lines for a fraction of the cost - eliminating the need for expensive and difficult-to-install leased lines or fiber-optic cable. The initial hardware investment can be quickly paid for with the money saved on leased-line service. Wireless bridges connect discrete sites into a single LAN, even when they're separated by obstacles such as freeways, railroads, and bodies of water that are practically insurmountable for copper and fiber-optic cable.



Key Features

- Remote bridges connect hard-to-wire sites, noncontiguous floors, satellite offices, school or corporate campus settings, temporary networks, and warehouses.
- Multiple sites can share a single, high-speed connection to the Internet.
- Provides up to 128-bit Wired Equivalent Privacy (WEP), providing a level of data security equal to traditional wired networks.
- Supports high data rates over medium and short ranges or lower data rates for long-range support.
- Easy to install and configure; bridges can be redeployed quickly as network requirements or company locations change.
- Requires no FCC (or applicable agency) license.
- Configuration and management options include direct console or remote configuration via Telnet, File Transfer Protocol (FTP), Simple Network Management Protocol (SNMP) or browser graphical user interface (GUI).
- Supports configuration and management via generally available scripting tools.
- Supports 802.1 Spanning-Tree protocol and advanced diagnostics to simplify troubleshooting.

Specifications

Feature	Cisco Aironet 340 Series Ethernet Bridges
Data Rates Supported	1, 2, 5.5, and 11 Mbps
Range (typical)	Up to 18 miles (30 km) at 11 Mbps
Frequency Band	2400-2483.5 MHz
Wireless Medium	DSSS
Network Protocols Supported	IEEE 802.3 and Ethernet blue book
Operating Channels	11 channels (U.S., Canada, and Japan) 13 channels (ETSI)
Simultaneous Channels	Three
Antenna Connection	Reverse polarity TNC (RP-TNC) ⁴
Wireless Bridges per LAN	Unlimited
Maximum Users per Bridge	2048 (wireless)
Power Supply	Standard Power Pack: 120 VAC, 50/60 Hz to 18 VDC @1A or 12 VDC @1.5A
Dimensions	7.8 x 5.9 x 1.9 in
Service Category	3

Distribution Part Numbers and Ordering Information

Cisco Aironet 340 Series Ethernet Bridges¹

AIR-BR342US 340 Series 11Mbps DSSS Bridge, 100mW with 128-bit WEP (US)

Cisco Aironet 340 Series Ethernet Bridges Basic Maintenance

CON-SNT-PKG3 Cisco Aironet 340 Series Ethernet Bridges SMARTnet Maintenance

- For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Aironet 340 Web site: www.cisco.com/go/air340

Cisco Aironet 340 Series Client Adapters and Access Points

The Cisco Aironet 340 Series is a comprehensive family of client adapters and access points that enables organizations to integrate the freedom and flexibility of wireless local-area networking into their information systems. The Cisco Aironet 340 series client adapters and access points are designed to meet the mobility, performance, security, interoperability, management, and reliability requirements of in-building wireless local-area networks (WLANs) within enterprise-wide information infrastructures or as free standing all-wireless networks.



When to Sell

Sell This Product

Cisco Aironet 340 Series Client Adapters and Access Points

When a Customer Needs These Features

- IT professionals or business executives want mobility within the enterprise, as an addition or alternative to wired networks
- Business owners or IT directors need flexibility for frequent LAN wiring changes, either throughout the site or in selected areas
- Any company whose site is not conducive to LAN wiring because of building or budget limitations, such as older buildings, leased space, or temporary sites

Key Features

- Aironet 340 Series Client Adapter
 - Connect clients to a wireless network via radio communications with Access Points
 - Couples the mobility, freedom, and flexibility of wireless local-area networking with the bandwidth required by enterprise-wide information systems
 - Quickly add desktop PCs to a LAN without costly and time-consuming cable runs and drops; relocate clients without a loss of productivity
 - 11 Mbps of bandwidth
 - Up to 128-bit wired equivalent privacy (WEP) encryption security is available to provide data security comparable to traditional wired LANs
- Aironet 340 Series Access Points
 - A transceiver that can act as the hub of a standalone wireless network or as a bridge between wireless and wired networks
 - In addition to performing similar to a hub in a wired network, Access Points add the vital, price/performance benefits of security, management features, and mobility services
 - Easy integration to a wired network backbone, flexible configuration, management capabilities, and a wide range of product configurations
 - Provides the option of a Web browser or console management interface

Specifications

Cisco Aironet 340 Series Client Adapters

Feature	AIR-PCM340	AIR-PCI340
Network Architecture Types	Supports peer-to-peer networking and communication to wired networks via access points	Supports peer-to-peer networking and communication to wired networks via access points
Antenna	Integrated internal antenna with diversity support	External 2.2 dBi dipole antenna with RP-TNC connection
Device Drivers Available	NDIS2, NDIS3, NDIS4, NDIS5 ODI, and Packet	NDIS2, NDIS3, NDIS4, NDIS5 ODI, and Packet
System Interface	PC Card Type II slot	32-bit PCI slot
Certifications	FCC Class B, FCC Part 15.247, Canada ICES Class B, CE, UL, CSA; call for other information outside the U.S.	FCC Class B, FCC Part 15.247, Canada ICES Class B, CE, UL, CSA; call for other information outside the U.S.
Dimensions	2.13 x 4.37 x 0.1 in.	6.6 x 3.875 x 0.5 in.
Weight	1.6 oz.	4.4 oz.

Cisco Aironet 340 Series Access Points

Feature	AIR-AP342E2C	AIR-AP341E2C	AIR-AP342E2R	AIR-AP341E2R
Network Protocols Supported	Complies with IEEE 802.3	Complies with IEEE 802.3	Complies with IEEE 802.3	Complies with IEEE 802.3
Maximum Clients	2048	2048	2048	2048
Antenna	Integrated dual 2.2 dBi dipole with diversity support (nonremovable)	Integrated dual 2.2 dBi dipole with diversity support (nonremovable)	Optional (none supplied with unit)	Optional (none supplied with unit)
Optional Antenna Connector	None	None	Dual RP-TNC connectors with diversity support	Dual RP-TNC connectors with diversity support
Certifications	FCC Class A, FCC Part 15.247, Canada ICES Class B, CE, UL, CSA; call for other information outside the U.S.	FCC Class A, FCC Part 15.247, Canada ICES Class B, CE, UL, CSA; call for other information outside the U.S.	FCC Class A, FCC Part 15.247, Canada ICES Class B, CE, UL, CSA; call for other information outside the U.S.	FCC Class A, FCC Part 15.247, Canada ICES Class B, CE, UL, CSA; call for other information outside the U.S.
Dimensions	6.3 x 4.72 x 1.45 in.	6.3 x 4.72 x 1.45 in.	6.3 x 4.72 x 1.45 in.	6.3 x 4.72 x 1.45 in.
Weight	12.3 oz. (350g), excluding power supply	12.3 oz. (350g), excluding power supply	12.3 oz. (350g), excluding power supply	12.3 oz. (350g), excluding power supply

Distribution Part Numbers and Ordering Information

Cisco 340 Series Access Points¹

AIR-AP342E2C	340 Series 11 Mbps DSSS AP w/128-bit WEP & 2 Int. Ant.
AIR-AP342E2RUS	340 Series 11 Mbps DSSS AP w/128-bit WEP & 2 RP-TNC (US)

Cisco 340 Series Adapters

AIR-PCM342US	340 Series 11 Mbps DSSS PC Card Adapter w/128-bit WEP (US)
AIR-LMC342	340 Series 11 Mbps DSSS PC Card w/128-bit WEP w/o Ant.
AIR-PCI342	340 Series 11 Mbps DSSS PCI Adapter with 128-bit WEP
AIR-UC4800-E	4800 Series 11 Mbps DSSS Ethernet Adapter
AIR-MC4800	4800 Series 11 Mbps DSSS Multi-Client Adapter

Cisco Aironet 340 Series Adapters and Access Points Basic Maintenance

CON-SNT-PKG1	Cisco Aironet 340 Series Adapters SMARTnet Maintenance
CON-SNT-PKG2	Cisco Aironet 340 Series Access Points SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Web site: www.cisco.com/go/adap_acc

Cisco Aironet Antennas and Accessories

Every wireless Local Area Network (LAN) deployment is different. When engineering an in-building solution, varying facility sizes, construction materials, and interior divisions raise a host of transmission and multipath considerations. When implementing a building-to-building solution, distance, physical obstructions between facilities, and number of transmission points involved must be considered.



Cisco is committed to providing not only the best access points, client adapters, and bridges in the industry—it is also committed to providing a complete solution for any wireless LAN deployment. That's why Cisco has the widest range of antennas, cable, and accessories available from any wireless manufacturer.

With the Cisco FCC-approved directional and omnidirectional antennas, low-loss cable, mounting hardware, and other accessories, installers can customize a wireless solution that meets the requirements of even the most challenging applications.

Key Features

- **Client Adapter Antennas**—Cisco Aironet wireless client adapters come complete with standard antennas that provide sufficient range for most applications at 11 Mbps. 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**—Cisco Aironet access point antennas are compatible with all Cisco RP-TNC-equipped access points. The antennas are available with different gain and range capabilities, beam widths, and form factors. Coupling the right antenna with the right access point allows for efficient coverage in any facility, as well as better reliability at higher data rates.
- **Bridge Antennas**—Cisco Aironet bridge antennas allow for extraordinary transmission distances between two or more buildings. Available in directional configurations for point-to-point transmission and omnidirectional configuration for point-to-multipoint implementations, Cisco has a bridge antenna for every application.
- **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.

Specifications

Client Adapter Antennas

Feature	AIR-ANT3351	AIR-ANT3342
Description	POS diversity dipole ¹	Diversity dipole
Application	Indoor diversity antenna ² to extend the range of Aironet LMC client adapters	Indoor diversity antenna to extend the range of Aironet LMC client adapters
Approximate Indoor Range at 1 Mbps³	350 ft. (107m)	350 ft. (107m)
Approximate Indoor Range at 11 Mbps³	100 ft. (51 m)	100 ft. (51 m)
Cable Length	5 ft. (1.5m)	1 ft. (0.3m)
Dimensions	Base: 7 x 2 in. (18 x 5 cm) Height: 8 in. (20 cm)	4 x 3 in. (8.6 x 6.5 cm)
Weight	9.2 oz. (261g)	5 oz. (142g)

1. A type of low-gain (2.2 dBi) antenna consisting of two (often internal) elements.
2. A ratio of decibels to an isotropic antenna that is commonly used to measure antenna gain. The greater the dBi value, the higher the gain and, as such, the more acute the angle of coverage.
3. 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 purposes only.

Access Point Antennas

Feature	AIR-ANT3213	AIR-ANT3194	AIR-ANT1728	AIR-ANT2561	AIR-ANT3549	AIR-ANT1729
Description	Pillar mount diversity omni	Omnidirectional ceiling mount	High gain omnidirectional ceiling mount	Omnidirectional ground plane	Patch wall mount	Patch wall mount
Application	Indoor, unobtrusive medium-range antenna	Indoor short-range antenna, typically hung from crossbars of drop ceilings	Indoor medium-range antenna, typically hung from crossbars of drop ceilings	Flat, circular, medium-range indoor antenna	Indoor, unobtrusive, long-range antenna (may also be used as a medium-range bridge antenna)	Indoor, unobtrusive, medium-range antenna (may also be used as a medium-range bridge antenna)
Approximate Indoor Range at 1 Mbps¹	497 ft. (151m)	350 ft. (107m)	497 ft. (151m)	497 ft. (151m)	Access Point: 700 ft. (213m) Bridge: 2.0 miles (3.2 km)	Access Point: 542 ft. (165m) Bridge: 1.1 miles (1.8 km)
Approximate Indoor Range at 11 Mbps¹	142 ft. (44m)	100 ft. (31m)	142 ft. (44m)	142 ft. (44m)	Access Point: 200 ft. (61m) Bridge: 3390 ft. (1032m)	Access Point: 155 ft. (47m) Bridge: 1900 ft. (580m)
Cable Length	3 ft. (0.91m)	9 ft. (2.74m)	3 ft. (0.91m)	3 ft. (0.91m)	3 ft. (0.91m)	3 ft. (0.91m)
Dimensions	10 x 1 in. (25.4 x 2.5 cm)	Length: 9 in. (22.86 cm) Diameter: 1 in. (2.5 cm)	Length: 9 in. (22.86 cm) Diameter: 1 in. (2.5 cm)	Diameter: 12 in. (30.5 cm)	5 x 5 in. (12.4 x 12.4 cm)	4 x 5 in. (9.7 x 13 cm)
Weight	1 lb. (460g)	4.6 oz. (131g)	4.6 oz. (131g)	9 oz. (255g)	5.3 oz. (150g)	4.9 oz. (139g)

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 purposes only.

Bridge Antennas

Feature	AIR-ANT2506	AIR-ANT4121	AIR-ANT1949	AIR-ANT3338
Description	Omnidirectional Mast mount	High-gain omnidirectional Mast mount	Yagi mast mount	Solid dish
Application	Outdoor short-range point-to-multipoint applications	Outdoor medium-range point-to-multipoint applications	Outdoor medium-range directional connections	Outdoor long-range directional connections
Approximate Indoor Range at 1 Mbps¹	5000 ft. (1525m)	4.6 miles (7.4 km)	6.5 miles (10.5 km)	25 miles (40 km)
Approximate Indoor Range at 11 Mbps²	1580 ft. (480m)	1.4 miles (2.3 km)	2.0 miles (3.3 km)	11.5 miles (18.5 km)
Cable Length	3 ft. (0.91m)	1 ft. (0.30m)	1.5 ft. (0.46m)	2 ft. (0.61m)
Dimensions	Length: 13 in. (33 cm) Diameter: 1 in. (2.5 cm)	Length: 40 in. (101 cm) Diameter: 1.3 in. (3 cm)	Length: 18 in. (46 cm) Diameter: 3 in. (7.6 cm)	Diameter 24 in. (61 cm)
Weight	6 oz. (17g)	1.5 lb. (0.68 kg)	1.5 lb. (0.68 kg)	11 lb. (5 kg)

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 purposes only.

Low-Loss Antenna Cable

Feature	AIR-420-003346-020	AIR-420-003346-050	AIR-420-003346-075	AIR-420-003346-100
Cable Length	20 ft. (6m)	50 ft. (15m)	75 ft. (23m)	100 ft. (30m)
Transmission Loss	1.3 dBi	3.4 dBi	5.0 dBi	6.7 dBi

Cisco Aironet Accessories

Feature	420-002537-018	420-002537-060	420-003354	420-003745	430-002662
Description	18 in. (46 cm) bulkhead extender	60 in. (152 cm) bulkhead extender	Lightening arrestor	Optional antenna adapter cable	Yagi articulating mount
Application	Flexible antenna cable that extends access point cabling typically within an enclosure	Flexible antenna cable that extends access point cabling typically within an enclosure	Helps prevent damage due to lightning-induced surges or static electricity	Used to add higher-gain antennas to universal and multistation clients for longer-range applications	Adds swiveling capability to mast-mounted yagi antennas

Distribution Part Numbers and Ordering Information

Cisco 340 Series Accessories¹

AIR-ACC1622	TNC straight plug, crimp style, for 9913 cable
AIR-ACC1623	TNC straight jack crimp style for 9913 cable
AIR-ACC1655	TNC straight plug, crimp style, male for RG-58
AIR-ACC1725	Magnetic Mount Adapter
AIR-ACC1828	TNC jack R/P mate for RG-58
AIR-ACC1833	340 Series Bridge Mounting Kit
AIR-ACC2228	Dipole Antenna Mount
AIR-ACC2537-018	18 inch (.5m) Bulkhead Extender
AIR-ACC2537-060	60 inch (1.5m) Bulkhead Extender
AIR-ACC2538	Bulkhead connector
AIR-ACC2662	Yagi Antenna Articulating Mount
AIR-ACC3354	Lightning Arrestor w/ grounding ring
AIR-ACC3986-001	Slide mount kit for Bridges
AIR-ACC5559-072	340 Series Serial Cable for Console Port Configuration
AIR-420-003346-020	20 ft. (6m) low-loss antenna cable
AIR-420-003346-050	50 ft. (15m) low loss antenna cable
AIR-420-003346-075	75 ft. (23m) low loss antenna cable
AIR-420-003346-100	100 ft. (30m) low loss antenna cable
AIR-420-001625	RP-TNC assembly (5 inches)

AIR-420-3745-0400	Assembly cable RP-SMA plug-4 inches
AIR-420-1625-0500	RP-TNC assembly (5 inches)
Cisco 340 Series Antenna	
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-ANT2506	5.2 dBi Omnidirectional Mast Mount Antenna
AIR-ANT2561	5.2 dBi Omnidirectional Ground Plane Antenna
AIR-ANT3194	2.2 dBi Omni Ceiling Mount Antenna
AIR-ANT3195	3 dBi Patch Wall Mount Antenna
AIR-ANT3213	5.2 dBi Pillar-Mount Diversity Omni Antenna
AIR-ANT3309	2.2 dBi POS Diversity Base Antenna
AIR-ANT3338	21 dBi Solid Dish Antenna
AIR-ANT3351	2.2 dBi POS Diversity Dipole Antenna
AIR-ANT3549	8.5 dBi Hemispherical Patch Antenna
AIR-ANT4121	12 dBi Omnidirectional Mast Mount Antenna
AIR-ANT4941	2.2 dBi Dipole Antenna (Standard Rubber Duck)
AIR-ANT-AKDISH	Antenna Kit w/ 21 dBi Dish Ant., 50ft cable, Light. Arrest
AIR-ANT-AKOMNI	Antenna Kit w/ 12 dBi Omni Ant., 50ft cable, Light. Arrest
AIR-ANT-AKPATCH	Antenna Kit w/ 6 dBi Patch Ant., 50ft cable, Light. Arrest
AIR-ANT-AKYAGI	Antenna Kit w/ 13.5 dBi Yagi Ant., 50ft cable, Light. Arrest
AIR-ANT3120-001	2.2 dBi Snap-on PC Card Diversity Antenna
AIR-ANT3342	2.2 dBi Diversity "Rabbit Ear" External Antenna

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Web site: www.cisco.com/go/antenna

Cisco 600 DSL CPEs¹

The Cisco 67x series products, including the Cisco 673, Cisco 675, Cisco 677, and Cisco 678, are Ethernet to DSL bridge/routers. The Cisco 627 is an ATM25 to ADSL modem for single-user connections as well as for data service unit



(DSU) connectivity to business-class routers. Finally, the Cisco 633 is a serial Symmetric DSL (SDSL) DSU for business router connectivity.

The third number in the product series (for example, 67x or 63x) denotes the DSL technology type: the “5” indicates ADSL Carrierless Amplitude Phase (CAP)-based products, the “7” indicates ADSL Discrete Multi-Tone (DMT) Issue 2 products, the “8” indicates ADSL products that support CAP, DMT Issue 2, and G.Lite technologies, and the “3” indicates SDSL-based products.

When to Sell

Sell This Product When a Customer Needs These Features

Cisco 627 ATM25 ADSL Modem	<ul style="list-style-type: none"> • ATM25 to ADSL modem for single user connections
Cisco 633 Serial SDSL DSU	<ul style="list-style-type: none"> • Symmetric Digital Subscriber Line (SDSL)
Cisco 673 DSL Router	<ul style="list-style-type: none"> • Symmetric Digital Subscriber Line (SDSL) • Can be connected to a Cisco 6130 DSL access concentrator (DSLAM) • Optional software is available to enable the Cisco 6130 to be connected to another 673 for point-to-point connections
Cisco 675 DSL Router	<ul style="list-style-type: none"> • Asymmetric Digital Subscriber Line (ADSL) • Rate-adaptive DSL (CAP encoding) interface, with maximum receive data rates up to 7 Mbps and transmit data rates up to 1 Mbps
Cisco 677 DSL Router	<ul style="list-style-type: none"> • Asymmetric Digital Subscriber Line (ADSL) • Rate-adaptive DSL (Discrete Multi-Tone [DMT] Issue 2) interface, with maximum receive data rates up to 8024 kbps and transmit data rates up to 864 kbps
Cisco 678 DSL Router	<ul style="list-style-type: none"> • Asymmetric Digital Subscriber Line (ADSL) • Rate-adaptive DSL (CAP encoding) interface, with maximum receive data rates up to 7 Mbps and transmit data rates up to 1 Mbps

Key Features

- Autonegotiating 10BaseT or 100BaseTX Ethernet interface
- Trivial File Transfer Protocol (TFTP) support for software updates and configuration downloads/uploads (Cisco 675, 677, and 678)
- Fully compatible with Cisco 6100 and Cisco 6200 series IP DSL switches (Cisco 675, 677, and 678)
- Multicast proxy support (IGMP Proxy) for support of video applications
- Multilevel password protection
- Managed bridge support for remote configuration and management

1. For ordering information on these products, contact your Cisco Account Team.

Specifications

Feature	Cisco 627	Cisco 633	Cisco 673	Cisco 675	Cisco 677	Cisco 678
Flash Memory	1 MB	2 MB	2 MB	2 MB	2 MB	2 MB
DRAM Memory	2 MB	4 MB	4 MB	4 MB	4 MB	4 MB
Processor	Intel I960	Intel I960	Intel I960	Intel I960	Intel I960	Intel I960
Software Options	Single user, Multi use, Full rate DMT, G.lite	Single user, Multi user, STU-C firmware option for back-to-back modem operation	Single user, Multi user, STU-C firmware option for back-to-back modem operation	Single user, Multi user	Single user, Multi user, G.Lite	Single user, Multi user, CAP, DMT issue2, G.Lite
Dimensions (HxWxD)	5.0 x 6.2 x 1.75 in.	5.0 x 6.2 x 1.75 in.	5.0 x 6.2 x 1.75 in.	5.0 x 6.2 x 1.75 in.	5.0 x 6.2 x 1.75 in.	5.0 x 6.2 x 1.75 in.

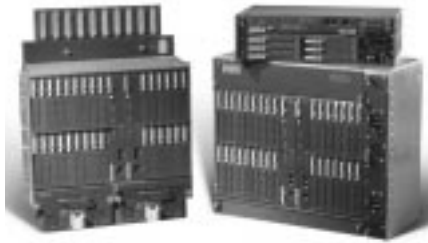
For More Information

See the Cisco 600 Web site: <http://www.cisco.com/go/600dsl>

For additional DSL products, see the Cisco 800 Series on page 29 and Cisco 1400 Series on page 37.

Cisco 6000 IP DSL Switch Family¹

The industry-leading Cisco 6000 IP digital subscriber line (DSL) switch family supports the most comprehensive set of IP+ATM capabilities with common multi-DSL technologies for central offices (COs), remote terminals, and multiple dwelling units (MDUs).



Furthermore, the Cisco 6000 IP DSL Switch family enables an evolution path to IP+ATM managed services, such as Multiprotocol Label Switching/virtual private networking (MPLS/VPN), multicasting, and Internet protocol (IP) routing/quality of service (QoS).

Key Features

- Cisco 6015 IP DSL Switch—The Cisco 6015 is a front-access, six-slot multiport line-card architecture capable of supporting industry-standard asymmetric DSL (ADSL) and single-pair high-bit-rate DSL (G.shdsl) technologies. The product is fully compliant with Network Equipment Building System (NEBS), American National Standards Institute (ANSI), European Telecommunication Standards Institute (ETSI), and asynchronous transfer mode (ATM) carrier-class network element standards.
- Cisco 6160 IP DSL Switch—The Cisco 6160 IP DSL Switch enables the most comprehensive set of IP+ATM capabilities with common multi-DSL technologies for the North American Central Office environment. The Cisco 6160 is IP-ready and supports an evolution path to IP+ATM managed services such as MPLS/VPN, Multicasting, and IP Routing/QoS.
- Cisco 6260 IP DSL Switch—Built for rapid, large-scale deployment of profitable digital subscriber line (DSL) services, the Cisco 6260 is designed for Post, Telephone, and Telegraphs (PTTs), Competitive Local Exchange Carriers (CLECs), and multitenant-dwelling unit (MDU) service providers around the world who need next-generation DSL service solutions today.

1. For ordering information on this product family, contact your Cisco Account Team.

Specifications

Feature	Cisco 6015	Cisco 6160	Cisco 6260
NI-2 Card Interfaces	1 DS3 + 8 x T1/E1 IMA interface – DS3 WAN uplink – T1/E1 interface configured as either WAN or subbund – T1/E1 interfaces can be configured in up to 4 IMA groups	1 STM-1/OC-3 WAN Interface, 1 STM-1/OC-3 subbund interface – Dual SC fiber – Single mode intermediate reach and multi-mode 1 DS-3 WAN interface, 2 DS-3 subbund interfaces 1 DS-3 WAN interface, 8 x T1 IMA WAN/subbund interfaces 1 STM-1/OC-3 WAN interface, 2 DS-3 subbund interfaces	1 STM-1/OC-3 WAN interface, 1 STM-1/OC-3 subbund interface – Dual SC fiber – Single-mode intermediate reach and multimode 1 E3 WAN interface, 2 E3 subbund interfaces BNC coax
NI-2 Card Specifications	MIPS processor running Cisco IOS 12.05DA and SNMP V.2 Management interfaces – In band: ATM VC – Out of band: 10BaseT Ethernet RS-232-232 console (RJ-48) RS-232-232 auxiliary (RJ-48)	Same as Cisco 6015	Same as Cisco 6015
DSL Interface Options	Quad-port ADSL (Flexi) – ANSI T1.413 Issue 2 (ADSL over POTS) – ITU G.992.1 (G.dmt) – ITU G.992.2 (G.lite) – ITU G.994.1 (G.hs) – CAP RADSL	Quad Port ADSL (DMT & CAP) – ANSI T1.413 Issue 2 (ADSL over POTS) – ITU G.992.1 (G.dmt) – ITU G.992.2 (G.lite) – ITU G.994.1 (G.hs) – CAP RADSL Quad Port SDSL (2B1Q) Octal Port IDSL (2B1Q) – FRF.8 and FRF.9 (Frame Relay to ATM Inter-working) – PPP over Frame Relay, PPP over HDLC	ADSL – ANSI T1.413 Issue 2 – ITU G.992.1 (G.dmt Annex A) – ITU G.992.1 Annex B (ADSL over ISDN, future) – ITU G.992.2 (G.lite)
Data Rates	RADSL—CAP – Downstream Speed Range: Up to 7.1 Mbps – Upstream Speed Range: Up to 1 Mbps ADSL—ANSI T1.413 Issue 2 – Downstream Speed Range: 32 Kbps to 8032 Kbps – Upstream Speed Range: 32 Kbps to 864 Kbps – Increments: 32 Kbps ADSL—ITU G.992.1 (G.dmt) – Downstream Speed Range: 32 Kbps to 8032 Kbps – Upstream Speed Range: 32 Kbps to 864 Kbps – Increments: 32 Kbps ADSL—ITU G.992.2 (G.lite) – Downstream Speed Range: 32 Kbps to 1536 Kbps – Upstream Speed Range: 32 Kbps to 512 Kbps – Increments: 32 Kbps SDSL—ITU G.shdsl – Speed Range: Up to 2.3 Mbps – Option for OPTIS and non-OPTIS	Same as Cisco 6015 plus: SDSL (2B1Q) – Speed Range: 144 Kbps to 1168 Kbps symmetric – Increments: 1168, 1040, 784, 528, 400, 272, and 144 Kbps IDSL (2B1Q) – Speed Range: Up to 144 Kbps symmetric – Increments: 56, 64, 128, 144 Kbps	ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) ADSL – Downstream speed range: 32 to 8032 kbps – Upstream speed range: 32 to 864 kbps – Increments: 32 kbps ITU G.992.2 (G.lite) ADSL – Downstream speed range: 32 to 1536 kbps – Upstream speed range: 32 to 512 kbps – Increments: 32 kbps
Dimensions (HxWxD)	5.25 x 17.5 x 11 in.	15.75 x 23 x 12 in.	23.5 in x 17.5 in. x 11 in.

For More Information

See the Cisco 6000 IP DSL Web site: <http://www.cisco.com/go/6000dsl>

Cisco IP Telephones ¹

The telephone is the most visible and integral component of the voice communications network. IP telephones deliver essential business communications at a touch. Fully programmable, with two models to choose from, Cisco IP telephones provide the most frequently used business features in an easy-to-program and easy-to-use platform. Each model is a full-featured telephone that can be plugged directly into a standard 10BaseT Ethernet connection. Each provides toll-quality audio, with no need for a companion PC. Because they are IP-based telephones, they can be installed anywhere on a corporate IP network. The phones are Dynamic Host Configuration Protocol (DHCP) supported and don't need to be co-located with the Cisco CallManager. Cisco IP telephones support both G.711 and G.723.1 audio compression for low-bandwidth requirements. Each model also contains an integrated Ethernet repeater, so you can use a single Ethernet switch port for the computer (data) and the Cisco IP telephone.



Key Features

- The Cisco 30 VIP is the full-featured Cisco IP telephone for executives and managers. It provides 30 programmable line and feature buttons, an internal, high-quality, two-way speakerphone with microphone mute, and a transfer feature button. A 40-character LCD display features 5/8" characters with information such as date and time, calling party name, calling party number, and digits dialed. An LED associated with each of the 30 feature and line buttons provides feature and line status.
- The Cisco 12 SP+ is the Cisco IP telephone designed for business professionals and office workers. This voice instrument supports 12 programmable line and feature buttons, an internal, high-quality two-way speakerphone, microphone mute, and a large LCD display for call status and identification. An LED associated with each of the 12 feature and line buttons provides feature and line status.
- DHCP support for Cisco IP telephones makes phone setup virtually automatic. With DHCP new installations can be accomplished in seconds, saving time and money over today's PBX system management.
- Moving Cisco IP telephones saves additional time and money because it requires no manual database adjustments or wiring changes. The phones can be moved from one 10BaseT port to another anywhere on the enterprise IP network. Cisco IP telephones will automatically boot and reregister with Cisco CallManager.
- Cisco IP telephones are Microsoft NetMeeting enabled. Using NetMeeting, features such as application sharing and video conferencing are available simply by pressing a button on your Cisco IP telephone.

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

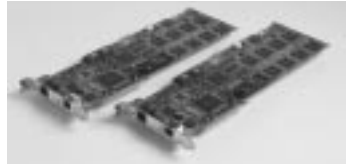
Feature	Cisco IP Telephone
Dimensions (H x W x D)	14.1 x 0.75 x 10.75 in (10.4 x 27.3 x 27.3)
Phone Weight	3.2 pounds (1.5 kg)
Material, Housing	ABS plastic, Dove Gray color Display
Model 30 VIP	5.58" x 0.78" in, 40 character X two-line; character height, 0.66" cm.
Model 12SP+	3" x 0.60", 20 character X two-line; character height.50"
Interface	Two Standard 10Base-T RJ-45 interfaces (IEEE 802.3)—one for 10BaseT network to phone connection and one "hub port" for connection from phone to PC or other network device
Software Specification	Requires Cisco CallManager to be installed on the IP network
Description Output	48 VDC
AC Input Voltage	100 to 230 VAC Country specific AC input current
Frequency	50 or 60 Hz
Operating Temperature	32° to 104°F (0° to 40°C)
Storage Temperature	14° to 140°F (-10° to 60°C)
Operating Humidity	10% to 95% (non-condensing)

For More Information

See the Cisco IP Telephones Web site: www.cisco.com/go/iptel

Cisco Access Digital Gateways¹

The Cisco Access Digital Gateway cards, the DT-24+ and DE-30+, provide the digital conversion gateways that enable IP telephones to send and receive telephone calls to and from the outside world. The cards work in conjunction with the Cisco CallManager software to convert digital IP voice calls to regular telephone calls, and vice-versa.



The cards plug into a personal computer's PCI slot, and have two interfaces: a T1-PRI or E1-PRI interface, which has 24 or 30 PCM (Pulse Code Modulated) channels, respectively; and a 10BaseT Ethernet interface.

When a Cisco IP telephone receives an incoming call from outside the LAN, the T1-PRI interface (or E1-PRI interface) receives the signal and sends it to the 10BaseT Ethernet interface, which converts it to digital IP packets. Conversely, when a Cisco IP telephone dials an outside number, the signal is transmitted over the LAN to the 10BaseT Ethernet interface where the digital IP packets are reassembled and sent back out by the T1-PRI interface.

Cisco Access Digital Gateways are for customers who need digital interface capability for their IP telephones for one or both of the following reasons:

- System size (based on number of users and/or call traffic) makes a digital trunk interface more economical than separate analog interfaces.
- Direct inward dial (DID) functionality is desired in order to eliminate manually transferring outside calls.

Key Features

- Flexibility
 - The DT-24+ and DE-30+ can be installed in any PCI bus computer; they draw power from the bus, and are controlled by the Cisco CallManager to provide call ingress and egress to the IP telephone system
 - Since it does not touch the data bus, it does not affect the performance or operation of the host PC in any way
 - Multiple cards can be mounted in the same chassis
- Support and installation convenience
 - Cisco Access Digital Gateways automatically registers with the Cisco CallManager, making it simple to install
 - The DT-24+ and DE-30+ are fully manageable from the Cisco CallManager
 - Highly reliable design provides fewer points of failure
 - Downloadable software via automatic TFTP upon boot-up

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Description	Cisco Access Digital Gateway
Supported Features	Supplementary services (hold, transfer park, etc.) on outside calls ISDN-PRI- both network and user side Switchover to secondary (and tertiary) Cisco CallManager during Cisco CallManger failover situations
Performance	Supports up to 23 (DT-24+) or 30 (DE-30+) simultaneous compressed calls
Dimensions (H x W)	4.125 x 12.25 in. (10.48 x 31.12 cm)
Power	1 Amp from 5v PCI bus, (0 Amps from 3.3V bus), for approximately 5 Watts power
Operating Temperature	32° to 104°F (0° to 40°C)
Relative Humidity	10 to 95% (noncondensing)
Storage Temperature	14° to 140°F (-10° to 60°C)
On-board, Integrated Digital Signal Processors (DSPs) connect to 2 interfaces	T1/E1 (RJ-48C female) interface 10Base-T Ethernet network interface (RJ-45 female)
Simultaneous, 30-channel operation of these functions:	Circuit-switched to packet adaption G.711 mu-law to A-law translation G.711 A-law to mu-law translation G.711 (A-law or mu-law) to G.723.1 transcoding OR G.711 (A-law or mu-law) to G.729A transcoding Line echo cancellation DTMF detection and out-of-band signaling translation towards packet side

For More Information

See the Cisco Access Digital Gateways Web site: www.cisco.com/go/adg

Cisco Media Convergence Server 7830¹



The Cisco Media Convergence Server 7830 (MCS-7830) is a high-availability server platform for the Cisco desktop IP telephony system. With Cisco CallManager software preinstalled in this fault-tolerant server, the wide-scale deployment of industry-leading Cisco IP telephony solutions has never been easier. The Cisco MCS-7830 is an integral part of a complete, scalable architecture for a new generation of high-quality IP voice solutions that run on the enterprise data network. The MCS-7830 delivers the high performance and availability demanded by today's enterprise networks and represents a turnkey solution that is easy to deploy and highly cost-effective.

Key Features

The Media Convergence Server has the following features:

- Fault-tolerant, high availability rack mount Windows NT server with Cisco CallManager software preinstalled
- Combines with Cisco switching infrastructure, Cisco IP Telephony Gateways, and Cisco IP telephones to build a "New World" Cisco Desktop IP Telephony system
- Powerful enough for large enterprise IP telephony deployments thanks to a Pentium III / 500 MHz processor and 256 MB of ECC SDRAM
- Includes redundancy features such as redundant, hot-swappable power supplies and redundant 9.1GB SCSI hard drives configured for RAID 0/1 disk mirroring
- Includes a Remote Management Board (RMB) that is completely independent of the server operating system and processor for remote access to the server; also, the RMB is capable of sending a network manager an email or page if the server is experiencing difficulty
- Includes a rack mount kit that allows the MCS-7830 to be installed in most industry standard 19-inch racks
- Fully supported by Cisco's Technical Assistance Center

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Description	Cisco Media Convergence Server 7830
Server	Intel Pentium III 500-MHz processor (dual processor capability) 512-KB second-level ECC cache 256 MB 100-MHz ECC SDRAM memory, expandable to 1 GB 10/100 TX PCI UTP controller (embedded) on the PCI local bus Integrated dual channel wide ultra SCSI-3 controller Support for up to six 1-inch wide ultra2 SCSI hot-plug drives Dual 9.1-GB Ultra SCSI hot-plug drives 1.44-MB floppy disk Preinstalled high-speed IDE CD ROM drive Dual 325W hot-plug redundant power supplies Two PCI and four shared PCI/ISA slots, (six total slots) Integrated 1024 x 768, 256-color, noninterlaced on PCI local bus, 1-MB video memory 5U rack height, ships with sliding rails and cable management
Remote Management Board	Automatic server recovery-2 (ASR-2) Integrated remote console (IRC) Hardware remote console Full remote server reboot capability Reset and failure sequence replay Host hardware independent Operating system independent Communication is out of band Serial port for modem connection Battery backup
Security	Power-on password Hot-plug keyboard password Diskette drive control Diskette boot control QuickLock, network server mode Parallel and serial interface control Administrator's password Disk configuration lock
Preinstalled Software	Cisco CallManager (call processing and call control application) Cisco CallManager database (ODBC configuration database) Cisco CallManager Administration software (web-browsable application provides graphical user interface to Cisco CallManager database) Cisco ConferenceBridge (basic voice-conferencing application) Cisco ActivePhoneBook (click to call, browsable directory service) Cisco Web Attendant Console (software-only, web-browsable manual attendant console) Windows TAPI version 2.1 service provider interface Microsoft Windows NT Server Microsoft Internet Information Server (IIS) (web server for remote access to Cisco CallManager database)
Dimensions (HxDxW)	8.67 x 19 x 22.75 in. (22 x 48.34 x 55.9 cm)
Weight	63 lbs (28.35 kg) (without hard drives)
Acoustic Noise NPEL (BELS)	Idle (fixed disk drives spinning) 643
Average SPL (dBA)	Operating (random seeks to fixed disks) 6.144

For More Information

See the Cisco Media Convergence Server 7830 Web site: www.cisco.com/go/mcs

Cisco CallManager Version 2.4¹

The Cisco CallManager is the call-processing software component of the Cisco AVVID (Architecture for Voice, Video and Integrated Data) network. Cisco CallManager software is preinstalled and preconfigured on a server-class, high availability platform that extends enterprise telephony features and functions to packet telephony network devices such as IP phones, software phones, and Voice over IP (VoIP) gateways. Additional voice, video, and data services such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems are provided through open application programming interfaces (API). Cisco CallManager provides basic call processing, signaling, and connection services to packet telephony devices.



Key Features

- Suite of integrated voice applications that perform voice conferencing, manual Web attendant console, click-to-call, and other functions.
- Extends supplementary services such as hold, transfer, forward, conference, multiple line appearances, automatic route selection, speed dial, last-number redial, and other features to IP phones and gateways.
- Allows distribution of phones, gateways, and applications across a routable IP network, providing a single, distributed, virtual telephony network.
- Reduces cost of ownership over traditional enterprise telephony networks while extending capabilities beyond the capabilities of traditional PBX.
- Is preinstalled on Windows NT servers. In a multiserver environment, Cisco CallManagers are logically coupled through an H.323 signaling interface. Microsoft IIS (Internet Information Server) is installed on the Cisco CallManager server to provide a Web-browsable interface to the Cisco CallManager configuration database.
- A duplicate, hot-standby Cisco CallManager server can back up individual Cisco CallManager servers, providing complete call processing redundancy.
- Currently, Cisco CallManager scales to a single server. The architecture allows for a natural progression to a scalable network of multiple, redundant Cisco CallManager servers with inter-CallManager feature transparency.
- Enhancing Cisco CallManager is a matter of upgrading software, so you avoid expensive hardware upgrades.
- A Windows Telephony Applications Programming Interface (TAPI) is available for third-party applications development.

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco CallManager
Platform	Media Convergence Server, MCS-7830 Enterprise packet telephony application High availability, 5U high, 19 inch wide, suitable for platform mounting in 19 inch racks
Preinstalled, Preconfigured Software	<p>Cisco CallManager version 2.4 (call processing and call control application)</p> <p>Cisco CallManager version 2.4 configuration database</p> <p>Cisco CallManager Administration software (Web-browsable application provides graphical user interface to Cisco CallManager database - unlimited usage)</p> <p>Cisco ConferenceBridge (basic voice conferencing application - unlimited usage)</p> <p>Cisco Active PhoneBook (click to call, browsable directory service - unlimited usage)</p> <p>Cisco Web Attendant Console (software-only, Web-browsable manual attendant console - unlimited usage)</p> <p>Windows TAPI version 2.1 service provider interface (unlimited usage/number TAPI ports)</p> <p>Microsoft Internet Information Server (IIS) (Web server for remote access to Cisco CallManager database)</p>
System Capabilities	<p>Automated bandwidth and route selection</p> <p>H.323 supplementary services: H.323 compliant interface to third-party gateways, clients, gatekeepers; H.323 version 2 RAS Call processing server redundancy—hot standby server</p> <p>Manual attendant console—software-only</p> <p>Multiple ISDN protocol support—NI2, 5ESS, 4ESS, EuroISDN, DMS-100/250, 5ESS custom and more</p> <p>Transparently deployable across an IP network VoIP Gateway redundancy</p> <p>Outbound call blocking and filtering</p> <p>TAPI 2.1 service provider interface</p> <p>Device configuration through Web browser</p> <p>Call admission control across constricted WAN links</p> <p>Digit analysis and subsequent call treatment</p> <p>SMDI interface for message waiting indication</p> <p>Secure Cisco CallManager remote serviceability access through Cisco bridged Telnet service</p> <p>Enterprise dial plan support</p> <p>Single, unified dial plan</p> <p>Out-of-band DTMF signaling for improved</p> <p>DTMF response with low bandwidth CODECs</p> <p>Command line interface for server monitoring</p> <p>Emergency 911 call locator regulation compliance</p>
User Features	<p>Ad-hoc multiparty voice conference; meet-me multiparty conference; single button video conference initiation</p> <p>Calling Party ID display</p> <p>Multiple extensions per phone: Shared extension, multiple phones; Shared extension privacy</p> <p>Answer/answer release; Auto-answer</p> <p>Click to dial from Web phone listing</p> <p>Call Forward-All; Call Forward-Busy; Call Forward-No Answer</p> <p>Single button data collaboration initiation</p> <p>Direct Inward Dial (DID); Direct Outward Dial; Last Number Redial</p> <p>Call Hold/Retrieve; Tone-on-Hold</p> <p>Manual Attendant Console; Transfer-with consult Call Park/Pickup; Transfer-without consult</p> <p>Call Waiting/Retrieve; Message Waiting Indication</p> <p>User device configuration-speed dial, call forward</p>
Administrative Features	<p>Call Detail Records</p> <p>Remote system event monitoring</p> <p>Configurable per-phone date/time display format; Configurable per-phone time zone - synched to Cisco CallManager</p> <p>Remote system and component performance monitoring</p> <p>Zero-cost phone/gateway moves</p> <p>OS time services</p> <p>Phone/gateway upgrades through software download</p> <p>E911 database configuration utility</p>

For More Information

See the Cisco CallManager Web site: www.cisco.com/go/callmgr

Switches and Hubs at a Glance

Product	Features	Page
Cisco 1548 Series Micro Switches 10/100	<ul style="list-style-type: none"> Fixed-configuration 10/100 Fast Ethernet switches • 8 autosensting 10/100 ports • Managed and unmanaged versions • Part of the Cisco Networked Office stack family 	127
Catalyst 1900 Series	<ul style="list-style-type: none"> Fixed-configuration Ethernet switches • 12 or 24 10BaseT ports • Two 100BaseTX, one 100BaseFX, or two 100BaseFX uplinks • Cisco switch clustering enabled • Managed 	129
Catalyst 2820 Series	<ul style="list-style-type: none"> Modular Ethernet switches • 24 10BaseT ports • Two high-speed module slots for Fast Ethernet, FDDI, and ATM • Cisco switch clustering enabled • Managed 	132
Catalyst 2900 Series	<ul style="list-style-type: none"> Fixed-configuration Ethernet switches • 10/100 autosensting and autonegotiating interface • 1000BaseX GBIC uplinks • Managed 	135
Catalyst 2900 Series XL	<ul style="list-style-type: none"> Fixed and modular 10/100 Ethernet switches • 12, 22, or 24 10/100 ports • 12 100Base FX ports (2912MF XL) • Two high-speed module slots accommodating 10/100, 100BaseFX, Gigabit Ethernet (including 1000-BaseT), ATM, and GigaStack GBIC (2912MF XL and 2924M XL only) • Cisco switch clustering enabled • Managed 	137
Catalyst 2948G-L3	<ul style="list-style-type: none"> Fixed-configuration Layer 3 (L3) Ethernet switch featuring wire-speed switching for Internet Protocol (IP), Internetwork Packet Exchange (IPX®), and IP multicast • Dedicated 48 ports of 10/100 Mbps Ethernet • Two ports of 1000BaseX Gigabit Ethernet with gigabit interface converter (GBIC) support • Managed 	140
Catalyst 3500 Series XL	<ul style="list-style-type: none"> Fixed-configuration 10/100 and Gigabit Ethernet switches • 12, 24, or 48 10/100 ports with 2 GBIC-based Gigabit Ethernet ports • 24 ports with 2 GBIC-based Gigabit Ethernet ports with in-line power • 8 GBIC-based ports (3508G XL) • Stackable up to 9 switches with GigaStack GBIC • Cisco Switch Clustering capable • Managed 	142
Catalyst 3900 Series	<ul style="list-style-type: none"> Fixed and modular Token Ring switches • 20 or 24 Token Ring ports • Stackable up to 8 switches • One FlexSlot accommodating additional Token Ring ports or ATM or ISL uplinks (Cisco 3900 only) • Managed 	145
Catalyst 4000 Series — Modular Configuration	<ul style="list-style-type: none"> 10/100/1000 Ethernet for wiring closet and server switching with intelligent Enterprise Cisco IOS services • Ethernet, Fast Ethernet and Gigabit Ethernet • Wire speed layer 2 and layer 3 switching • Up to 60 Gbps of switching capacity • Managed 	147
Catalyst 4000 Series — Fixed Configuration	<ul style="list-style-type: none"> Fixed Gigabit Ethernet switches for backbone and server switching with intelligent enterprise Cisco IOS services • Dedicated Gigabit Ethernet • Wire speed Layer 2 or Layer 3 switching • Up to 24 Gbps of dedicated bandwidth • Managed 	150
Catalyst 5000 Family	<ul style="list-style-type: none"> Fully modular, high-performance, multimedia switches • Ethernet, Fast Ethernet, Fast EtherChannel®, Gigabit Ethernet, FDDI/CDDI, Token Ring, and ATM modules • System multicast throughput ranging from 1 Mpps to >50 Mpps • Optional route switch module and NetFlow switching feature card for Layer 3 functionality • Managed 	152

Product	Features	Page
Catalyst 6000 Family	High-performance, multilayer switch for enterprise campus backbones or server aggregation <ul style="list-style-type: none"> • 10/100, 100FX Fast Ethernet and Gigabit Ethernet modules • Layer 4-7 Services • Packet throughput scalable to 150 Mpps • Managed 	156
Catalyst 8500 Series	High-performance, modular, multimedia switch router <ul style="list-style-type: none"> • Wire speed, nonblocking IP, IPX, IP multicast Layer 3 switching • Multiple interface options • Managed 	159
Cisco HP 10BaseT Hub	Fixed configuration Ethernet hub <ul style="list-style-type: none"> • 16 10BaseT ports and 1 AUI connection • Manageable via SNMP, telnet, or terminal-based • Integrated with Cisco IOS Technologies 	162
Cisco 1538 Series Micro Hubs 10/100	Fixed-configuration 10/100 Fast Ethernet hubs <ul style="list-style-type: none"> • 8 autosensing 10/100 ports • Managed and manageable versions • Part of the Cisco Networked Office stack family 	164
FastHub 400 10/100 Series Repeaters	Modular 10/100 Fast Ethernet hubs <ul style="list-style-type: none"> • 12 and 24 autosensing 10/100 ports • Managed and manageable versions • Stackable up to 4 units • Optional switched uplink modules 	166

Cisco Switches and Hubs Port Matrix

	Switches											Hubs		
	Cisco 1548U/1548M	Catalyst 1900	Catalyst 2820	Catalyst 2900	Catalyst 2900 XL	Catalyst 3500 XL	Catalyst 3900	Catalyst 4000	Catalyst 5000	Catalyst 6000	Catalyst 8500	Cisco HP 1516	Cisco 1538/1538M	FastHub 400
Fixed Ports Only	X	X		X								X	X	
Fixed and Modular Ports			X		X	X	X	X						X
Modular Ports Only								X	X	X				
Ports														
10BaseT Switched		X	X		X	X		X	X	X				
10BaseFL Switched								X	X					
100BaseT Switched		X	X	X	X	X		X	X	X				
100BaseF Switched		X	X		X			X	X	X	X			
10/100 Autosensing Switched	X			X	X	X		X	X	X	X			
Shared 10BaseT								X			X			
Shared 10/100												X	X	
Shared 100BaseT			X					X						
Shared 100BaseF			X											
Token Ring						X		X						
FDDI/CDDI			X					X						
ATM			X		X		X	X	X	X				
Gigabit Ethernet				X	X	X		X	X	X	X			
Integrated In-Line Power						X				X				
Integrated Server Load Balancing								X		X				

Cisco Ethernet and Fast Ethernet Switches Overview

Cisco's award-winning Catalyst switch family spans the entire user application spectrum, from cost-conscious desktop and workgroup switches to multilayer-capable switches for scalable enterprise applications in the wiring closet, data center, and backbone. The Catalyst line of switching solutions offers scalability, breadth, performance, and manageability.

Cisco IOS Software delivers advanced network services to Catalyst platforms and networked applications. Cisco IOS Technologies, optimized for switching and available on all Catalyst switches, include Fast EtherChannel technology for bandwidth aggregation, Cisco Group Management Protocol support for optimized performance with multicast and multimedia traffic, and extensive management features. Cisco IOS Software also provides support for virtual LAN (VLAN) configuration and management, IP address management, and secure access to network services.

Some of the key features of Cisco IOS Software as it is supported by Catalyst Ethernet switches include the following:

- CiscoView graphical-user-interface (GUI) based network management support, allowing easy point-and-click discovery of device status, statistics, and comprehensive per-port configuration and performance information
- Web-based interface for installation and administration; Telnet and SNMP support for in-band and out-of-band management console
- Cisco's switch clustering technology enabling up to 16 interconnected Catalyst 1900, 2900 XL, and 3500 XL switches, regardless of geographical location, to form a flexible, single IP-managed network
- Embedded RMON for four groups of RMON and a Switched Port Analyzer port, supporting a RMON probe for complete traffic monitoring
- LEDs for monitoring the activities and status of the switches
- IEEE 802.1d spanning tree for network loop detection and disabling, and for fault-tolerant connectivity
- Cisco Discovery Protocol (CDP) to deliver network topology discovery and mapping, allowing devices to discover other Cisco devices on the network
- Multicast address registration and packet filtering
- Intranet multimedia and multicast support through the CGMP
- VLANs ease network administration by enabling users to be logically grouped, regardless of physical location (Catalyst 1900, 2820, 2900, 2900 XL, 3500 XL, 3900, 4000 Family, 5000 Family, and 6000 Family)
 - Virtual Trunking Protocol (VTP) allows VLAN configuration changes made on one switch to be automatically updated to the other switches
 - Inter-Switch Link (ISL) protocol dynamically configures trunk ports between Catalyst switches
- Fast EtherChannel and Gigabit EtherChannel technologies provide bandwidth aggregation, which enable parallel bandwidth links between switches (Catalyst 1900, 2820, 2900 XL, 3500 XL, 4000, 5000, and 6000)

Cisco 1548 Series Micro Switches 10/100



The Cisco 1548 Series Micro Switches are affordable autosensing 10/100 Fast Ethernet switches for creating high-performance LANs in

enterprise remote branch offices or small and growing businesses. For customers whose bandwidth requirements have outgrown their legacy 10BaseT networks, the eight-port Cisco 1548M and Cisco 1548U switches offer dedicated 10/100 autosensing Fast Ethernet connections for aggregating workgroups or connecting Ethernet or Fast Ethernet desktops.

The Cisco Series Micro Switches 1548 are part of the Cisco Networked Office stack family of products designed to provide integrated, secure networking solutions for small businesses and small branch offices.

When to Sell

Sell This Product

Cisco 1548U

When a Customer Needs These Features

- Dedicated 10- or 100-Mbps autosensing, autonegotiating connections to individual users, workgroups, and servers to support bandwidth-intensive applications

Cisco 1548M

- Dedicated 10- or 100-Mbps autosensing, autonegotiating connections to individual users, workgroups and servers to support bandwidth-intensive applications
- Cost-effective and powerful management with SNMP and RMON management protocols and a Web-based management interface
- Port-based VLANs for increased performance and security

Key Features

- Eight autosensing 10BaseT/100BaseTX Fast Ethernet ports that support connections at Ethernet and Fast Ethernet speeds
- Autosensing of communications speed and autonegotiation of duplex mode
- Web-based management interface provides the most powerful and cost-effective management options in its class (1548M only)
- Full-duplex operation on each switched 10/100 port, delivering up to 200 Mbps of bandwidth to end stations or servers and between switches
- Automatic configuration and self-test on startup
- Extensive array of LEDs for convenient visual management
- Operation as a standalone device or connected to other hubs, switches, or routers to form a larger network

Specifications

Feature	Cisco 1548U	Cisco 1548M
Fixed Ports (connections)	8-port 10/100 autosensing	8-port 10/100 autosensing
Modular Slots	None	None
Stackable	No	No
Full-Duplex Capabilities	Yes	Yes
VLAN Maximum	No	Up to four overlapping bridge groups or VLANs
Management Capabilities	No	SNMP, out-of-band, Telnet, RMON, CDP, Web-Based Management Interface, CWSI support, CiscoView support
Embedded RMON	No	History, Events, Alarms, Statistics
Dimensions (HxWxD)	3.1 x 11.2 x 8.7 in.	3.1 x 11.2 x 8.7 in.
Service Category	1	1

Competitive Products

- 3Com: Baseline 10/10 Switch and OfficeConnect Switch 400
- Intel: InBusiness Switch Plus
- Nortel: NetGear FS508

Distribution Part Numbers and Ordering Information

Cisco 1548 Series Micro Switches 10/100¹

CISCO1548U-DS	8-port 10/100- Autosensing, Full-Duplex Switch
CISCO1548M	8-port 10/100- Autosensing, Full-Duplex, Managed Switch
CON-SNT-PKG1	Cisco 1548 Micro Switch SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 1548 Micro Switch Web site: <http://www.cisco.com/go/1548>

Cisco Catalyst 1900 Series

The Catalyst 1900 series switches, available in Standard and Enterprise editions, provide industry-leading performance and Cisco end-to-end network integration at an exceptionally affordable price. Enterprise edition software enables the Catalyst 1900 Series to deliver unmatched network configuration flexibility and scalability through embedded Cisco IOS Technologies, delivering comprehensive management and security, bandwidth optimization, networked multimedia, and virtual LAN (VLAN) support.



When to Sell

Sell This Product

Catalyst 1900 Series Standard Edition

Catalyst 1900 Series Enterprise Edition

When a Customer Needs These Features

- Lowest-cost switched Ethernet to individual desktops and 10BaseT hubs
- High-speed connections to 100BaseT or 100BaseFX backbones or servers
- Software upgradable to Enterprise edition
- End-to-end ISL VLANs
- Bandwidth aggregation with Fast EtherChannel technology
- Enhanced security with TACACS+ and multi-level console access
- Consistent management interface across Cisco product lines with Cisco IOS Software command-line interface (CLI)
- Dynamic multicast containment with CGMP
- Increased reliability via uplinkfast

Key Features

- 1024 Media Access Control (MAC) address cache
- Web-based interface for ease of installation, administration and management
- CiscoWorks device-management support
- Telnet and SNMP support for in-band management and a menu-driven, out-of-band management console
- CGMP for dynamic and selective forward routed IP multicast traffic to target multimedia end stations, reducing overall network traffic and reducing network disruptions
- Embedded RMON software agents that support four RMON groups and SPAN port for connection to RMON probe
- Support for up to four overlapping bridge groups to manage bandwidth and provide added security through broadcast control
- Cisco IOS Software CLI (Enterprise edition)
- Cisco's switch clustering technology enables up to 16 interconnected Catalyst 1900, 2900 XL, and 3500 XL switches, regardless of geographic location, to form a flexible, single IP managed network

Specifications

Feature	Catalyst 1912	Catalyst 1924
Fixed Ports (connections)	12-port (10BaseT) 1-port (AUI) 2-port 100BaseTX or 1-port 100BaseTX and 1-port 100BaseFX (1912C)	24-port (10BaseT) 1-port (AUI) 2-port 100BaseTX, 1-port 100BaseTX and 1-port 100BaseFX (1924C), or 2-port 100BaseFX (1924F)
Modular Slots	None	None
Backplane	1 Gbps	1 Gbps
Stackable	No	No
Full-Duplex Capabilities	Half/full duplex autonegotiated	Half/full duplex autonegotiated
VLAN Maximum	Up to four overlapping bridge groups or 1024 ISL VLANs	Up to four overlapping bridge groups or 1024 ISL VLANs
FEC	Yes	Yes
ISL	Yes	Yes
Management Capabilities	SNMP out-of-band, Telnet, RMON, Cisco Visual Switch Manager Web-based interface, CWSI, CiscoView, StackView/Stack Maker	Same as Catalyst 1912
Processor	80486 CPU	80486 CPU
Flash Memory	1 MB	1 MB
DRAM	2 MB	2 MB
Embedded RMON	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics
Dimensions (HxWxD)	1.73 x 17.5 x 8.25 in.	1.73 x 17.5 x 8.25 in.
Service Category	1912-A, 1912C-A, 1912-EN: 2 1912C-EN: 3	1924-A, 1924-EN, 1924C-A, 1924F-A: 3 1924C-EN, 1924F-EN: 4

Competitive Products

- 3Com: SuperStack Switch 1100
- Nortel: BayStack 303 and 304 switches

Distribution Part Numbers and Ordering Information

Catalyst 1900 Switch Family (Standard)¹

WS-C1912-A	12-port 10bT, 2-port 100bTX (Enterprise Upgradeable)
WS-C1924F-A	24-port 10bT, 2-port 100bFX
WS-C1912C-A	12-port 10bT, 1-port 100bTX, 1-port 100bFX (Enterprise Upgradeable)
WS-C1924-A	24-port 10bT, 2-port 100bTX- Enterprise Upgradeable
WS-C1924C-A	24-port 10bT, 1-port 100bTX, 1-port 100bFX (Enterprise Upgradeable)

Catalyst 1900 Switch Family (Enterprise)

WS-C1912-EN	12-port 10bT + 2-port 100bTX (ISL, CGMP, RMON)
WS-C1912C-EN	12-port 10bT + 1-port 100bTX + 1-port 100bFX (ISL, CGMP, RMON)
WS-C1924-EN	24-port 10bT + 2-port 100bTX (ISL, CGMP, RMON)
WS-C1924C-EN	24-port 10bT + 1-port 100bTX + 1-port 100bFX (ISL, CGMP, RMON)
WS-C1924F-EN	24-port 10bT + 2-port 100bFX

Catalyst 1900 Switch Bundles

WS-C1924-EN-5PACK	Five Catalyst 1924-EN Switches
WS-C1924C-EN-5PACK	Five Catalyst 1924C-EN Switches

Catalyst 1900 Series Upgrade Kits

WS-C19/28-EN	Catalyst 1900/2820 Enterprise Edition Upgrade Kit
WS-C19/28-IDEN	Catalyst 1900/2820 Enterprise Edition Upgrade Kit (10 pack)

Catalyst 1900 Series Basic Maintenance

CON-SNT-PKG2	Catalyst 1912-A, 1912C-A, 1912-EN SMARTnet Maintenance
CON-SNT-PKG3	Catalyst 1912C-EN, 1924-A, 1924-EN, 1924C-A, 1924F-A SMARTnet Maintenance
CON-SNT-PKG4	Catalyst 1924C-EN, 1924F-EN SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 1900 Web site: <http://www.cisco.com/go/1900>

Cisco Catalyst 2820 Series

The Catalyst 2820 series switches, available in Standard and Enterprise editions, provide industry-leading performance and Cisco end-to-end



network integration at an exceptionally affordable price. Enterprise edition software enables these switches to deliver unmatched network configuration flexibility and scalability through embedded Cisco IOS Technologies, which delivers comprehensive management and security, bandwidth optimization, networked multimedia, and virtual LAN (VLAN) support.

When to Sell

Sell This Product

Catalyst 2820 Series Standard Edition

When a Customer Needs These Features

- Affordable switched Ethernet for larger workgroups
- High-speed module choices with switched and shared 100BaseTX, 100BaseFX, switched FDDI, and ATM
- Dynamic multicast management support (CGMP)
- Software upgradability to Enterprise edition features

Catalyst 2820 Series Enterprise Edition

- End-to-end ISL VLANs
- Bandwidth aggregation with Fast EtherChannel technology
- Up to 64 emulated LANs (ELANs)

Key Features

- Increases performance of Ethernet workgroups that require 100BaseTX, 100BaseFX, FDDI, or ATM connectivity to servers and backbones
- Collision-free operation for full-duplex 100BaseT, providing up to 200-Mbps bandwidth and extended distances using fiber cabling
- Web-based interface for ease of installation and administration
- Cisco Switch Clustering technology to enable up to 16 interconnected Catalyst 1900, 2900 XL, and 3500 XL switches, regardless of geographic location, to form a flexible, single IP managed network
- Up to 370-Mbps maximum forwarding bandwidth and 550,000 packets-per-second (pps) aggregate packet-forwarding rate (64-byte packets)
- Telnet and SNMP support for in-band management and a menu-driven, out-of-band management console
- CGMP for dynamic and selective forward routed IP multicast traffic to target multimedia end stations, reducing overall network traffic
- Embedded RMON software agents that support four RMON groups (history, statistics, alarms, and events)
- Cisco IOS Software CLI (Enterprise edition)
- Bandwidth aggregation through Fast EtherChannel enhances fault tolerance and offers up to 400 Mbps of bandwidth between switches and routers and individual servers (Enterprise edition)

Specifications

Feature	Catalyst 2828
Fixed Ports (connections)	24-port (10BaseT) 1-port (AUJ)
Modular Slots	2
Available Modules	1-port 100BaseT 8-port 100BaseTX (shared) 1-port 100BaseFX 4-port 100BaseFX (shared) 1-port FDDI fiber DAS 1-port FDDI fiber SAS 1-port FDDI UTP SAS (CDDI) 1-port ATM UTP 1-port ATM MMF 1-port ATM 155 single mode, medium-reach fiber 1-port ATM 155 single mode, long-reach fiber
Backplane	1 Gbps
Stackable	No
Full Duplex Capabilities	Half/full duplex autonegotiated
Maximum Number of Addresses	8192
VLAN Maximum	Up to four overlapping bridge groups or 1024 ISL VLANs
FEC	Yes
ISL	Yes
Management Capabilities	SNMP, out-of-band, Telnet, RMON, Cisco Visual Switch Manager Web-based interface, CWSI, ATM Director, CiscoView, StackView/Stack Maker
Processor	80486 CPU
Flash Memory	1 MB
DRAM	2 MB
Embedded RMON	History, Events, Alarms, Statistics
Dimensions (HxWxD)	3.43 x 17.5 x 12.4 in.
Service Category	2 (Standard edition) 3 (Enterprise edition)

Competitive Products

- 3Com: SuperStack Switch 1100
- Nortel/Bay: BayStack 303 and 304 switches

Distribution Part Numbers and Ordering Information

Catalyst 2820 Switch Family (Standard)¹

WS-C2828-A 24-port 10bT, 2-slots (8K MAC, Enterprise Upgradeable)

Catalyst 2820 Switch Family (Enterprise)

WS-C2828-EN 24-port 10bT, 2-slots (8K MAC, ISL, CGMP, RMON)

Catalyst 2820 Series Modules

WS-X2811 1-port 100bT Module

WS-X2818 8-port 100bTX Module

WS-X2821 1-port 100bFX Module

WS-X2824 4-port 100bFX Module

WS-X2831 1-port FDDI Module (UTP, SAS)

WS-X2841 1-port FDDI Module (Fiber, SAS)

WS-X2842 1-port FDDI Module (Fiber, DAS)

WS-X2851 1-port ATM Module (155 Mbps, UTP)

WS-X2861 1-port ATM Module (155 Mbps, multimode, fiber)

WS-X2871 1-port ATM Module (155 Mbps, single mode, fiber - Medium Range)

WS-X2872 1-port ATM Module (155 Mbps, single mode, fiber - Long Range)

Catalyst 2820 Series Upgrade Kits

WS-C19/28EEUG Catalyst 1900/2820 Enterprise Edition Upgrade Kit

WS-C19/28UG10 Catalyst 1900/2820 Enterprise Edition Upgrade Kit (10 Pack)

Catalyst 2820 Series Basic Maintenance

CON-SNT-PKG2 Catalyst 2820 Series Standard Edition SMARTnet Maintenance

CON-SNT-PKG3 Catalyst 2820 Series Enterprise Edition SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 2820 Web site: <http://www.cisco.com/go/2820>

Cisco Catalyst 2900 Series

The Catalyst 2948G and 2980G deliver all the Ethernet switching needed for many small- to medium-sized wiring closets in a single system without the need for additional modules, cables or other interconnects. Utilizing the same industry- leading software and functionality of



the Catalyst 4000, 5000 and 6000 families, the Catalyst 2948G and 2980G have consistent end-to-end services, which ensure complete interoperability with enterprise Catalyst switches.

When to Sell

Sell This Product

Catalyst 2980G Series

When a Customer Needs These Features

- A single box solution without additional cables, modules or configuration
- Up to 80 ports of wire-speed, non-blocking performance with large MTBF reliability
- End-to-end VLANs, EtherChannel, multicasting, and security
- Mature/proven Catalyst software compatibility in the wiring closet and data center

Catalyst 2948G Series

- The same features as 2980G but up to 48 ports of wire-speed, non-blocking performance

Key Features

- Powerful non-blocking performance with proven Cisco IOS® services
- Wire speed 18 Million pps switching throughput
- Intelligent multilayer IOS services (security, multicast, quality of service [QoS])
- Advanced multiple queue QoS architecture
- Security (TACACS+, RADIUS, port lockdown)
- Spanning-Tree Protocol (802.1D) with enhancements (UplinkFast, PortFast) for deterministic/fast failover

Specifications

Feature	Catalyst 2980G	Catalyst 2948G
Fixed Ports (connections)	80-port 10/100BaseTX 2-port 1000BaseX (GBIC)	48-port 10/100BaseTX 2-port 1000BaseX (GBIC)
Backplane	24 Gbps	24 Gbps
Stackable	No	No
Full-Duplex Capabilities	All ports	All ports
VLAN Maximum	1024	1024
FEC	Yes	Yes
ISL	No	No
802.1Q	Yes	Yes
Management Capabilities	CiscoWorks 2000, CWSI, CiscoView, CDP, VTP, Enhanced SPAN, SNMP, Telnet Client, BOOTP, TFTP	CiscoWorks 2000, CWSI, CiscoView, CDP, VTP, Enhanced SPAN, SNMP, Telnet Client, BOOTP, TFTP
Processor Speed (Type)	200 MHz (R5000 RISC)	200 MHz (R5000 RISC)
Flash Memory	12 MB	12 MB
DRAM Memory	64 MB	64 MB
Embedded RMON	Statistics, history, alarms, events	Statistics, history, alarms, events
Dimensions (HxWxD)	5.75 x 17 x 18 in.	2.62 x 17.5 x 15 in.
Service Category	8	8

Competitive Products

- 3Com: SS3300
- Nortel/Bay: BayStack 350T and 450T
- Cabletron: SmartSwitch 6000 and 2200

Distribution Part Numbers and Ordering Information

Catalyst 2900 Series Switches¹

WS-C2948G	Catalyst 2948G Switch, 48 10/100Tx (RJ-45) + 2 1000x (GBIC Slots)
WS-C2980G	Catalyst 2980G Switch, 80 10/100Tx (RJ-45) + 2 1000x (GBIC Slots)

Catalyst 2900 Series Modules

WS-G5484=	GBIC Module, fiber media SX
WS-G5486=	GBIC Module, fiber media LX/LH
WS-G5487=	GBIC Module, Fiber Media Zx

Mini-RMON Agent License

WS-C2948G-EMS-LIC	Catalyst 2948G RMON Agent License
WS-C2980G-EMS-LIC	Catalyst 2980G RMON Agent Agreement

Catalyst 2900 Series Accessories

WS-X2948G-RACK=	Catalyst 2948G Rack Kit (spare)
WS-X2980G-RACK=	Catalyst 2980G Rack Kit (Spare)
PWR600-AC-RPS-CAB	Redundant Power Supply (RPS), 600 Watts (2948G only)
PWR600-AC-RPS-NCAB	RPS without Cable (2948G only)

Catalyst 2900 Series Basic Maintenance

CON-SNT-PKG8	Catalyst 2948 and 2900 SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 2900 Web site: <http://www.cisco.com/go/2900>

Cisco Catalyst 2900 Series XL

Cisco's Catalyst 2900 Series XL is a full line of stand-alone, 10/100 autosensing Fast Ethernet switches that combine outstanding performance, ease of use, and integrated Cisco IOS Software.



When to Sell

Sell This Product

When a Customer Needs These Features

Catalyst 2912XL

- Switch for connecting smaller Ethernet and Fast Ethernet workgroups or servers
- Low entry price

Catalyst 2912MF XL

- All fiber switch to aggregate Fast Ethernet workgroups over 100Base FX connections in small and mid-size campus environments
- High-speed uplinks to backbone or server via Fast Ethernet, Gigabit Ethernet, or ATM modules

Catalyst 2924 XL or Catalyst 2924C XL

- Dedicated 10-Mbps or 100-Mbps connections to individual PCs, servers, and other systems
- High-speed uplink flexibility over extended distances with 100BaseFX connections (Catalyst 2924C XL only)
- Low per-port cost

Catalyst 2924M XL

- Any combination of dedicated 10-Mbps or 100-Mbps connections to individual PCs, servers, and other systems or connectivity between existing Ethernet and Fast Ethernet workgroups
- The option to easily increase the switch's port density and provide inexpensive high-speed uplinks through bandwidth aggregation (Fast EtherChannel and Gigabit EtherChannel technologies)
- Gigabit Ethernet (including 1000-Base T) and ATM interface modules for high-speed links
- Hot swap insertion and removal of modules
- Maximum flexibility

Key Features

- Switch fabric of 3.2 Gbps, a forwarding rate of more than 3.0 million packets per second, and a maximum forwarding bandwidth of 1.6 Gbps, delivering wire-speed performance across all 10/100 ports
- Support for IEEE 802.1p protocol for prioritization of mission-critical and time-sensitive applications such as voice and telephony traffic
- Cisco's switch clustering technology enables up to 16 interconnected Catalyst 1900, 2900 XL, and 3500 XL switches, regardless of geographic location, to form a flexible, single IP managed network
- Up to 64 port-based VLANs or ISL/802.1Q trunks
- Network port allows operation in networks with unlimited MAC addresses
- Autoconfiguration of multiple switches on a network from one boot server
- Up to 4 Gbps bandwidth between routers, switches, and servers with Fast EtherChannel and Gigabit EtherChannel technologies

Specifications

Feature	Catalyst 2912 XL	Catalyst 2912MF XL	Catalyst 2924 XL	Catalyst 2924C XL	Catalyst 2924M XL
Fixed Ports	12-port 10/100 autosensing	12-port 100BaseFX	24-port 10/100 autosensing	24-port (22 10/100 ports autosensing & 2 ports 100BaseFX)	24-port 10/100 autosensing
Modular Slots	None	2	None	None	2
Available Modules	None	4-port switched 10BaseT/100BaseTX autosensing 2-port switched 100BaseFX 4-port 100BaseFX 1-port 1000BaseT Gigabit 1-port GBIC-based Gigabit 1-port ATM OC-3 (UTP, multimode, medium & long reach)	None	None	Same as Catalyst 2912MF XL
Backplane	3.2 Gbps	3.2 Gbps	3.2 Gbps	3.2 Gbps	3.2 Gbps
Stackable	No	Yes	No	No	Yes
Full Duplex Capabilities	All ports	All 10BaseTX, 100BaseTX, 100BaseFX, 1000BaseX, 1000BaseT, and ATM ports	All ports	All ports	Same as Catalyst 2912MF XL
VLAN Maximum	64-port-based VLANs or ISL/802.1Q trunks	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL
FEC	Yes	Yes	Yes	Yes	Yes
ISL	Yes	Yes	Yes	Yes	Yes
Management Capabilities	SNMP, Telnet, RMON, CWSI, (CLI)-based out-of-band, embedded Cisco Visual Switch Manager Web-based interface	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL
Processors	Cisco designed ASICs, Power PC 403C	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL	Same as Catalyst 2912 XL
Flash Memory	4 MB	4 MB	4 MB	4 MB	4 MB
CPU DRAM	8 MB	8 MB	8 MB	8 MB	8 MB
Embedded RMON	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics
Dimensions (HxWxD)	1.73 x 17.5 x 4.8 in.	3.46 x 17.5 x 12 in.	1.73 x 17.5 x 4.8 in.	1.73 x 17.5 x 4.8 in.	3.46 x 17.5 x 12 in.
Service Category	2	4	2	4	4

Competitive Products

- 3Com: SuperStack II Switch 3300, SuperStack II 630
- Nortel: BayStack 350 and 450 switches

Distribution Part Numbers and Ordering Information

Catalyst 2900 Series XL Switches¹

WS-C2912MF-XL	12-port 100BASEFX, 2 module slots
WS-C2912-XL-EN	12-port 10/100 (autosensing)
WS-C2924C-XL-EN	22-port 10/100 (autosensing), 2-port 100BASEFX
WS-C2924M-XL-EN	24-port 10/100 (autosensing), 2 module slots
WS-C2924M-XL-EN-DC	24-port 10/100 (autosensing), 2 module slots, DC powered
WS-C2924-XL-EN	24-port 10/100 (autosensing)

Catalyst 2900 Series XL Switch Bundles

WS-C2900-XL-EN-56	StackPack56: one 2924M XL-EN, two 2924XL-ENs, accessory kit
WS-C2900-XL-EN-104	StackPack104: one 2924M XL-EN and four 2924XL-Ens, accessory kit
WS-C2924M-XL-EN-5P	Five Catalyst 2924M XL Switches
WS-C2924-XL-EN-5P	Five Catalyst 2924XL Switches
WS-C2924C-XL-EN-5P	Five Catalyst 2924CXL Switches

Catalyst 2900 Series XL Modules

WS-X2914-XL	4-port 10/100BaseTX switch module for Catalyst 2616M XL
WS-X2914-XL-V	4-port 10/100 ISL/802.1Q Module
WS-X2924-XL-V	4-port 100BaseFX ISL/802.1Q Module
WS-X2922-XL-V	2-port 100BaseFX ISL/802.1Q Module
WS-X2931-XL	1-port, GBIC-based, 1000BaseX Switch Uplink Module
WS-X2932-XL	1-port 1000BaseT Switch Uplink Module
WS-X2951-XL	1-port ATM-OC-3 UTP module
WS-X2961-XL	1-port ATM-OC-3 multimode fiber module
WS-X2971-XL	1-port ATM-OC-3 single mode fiber, medium reach module
WS-X2972-XL	1-port ATM-OC-3 single mode fiber, long reach module
WS-X3500-XL	GigaStack GBIC
WS-G5484=	SX GBIC; 1000BaseSX short wavelength, multimode fiber
WS-G5486=	LX GBIC; 1000BaseLX/LH, long wavelength/long haul, single or multimode fiber

Catalyst 2900 Series XL Software

WS-C2900-SA6-CM	Catalyst 2900 XL Command Software Upgrade
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Catalyst 2900 Series XL Accessories

WS-C2900-XL-EXPKT	Four Fast EtherChannel cables, Application Note
CAB-GS-1M	1 meter cable for GigaStack GBIC
CAB-GS-50CM	50 centimeter cable for GigaStack GBIC

Catalyst 2900 Series XL Basic Maintenance

CON-SNT-PKG2	Catalyst 2912 XL and 2924 XL SMARTnet Maintenance
CON-SNT-PKG4	Catalyst 2912MF XL, 29124C XL, and 2924M XL SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 2900 Series XL Web site: <http://www.cisco.com/go/2900xl>

Cisco Catalyst 2948G-L3

The Catalyst® 2948G-L3 switch is a fixed-configuration Layer 3 (L3) Ethernet switch featuring wire-speed switching for Internet Protocol (IP), Internetwork Packet Exchange (IPX®), and IP multicast. This new Catalyst switch provides the high-performance that is required for mid-size campus backbones with just the right port density. It is ideal for aggregating multiprotocol traffic from multiple wiring closets or workgroup switches such as the Catalyst 2900, Catalyst 3500, Catalyst 4000, or Catalyst 5000 switches.



When to Sell

Sell This Product

Catalyst 2948G-L3

When a Customer Needs These Features

- Cisco's lowest priced Layer 3 backbone solution
- Catalyst 2948G-L3 is ideal for backbone deployment in small to mid-size networks for those customers who need:
 - wire speed Layer 3 performance but do not require high 10/100 Mbps Ethernet port counts or Gigabit Ethernet density
 - cost effective feature-rich wire-speed routing and switching for IP, IPX and IP Multicast
 - mature/proven Cisco IOS Software compatibility in the backbone
 - advanced QoS features to help manage bandwidth and protect mission critical applications

Key Features

- Dedicated 48 ports of 10/100 Mbps Ethernet and two ports of 1000BaseX Gigabit Ethernet with gigabit interface converter (GBIC) support; all ports with Layer 3 switching capability
- Supports RIP I, RIP II, Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Protocol Independent Multicast (PIM) (dense and sparse), Hot Standby Router Protocol (HSRP) and Distance Vector Multicast Routing Protocol (DVMRP) interoperability
- High-performance—more than 10 Mpps Layer 3 switching and routing of IP, IPX switches, and IP multicast
- High-performance CPU with Cisco IOS Software
- Quality of service (QoS)—multiple queues with weighted round robin (WRR) scheduling
- Fast Etherchannel and Gigabit Etherchannel
- Comprehensive management tools based on standard CiscoWorks2000 applications
- Optional redundant external power supply
- Security—Access Lists on Gigabit Ports

Specifications

Feature	Catalyst 2948G-L3
Fixed Ports	48-port 10/100BaseTX, 2-port 1000BaseX (GBIC) all Layer 3
Modular Slots	None
Available Modules	None
Backplane	22 Gbps
Stackable	No
Full Duplex Capabilities	All ports
VLAN Maximum	1024
FEC	Yes
ISL	Yes - All Ports
802.1Q	Yes - All Ports
Management Capabilities	CiscoWorks 2000, CWSI, CiscoView, CDP, VTP, Enhanced SPAN, SNMP, Telnet Client, BOOTP, TFTP
Processors	150 MHz (R5000 RISC)
Flash Memory	12 MB
DRAM	64 MB
Embedded RMON	Statistics, history, alarms, events
Dimensions (HxWxD)	2.69 x 17.1 x 18 in.
Service Category	8

Competitive Products

- Nortel/Bay: Accelar 1100
- Cabletron: Smart Switch Router 2000
- Hewlett-Packard: ProCurve 1600M
- Extreme Summit 48

Distribution Part Numbers and Ordering Information

Catalyst 2948G-L3¹

WS-C2948G-L3	Catalyst 2948G-L3 switch, fixed 48 10/100 FE, 2 1000BaseX (GBIC). Includes support for IP, IP multicast, and bridging. Note: GBIC module needs to be ordered separately.
FR2948GL3-IP=	Catalyst 2948G-L3 Advanced IP switching License, Includes OSPF, IGRP, EIGRP
FR2948GL3-IPX=	Catalyst 2948G-L3 IPX switching License
WS-G5484=	1000BaseSX GBIC module
WS-G5486=	1000BaseLX/LH GBIC module
WS-G5487=	1000BaseZX GBIC module
CAB-GELX-625=	Gigabit Ethernet multimode conditioning cable
PWR600-AC-RPS-CAB	600W redundant AC power system with DC power cables
PWR600-AC-RPS-NCAB	600W redundant AC power system without DC power cables
CAB-RPSY-2218=	RPS 22/18 two-to-one DC power cable
STKRACKMOUNT1.5RU=	Rack Mount Kit for 1.5RU Catalyst 2948G-L3

Mini-RMON Agent License

WS-C2948G-EMS-LIC	Catalyst 2948G-L3 RMON Agent License
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Catalyst 2948G-L3 Basic Maintenance

CON-SNT-PKG8	Catalyst 2948G-L3 SMARTnet basic maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 2900 Web site: <http://www.cisco.com/go/2900>

Cisco Catalyst 3500 Series XL

The Cisco Systems Catalyst 3500 series XL is a scalable line of stackable 10/100 and Gigabit Ethernet switches that delivers premium performance, flexibility, and manageability with unparalleled investment protection. This line of low-cost, high-performance switching solutions provides next-generation stackable switching through an independent high-speed stacking bus that preserves valuable desktop ports. Cisco's breakthrough Switch Clustering technology expands the stacking domain beyond a single wiring closet, enabling up to 16 interconnected Catalyst 3500 XL, 2900 XL and Catalyst 1900 switches—regardless of geographic location—to form a flexible, single IP managed network.



When to Sell

Sell This Product	When a Customer Needs These Features
Catalyst 3512 XL	<ul style="list-style-type: none"> • A high-performance, stackable, nonblocking switch for aggregating a small group of Catalyst 2900 XL or Catalyst 1900 switches in a clustered configuration • Low entry price
Catalyst 3524 XL	<ul style="list-style-type: none"> • A stackable, wire-speed 10/100 and Gigabit Ethernet switch for delivering dedicated 10 or 100 Mbps to individual users and servers • Built-in GBIC-based Gigabit Ethernet ports provide flexible and scalable uplinks or GigaStack GBIC stacking
Catalyst 3524-PWR XL	<ul style="list-style-type: none"> • A stackable, wire-speed 10/100 and Gigabit Ethernet switch for delivering dedicated 10 or 100 Mbps to individual users and servers • Advanced QoS, high availability, and integrated in-line power enabling IP telephony and other integrated voice, video, and data applications
Catalyst 3548 XL	<ul style="list-style-type: none"> • The highest density, stackable 10/100 and Gigabit Ethernet switch delivering 10 or 100 Mbps to users and servers, and dual Gigabit ports • Low per-port cost
Catalyst 3508G XL	<ul style="list-style-type: none"> • A stackable Gigabit Ethernet switch with eight GBIC-based ports for aggregating a group of Gigabit Ethernet switches and servers through Cisco GigaStack GBICs or standard 1000BaseX GBICs • Dedicated, high-speed Gigabit Ethernet performance

Key Features

- Switch fabric of 10 Gbps, forwarding rates of up to 7.4 million packets per second, and a maximum forwarding bandwidth of 5 Gbps, delivering wire-speed performance across all 10/100 ports
- Built-in Gigabit Ethernet ports accommodate a range of GBIC transceivers, including the Cisco GigaStack GBIC, and 1000BaseSX and 1000BaseLX/LH GBICs
- Low-cost, two-port Cisco GigaStack GBIC offers a range of highly configurable stacking and performance options by delivering 1-Gbps connectivity in a daisy-chained connection or up to 2-Gbps connectivity in a dedicated, switch-to-switch connection
- Support for IEEE 802.1p technology for prioritization of mission-critical and time-sensitive application such as voice and telephony traffic
- Support for in-line power (3524-PWR XL only) to power IP phones and other network devices

Specifications

Feature	Catalyst 3512 XL	Catalyst 3524 XL	Catalyst 3524-PWR XL	Catalyst 3548 XL	Catalyst 3508G XL
Fixed Ports	12-port 10/100 autosensing 2-port 1000BaseX (GBIC)	24-port 10/100 autosensing 2-port 1000BaseX (GBIC)	24-port 10/100 autosensing 2-port 1000BaseX (GBIC)	48-port 10/100 autosensing 2-port 1000BaseX (GBIC)	8-port 1000BaseX (GBIC)
Modular Slots	None	None	None	None	None
Backplane	10 Gbps	10 Gbps	10 Gbps	10 Gbps	10 Gbps
Stackable	Yes	Yes	Yes	Yes	Yes
Full-Duplex Capabilities	All ports	All ports	All ports	All ports	All ports
VLAN Maximum	250-port-based VLANs or ISL/802.1Q trunks	Same as Catalyst 3512 XL	Same as Catalyst 3512 XL	Same as Catalyst 3512 XL	Same as Catalyst 3512 XL
FEC	Yes	Yes	Yes	Yes	Yes
ISL	Yes	Yes	Yes	Yes	Yes
In-Line Power	No	No	Yes	No	No
Management Capabilities	SNMP, Telnet, RMON, CWSI, (CLI)-based out-of-band, embedded Cisco Visual Switch Manager, Web-based interface	Same as Catalyst 3512 XL	Same as Catalyst 3512 XL	Same as Catalyst 3512 XL	Same as Catalyst 3512 XL
Processors	Cisco designed ASICs	Cisco designed ASICs	Cisco designed ASICs	Cisco designed ASICs	Cisco designed ASICs
Flash Memory	4 MB	4 MB	4 MB	4 MB	4 MB
CPU DRAM	8 MB	8 MB	8 MB	8 MB	8 MB
Embedded RMON	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics	History, Events, Alarms, Statistics
Dimensions (HxWxD)	1.75 x 17.5 x 11.8 in	1.75 x 17.5 x 11.8 in	1.75 x 17.5 x 11.8 in	1.75 x 17.5 x 16 in	1.75 x 17.5 x 11.8 in
Service Category	4	5	5	6	9

Competitive Products

- 3Com: SuperStack II Switch 3300, 3900, and 9300
- Hewlett Packard: ProCurve 2424, 4000, and 8000
- Nortel: BayStack 450 switches

Distribution Part Numbers and Ordering Information

Catalyst 3500 Series XL Switches¹

WS-C3512-XL-EN	12-port 10/100 (autosensing), 2 1000X GBIC Slots
WS-C3524-XL-EN	24-port 10/100 (autosensing), 2 1000X GBIC Slots
WS-C3548-XL-EN	48-port 10/100 (autosensing), 2 1000X GBIC Slots
WS-C3524-PWR-XL-EN	24-port 10/100 (autosensing), 2 1000X GBIC Slots, inline power
WS-C3508G-XL-EN	8 1000X GBIC Slots (Enterprise Edition)

Catalyst 3500 Series XL Accessories

WS-X3500-XL	GigaStack GBIC
WS-G5484=	1000BaseSX GBIC
WS-G5486=	1000Base LX/LH GBIC
CAB-GS-1M	1 meter cable for GigaStack GBIC

Catalyst 3500 Series XL Software

WS-C3500-SA6-EN	Enterprise Edition Software Upgrade, Release SA6
WS-C3500-SA6-10EN	Enterprise Edition Software Upgrade, Release SA6; 10 Licenses

Catalyst 3500 Series XL Basic Maintenance

CON-SNT-PKG4	Catalyst 3512 XL SMARTnet Maintenance
CON-SNT-PKG5	Catalyst 3524 XL and 3524-PWR XL SMARTnet Maintenance
CON-SNT-PKG6	Catalyst 3548 XL SMARTnet Maintenance
CON-SNT-PKG9	Catalyst 3508G XL SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 3500 series XL Web site: <http://www.cisco.com/go/3500xl>

Cisco Catalyst 3900 Series

Cisco's Catalyst 3900 series are second-generation Token Ring switches that combine media-rate performance with a variety of high-speed uplinks, extensive network management, and support for multiple virtual LANs at a price per port that makes the series an ideal choice for backbone, workgroup, and desktop use.



The Catalyst 3900 is a stackable switch that offers 20 fixed ports, a stack port, and a unique FlexSlot that supports one double-wide card or up to two feature cards that can provide additional Token Ring ports or high-speed uplinks. The Catalyst 3920 offers 24 fixed Token Ring ports and can be stacked with other Catalyst 3920 units or with the Catalyst 3900.

When to Sell

Sell This Product

Catalyst 3900

When a Customer Needs These Features

- To relieve congestion in existing bridges, server rings, and backbone rings with micro-segmentation and direct server attachment
- To replace existing shared-media hubs to improve performance
- To update the backbone infrastructure to ATM or ISL and support multiple VLANs

Catalyst 3920

- To provide switching to the desktop at a price competitive to shared hubs but with the performance and manageability characteristics of the second generation Catalyst 3900 series
- To add additional low-cost ports to an existing Catalyst 3900 stack
- As a remote branch Token Ring solution in combination with Cisco Token Ring attached router

Key Features

- Stackable up to eight switches (up to 224 ports)
- Expandable configuration (Catalyst 3900)
- Source-route switching (SRS), source-route bridging (SRB), source-route transparent bridging (SRT) switching/bridging modes
- Flexible port operation
- Two priority queues for traffic
- VLAN support
- Highest performance in the industry (Tolly Group Industry Study)

Competitive Products

- Nortel/Bay: Centillion 100/50T and System 5000/5005
- IBM: 8272/8270
- Madge: SmartSwitch Plus
- Olicom: OC-8600/8601

Specifications

Feature	Catalyst 3900	Catalyst 3920
Fixed Ports	20-port Token Ring	24-port Token Ring
Modular Slots	2	None
Available Modules	4-port Token Ring (UTP/STP, RJ-45) 4-port Token Ring (MMM, ST) 1-port ATM (MMM, SC) 2-port 100BaseTX with ISL (UTP, RJ-45) 2-port 100BaseFX with ISL (MMF, SC)	None
Backplane	520 Mbps	520 Mbps
Stackable	2 switches can be stacked back-to-back by direct cabling; up to 8 switches (any mix of 3900s or 3920s) can be stacked using the Catalyst 3020 Matrix Switch	Same as Catalyst 3900
Full-Duplex Capabilities	All ports	All ports
VLAN Maximum	63	63
ISL	2-port fiber or copper	None
Management Capabilities	SNMP and out-of-band console, Telnet, CiscoView, TrafficDirector™ software	SNMP and out-of-band console, Telnet, CiscoView, TrafficDirector software, CWSI
Embedded RMON	With optional RMON feature	With optional RMON feature
Dimensions (HxWxD)	3.4 x 17.4 x 15.3 in.	1.7 x 17.4 x 11.1 in.
Service Category	9	6

Distribution Part Numbers and Ordering Information

Catalyst 3900 Switch Family¹

WS-C3900	Catalyst 3900 20-port Token Ring Switch
WS-C3920	Catalyst 3920 24-port Token Ring Switch

Catalyst 3900 Series Modules

WS-C3900-2ISL=	2-port 100BaseTX Module (ISL, UTP, RJ-45)
WS-C3900-2ISLF=	2-port 100BaseFX Module (ISL, multimode fiber, SC)
WS-C3900-4R=	4-port Token Ring Module (UTP, RJ-45)
WS-C3900-4RF=	4-port Token Ring Module (multimode fiber, ST)
WS-C3900-ATMSC=	1-port ATM Module (multimode fiber, SC, 155 Mbps)
WS-C3900-STACK=	Catalyst 3900 Stack Port Module

Catalyst Matrix

WS-C3020	Catalyst Matrix
WS-X3021=	Catalyst Matrix Redundant Component

Catalyst 3900 Series Software

WS-C3900-EMS-LIC	Catalyst 3900 RMON Agent License
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Catalyst 3900 Series Basic Maintenance

CON-SNT-PKG9	Catalyst 3900 SMARTnet Maintenance
CON-SNT-PKG6	Catalyst 3920 SMARTnet Maintenance

- For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 3900 series Web site: <http://www.cisco.com/go/3900>

Cisco Catalyst 4000 Series — Modular Configuration



The Catalyst 4003 and 4006 are cost-effective modular chassis that deliver the benefits of a converged wiring closet to every user in an enterprise or branch office. New Catalyst 4000 Family capabilities include, scalable switching, up to 240 ports 10/100 density, and multiprotocol Layer 3 IP, IPX, and IP multicast switching. The Catalyst 4000 Family is designed to integrate the features/performance required in today's wiring closets, and at the same time protect the seamless introduction of tomorrow's enterprise enhancements.

When to Sell

Sell This Product

Catalyst 4006

When a Customer Needs These Features

- Fast Ethernet Port density up to 240 10/100 ports with modular investment protection

Catalyst 4003

- Fast Ethernet Port density up to 96 10/100 ports with modular investment protection

Note: Compatible sparring between Catalyst 4003 and 4006 chassis provides investment protection with commonality of power supplies and switching line cards, thus lowering the total cost of ownership. The Catalyst 4000 family also leverages the same feature set with identical software code base along with the same enterprise functionality as the Catalyst 6000 Series in the wiring closet, delivering a consistent end-to-end solution.

Key Features

- Catalyst 4000/5000/6000 Family Enterprise Software, single IP-Address Management, and security (TACACS+, port lockdown, RADIUS)
- Enterprise VLANs (1,024) with 802.1Q support on all ports, 16,000 MAC Addresses, and Spanning-Tree Protocol (802.1D) enhancements (UplinkFast, PortFast) for deterministic/fast failover
- Fast and Gigabit EtherChannel aggregation (up to 8 Gbps), load balancing and failover on every port, and port filtering

Layer 3 Multi-protocol Router/QOS Switching Linecard Features:

- 8 Gbps capacity layer 3 switching for the entire system; 6 Mpps layer 3 Switching and Routing of IP, IPX and IP Multicast
- Supports RIP I, RIP II, Open Shortest Path First (OSPF), Interior Gateway Routing Protocol (IGRP) Enhanced IGRP (EIGRP), DHCP Relay, Hot Standby Router Protocol (HSRP), Cisco Group Management Protocol (CGMP), Internet Control Message Protocol (ICMP), and both Protocol Independent Multicast (PIM) sparse and dense modes, and Distance Vector Multicast Routing Protocol (DVMRP) interoperability
- Quality of Service—multiple queues with Weighted Round Robin (WRR) scheduling and TOS/COS marking
- Security—Hardware-based access control lists supported on dual Gigabit Ethernet uplinks
- ISL on Gigabit Ethernet ports

Specifications

Feature	Catalyst 4003	Catalyst 4006
Fixed Ports	None	2 Gigabit uplink ports on Supervisor Engine II
Maximum Port Density	96 (10/100 Ethernet)	240 (10/100 Ethernet)
Modular Slots	3 (1 for Supervisor)	6 (1 for Supervisor)
Available Modules	Supervisor Engine 1	Supervisor Engine II
Backplane Capacity	24 Gbps	60 Gbps
Stackable	No	No
Hot-Swappable Power Supplies	2 bays (1 required, 1 for redundancy)	3 bays (2 required, 1 for redundancy)
VLAN Maximum	1,024	1,024
802.1Q	Yes (on all ports)	Yes (on all ports)
ISL	Yes (L3 Module)	Yes (L3 Module)
Management Capabilities	Inboard console via terminal or modem, outboard via Telnet, SNMP, CiscoView, CWSI, CiscoWorks 2000	Same as Catalyst 4003
Embedded RMON	Statistics, History, Alarm, Events	Same as Catalyst 4003
Dimensions (HxWxD)	10.5 x 17.25 x 12 in.	17.5 x 17.25 x 12 in.
Service Category	11	12

Competitive Products

- 3Com: Corebuilder 9000
- Cabletron: SmartSwitch 6000
- Extreme Networks: Summit 48
- Nortel Networks: BayStack 450T

Distribution Part Numbers and Ordering Information

Catalyst 4000 Switch Family¹

WS-C4003-S1-82	Catalyst 4003 Bundle. Common Equipment with 80-10/100 FE (RJ-45) and 2 1000 GE (GBIC)
WS-C4003-S1	Catalyst 4003 Chassis (3-Slot), Supervisor Engine 1, 1-AC Power Supply, Fan Tray, Rack-Mount Kit
WS-C4006-S2	Catalyst 4006 Chassis (6-Slot), Supervisor II, (2)AC Power Supplies, Fan Tray, Rack-Mount Kit

Common Equipment

WS-X4004=	Catalyst 4003 Fan Tray (Spare)
WS-X4005=	Catalyst 4006 Fan Tray (Spare)
WS-X4008=	Catalyst 4003/4006 AC Power Supply (Spare)
WS-X4012=	Catalyst 4003 Supervisor Engine I, Console (DB-25), Mgt. (RJ-45) (Spare)
WS-X4013=	Catalyst 4006 Supervisor Engine II, Console (RJ-45), Mgt. (RJ-45) (Spare)
WS-X4098=	Catalyst 4006 Rack-Mount Kit (Spare)
WS-X4099=	Catalyst 4003 Rack-Mount Kit (Spare)

Line Card Modules and GBICs

WS-X4124-FX-MT=	Catalyst 4000 FE Switching Module, 24-port 100FX (MTRJ)
WS-X4148-RJ=	Catalyst 4000 10/100 Fast Ethernet Module, 48 Ports (RJ-45)
WS-X4148-RJ21=	Catalyst 4000 Telco switch module, 48-port 10/100 (4xRJ21)
WS-X4232-GB-RJ=	Catalyst 4000 E/FE/GE Module, 2-GE (GBIC), 32-10/100 FE (RJ-45)
WS-X4232-RJ-XX=	Catalyst 4000 FE Base Module, 32-10/100(RJ45)+ Modular Uplink slot
WS-X4232-L3=	Catalyst 4000 E/FE/GE L3 Module, 2-GE(GBIC), 32-10/100 (RJ45)
WS-X4306-GB=	Catalyst 4000 Gigabit Ethernet Module, 6 Ports (GBIC)
WS-X4418-GB=	Catalyst 4000 GE Module, Server Switching 18 Ports (GBIC)
WS-U5404-FX-MT=	Catalyst 4000 FE Uplink Daughter Card, 4-port 100FX (MTRJ)
WS-X4412-2GB-T=	Catalyst 4000 GE Module, 12-1000T (RJ45)+2-1000X (GBIC Slot)
WS-G5484=	1000Base-SX Shortwave GBIC Module (Multimode Only)
WS-G5486=	1000Base-LX/LH Long Haul GBIC Module (Multimode or Single Mode)
WS-G5487=	1000 Base-ZX GBIC module (Single Mode Only)

Software Licenses

FR4232-L3-IP=	Enhanced IP License
FR4232-L3-IPX=	IPX License
WS-C4006-EMS-LIC	Catalyst 4006 RMON Agent License
WS-C4003-EMS-LIC	Catalyst 4003 RMON Agent License

Catalyst 4000 Basic Maintenance

CON-SNT-PKG11	Catalyst 4003 SMARTnet Basic Maintenance
CON-SNT-PKG12	Catalyst 4006 SMARTnet Basic Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 4000 series Web site: <http://www.cisco.com/go/cat4000>

Cisco Catalyst 4000 Series — Fixed Configuration

Cisco offers two dedicated Gigabit Ethernet fixed configuration switches; the Catalyst 4908G-L3 and the Catalyst 4912G. The Catalyst®



4908G-L3 Switch is a fixed configuration Layer 3 Ethernet switch featuring wire-speed switching for IP, IPX, IP Multicast. The Catalyst 4908G-L3 provides the high performance required for midsize campus backbones with optimum port density. It is ideal for aggregating multiprotocol traffic from multiple wiring closets or workgroup switches such as the Catalyst 2900, Catalyst 3500, Catalyst 4000, and Catalyst 5000. The Catalyst 4912G offers 12-port dedicated Layer 2 Gigabit Ethernet switching.

When to Sell

Sell This Product When a Customer Needs These Features

- | | |
|--------------------------|--|
| Catalyst 4908G-L3 | <ul style="list-style-type: none"> • Cisco's lowest priced dedicated Gigabit Ethernet Layer 3 backbone solution ideal for backbone deployment in small to mid-size networks for those customers who need wire speed Layer 3 performance but do not require Gigabit Ethernet density over 8 ports • Small server farm aggregation where Layer 3 services are required; cost effective wire-speed routing and switching for IP, IPX and IP Multicast; Cisco IOS Software compatibility in the backbone, advanced QoS features to help manage bandwidth and protect mission critical applications |
| Catalyst 4912G | <ul style="list-style-type: none"> • Advanced wirespeed, non-blocking Layer 2 Gigabit Ethernet performance with intelligent Cisco IOS services and high-speed connections to workstations or servers; flexible Gigabit Interface Converter (GBIC) interfaces on all ports |

Key Features

- Catalyst 4908G-L3:
 - 8 ports of 1000BaseX Gigabit Ethernet with GBIC support; Layer 3 switching and routing of IP, IPX, and IP Multicast with wire-speed Layer 2 switching for non-routable protocols; Gigabit Etherchannel capability on every port
 - RIP I, RIP II, Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Protocol Independent Multicast (PIM) (dense and sparse), Hot Standby Router Protocol (HSRP) and Distance Vector Multicast Routing Protocol (DVMRP) interoperability
 - High Performance CPU with proven Cisco IOS Software, security (Access Lists, TACACS+, RADIUS), and Quality of Service—multiple queues with Weighted Round Robin (WRR) scheduling
- Catalyst 4912G:
 - Wire-speed performance with 24 Gbps of dedicated bandwidth for nonblocking Gigabit Ethernet concentration, broad Gigabit EtherChannel® availability, and GBIC flexibility on fiber port interfaces covering a wide range of cabling distances
 - Catalyst 5000 Family software compatibility; redundant, hot-swappable external power supply (option) and other fault-tolerant features

Specifications

Feature	Catalyst 4908G-L3	Catalyst 4912G
Fixed Ports	8 (All Layer 3)	12 (All Layer 2)
Modular Slots	—	—
Available Modules	—	—
Backplane Capacity	22 Gbps	24 Gbps
Stackable	No	No
VLAN Maximum	1,024	1,024
802.1Q	Yes	Yes
ISL	Yes	No (future)
Management Capabilities	Inboard console via terminal or modem, outboard via Telnet, SNMP, CiscoView, CWSI, CiscoWorks 2000	Same as Catalyst 4908G-L3
Embedded RMON	Statistics, History, Alarm, Events	Same as Catalyst 4908G-L3
Dimensions (HxWxD)	2.69 x 17.1 x 18 in.	2.75 x 17.5 x 15 in.
Service Category	12	12

Competitive Products

- Cabletron: SSR2100
- Extreme Networks: Summit 1
- Foundry: Turbo Iron 8
- Nortel: Accellar 1200

Distribution Part Numbers and Ordering Information

Catalyst 4000 Switch Family¹

WS-C4908G-L3	Catalyst 4908G-L3 switch, 8 port 1000BaseX L3 Switch (GBIC). Note: GBIC modules need to be ordered separately
FR4908GL3-IPX=	Catalyst 4908G-L3 IPX switching License
WS-C4912G	Catalyst 4912G switch, fixed 12-ports switched 1000BaseX (GBIC)
WS-G5484=	1000BaseSX GBIC module
WS-G5486=	1000BaseLX/LH GBIC module
WS-G5487=	1000BaseZX GBIC module
STKRACKMOUNT1.5RU=	Rack Mount Kit for 1.5RU Catalyst 4908G-L3
WS-X4912G-RACK=	Catalyst 4912G rack-mount kit (spare)

Mini-RMON Agent License

WS-C4908G-EMS-LIC	Catalyst 4908G-L3 RMON Agent License
WS-C4912G-EMS-LIC	Catalyst 4912G RMON Agent License

Catalyst 4000 Basic Maintenance

CON-SNT-PKG12	Catalyst 4908G-L3 and 4912G SMARTnet Basic Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 4000 series Web site: <http://www.cisco.com/go/cat4000>

Cisco Catalyst 5000 Family

Cisco Systems' Catalyst 5000 Family provides the industry's most powerful, feature-rich solution for wiring closet and mid-range backbone applications. The 5000 Family features Ethernet, Fast Ethernet, Gigabit Ethernet, FDDI, Token Ring, and ATM platforms that offer users high-speed trunking technologies and media-rate performance with a broad variety of interface modules.



When to Sell

Sell This Product	When a Customer Needs These Features
Catalyst 5000	<ul style="list-style-type: none"> • Desktop/server connectivity • Five slots—up to 192 10BaseT ports or 144 10/100 ports
Catalyst 5002	<ul style="list-style-type: none"> • Workgroup connectivity • Two slots—up to 48 10BaseT ports or 36 10/100 ports
Catalyst 5500	<ul style="list-style-type: none"> • Catalyst 8510/LightStream 1010 features and line-card support • Gigabit Ethernet • Full system redundancy • High density (13 slots—up to 528 10BaseT ports or 396 10/100 ports)
Catalyst 5505	<ul style="list-style-type: none"> • Gigabit Ethernet (high-performance desktop/server connectivity) • Full system redundancy • Five slots—up to 192 10BaseT ports or 144 10/100 ports
Catalyst 5509	<ul style="list-style-type: none"> • High-performance desktop/server switching • Full system redundancy • High-density Gigabit Ethernet up to 38 ports • Nine slots—up to 384 10BaseT ports or 288 10/100 ports

Key Features

- High-speed connectivity using standard Gigabit Ethernet, Fast Ethernet, Token Ring, FDDI, or ATM
- Multilayer switching
- Dual redundant switching engines, power supplies, and a passive backplane design ensure full system redundancy for mission-critical environments
- Fast EtherChannel or Gigabit EtherChannel support
- Support for all advanced features of Cisco IOS Software
- Any-to-any switching (that is, any media to any media—Token Ring to ATM, Gigabit to ATM, FDDI to ATM, and so forth)
- Cisco's VTP supports dynamic VLANs and dynamic trunk configuration across all switches

Competitive Products

- 3Com: Corebuilder 5000 and 9000
- Nortel/Bay: Accelar 1000 and 8000
- Cabletron: SmartSwitch 6000

Specifications

Feature	Catalyst 5000	5002	5500	5505	5509
Modular Slots	5	2	13	5	9
Available Modules	Supervisor ¹ Engine II, II G, III G, or III plus any combination of the following modules: 48-port Group Switched 10bT Eth 48-port Switched 10bT Ethernet 24-port Switched 10bT Ethernet 12-port Switched 10bFL Ethernet 24-port Switched 10bFL Ethernet 24-port Group Switched 100bTX Ethernet 24-port Switched 10/100bTX Backbone Fast Ethernet 24-port Switched 10/100bTX Desktop Fast Ethernet 24-port Switched 10/100bTX Fast Ethernet with QoS 36-port Switched 10/100bTX Fast Ethernet with QoS 12-port Switched 100bFX Fast Eth 24-port Switched 100bFX Fast Eth with QoS 9-port Switched Gigabit Eth (GBIC) 3-port Switched Gigabit Eth (GBIC) 16-port Switched Token Ring Copper 16-port Switched Token Ring Fiber 1-port CDDI/FDDI 1-port dual PHY ATM LAN Emulation/MPOA OC-3 or OC-12	Same as Catalyst 5000	Same as Catalyst 5000 plus: LightStream 1010 Catalyst 8510	Same as Catalyst 5000	Same as Catalyst 5000
Backplane	1.2 Gbps	1.2 Gbps	3.6 Gbps ATM switching: 5-Gbps backplane	3.6 Gbps	3.6 Gbps
Stackable	No	No	No	No	No
Full-Duplex Capabilities	All Ethernet, Fast Ethernet, Token Ring, and ATM ports	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000
VLAN Maximum	Spanning tree: Yes per VLAN 1000 VLANs	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000
FEC	24 100BaseTX/ FEC switching 12 100BaseFX/ FEC switching	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000
Management Capabilities	Inboard console via terminal or modem, outboard via Telnet, SNMP, CiscoView, CWSI Statistics, history, alarms, events	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000	Same as Catalyst 5000
Dimensions (HxWxD)	10.4 x 17.21 x 18.14 in.	5.75 x 17 x 18 in.	15.2 x 17.3 x 18 in.	10.4 x 17.2 x 18 in.	20 x 17.25 x 18 in.
Service Category	13	9	16	13	15

1. Supervisor module(s) require a slot in the chassis.

Distribution Part Numbers and Ordering Information

Catalyst 5000 Family Switch Families¹

WS-C5002=	2-slot Chassis, Dual AC Power Supplies
WS-C5007=	5-slot Chassis, AC Power Supply
WS-C5507=	13-slot Chassis, AC Power Supply
WS-C5505-CHAC=	Catalyst 5505 Chassis, AC Power Supply
WS-C5509-CHAC=	Catalyst 5509 Spare Chassis, AC Power Supply
WS-C5509-CHDC=	Catalyst 5509 Spare Chassis, DC Power Supply

Catalyst 5000 Family Wiring Closet Bundles

WS-C5000-S2G	WS-C5000 Chassis, Sup Eng II G, AC Power Supply
WS-C5505-S2G	WS-C5505 Chassis, Sup Eng II G, AC Power Supply
WS-C5509-S2G	WS-C5509 Chassis, Sup Eng II G, AC Power Supply
WS-C5500-S2G	WS-C5500 Chassis, Sup Eng II G, AC Power Supply
WS-C5505-S3G	WS-C5505 Chassis, Sup Eng III G, AC Power Supply

WS-C5509-S3G	WS-C5509 Chassis, Sup Eng III G, AC Power Supply
WS-C5500-S3G	WS-C5500 Chassis, Sup Eng III G, AC Power Supply
WS-C5500-S3-E3A	WS-C5500 Chassis, Sup Eng III, WS-X5530-E3A (NFFC II), AC Power Supply
WS-C5505-S3-E3A	WS-C5505 Chassis, Sup Eng III, WS-X5530-E3A (NFFC II), AC Power Supply
WS-C5509-S3-E3A	WS-C5509 Chassis, Sup Eng III, WS-X5530-E3A (NFFC II), AC Power Supply

Catalyst 5000 Supervisor Engine II Modules

WS-X5505=	Catalyst 5000 Family Supervisor Engine II - 2-port, 100bFX (single mode fiber)
WS-X5506=	Catalyst 5000 Family Supervisor Engine II - 2-port, 100bFX (multimode fiber)
WS-X5509=	Catalyst 5000 Family Supervisor Engine II - 2-port, (100bTX & MII)
WS-X5540=	Catalyst 5000 Family Supervisor Engine II G, with modular uplinks
WS-X5509-BOOT=	Catalyst 5000 Family Sup Eng II Boot ROM Kit
WS-X5530-BOOT=	Catalyst 5000 Family Sup Eng III Boot ROM Kit

Catalyst 5000 Supervisor Engine III Modules

WS-X5530-E2A =	Supervisor Engine III with NFFC-A - modular uplink slot
WS-X5530-E3A =	Supervisor Engine III with NFFC II-A - modular uplink slot
WS-F521A=	Netflow Feature Card - NFFC-A (spare)
WS-F531A=	Netflow Feature Card NFFC II-A (spare)
WS-U5531-FETX=	2-port 100bTX Module (for Sup Eng III)
WS-U5532-GBIC=	Dual Port GBIC uplink w/ QoS for Supervisor III & IIG
WS-U5533-FEFX-MMF=	2-port 100bFX (multimode fiber) Module (for Sup Eng III)
WS-U5534-GESX=	2-port 1000BaseSX (SC) Module (for Sup Eng III)
WS-U5536-GELX=	2-port 1000Base-LX (SC) Module (for Sup Eng III)
WS-U5535-FEFX-SMF=	2-port 100bFX (single mode fiber) Module (for Sup Eng III)
WS-U5537-FETX=	4-port 10/100bTX Module (for Sup Eng III)
WS-X5550=	Catalyst 5000 Family Sup Eng III G, with GBIC uplinks

Catalyst 5000 Family Modules

WS-C5514-CL=	Catalyst 5505/5509 Backplane Clock Module
WS-X5012=	48-port 10bT Switching Module (RJ-21) (Telco)
WS-X5012A=	48-port 10bT Switching Module (RJ-21)
WS-X5013=	24-port 10bT Switching Module (RJ-45)
WS-X5014=	48-port 10bT Module (RJ-45, spare)
WS-X5020=	48-port 10bT Group Switching Module (RJ-21)
WS-X5030=	16-port Token Ring Switch Module (copper)
WS-X5031=	16-port Token Ring Switch Module (fiber)
WS-X5101=	1-port FDDI Switching Module (MMF, MIC)
WS-X5103=	1-port CDDI Switching Module (UTP, RJ-45)
WS-X5104=	1-port FDDI Switching Module (SMF, ST)
WS-X5114=	12-port 100bFX (6-port MMF, 6-port SMF, SC)
WS-X5156=	2-port ATM LANE Module (Dual Phy, UTP)
WS-X5157=	2-port ATM LANE Module (Dual Phy, SC, SMF)
WS-X5158=	2-port ATM LANE Module (Dual Phy, SC, MMF)
WS-X5161=	1-port ATM OC-12 Module (Dual Phy, SC, MMF)
WS-X5162=	1-port ATM, OC-12 Module (Dual Phy, SMF)
WS-X5165=	Catalyst 5500 ATM Fabric Integration Module
WS-X5167=	1-port ATM OC-3 LANE/MPOA (Dual PHY, MMF, SC)
WS-X5168=	1-port ATM OC-3 LANE/MPOA (Dual PHY, SMF, SC)
WS-X5201=	12-port 100bFX Fast EtherChannel Module (SC, MMF)
WS-X5201R=	12-port 100bFX Backbone Switching Module (SC, MMF)
WS-X5203=	12-port 10/100 (autosensing) Fast EtherChannel Module (RJ-45)
WS-X5213A=	12-port 10/100 (autosensing) Module (RJ-45)
WS-X5223=	24-port 10/100 (autosensing) Group Switching Module (RJ-45)
WS-X5224=	24-port 10/100 (autosensing) Switching Module (RJ-45)
WS-X5225R=	24-port 10/100 (autosensing) Backbone Switching Module (RJ-45)
WS-X5234-RJ45	24-port 10/100 (autosensing) QoS Switching Module (RJ-45)
WS-X5236-FX-MT	24-port 10/100 (autosensing) QoS Switching Module (MT-RJ)
WS-X5237-FX-MT=	24-port 100FX SMF MT-RJ switching module (FEC, 802.1Q/ISL, WRED)
WS-X5239-RJ21	36-port 10/100 (autosensing) QoS Switching Module (RJ-21)
WS-X5380=	Catalyst 5000/5500 Network Analysis Module, RMON.RMON2/NetFlow
WS-X5403=	3-port Gigabit Ethernet Switching Module (GBIC)
WS-X5410=	9-port Gigabit Etherchannel Switching Module (GBIC)
WS-G5486=	1000Base-LX/LH (long wavelength/long-haul) GBIC
WS-G5487=	1000Base-ZX extended reach GBIC (single mode)
WS-G5484=	1000Base-SX short wavelength GBIC (multimode only)
WS-C5514-CL=	Catalyst 5505/5509 Backplane Clock Module (spare)

Catalyst 5000 Family Bundles Modules

WS-X5012A-3PACK=	Three Pack of WS-X5012 (RJ-21, 3x48 ports)
WS-X5224-3PACK=	Three Pack of WS-X5224= (RJ-45, 3x24 ports)
WS-X5234-RJ-3PACK=	24-port 10/100TX (FEC,WRED,802.1Q/ISL,RJ-45) 3PACK

Catalyst 5000 RSM/Route Switch Feature Cards

WS-X5302=	Catalyst 5000 Route Switch Module
WS-X5303-15=	Catalyst 5000 Versatile Interface Processor Model 2-15
WS-X5303-40=	Catalyst 5000 Versatile Interface Processor Model 2-40
WS-X5541=	Catalyst 5000 Route Switch Feature Card for Sup II G and Sup III G

Catalyst 5500 Supervisor III E1/E2/E3 PCMCIA Flash

MEM-S3-FLC8M=	Supervisor III E1/E2/E3 PCMCIA Flash Memory Card, 8 MB
MEM-S3-FLC16M=	Supervisor III E1/E2/E3 PCMCIA Flash Memory Card, 16 MB
MEM-S3-FLC20M=	Supervisor III E1/E2/E3 PCMCIA Flash Memory Card, 20 MB

Catalyst 5000 Family Software

SWC5K-BEFS-4X-UG	Catalyst 5000 Family Rel. 4.x Software License (Enhanced Feature Set, Upgrade)
SWC5K-BEFS-4X=	Catalyst 5000 Family Rel. 4.x Software License (Enhanced Feature Set)
FL-C5K-EFS-5X=	Catalyst 5000 Rel. 5.x Software License (Enhanced Feature Set, spare)
FL-C5K-EFS-5X-UG	Catalyst 5000 Rel. 5.x Software License (Enhanced Feature Set, Upgrade)
FL-C5K-IPX=	Catalyst 5000 IPX Feature Set (spare)
WS-C5K-EMS-LIC	Catalyst 5000 RMON Agent License
WS-C5002-EMS-LIC	Catalyst 5002 RMON Agent License
WS-C5500-EMS-LIC	Catalyst 5500 RMON Agent License
WS-C5505-EMS-LIC	Catalyst 5505 RMON Agent License
WS-C5509-EMS-LIC	Catalyst 5509 RMON Agent License

Catalyst 5000 Family RSM Software CDs

CD5-C-12.0T=	Cisco IOS Catalyst 5000 RSM IOS IP Feature Pack
CD5-CL-12.0T=	Cisco IOS Catalyst 5000 RSM IOS IP IPSEC 56 Feature Pack
CD5-CK-12.0T=	Cisco IOS Catalyst 5000 RSM IOS IP 40 Feature Pack
CD5-B-11.2P=	Cisco IOS Catalyst 5000 RSM IOS IP/IPX/AT/DEC Feature Pack
CD5-BS-12.0T=	Cisco IOS Catalyst 5000 RSM IOS IP/IPX/AT/DEC /IBM Feature Pack
CD5-BSL-12.0T=	Cisco IOS Catalyst 5000 RSM IOS IP/IPX/AT/DEC /IBM IPSEC 56 Feature Pack
CD5-BSK-12.0T=	Cisco IOS Catalyst 5000 RSM IOS IP/IPX/AT/DEC /IBM 40 Feature Pack
CD5-A-12.0T=	Cisco IOS Catalyst 5000 RSM IOS Enterprise Feature Pack
CD5-AL-12.0T=	Cisco IOS Catalyst 5000 RSM IOS Enterprise IPSEC 56 Feature Pack
CD5-AK-12.0T=	Cisco IOS Catalyst 5000 RSM IOS Enterprise 40 Feature Pack

Catalyst 5000 Family Accessories

WS-C5099=	Catalyst 5000, Rack Mount Kit
WS-C5599=	Catalyst 5500, Rack Mount Kit
WS-C5509-RACK=	Catalyst 5509, Rack Mount Kit and Cable Organizer
WS-C5097=	Catalyst 5000 Family, Center Rack Mount Kit
WS-C5508=	Catalyst 5500, AC Power Supply
WS-C5008B=	Catalyst 5000/5505, AC Power Supply
WS-C5068B=	Catalyst 5000/5505, DC Power Supply
WS-C5518=	Catalyst 5509, AC Power Supply (Spare)
WS-C5598=	Catalyst 5509, DC Power Supply (Spare)
WS-C5509-FAN=	Catalyst 5509, Fan Tray (Spare)

Catalyst 5000 Family Basic Maintenance

CON-SNT-PKG13	Catalyst 5000 and 5505 SMARTnet Maintenance
CON-SNT-PKG9	Catalyst 5002 SMARTnet Maintenance
CON-SNT-PKG16	Catalyst 5500 SMARTnet Maintenance
CON-SNT-PKG15	Catalyst 5509 SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Catalyst 5500/5000 series Web site: <http://www.cisco.com/go/5000>

Cisco Catalyst 6000 Family

The Catalyst® 6000 Family—consisting of the Catalyst 6500 Series and the Catalyst 6000 Series—delivers a new family of high-performance, multilayer switching solutions for both enterprise and service provider networks. Designed to address the increased requirements for



gigabit density, data and voice integration, LAN/WAN/MAN convergence, scalability, high availability, and intelligent multilayer switching in backbone/distribution, server-aggregation, and service provider environments, the Catalyst 6000 Family complements the Catalyst 4000 and 5000 Families and Cisco 8500 Series switches, which continue to provide premier wiring closet and network-core solutions, respectively. Together, the Catalyst Family delivers a wide range of intelligent switching solutions, enabling both corporate intranets and the internet for multimedia, mission-critical data, and voice applications.

When to Sell

Sell This Product

Catalyst 6500 Series

When a Customer Needs These Features

- A highly scalable platform that meets requirements for very high multilayer switching performance with high Fast Ethernet and Gigabit Ethernet port densities

Catalyst 6000 Series

- A cost-effective entry into the robust performance, high port density, and intelligent services of the Catalyst 6000 Family

Catalyst 6000 Family Solutions

- Enterprise campus distribution—with industry-leading port densities, performance, and high availability solutions to keep intranets humming
- Server aggregation—for Gigabit wire-speed access to mission-critical server farms
- High-capacity wiring closets—in very large deployments, the Catalyst 6000 family delivers advanced Layer 2, 3, and 4 switching in wiring closets
- WAN/LAN/MAN integration—a single integrated platform simplifies network design, decreases rack space requirements, and decreases overall administration costs

Key Features

- Application-aware networking with multilayer switching intelligence and support for CiscoAssure policy networking
- High-availability features deliver maximum uptime for mission-critical application support
- Extensive Quality of Service (QoS) features to support mission-critical applications
- 15 Mpps (Catalyst 6000 Series) or scalable performance to 150+ Mpps (Catalyst 6500 Series)
- Maximum 10/100 Ethernet port density: 240 (6-slot chassis) and 384 (9-slot chassis)
- Maximum Gigabit Ethernet port density: 82 (6-slot chassis) and 130 (9-slot chassis)

Specifications

Feature	Catalyst 6006	Catalyst 6009	Catalyst 6506	Catalyst 6509
Modular Slots	6	9	6	9
Available Modules	8-port Gigabit Ethernet 16-port Gigabit Ethernet 24-port 100FX Ethernet 48-port 10/100TX Ethernet (RJ-45) 48-port 10/100 Ethernet (RJ-21 or TELCO) 1-port Multimode OC-12 ATM 1-port Single-Mode OC-12 ATM 16-port 1000BaseT Gigabit Ethernet 24-port 10BaseFL (MT-RJ) Network Analysis Module Flex Wan Module 24 port FXS Analog Station Interface Module 8 port Voice T1 and Services Module 8 port Voice E1 and Services Module Voice Power Feature Card			
Backplane	32 Gbps	32 Gbps	Scalable to 256 Gbps	Scalable to 256 Gbps
Stackable	No	No	No	No
Multilayer Performance	Scalable to 15 Mpps	Scalable to 15 Mpps	Scalable to 150 Mpps	Scalable to 150 Mpps
VLAN Maximum	1000	1000	1000	1000
FEC/GEC	Up to 8 noncontiguous ports; supports multimodule channeling	Same as Catalyst 6006	Same as Catalyst 6006	Same as Catalyst 6006
Management Capabilities	CiscoWorks 2000, RMON, Enhanced Switched Port Analyzer (ESPAN), SNMP, Telnet, BOOTP, and Trivial File Transfer Protocol (TFTP)	Same as Catalyst 6006	Same as Catalyst 6006	Same as Catalyst 6006
Dimensions (HxWxD)	20.1 x 17.2 x 18.1 in.	25.2 x 17.2 x 18.1 in.	20.1 x 17.2 x 18.1 in.	25.2 x 17.2 x 18.1 in.
Service Category	16	17	16	17

Competitive Products

- Extreme: Black Diamond
- Foundry: Big Iron
- Lucent: Cajun Switch 550
- Nortel: Passport 8600

Distribution Part Numbers and Ordering Information

Catalyst 6000 Family Chassis¹

WS-C6006-1000AC=	Catalyst 6006 Chassis w/ 1000W AC Power Supply
WS-C6006-1300AC=	Catalyst 6006 Chassis w/ 1300W AC Power Supply
WS-C6009-1300AC=	Catalyst 6009 Chassis w/ 1300W AC Power Supply
WS-C6506-1000AC=	Catalyst 6506 Chassis w/ 1000W AC Power Supply
WS-C6506-1300AC=	Catalyst 6506 Chassis w/ 1300W AC Power Supply
WS-C6509-1300AC=	Catalyst 6509 Chassis w/ 1300W AC Power Supply

Catalyst 6000 Family Supervisor Engines

WS-X6K-SUP1A-2GE=	Catalyst 6000 Supervisor Engine1A, Enhanced QoS, 2GE
WS-X6K-SUP1A-PFC=	Catalyst 6000 Supervisor Engine1-A, 2GE, plus PFC
WS-X6K-SUP1A-MSFC=	Catalyst 6000 Supervisor Engine1-A, 2GE, plus MSFC & PFC
SWC6K-SUP-5.2.1=	Catalyst 6000 Supervisor Software Kit, Release 5.2(1)
SWC6K-SUP-5.3.1=	Catalyst 6000 Supervisor Flash Image, Release 5.3(1a)

Catalyst 6000 Family Modules

WS-X6348-RJ-45=	Catalyst 6000 48-port 10/100, Enhanced QoS, RJ-45
WS-X6248A-TEL=	Catalyst 6000 48-port 10/100, Enhanced QoS, Telco
WS-X6408A-GBIC=	Catalyst 6000 8-port GE, Enhanced QoS (Req. GBICs)
WS-X6416-GBIC=	Catalyst 6000 16-port Gig-Ethernet Mod. (Req. GBICs)
WS-X6182-2PA=	Catalyst 6000 Flex WAN Module (Supports 2 Port Adapters)
WS-X6416-GE-MT=	Catalyst 6000, 16-port Gigabit Ethernet Module, MT-RJ
WS-X6101-OC12-MMF=	Catalyst 6000 1-port Multimode OC-12 ATM Module, Spare
WS-X6101-OC12-SMF=	Catalyst 6000 1-port Single-Mode OC-12 ATM Module, Spare
WS-X6024-10FL-MT=	Catalyst 6000 24-port 10BaseFL MT-RJ Module
WS-X6324-100FX-MM=	Catalyst 6000 24-port 100FX, Enh QoS, MT-RJ, MMF
WS-X6316-GE-TX=	Catalyst 6000 16-port 1000TX GE Module, RJ-45
WS-X6380-NAM=	Catalyst 6000 Network Analysis Module
WS-F6K-VPWR=	Catalyst 6000 Voice Power Feature Card for WS-X6348-RJ-45
WS-X6624-FXS=	Catalyst 6000 24-port FXS Analog Station Interface Module
WS-X6608-T1=	Catalyst 6000 8-port Voice T1 and Services Module
WS-X6608-E1=	Catalyst 6000 8-port Voice E1 and Services Module

Catalyst 6000 Family Accessories

WS-CDC-1300W=	Catalyst 6000, 1300W DC Power Supply
WS-CAC-1300W=	Catalyst 6000, 1300W AC Power Supply
WS-CAC-1000W=	Catalyst 6000, 1000W AC Power Supply
WS-CAC-2500W=	Catalyst 6000 2500W AC Power Supply
WS-C6X09-RACK=	Catalyst 6x00 Rack Mount Kit and Cable Organizer
WS-C6K-6SLOT-FAN=	Catalyst 6000, Fan Tray for 6-slot Systems
WS-C6X06-RACK=	Catalyst 6x06, Rack Mount Kit and Cable Organizer
WS-X6K-SLOT-CVR=	Catalyst 6000 Blank Line Card Slot Cover

Catalyst 6000 Family Software

WS-C6X09-EMS-LIC	Catalyst 6x09, RMON Agent License
WS-C6X06-EMS-LIC	Catalyst 6x06, RMON Agent License
FRC6-MSM-IPX=	Catalyst 6000, IPX Feature Set License
SC6MSFCA-12.0.3XE=	Cisco IOS Catalyst 6000 Family MSFC - Enterprise
SC6MSFCB-12.0.3XE=	Cisco IOS Catalyst 6000 Family MSFC - Desktop
SC6MSFCC-12.0.3XE=	Cisco IOS Catalyst 6000 Family MSFC - IP
SC6MSFCD-12.0.3XE=	Cisco IOS Catalyst 6000 Family MSFC - IP/IPX
SC6-ATM-12.0.5XE=	12.0(5)XE image for WS-X6101-OC12-MMF and WS-X6101-OC12-SMF
FR-IRC6=	Catalyst 6000 Family InterDomain Routing Feature License

Catalyst 6000 Family Memory Options

MEM-C6K-FLC16M=	Catalyst 6000, Supervisor PCMCIA 16MB Flash Memory Card
MEM-C6K-FLC24M=	Cat 6000 Sup PCMCIA Flash Memory Card, 24 MB Spare
MEM-MSFC-128MB=	Catalyst 6000 MSFC Mem, 128 MB DRAM Option
MEM-C6K-WAN-128M=	Catalyst 6000 WAN Module Memory, 128 MB

Catalyst 6000 Family Basic Maintenance

CON-SNT-PKG16	Catalyst 6006 and 6506, SMARTnet Maintenance
CON-SNT-PKG17	Catalyst 6009 and 6509, SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

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

Cisco Catalyst 8500 Multiservice Switch Routers

The Catalyst 8500 family multiservice switch routers integrate multiservice ATM switching with wire-speed multiprotocol routing for gigabit Ethernet into a single platform that also supports advanced Cisco IOS services for QoS and security. The Catalyst 8500 family delivers campus and metropolitan network solutions with scalable performance, lower cost of ownership, and the features needed by intranet-based applications to deliver increased business productivity. The Catalyst 8500 series switch routers are designed to meet the high-performance requirements of the campus backbone and offer multiple interface options in a modular chassis. The Catalyst 8500 series consists of the modular Catalyst 8510 (10-Gbps, 5-slot) switch and the modular Catalyst 8540 (40-Gbps, 13-slot) switch. Both switches implement Cisco IOS Software to provide a variety of network services, including reliability, security, management, and QoS with CiscoAssure policy networking.



Key Features

- Ideal for integrated multiservice ATM switching with wire-speed
- Ideal for aggregating multiprotocol traffic from multiple wiring closets or from workgroup switches such as the Catalyst 5000 or distribution/server aggregation switches such as the Catalyst 6000 Family
- Provides nonblocking routing for IP, IPX, and IP multicast while also offering wire-speed Layer 2 switching for nonroutable protocols such as NetBIOS and DECnet local-area transport (LAT)
- Aggregate throughput of 6-24 million packets per second (pps) for both Layer 2 and Layer 3 switching, non-blocking ATM switching

Specifications

Feature	Catalyst 8510	Catalyst 8540
Fixed LAN Ports	1-port Ethernet (for out-of-band management)	1-port Ethernet (for out-of-band management)
Management Ports	2-port serial (EIA/TIA-232)	2-port serial (EIA/TIA-232)
Modular Slots	5	13
Stackable	No	No
Shared Memory	10 Gbps	40 Gbps
Flash Memory	8 MB (default) 20 MB (maximum)	8 MB (default) 20 MB (maximum)
DRAM	64 MB	256 MB
Power Supply	Optional redundant power supplies	Optional redundant power supplies
Dimensions (HxWxD)	10.5 x 17.2 x 18.14 in.	25.25 x 17.3 x 18.25 in.

Distribution Part Numbers and Ordering Information

Cisco Catalyst 8510 - Flash Memory Cards¹

MEM-8540M-FLC20M=	540MSR 20MB PC Flash Memory Card w/ default SW (spare)
MEM-ASP-FLC8M=	C8500/LS1010 PCMCIA Flash Memory Card 8 MB (spare)
MEM-ASP-FLC16M=	C8500/LS1010 PCMCIA Flash Memory Card 16 MB (spare)
MEM-ASP-FLC20M=	C8500/LS1010 PCMCIA Flash Memory Card 20 MB (spare)

Catalyst 8500 - LightStream 1010 PAMs ATM

WAI-OC3-4U5=	4 Port STS-3c/STM-1 UTP-5 PAM (spare)
WAI-OC3-4MM=	4 Port OC-3c/STM-1 MMF PAM (spare)
WAI-OC3-4SS=	4 Port OC-3c/STM-1 SMF-IR PAM (spare)
WAI-OC3-1S3M=	OC-3c/STM-1 Mix PAM, 1-port SMF-IR + 3-port MMF (spare)
WAI-OC3-4SSLR=	4-port OC-3c/STM-1 SMF-LR PAM (spare)
WAI-OC12-1MM=	1 Port OC-12c/STM-4c MMF PAM (spare)
WAI-OC12-1SS=	1 Port OC-12c/STM-4c SMF-IR PAM (spare)
WAI-OC12-1SSLR=	1 Port OC-12c/STM-4c SMF-LR PAM (spare)
WAI-T3-4BNC=	4 Port DS-3 PAM (spare)
WAI-E3-4BNC=	4 Port E3 BNC PAM (spare)
WAI-T1-4RJ48=	4 Port T1 (ATM) RJ-48 PAM (spare)
WAI-E1-4BNC=	4 Port E1 (ATM) BNC PAM (spare)
WAI-E1-4RJ48=	4 Port E1 (ATM) RJ-48 PAM (spare)

Catalyst 8500 - LightStream PAMs VOICE

WAI-T1C-4RJ48=	4 Port T1 (circuit emulation) RJ-48 PAM (spare)
WAI-E1C-4BNC=	4 Port E1 (circuit emulation) BNC PAM (spare)
WAI-E1C-4RJ48=	4 Port E1 (circuit emulation) RJ-48 PAM (spare)

Catalyst 8540 - Base Common Equipment

C8540-CHAS13=	Catalyst 8540 - Chassis (spare)
C8540-PWR-AC=	C8540 Power Supply - AC (spare)
C8540-PWR-DC=	C8540 Power Supply - DC (spare)

Catalyst 8540 - Layer 3 Common Equipment

C8540CSR-SKIT-AC	Catalyst 8540 CSR Starter Kit with AC Power
C8540CSR-SKIT-DC	Catalyst 8540 CSR Starter Kit with DC Power
C8541CSR-RP=	Catalyst 8540 CSR Route Processor (spare)
C8542CSR-SP=	Catalyst 8540 CSR Switch Processor (spare)

Catalyst 8540 - Multiservice Switched Common Equipment

C8540MSR-SKIT-AC	C8540 MSR Starter Kit w/ Stratium 4 Clock Module - AC Power
C8540MSR-SKIT-DC	C8540 MSR Starter Kit w/ Stratium 4 Clock Module - DC Power
C8545MSR-MRP4CLK=	C8540 MSR Multiservice Route Processor (spare)
C8545MSR-MRP3CLK=	C8540 MSR Route Processor Stratium 3 (spare)
C8546MSR-MSP-FCL=	C8540 MSR Switch Processor with ATM FC (spare)

Catalyst 8540 - Layer 3 Interface Modules (Gigabit Ethernet)

C85GE-2X-16K=	C8540 2-port GE 16K (spare)
C85GE-2X-64K=	C8540 2-port GE 64K (spare)
C85GE-2XACL-16K=	C8540 2-port GE with ACL 16K (spare)
C85GE-2XACL-64K=	C8540 2-port GE with ACL 64K (spare)

C85GE-8X-64K=	C8540 8 port GE Module 64K (spare)
C8540-ACL=	Catalyst 8540 Access Control List Daughter Card
Catalyst 8540 - Layer 3 Interface Modules (Fast Ethernet)	
C85FE-16T-16K=	C8540 16-port 10/100 RJ-45 16K (spare)
C85FE-16T-64K=	C8540 16-port 10/100 RJ-45 64K (spare)
C85FE-16TACL-16K=	C8540 16-port 10/100 RJ-45 w/ACL 16K (spare)
C85FE-16TACL-64K=	C8540 16-port 10/100 RJ-45 w/ ACL 64K (spare)
C85FE-16F-16K=	C8540 16-port 100-FX MT-RJ 16K (spare)
C85FE-16F-64K=	C8540 16-port 100-FX MT-RJ 64K (spare)
C85FE-16FACL-16K=	C8540 16-port 100-FX MT-RJ w/ACL 16K (spare)
C85FE-16FACL-64K=	C8540 16-port 100 MT-RJ w/ACL 64K (spare)
C8540-ACL=	Catalyst 8540 Access Control List Daughter Card

Catalyst 8540 - ATM Router Module

C8540-ARM-64K=	C8540 ATM Router Module 64K (spare)
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Catalyst 8540 - ATM Interface Modules

C85MS-2F-OC48SS=	C8540 2 Port OC-48c SMF-IR (spare)
C85MS-1F4S-OC48SS=	C8540 1 Port OC-48c SMF-IR + 4 x OC-12 SMF-IR (spare)
C85MS-1F4M-OC48SS=	C8540 1 Port OC-48c SMF-IR + 4 x OC-12 MMF (spare)
C85MS-4F-OC12MM=	C8540 4-port OC-12 MMF (spare)
C85MS-4F-OC12SS=	8540MSR 4-port OC-12 SMF Intermediate Reach - Spare
C85MS-16F-OC3MM=	Cat 8540 MSR - 16-port OC-3 MMF - Spare

Catalyst 8540 - ATM Carrier Modules (required for PAMs)

C85MS-SCAM-2P=	C8540 SuperCAM for Port Adapter Modules (spare)
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Catalyst 8540 - Port Adapter Modules (Voice)

C85MS-1DS3-FRBN=	C8500 1-port Channelized DS3 Frame-relay PAM (spare)
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Catalyst 8540 - Port Adapter Modules (Frame Relay)

C85MS-4E1-FRRJ48=	C8500 4-port E1 Frame-Relay/FUNI PAM (spare)
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the 8500 series Web site: www.cisco.com/go/8500

Cisco HP 10BaseT Hub-16M



Developed by Hewlett-Packard and integrated with Cisco IOS Technologies, the HP 10Base-T Hub-16M combines cost-effective LAN connectivity, security, and integrated management with the benefits of Cisco IOS Technologies. The 10 Mbps shared hub is the ideal complement to the Cisco Catalyst 1900 and 2820 series Ethernet switches for small- and medium-sized businesses and enterprise branch offices.

The HP 10Base-T Hub-16M has 16 10BaseT ports for workgroup connectivity, and one AUI port to connect coaxial or fiber Ethernet cable. The hub also features an MDI/MDI-X switch on port 16 for inter-hub connectivity without special crossover cables. Up to four HP 10Base-T Hub-16M units can be cascaded together to create a single collision domain of up to 58 10BaseT ports. The hub can be connected upstream to a Catalyst 1900 or 2820 series Ethernet switch in a high-performance network, or installed as a standalone solution in a small business environment.

This hub has comprehensive hub-level and port-level security features including intruder prevention, auto port disabling, network management alarm, eavesdrop prevention, and password protection to prevent unauthorized network access. The hub also provides intelligent error monitoring through automatic port/segment partitioning and reconnection for ports experiencing excessive collision problems.

This hub is fully integrated with Cisco 3600 series routers, Catalyst 1900 and 2820 series switches, Catalyst 2900 XL series 10/100 autosensing switches, and FastHub 200 and 300 series system of modular, stackable LAN and WAN products through Cisco IOS Technologies for guaranteed product interoperability and unified management. The hub is also equipped with a connector for the Cisco 600-Watt AC Redundant Power System (RPS) to guarantee maximum uptime.

When to Sell

Sell This Product

Cisco HP 1516

When a Customer Needs These Features

- An economical solution for creating a LAN
- Cisco IOS Technologies for seamless integration with other Cisco switches and routers
- Ability to create a manageable collision domain that supports up to 58 users and devices

Key Features

- MDI/MDI-X switch for inter-hub connectivity without special crossover cables
- Support for up to four units cascaded together
- SNMP, Telnet, and terminal out-of-band management console for comprehensive management and troubleshooting
- Comprehensive security features include intruder prevention, eavesdrop prevention, network management alarm, auto port disabling, and password protection

Specifications

Feature	Cisco HP 1516
Fixed Ports (connections)	16-port Ethernet (10BaseT) 1-port Ethernet (AUI)
Modular Slots	None
Stackable	No (Can be cascaded up to 58 users and devices)
Management Capabilities	Configuration Managed Per port LEDs: Link Integrity/Receive Activity and Port Enabled/Disabled
Dimensions (HxWxD)	1.7 x 16.8 x 9.4 in.
Service Category	1

Competitive Products

- 3Com: SuperStack II PS 12
- Nortel/Bay: Bay 2813-05
- HP: AdvanceStack 16-U/SNMP Bundle

Distribution Part Numbers and Ordering Information

Cisco HP 1516 Hub Chassis¹

CISCO1516M	16-port 10bT - SNMP Managed Repeater
CON-SNT-PKG1	Cisco 1500 Series SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco HP 10BaseT Hub Web site: <http://www.cisco.com/go/hp16m>

Cisco 1538 Series Micro Hubs 10/100



The Cisco 1538 Series Micro Hubs 10/100 provide flexible 10/100 autosensing Fast Ethernet desktop connectivity for creating high-performance LANs at an affordable price. The eight-port 10BaseT/100BaseTX autosensing hubs provide 100-Mbps peak aggregate throughput, up to 10 times the performance of traditional Ethernet hubs. Ideal for enterprise remote branch offices and small and growing businesses where management is a requirement, the Cisco 1538M and Cisco 1538 Micro Hubs deliver the most cost-effective and powerful management option in their class.

The Cisco 1538 Series Micro Hubs 10/100 are part of the Cisco Networked Office stack family of products designed to provide integrated, secure networking solutions for small businesses and small branch offices.

When to Sell

Sell This Product

Cisco 1538

When a Customer Needs These Features

- Up to 100-Mbps peak aggregate throughput for bandwidth-intensive applications
- Flexibility to stack up to four Cisco 1538 series Micro Hubs for up to 32 ports using the integrated stacking ports
- Option to manage the Cisco 1538 with a Cisco 1538M

Cisco 1538M

- Up to 100-Mbps peak aggregate throughput for bandwidth-intensive applications
- Flexibility to stack up to four Cisco 1538 series Micro Hubs for up to 32 ports using the integrated stacking ports
- Cost-effective and powerful management with SNMP and RMON management protocols and a Web-based management interface

Key Features

- Eight 10BaseT/100BaseTX autosensing hub ports
- 10 Mbps and 100 Mbps peak aggregate throughput
- Internal bridge function for connecting both 10 Mbps and 100 Mbps devices
- Web-based management interface provides the most powerful and cost-effective management options in its class
- Automatic configuration and self-test on startup
- Extensive LEDs for visual management
- One user-selectable MDI/MDI-X port for connecting a compatible hub or switch without a cross-over cable
- Integrated stacking ports allow up to four Cisco 1538 Micro Hubs 10/100 to be stacked to form one single, manageable, logical repeater of 32 10/100 ports

Specifications

Feature	Cisco 1538	Cisco 1538M
Fixed Ports (connections)	8-port 10/100 autosensing	8-port 10/100 autosensing
Modular Slots	None	None
Stackable	Yes, up to 4 units	Yes, up to 4 units
Management Capabilities	Yes, manageable by Cisco 1538M	Yes
Dimensions (HxWxD)	3.1 x 11.2 x 8.7 in.	3.1 x 11.2 x 8.7 in.
Service Category	1	1

Competitive Products

- 3Com: Office Connect Dual Speed Hub 8
- Intel: InBusiness 8-Port 10/100 Hub
- Nortel: NetGear DS508

Distribution Part Numbers and Ordering Information

Cisco 1538 Micro Hubs¹

CISCO1538	8-port Autosensing,10/100 Mbps, Manageable, Stackable Repeater
CISCO1538M	8-port Autosensing,10/100 Mbps, Managed, Stackable Repeater
CON-SNT-PKG1	Cisco 1500 Series SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco 1538 Micro Hub Web site: <http://www.cisco.com/go/1538>

Cisco FastHub 400 10/100 Series

The Cisco FastHub® 400 10/100 series of high-performance Fast Ethernet repeaters delivers unmatched flexibility and low-cost managed connectivity to the desktop. The FastHub 400 10/100 series is a full line of products that includes 12- and 24-port 10/100 Fast Ethernet repeaters in managed and manageable versions. As the ideal complement to Catalyst 2900 series XL and Catalyst 3500 series XL autosensing 10/100 Fast Ethernet and Gigabit Ethernet switches, the FastHub 400 10/100 series provides ultra low-cost 10/100 autosensing desktop connectivity where dedicated bandwidth is not required.



When to Sell

Sell This Product

When a Customer Needs These Features

FastHub 412 or FastHub 424 10/100

- Ultra low-cost 10/100 connectivity
- Option to provide management for up to three stacked, manageable FastHub 400 repeaters with a managed FastHub 412M or FastHub 424M
- Flexibility to stack up to four FastHub 400 10/100 repeaters to create a FastHub 400 10/100 stack—a single, manageable, logical repeater of up to 96 10BaseT/100BaseTX ports
- Option for long-distance connectivity to the network core or between repeaters with a switched uplink module

FastHub 412M or FastHub 424M 10/100

- Low-cost 10/100 connectivity
- Powerful management through an embedded Web-based management interface; SNMP and Telnet interface support for in band management and support for CLI for out-of-band management; RMON software agents for traffic management, monitoring, and analysis
- Flexibility to stack and manage up to four FastHub 400 10/100 repeaters to create a FastHub 400 10/100 stack
- Option for long-distance connectivity to the network core or between repeaters with a switched uplink module

Key Features

- 12 or 24 10BaseT/100BaseTX autosensing ports with internal bridging provide fast exchange of information among users and workgroup servers
- 10- and 100-Mbps peak and aggregate throughput enables high-performance data transfers for workstations and server farms
- Unmatched flexibility through a broad range of options, including integrated hub stacking ports, switched uplink modules, and management options
- Cost-effective and powerful management options, with an embedded Web-base management interface (FastHub 412M and FastHub 424M)
- Compliments the Catalyst 2900 XL and 3500 XL product lines of 10/100 autosensing, autonegotiating switches; for customers who want the flexibility of 10/100 Fast Ethernet at low cost, the Catalyst 2900 XL or Catalyst 3500 XL can be used to aggregate one or more FastHub 400 10/100 series repeaters to provide connectivity to the desktop

Specifications

Feature	FastHub 412	FastHub 412M	FastHub 424	FastHub 424M
Fixed Ports (connections)	12-port autosensing 10/100	12-port autosensing 10/100	24-port autosensing 10/100	24-port autosensing 10/100
Modular Slots	1	1	1	1
Modules Available	1-port 10/100bTX 1-port 100bFX	1-port 10/100bTX 1-port 100bFX	1-port 10/100bTX 1-port 100bFX	1-port 10/100bTX 1-port 100bFX
Stackable	Yes, up to 4 units	Yes, up to 4 units	Yes, up to 4 units	Yes, up to 4 units
Management Capabilities	Manageable by a FastHub 412M or 424M LEDs for power, port status, bandwidth utilization, collision detection, and speed indication	Web-based management, SNMP, Telnet, RMON, CLI-based out-of-band, CiscoWorks Windows, and CiscoView on a per-port, per-hub, and per-stack basis LEDs for power, port status, bandwidth utilization, collision detection, and speed indication	Same as FastHub 412	Same as FastHub 412M
Dimensions (HxWxD)	1.73 x 17.5 x 8.25 in.	1.73 x 17.5 x 8.25 in.	1.73 x 17.5 x 8.25 in.	1.73 x 17.5 x 8.25 in.
Service Category	2	2	2	2

Competitive Products

- 3Com: SuperStack II Dual Speed Hub 500
- Nortel: BayStack 250 Series 10/100 Hubs
- Intel: Express 220T 10/100 Stackable Hub

Distribution Part Numbers and Ordering Information

FastHub 400 10/100 Series¹

WS-C412	FastHub 412 10/100, 12-port, Manageable Repeater
WS-C412M	FastHub 412M 10/100, 12-port, Managed Repeater
WS-C424	FastHub 424 10/100, 24-port, Manageable Repeater
WS-C424M	FastHub 424M 10/100, 24-port, Managed Repeater
WS-C424-5PACK	5 FastHub 424 10/100 Repeaters
WS-C424M-5PACK	5 FastHub 424M 10/100 Repeaters
WS-X401	10/100TX Switched Module for FastHub 400
WS-X402	100BASEFX Switched Module for FastHub 400
WS-C400-CAB-EXP=	Stacking Cable for FastHub 400 10/100 Series

FastHub Series Basic Maintenance

CON-SNT-PKG2	FastHub SMARTnet Maintenance for FastHub 400 10/100 Series Repeaters
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the FastHub 400 Series Web site: <http://www.cisco.com/go/fh400>

IP and ATM Products at a Glance

Product	Features	Page
Cisco LightStream 1010	<p>An ATM switch for campus and enterprise backbones as well as ATM WAN edge deployment</p> <ul style="list-style-type: none"> • Advanced traffic management (ATM) • Winner of the Best of LANTIMES award • Delivers the performance, scalability, and robustness required for true production ATM deployment 	170
Cisco BPX 8600Series	<p>A carrier-class network backbone for service provider environments</p> <ul style="list-style-type: none"> • A standards-based ATM switch that supports broadband, IP, and broadband/narrowband service delivery • Integrates cleanly with OSS infrastructures, offering carrier-class reliability, unbeatable port density, and the industry's highest IP scalability 	171
Cisco MGX 8220	<p>An integrated or stand-alone solution for concentrating narrowband traffic over a wide-area ATM network backbone</p> <ul style="list-style-type: none"> • Offers the simplest way to deliver leading-edge narrowband services 	173
Cisco MGX 8240	<p>Private line service gateway offers a high-density private line solution for service providers to offer channelized T3, T1, fractional T1, and DS0 private line services. Historically, these private line services were deployed predominately using a separate circuit-based TDM infrastructure based on digital cross-connect systems (DCS).</p> <ul style="list-style-type: none"> • The private line service gateway provides a cost-effective platform for the service providers to migrate their private line TDM traffic onto a multi-service ATM network 	175
Cisco MGX 8260	<p>High-density, carrier-class gateway that intelligently switches TDM and voice over IP (VoIP) traffic across packet networks.</p> <ul style="list-style-type: none"> • Provides service providers with a dial offload groomer which redirects data traffic to more efficient packet networks while freeing up costly TDM resources for voice calls • Carriers can benefit from immediate cost savings by integrating the MGX 8260 gateway with existing circuit switches and diverting all data calls onto Network Access Servers (NAS) 	177
Cisco IGX 8400	<p>A carrier-class network backbone for service provider and large enterprise networks</p> <ul style="list-style-type: none"> • Tightly integrated with Cisco router and access products • Supports delivery of broadband and narrowband services with end-to-end high quality of service 	179
Cisco MGX 8800 Series	<p>Provides the best of both IP and ATM in a single platform</p> <ul style="list-style-type: none"> • Offers the industry's widest breadth of integrated IP+ATM services and unmatched deployment flexibility • Provides both IP and ATM services in a single platform 	181

Cisco LightStream 1010¹

The Cisco LightStream 1010 offers the sophistication and depth of functionality required for true advanced traffic management. The Cisco LightStream 1010 supports current, bursty, best-effort traffic, while also delivering the QoS guarantees required for applications of the future. Available bit rate (ABR) congestion control support allows the LightStream 1010 to slow traffic sources before congestion becomes excessive, whereas support for the ATM Forum PNNI protocols allows networks of LightStream 1010s to scale to hundreds of nodes while still delivering interoperable, QoS-based routing. Value-added capabilities allow for access lists and load sharing across redundant links. All this sophistication is hidden, however, by the true standards-based, plug-and-play capabilities of the LightStream 1010, and advanced management functions allow for unprecedented levels of network visibility and control.



Key Features

- Switch architecture—Fully nonblocking shared-memory switch fabric; field upgradable feature card that implements all advanced switch and traffic management functions
- Network management—CWSI 2.1, CiscoView for the LightStream 1010
- High-speed switching architecture—Allows up to 32 OC-3 connections

Specifications

Feature	LightStream 1010
Fixed Ports	None
Modular Slots	5
Supported Interfaces	OC-3 / OC-12 ATM single mode/multimode STM-1 / STM-4 ATM single mode/multimode DS3 4-port/2-port E3 4-port/2-port T1/E1 ATM trunk and T1/E1 circuit emulation ATM 25 Mbps
DRAM	16 MB (default)
Capacity	5 Gbps, 65,536 cells of buffering
Dimensions (HxWxD)	10.5 x 17.2 x 18.1 in.
Connections	Switch to switch: IISP, PNNI User: UNI 3.0/3.1/4.0 SVCs and PVCs, point-to-point and point-to-multipoint, soft PVCs, SVC tunneling over PVPs

For More Information

See the LightStream Web site: <http://www.cisco.com/go/ls1010>

1. For ordering information on this product, contact your Cisco Account Team.

Cisco BPX 8600 Series Wide-Area Switches¹

The Cisco BPX® 8600 series switches are powerful broadband wide-area switches with advanced IP and ATM capabilities. Designed to meet the demanding, high-traffic needs of a public service provider or large private enterprise, the BPX switch delivers high-performance ATM switching, multiservice adaptation, and aggregation for all types of user traffic.



Key Features

- Support for integrated IP and ATM services
- Virtual Switch Interface allows for multiple controllers to enable new services
- Supports MPLS to enable services such as highly scalable IP Virtual Private Networks with Quality of Service guarantees
- Up to 1,000,000 cells buffering per interface card allocated per virtual path/virtual connection (VP/VC)
- Supports up to 16 classes of service
- ABR virtual source/virtual destination (VS/VD) traffic management per ATM Forum Specification V.4.0
- Virtual trunking
- All components are optionally redundant to 100 percent system redundancy
- SONET APS for OC-3c/STM-1 and OC-12c/STM-4 BXM modules
- Network management:
 - In-band and out-of-band network management supported
 - SNMP and MIB support for configuration and monitoring
 - Trivial File Transport Protocol (TFTP) support for bulk statistics collection
 - Interfacing to network management is provided through one 802.3 attachment unit interface (AUI) interface for local connection to StrataView Plus® and two asynchronous control/printer ports
- Automatically reroutes connections in the event of a link failure
- Per-virtual connection control capabilities manage queuing, rate scheduling, statistics collection, and fair allocation of bandwidth
- Advanced class-of-service (CoS) management enables managers to tailor individual connections to meet service level guarantees for IP, ATM, and Frame Relay traffic

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco BPX 8600 Series Wide-Area Switch
Fixed Ports	None
Modular Slots	15 slots (2 slots reserved for redundant control and switch modules, 1 slot reserved for alarm status monitor (ASM) module, 12 slots for general-purpose interface modules)
Broadband ATM Interfaces	Conformance to ATM Forum Specification V.3.1 and TM 4.0 T3/DS-3 (44.736 Mbps) per TA-TY-000773 and direct mapping per ITU-T G.804 E3 per ITU-T Rec. G.804 OC-3c (155.520 Mbps) with SONET framing per Bellcore GR-253, ANSI 1.105 STM-1 (155.520 Mbps) with SDH framing per ITU-T Rec. G.707-G.709 OC-12c (622.08 Mbps) SONET per Bellcore GR-253, ANSI T1.105 STM-4 (622.08 Mbps) with SDH framing per ITU-T Rec. G.707-G.709
Maximum Configuration	24 OC-12/STM-4 ports; 96 OC-3c/STM-1 ports; 144 T3/E3 ports; 1280 T1/E1 ports 30,000 ports (at 64 kbps, DS-0) Scalable multishelf architecture
Crosspoint Switch Fabric	19.2 Gbps switch capacity 12 800/1600-Mbps switch ports that can support up to OC-12c/STM-4 cell rate
PVC Service Classes	Constant bit rate (CBR) Real time variable bit rate (RT-VBR) Non-real time variable bit rate (NRT-VBR) Unspecified bit rate (UBR) Available bit rate (ABR)
Broadband Network Interfaces	Conformance to ATM Forum Specification V.3.1 and TM4.0 T3/DS3 (44.736 Mbps) E3 (34.368 Mbps) OC-3c (155.520 Mbps) SONET STM-1 (155.520 Mbps) SDH OC-12c (622 Mbps) SONET STM-4 (622 Mbps) SDH
Dimensions (HxWxD)	8620: 22.75 x 17.72 x 27 in. 8650: 28 x 17.72 x 27 in. 8680: 22.75 x 17.72 x 27 in.

For More Information

See the Cisco BPX 8600 web site: <http://www.cisco.com/go/bpx8600>

Cisco MGX 8220 Edge Concentrator¹



The MGX™ 8220 edge concentrator concentrates narrowband traffic for Cisco BPX 8600 series and LS 1010 switches, Cisco 7500 series routers, and other vendors' ATM switches. Single-platform service creation allows you to quickly deploy innovative narrowband Frame Relay, ATM, Internet, SNA, video, and circuit emulation for transport over the network backbone. Traffic can be aggregated from as many as 80 T1 or E1 ports onto a single port of a trunk card, slashing cost per port and providing unmatched scalability. Standards-based and designed for carrier-class environments, the MGX 8220 offers the simplest way to deliver leading-edge narrowband services, integrating cleanly with your provisioning, billing, monitoring, and reporting infrastructure.

Key Features

- Redundancy:
 - 1:1 optional common equipment redundancy
 - 9:1 optional subscriber interface redundancy
- Network management:
 - Simple Network Management Protocol (SNMP) configuration and monitoring
 - Trivial File Transfer Protocol (TFTP) software download
 - TFTP statics collection
 - CiscoView
- Supports a wide range of narrowband and mid-band services:
 - Frame Relay UNI/NNI
 - High speed Frame Relay
 - ATM Frame UNI
 - ATM UNI/NNI (T1/E1 ATM UNI and n x T1/E1 IMA)
 - SNA
 - Circuit Emulation
 - Frame forwarding for PPP, X.21, and X.25 transport

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	MGX 8220
Fixed Ports	None
Modular Slots	16 slots: 10 slots available for function modules 6 slots reserved for common control cards – 2 for common control (ASC) (1 reserve, 1 hot standby) – 2 for service trunking (1 active, 1 hot standby) – 2 for SRM (1 active, 1 hot standby)
Subscriber Interfaces	T1/E1 Frame Relay (fractional and channelized) High-speed Frame Relay ATM Frame UNI n x T1/E1 IMA UNI T1/E1 ATM T1/E1 Circuit Emulation (UDT and SDT) SNA/SDLC Bisync
Trunk Interfaces	T3/E3 SONET STS-OC-3/STM-1 IMA (n x T1/E1)
Connection Management	Permanent virtual circuits (PVCs) or switched virtual circuits (SVCs)
Switching	320-Mbps ATM cell bus
Power Requirements	-48 VDC or 110/220 VDC 400 watts Redundant power feeds
Capacity	640 Mbps ATM cell bus
Dimensions (HxWxD)	8.75 x 17.45 x 20 in. 19 in. rack mountable

For More Information

See the Cisco MGX 8220 web site: <http://www.cisco.com/go/mgx8220>

Cisco MGX 8240 Private Line Service Gateway¹

Cisco's MGX 8240 series private line service gateway offers a high-density private line solution for service providers to offer channelized T3, T1, fractional T1, and DS0 private line services. Historically, these private line services were deployed predominately using a separate circuit-based TDM infrastructure based on digital cross-connect systems (DCS). The private line service gateway provides a cost-effective platform for the service providers to migrate their private line TDM traffic onto a multi-service ATM network.



Key Features

- Provides complete circuit emulation services (CES) (DS1 structured and unstructured; DS3 structured)
- Access interfaces are three channelized DS3 TDM access interfaces (DS3 physical layer conforms to ANSI-T-1.404).
- Each CES processor service module (PSM) supports up to 2016 circuits
- Both DS3 and OC-3 access interfaces are channelized down to DS0
- The DS0s (672) per access interface can be used in any combination of DS0, NxDS0 on the same DS1 or clear channel DS1s combination
- Both extended super frame (ESF) as well as super frame (D4) DS1 framing is supported
- T-1 payload loop-backs are supported per ANSI T-1.403-1996
- Minimizes the cost and time for provisioning fractional T1 private lines. The operational cost is dramatically lower than that of a traditional TDM/DCS solution
- Provides efficient transport and interconnection between a TDM infrastructure and new world networks

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco MGX 8240
Slots	16 Slots 15 Slots available for CES PSM Application 1 Slot designated to support a redundant shelf controller
Network Interfaces	T1 (fractional and channelized) T3 physical interface N x DS0 Channelized DS3 access ports OC-3c ATM trunk ports with APS protection
Services	Private line
Timing	Redundant BITS clocks or OC-3 timing source
Power Requirements	-48 VDC Redundant power feeds
Dimensions (HxWxD)	33.25 x 21.5 x 18.5 in. (without cable management) 33.25 x 21.5 x 22.5 in. (with cable management) 23 in. rack mountable

For More Information

See the Cisco MGX 8240 web site: <http://www.cisco.com/go/mgx8240>

Cisco MGX 8260 Media Gateway¹

The Cisco MGX 8260 is a high-density, carrier-class gateway that intelligently switches TDM and voice over IP (VoIP) traffic across packet networks. It provides service providers with a SS7-PRI gateway which redirects data traffic to more efficient packet networks while freeing up costly TDM resources for voice calls. Carriers can benefit from immediate cost savings by integrating the MGX 8260 gateway with existing circuit switches and diverting all data calls onto Network Access Servers (NAS).



Key Features

- Highest density gateway for local switched TDM, VoIP and modem hybrid traffic
- Capacity to scale to 170,000 TDM DSO switching per 7' rack
- Greater than 16,000 VoIP ports per 7' rack
- Architected for the highest availability - no dropped calls even in the event of a hardware or software failure
- Industry-standard call control: MGCP
- SS7/ PRI / IP support
- G.711 (PCM - 64 Kbps), G.726 (ADPCM - 32 Kbps), and G.729a (CSCelp - 8 Kbps) voice compression
- Echo cancellation (G.165/G.168, 128 msec tail)
- Dynamic de-jitter
- Announcement play-outs (.au or .wav)
- Test Line with tone detect (100, 102 and 108)
- Adjustable RTP sample times - 10 - 20 msec
- Voice activity detection (VAD), with silence suppression and comfort noise generation (CNG)
- Reliability design factors for hardware and software - no single point of failure
- Supports 1:N (NSC), 1:1 (BSC, SCC, DMC) redundancy
- All cards are hot-swappable

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco MGX 8260
Slots	16 Slots • 2 Slots designated to support a redundant Switch Control Card (SCC) configuration
Modules	Switch Control Card (SCC) Broadband Service Card (BSC) • 3 TDM Interfaces per card Narrowband Service Card (NSC) • 16 T1/E1 Interfaces per card • 384 G.711 sessions per NSC card (with DSP module) • 256 G.729a or G.726 sessions per NSC card (with DSP module) Distribution Matrix Card (DMC) • 6 T3 TDM Interfaces per card
Power Requirements	-48 VDC Redundant with A and B power feeds 1800 watts (fully loaded) 110/220 VAC (AC Optional)
Dimensions (HxWxD)	24.5 x 17.5 x 18 in. 19 or 23 in. rack mountable (kits available)

For More Information

See the Cisco MGX 8260 web site: <http://www.cisco.com/go/mgx8260>

Cisco IGX 8400 Series¹

The IGX 8400 series wide-area switches provide the backbone required to deliver today's enterprise data, voice, fax, and video applications. The IGX 8400 series switches fully integrate with other Cisco WAN switching, access and customer premise equipment (CPE) products to offer an end-to-end networking solution that maximizes operational efficiencies and reduces costs.



Key Features

- **Multiservice integration**—supports all applications, reducing network operation costs and increasing WAN bandwidth savings due to statistical multiplexing; consolidates multiple WAN infrastructures; provides flexibility for deploying voice over IP, ATM, or Frame Relay
- **Bandwidth efficiency**—maximizes efficiency of expensive WAN circuits for data, voice and video traffic, thereby reducing recurring bandwidth costs
- **Performance and QoS guarantees**—delivers high performance and full control over network resources with per-VC queuing, per-VC rate scheduling, and multiple classes of service (COS) to guarantee QoS levels for the individual applications; supports all applications, according to their specific requirements, using advanced traffic management and CoS features
- **Flexible, scalable network design**—available as the IGX 8410 with eight slots, the IGX 8420 with 16 slots, or the IGX 8430 with 32 slots, the IGX 8400 series offers the greatest flexibility to meet a wide range of enterprise needs
- **Seamless integration of existing IGX 8400, BPX 8600, and MGX 8220 networks**
- **End-to-End Integration**—extends WAN backbone to branch offices, providing the same high service levels regardless of location; provides value-added interworking between existing Cisco routers and LAN switches for seamless traffic flow between LAN/campus and WAN environments; reduces operational efforts with integrated network management systems

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco IGX 8410/8420/8430/SES
Number of Slots	IGX 8410: 8 slots (2 slots reserved for redundant processor modules) IGX 8420: 16 slots (2 slots reserved for redundant processor modules) IGX 8430: 32 slots (2 slots reserved for redundant processor modules) SES: 7 slots (2 slots reserved for redundant processor modules; some service modules take up half a slot, while others take a full slot)
ATM Interfaces	2-port OC-3c/STM-1 SMF/MMF 4-port OC-3c/STM-1 SMF/MMF/Electrical 3- or 6-port T3/E3 4- or 8-port nxT1/E1 (IMA)
Frame Relay Interfaces	4- or 8-port T1/E1 12-port V.35/X.21 4-port HSSI 2-port T3/E3* 2-port Channelized T3*
Voice Interfaces	1-port T1/E1/J1 (CAS and CCS) Compression: G.726, G.728, G.729, G.729a Silent suppression Echo cancellation Fax and modem detection Fax Relay
Circuit Data and Circuit Emulator Interfaces	4- or 8-port EIA/TIA-232 4-port V.35, EIA/TIA-449 SNA/SDLC, BSC, HDLC/X.25 frame forwarding 8-port T1/E1* 2-port T3/E3*
Dimensions (HxWxD)	IGX 8410: 24.4 x 19.9 x 27.1 in. IGX 8420: 32 x 19.9 x 27.1 in. IGX 8430: 55 x 19.9 x 27.1 in. SES: 12.2 x 17.7 x 28.3 in.

* Requires SES

For More Information

See the Cisco IGX 8400 web site: <http://www.cisco.com/go/igx8400>

Cisco MGX 8800 Series Wide-Area Edge Switches¹

The Cisco MGX 8800 series wide-area edge switch offers the industry's widest breadth of integrated IP+ATM services and unmatched deployment flexibility. Now, service providers can provision today's revenue-generating leased-line, Frame Relay, ATM, and Internet services while enabling deployment of integrated VPN, managed intranet, electronic commerce, voice, and video services over a packet infrastructure. The MGX 8800 edge switch provides the best of both worlds—IP and ATM—in a single platform, to enable service providers to reduce capital and operational costs by eliminating the need to build multiple overlay networks. No matter what demands the market makes, the Cisco MGX 8800 delivers the scalability and widest range of service interfaces to meet the demand.



Key Features

- Scalable from 1.2 to 45 Gbps of nonblocking throughput with single chassis
- Flexible IP+ATM multiservice platform
- Integration of digital cross connect, ATM/FR switching, voice switching, and IP routing in a single platform
- Highest reliability, availability, and serviceability in the industry
- Managed by Cisco's IP+ATM service management tools
- All components are optionally redundant to 100-percent system redundancy, including the control processor switching fabric, network interfaces, service interfaces, critical backplane signals, power supplies, power modules, and cooling fans

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco MGX 8800
Fixed Ports	None
Modular Slots	<p>32 single-height (16 double-height) function module slots</p> <p>Single-height slots can be in-service converted to double-height slots by removal of midrail dividers</p> <p>2 double-height slots reserved for redundant processor switch modules</p> <p>4 single-height (2 double-height) slots reserved for optional value-added service resource modules</p> <p>24 single-height (12 double-height) slots for service modules</p>
Network Interfaces	<p>OC-48c/STM-16</p> <p>OC-12c/STM-4</p> <p>OC-3c/STM-1</p> <p>T3</p> <p>E3</p> <p>Channelized T3 (down to DS0)</p> <p>n x T1/E1</p> <p>T1/E1</p> <p>Channelized T1 (DS0 and nx DS0)</p> <p>Channelized E1 (DS0 and nx DS0)</p> <p>HSSI, X.21, V.35</p> <p>Ethernet</p> <p>Fast Ethernet</p> <p>Fiber Distributed Data Interface (FDDI)</p>
Services	<p>IP VPNs</p> <p>Voice</p> <p>Frame Relay</p> <p>PPP access</p> <p>Cell relay</p> <p>Frame Relay-to-ATM network interworking</p> <p>Frame Relay-to-ATM service interworking</p> <p>Circuit Emulation</p> <p>Complete suite of Cisco IOS Software-based protocols and services</p>
Node Synchronization	<p>Internal Stratum-3 clock source</p> <p>External T1/E1 BITS source</p> <p>External source received inband over the network (synchronization to software-programable primary and secondary sources with automatic switchover)</p>
Dimensions (H x W x D)	29.75 x 17.72 x 21.5 in.

For More Information

See the Cisco MGX 8800 web site: <http://www.cisco.com/go/mgx8800>

Security Products at a Glance

Product ¹	Features	Page
Cisco Secure PIX™ Firewall	Standalone, high-performance firewall appliance <ul style="list-style-type: none"> • Secure, real-time embedded system • Scalable to more than 250,000 simultaneous connections • Available in two form factors for small and enterprise sites 	184
Cisco Secure Integrated Software (formerly Cisco IOS Firewall Feature Set)	Value-added option that provides advanced firewall-specific capabilities <ul style="list-style-type: none"> • Stateful packet filtering via context-based access control (CBAC) • Intrusion detection for real-time response to network attacks • Dynamic, network-to-network, per-user authentication and authorization via TACACS+ and RADIUS 	186
Cisco Secure Scanner (formerly NetSonar)	Proactive network security analysis system <ul style="list-style-type: none"> • Comprehensive security assessment and reporting tool • Robust network inventory and mapping system • Measure security, manage risks, eliminate security vulnerabilities 	188
Cisco Secure Intrusion Detection System (formerly NetRanger)	Real-time intrusion detection system <ul style="list-style-type: none"> • Real-time blocking of unauthorized activity • Transparent to legitimate traffic • Support for a range of speeds and interface types • Highly scalable 	190
Cisco Secure Policy Manager (formerly Cisco Security Manager)	Policy-based security management system for Cisco PIX Firewalls <ul style="list-style-type: none"> • Innovative approach to security management • Manages multiple firewalls from a central location • Part of CiscoAssure Policy Networking 	192

1. See also CiscoSecure Software Product Line on page 207.

Cisco Secure PIX Firewall

The Cisco Secure PIX Firewall, the leading product in its segment of the market, is a high-speed, dedicated firewall appliance that delivers strong security without impacting network performance. The PIX 515 chassis expands this world-leading product line with a low-profile, lower-cost entry and midrange model. At 1RU (1.72") height, the PIX 515 saves valuable rack space without sacrificing throughput. With support for 50,000 and 100,000 connections, the PIX 515 is ideal for smaller or remote locations. In combination with the PIX 520 (which supports 250,000 connections), Cisco now offers an unmatched dedicated firewall product family.



When to Sell

Sell This Product

Cisco Secure PIX Firewall 515R

Cisco Secure PIX Firewall 515UR

Cisco Secure PIX Firewall 520

When a Customer Needs These Features

- Dedicated firewall device for small office
- 50,000 simultaneous connections
- Dedicated firewall device for mid-size company
- 100,000 simultaneous connections
- Dedicated firewall device for large enterprise
- 128, 1024, or 250,000+ simultaneous connections

Key Features

- Highest performance
- Real-time embedded operating system
- Resides between the corporate network and the Internet access router, and includes Ethernet, Fast Ethernet, Token Ring, or FDDI LAN connectivity options
- Protection scheme is based on the adaptive security algorithm (ASA) to ensure the utmost in security
- Cut-through proxy for authentication and authorization
- Support for up to 250,000 simultaneous connections
- URL filtering
- HP OpenView integration
- Graphical user interface for configuration and management
- Alert and alarm notification via e-mail and pager
- VPN support with Private Link encryption card
- Trust Technology Assessment Program (TTAP) compliant; National Security Agency (NSA) certified

Specifications

Feature	515R	515UR	520
Simultaneous Sessions	50,000	100,000	128, 1024, or 250,000+
Interfaces	2-port Ethernet	4-6 port Ethernet (with s/w)	2-6 port Ethernet (with s/w) 3 port Token Ring 2 port FDDI Combo Ethernet and Token Ring
PCI Slots	2	2	4
10/100 Connections on Board	2	2	0
RAM	32 MB	64 MB	128 MB
Processor Speed	200 MHz	200 MHz	350 MHz
Dimensions (HxWxD)	1.72 x 16.82 x 11.8 in.	1.72 x 16.82 x 11.8 in.	5.21 x 16.82 x 17.5 in.
Service Category	10	13	12

Competitive Products

- Axent: Raptor
- Checkpoint: Firewall-1
- Network Associates: Gauntlet

Distribution Part Numbers and Ordering Information

Cisco Secure PIX Firewall Chassis Bundles¹

PIX-515-R-BUN	PIX Firewall 515 with Restricted software
PIX-515-UR-BUN	PIX Firewall 515 with Unrestricted software and 32 MB RAM upgrade
PIX-515-FO-BUN	PIX Firewall 515 failover chassis and software bundle
PIX-520-128-CH	PIX Firewall 520, 128 sessions, Pentium II, two10/100 NICs (autosensing)
PIX-520-1K-CH	PIX Firewall 520, 1K sessions, Pentium II, two10/100 NICs (autosensing)
PIX-520-UR-CH	PIX Firewall 520, Unlimited sessions, 233 MHz, two10/100 NICs (autosensing)
PIX-520-FO-BUN	PIX Firewall 520 failover chassis and software bundle

Cisco Secure PIX Upgrades

PIX-CONN-128-1K=	PIX License upgrade from 128 to 1024 connections
PIX-CONN-128-UR=	PIX License upgrade from 1024 to unlimited connections
PIX-CONN-1K-UR=	PIX License upgrade from 1024 to unlimited connections
PIX-515-MEM-32	32 MB RAM upgrade for the PIX 515 Firewall
PIX-MEM-5XX-128	Memory upgrade to 128 MB for PIX 510 and 520 firewalls (prior to the PIX 520-XM)
PIX-FO=	Failover cable/upgrade kit (software version 3.0 or later)
PIX-VPN-3DES=	PIX 3DES Software License Without Client Software

Cisco PIX Modules

PIX-1FE=	1-port 10/100 autosensing Module (RJ-45)
PIX-4FE=	4-port 10/100 autosensing Module
PIX-1TR=	1-port Token-Ring Module (4/16 Mbps)
PIX-PL2=	PIX Private Link 2 Module
PIX-FDDI=	PIX FDDI Card

Cisco PIX Basic Maintenance

CON-SNT-PKG10	Cisco Secure PIX Firewall 515R SMARTnet Maintenance
CON-SNT-PKG13	Cisco Secure PIX Firewall 515UR SMARTnet Maintenance
CON-SNT-PKG12	Cisco Secure PIX Firewall 520 SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Secure PIX Firewall Web site: <http://www.cisco.com/go/pix>

Cisco Secure Integrated Software

The Cisco Secure Integrated Software (formerly the Cisco IOS Firewall Feature Set) enriches Cisco IOS Software security capabilities, integrating robust firewall functionality and intrusion detection for every network perimeter. When combined with Cisco IOS IPsec software and other Cisco IOS Software-based technologies such as L2TP tunneling and quality of service (QoS), Cisco Secure Integrated Software provides a complete, integrated virtual private network solution. Cisco Secure Integrated Software is available on a wide range of Cisco router platforms, scaling to allow customers to choose a router platform based on bandwidth, LAN/WAN density, and multiservice requirements, while benefiting from advanced security.

When to Sell

Sell This Product

Cisco Secure Integrated Software

When a Customer Needs These Features

- For secure extranet and intranet perimeters and Internet connectivity for branch and remote offices
- Secure remote access or data transfer via a Cisco IOS Software-based VPN solution
- A real-time integrated intrusion detection system to complement the firewall or an existing intrusion detection system (NetRanger)
- Security and access to the network on a per-user basis

Key Features

- Context-based access control (CBAC) provides secure, stateful, application-based filtering, supporting the latest protocols and advanced applications
- Intrusion detection for real-time monitoring, interception, and response to network misuse
- Dynamic, per-user authentication and authorization for LAN and WAN-based users and VPN clients
- Graphical configuration and management through the use of ConfigMaker Security Wizard
- Provides strong perimeter security as an essential component of a complete Cisco IOS Software-based VPN solution, including IPSec, QoS, and tunnelling for a wide range of Cisco router platforms

Specifications

Feature	Cisco Secure Integrated Software
Supported Network Interfaces	All network interfaces on supported platforms
Supported Platforms	Cisco 1720, 2600, 3600, 7100, and 7200 series router platforms (supports full feature set) Cisco 800, UBR900, 1600, and 2500 series router platforms include all firewall features with exception of intrusion detection and authentication proxy
Memory	Varies by platform and image
Simultaneous Sessions	No maximum; dependent on platform, network connection, and traffic

Competitive Products

- Ascend: SecureAccess Firewall
- Nokia: IP400 Series
- Nortel: BaySecure Firewall-1

Distribution Part Numbers and Ordering Information

Cisco Secure Integrated Software for 1600 Series Routers¹

CD16-CH-12.0=	IP/Firewall Feature Pack
CD16-BHP-12.0=	IP/IPX/Firewall Plus Feature Pack
CD16-QHY-12.0=	IP/IPX/AT/IBM/Firewall Plus 56 Feature Pack
CD16-OHL-12.0=	IP/IPX/AT/IBM/Firewall Plus IPsec 56 Feature Pack

Cisco Secure Integrated Software for 2500 Series Routers

CD25-CH-12.0=	IP/Firewall Feature Pack
CD25-BHP-12.0=	IP/IPX/AT/DEC/Firewall Plus
CD25-AHY-12.0=	Enterprise/Firewall Plus 56 Feature Pack
CD25-AHL-12.0=	Enterprise/Firewall Plus IPsec 56 Feature Pack

Cisco Secure Integrated Software for 2600 Series Routers

CD26-CH-12.05=	Cisco 2600 Series IOS IP/Firewall Feature Pack
CD26-CHL-12.05=	Cisco 2600 Series IOS IP/Firewall Plus IPsec 56 Feature Pack
CD26-CHK2-12.05=	IP/Firewall Plus IPsec 3DES
CD26-BHP-12.05=	Cisco 2600 Series IOS IP/IPX/AT/DEC/Firewall Plus Feature Pack
CD26-AHL-12.05=	Cisco 2600 Series IOS Enterprise/Firewall Plus IPsec 56 Feature Pack
CD26-AHK2-12.05=	Enterprise/Firewall Plus IPsec 3DES

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Secure Integrated Software site: <http://www.cisco.com/go/csiss>

Cisco Secure Scanner

Proactive, Preventative Security. The Cisco Secure Scanner (formerly NetSonar) is an enterprise-class software tool offering superior network system identification, innovative data management, flexible user-defined vulnerability rules, comprehensive security reporting capabilities, and Cisco 24x7 worldwide support. The Scanner is a key component in Cisco's end-to-end network security solutions. The Scanner allows users to measure security, manage risk, and eliminate security vulnerabilities, thereby enabling more secure network environments.



When to Sell

Sell This Product	When a Customer Needs These Features
-------------------	--------------------------------------

- | | |
|----------------------|---|
| Cisco Secure Scanner | <ul style="list-style-type: none"> • The ability to measure and reduce their security exposure • A method to improve network security • A process to define and validate security policies |
|----------------------|---|

Key Features

- Flexible licensing designed to serve the changing needs of customers and to provide unprecedented scanning flexibility
- Easy-to-use, intuitive user interface allows users to quickly configure a network scan without pre-existing knowledge of the network or security vulnerabilities
- Comprehensive scanning engine that can analyze and identify specific networked systems—including Web servers, firewalls, routers, switches, and workstations
- Flexible data analysis and reporting capabilities, including graphics-generating features and report wizard
- User-defined implementation options, including scheduling, specialized profiles, and customized scanning rules for legacy or proprietary systems
- Unique matrix browser and display technology that allows users to easily navigate through the data
- Regular vulnerability updates of signature and rules files on a bi-monthly schedule to stay current in a rapidly changing security environment
- Extensive network security database with descriptions of security problems and options to improve or fix them

Specifications

Component	Minimum System Requirements for Windows NT	Minimum System Requirements for Solaris
Hardware	266 MHz Pentium CD-ROM drive TCP/IP network interface Screen resolution of 800 x 600 or greater	Sun SPARC 5 266 MHz Pentium PC CD-ROM drive TCP/IP network interface Screen resolution of 800 x 600 or greater
Operating System	Windows NT 4.0 Service Pack 3 or later	Solaris 2.6 or 2.7 (for SPARC) Solaris x86 2.6 or 2.7 (for Pentium)
Software	Netscape Navigator 3.0 or later Microsoft Internet Explorer 3.0 or later	Netscape Navigator 3.0 or later
Disk Space	2 GB hard drive	2 GB hard drive
Memory	64 MB (96 MB recommended)	64 MB (96 MB recommended)
User Privileges	Local or domain administrator	Root

Competitive Products

- Axent: NetRecon
- ISS: Internet Scanner
- NAI: CyberCop Scanner

Distribution Part Numbers and Ordering Information

Cisco Secure Scanner¹

NS-20-NT-2500 Scanner 2.0 for NT (Up to 2500 Addresses)
NS-201-S-2500 Scanner 2.0.1 for Solaris (Up to 2500 Addresses)

Cisco Secure Scanner Software Application Support (SAS) Maintenance

CON-SAS-NS-NT SAS Maintenance for Scanner for NT
CON-SAS-NS-SOL SAS Maintenance for Scanner for Solaris

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Secure Scanner Web site: <http://www.cisco.com/go/scan>

Cisco Secure Intrusion Detection System

Cisco Secure Intrusion Detection System (formerly NetRanger) is an enterprise-scale, real-time, intrusion detection system designed to detect, report, and terminate unauthorized activity throughout a network.



Cisco Secure Intrusion Detection System can operate in both Internet and intranet environments to protect an organization's entire network. It consists of two components: Sensors and Directors. Transparent to network performance, Sensors analyze the content and context of individual packets to determine if the traffic is unauthorized. If a network's data stream experiences unauthorized activity, such as a SATAN attack, a ping sweep, or a secret research project code word, Sensors detect the policy violation in real time, forward alarms to a Director management console, and remove the offender from the network.

When to Sell

Sell This Product

Cisco Secure Intrusion Detection System

When a Customer Needs These Features

- A network-based, real-time intrusion detection system capable of monitoring an entire enterprise network
- A robust, 24 hour x 7 day-a-week monitoring and response system with the latest attack detection capabilities
- A distributed intrusion detection 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 and Directors in order to provide comprehensive security coverage in large network environments.
- An intrusion detection system designed to integrate smoothly with existing network management tools and practices

Key Features

- Real-time intrusion detection transparent to legitimate traffic/network usage
- Real-time response to unauthorized activity blocks offenders from accessing the network or terminates offending sessions
- Comprehensive attack signature list detects a wide range of attacks and can detect content and context-based attacks
- Support for a range of speeds and interface types, including 10/100-Mbps Ethernet, Token Ring, and FDDI
- Alarms include attacker and destination IP addresses, destination port, and attack description
- Scalability for even extremely large, distributed networks

Specifications

Feature	Cisco Secure Intrusion Detection System
Sensor	A turnkey, complete hardware and software network appliance that comes in five models (listed below) based on the type of network segment that will be monitored: Ethernet Token Ring Fast Ethernet Single Attached FDDI Dual Attached FDDI
Director	Software application that requires HP OpenView Network Node Manager 4.11, 5.01, 6.0 or 6.01 (customer-supplied), and runs on HP-UX 10.20 and Solaris 2.5.1, 2.6 and 2.7.

Competitive Products

- Axent: NetProwler
- Internet Security Systems (ISS): Real Secure
- Network Flight Recorder, Inc.: NFR

Distribution Part Numbers and Ordering Information

Cisco Secure Intrusion Detection System¹

IDS-DIR	Cisco Secure IDS Director Software
IDS-4220-E	Cisco Secure IDS Ethernet Sensor
IDS-4220-TR	Cisco Secure IDS Token Ring Sensor
IDS-4230-FE	Cisco Secure IDS Fast Ethernet Sensor
IDS-4230-SFDD	Cisco Secure IDS SAS FDDI Sensor
IDS-4230-DFDDI	Cisco Secure IDS DAS FDDI Sensor

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Secure Intrusion Detection System Web site:
<http://www.cisco.com/go/ids>

Cisco Secure Policy Manager

Cisco Secure Policy Manager (CSPM) is a scalable, powerful security policy management system for Cisco PIX Firewalls. With CSPM, Cisco customers can define, distribute, enforce, and audit security policies for multiple distributed firewalls from a central location. As the management cornerstone of the Cisco end-to-end security product line and a fundamental element of CiscoAssure Policy Networking, CSPM can dramatically simplify management of the PIX Firewall---the highest-performance, enterprise-class firewall available. CSPM also supports the IOS Firewall feature set and includes a rich set of logging and monitoring features.

CSPM v2.0 includes support for Virtual Private Networks (VPNs). CSPM v2.0 simplifies the configuration of IPSec for the PIX firewall and Cisco routers. CSPM V2.0 includes a VPN client to ensure that device configuration is protected in a secure fashion. CSPM v2.0 is a highly-scalable management and monitoring system with support for up to 500 devices.

In the future, CSPM will be enhanced to include other security networking products such as Intrusion Detection Services (IDS).

When to Sell

Sell This Product

Cisco Secure Policy Manager

When a Customer Needs These Features

- Security administration for multiple PIX firewalls within their corporate network
- An easy way to define network security policies based on their business objectives
- Security administration for VPNs including site-to-site VPNs

Key Features

- Provides a powerful security management system for networks containing multiple, distributed Cisco Secure PIX firewalls
- Offers scalability by providing management support for up to 500 Cisco PIX firewalls and Cisco routers
- Offers a distributed architecture to support PIX firewalls in Internet, intranet, and extranet environments
- Provides configuration of remote PIX firewalls
- Provides high-level policy configuration for IPSec environments
- Provides an easy mechanism to define and manage Network Address Translation (NAT) policies for Cisco PIX firewalls
- Offers high-level security policy management that allows an administrator to easily define security policies based on business objectives
- Includes an auditing and reporting system to validate and monitor that status of network security policies

Specifications

Feature	Recommended Requirements for Cisco Secure Policy Manager
Operating System Support	Policy Manager client: Windows 98 or Windows NT 4.0 with Service Pack 5 Policy server: Windows NT 4.0 with Service Pack 5
Web Browser Support	Microsoft Internet Explorer v4.01 ¹ or higher
Processor Speed (type)	400 MHz or faster (Pentium II)
Memory	128 MB RAM or greater
Hard Drive	4 GB free space available (for the application and database)
Video Display	1024 x 768 video adapter card capable of at least 64,000 colors
Devices Supported	PIX firewalls with software v4.2.4 or higher IOS 12.05t or higher

1. Microsoft Internet Explorer is used for the embedded on-line HTML help system and is required for product installation.

Competitive Products

- Axent: Raptor Firewall and Raptor Firewall Management Console
- Checkpoint: Firewall-1
- Network Associates, Inc.: Gauntlet firewall

Distribution Part Numbers and Ordering Information

Cisco Secure Policy Manager¹

SEC-POL-MGR-2.0	Cisco Secure Policy Manager v2.0 application
SEC-POL-MGR-2.0-P	PROMOTION, for new Cisco Secure Policy Manager 2.0 users
SEC-POL-MGR-UPG	Upgrade to Cisco Secure Policy Manager 2.0 from CSM 1.x

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Secure Policy Manager Web site: <http://www.cisco.com/go/csm>

Internet Products at a Glance

Product	Features	Page
LocalDirector	Integrated hardware and software solution for load balancing across servers <ul style="list-style-type: none"> • Allows many servers to appear as one for high availability and easy scalability • Secure real-time embedded operating system • Scalable to meet needs of largest Web sites 	196
Cisco DistributedDirector	Global Internet service scaling solution <ul style="list-style-type: none"> • Enables set of distributed servers to be seen as a single virtual server • Configurable as authoritative Domain Name Services (DNS) caching name server and/or HTTP Session Redirector on a per-domain basis 	198
Cache Engine 500 Series	Network-integrated caching solutions <ul style="list-style-type: none"> • Reduce WAN bandwidth usage • Accelerate network performance • Increase the scalability of existing networks 	200
IP/TV	Affordable network video system <ul style="list-style-type: none"> • High-quality video broadcasting and video-on-demand services • Industry-leading management capabilities • Built-in scalability • Easily deployed on IP/TV Series Servers 	202
IP/VC	Reliable, easy-to-manage, cost-effective network infrastructure for videoconferencing applications <ul style="list-style-type: none"> • IP-based network videoconferencing solution • Reduces travel time and costs 	204
CiscoSecure Software Product Line	Software that supports Cisco's dial access solutions <ul style="list-style-type: none"> • CiscoSecure access control server (ACS) for UNIX • CiscoSecure ACS for Windows NT • CiscoSecure Global Roaming Server (GRS) for UNIX • The Cisco DialOut Utility 	207

Cisco LocalDirector

Cisco LocalDirector is a high-availability Internet appliance for mission-critical TCP and UDP applications such as E-commerce Web servers, database applications, intranet servers, DNS servers, and



TN3270 services. It is an integrated solution with a secure real-time embedded operating system that intelligently load balances TCP and UDP traffic across multiple servers. Appearing as a single virtual server, it delivers optimized performance by intelligently distributing client requests across clusters of heterogeneous servers.

LocalDirector ensures maximum client access while providing flexible scalability for traffic spikes and system maintenance. Servers can be placed automatically and transparently in or out of service, for server fault tolerance, quick response to sudden increases in traffic, and server maintenance with no downtime. LocalDirector is equipped with a hot standby fail-over mechanism, ensuring that its function is highly available. In addition, LocalDirector can be configured so that virtual and real servers back up each other for fail-over depth.

When to Sell

Sell This Product

LocalDirector

When a Customer Needs These Features

- Load-balancing TCP or UDP servers
- High performance to handle high-traffic Web sites
- High availability for mission-critical applications
- TN3270 sessions in an IBM environment

Key Features

- Hot standby and stateful fail-over enables configuration of highly redundant, fault-tolerant systems
- Server and application probing for fail-over on a per-port basis, allowing a server with its working applications to remain in service for maximized resource availability
- Scalable to meet the needs of largest Web sites
- Simple setup, with normal configuration requiring only 10 commands and with little disruption to existing network configuration
- Configurable to a total of 64,000 virtual and real servers, offers flexibility in domain names and network configuration
- Up to 240 Mbps throughput and over 20,000 connections-per-second performance to handle high traffic rates and sudden spikes in demand
- Easy server configuration by adding and removing servers transparently as traffic grows
- SSL, Cookie Sticky, Redirect Sticky ensure completion of complex transactions in proxy server environments and shopping cart situations

Specifications

Feature	LocalDirector 416	LocalDirector 430
Supported Interfaces	3-port 10/100 Ethernet	Up to 16 10/100 Ethernet or 4 Gigabit Ethernet
Processor Speed (type)	300 MHz (Pentium II)	450 MHz (Pentium II)
RAM	32 MB	384 MB
Throughput	80 MB	240 MB with Fast Ethernet
Dimensions (HxWxD)	5.21 x 16.82 x 17.5 in	5.21 x 16.82 x 17.5 in
Service Category	10	15

Competitive Products

- Alteon Networks: ACEdirector and Web Switches with WebOS SLB/AR
- F5 Labs: Big IP
- Foundry Networks: ServerIron Switch
- IBM: Network Dispatcher
- Resonate, Inc.: Central Dispatch
- RND Networks: Web Server Director

Distribution Part Numbers and Ordering Information

LocalDirector¹

LDIR-416	Standard LocalDirector
LDIR-430	High Performance LocalDirector
LD-QUADFE=	4-Port High-Speed Ethernet Card Spare
LD-FO=	Local Director Fail Over Cable
LD-FDDI=	FDDI Card for LocalDirector
LD-GE=	Gigabit Ethernet Card for LocalDirector

LocalDirector Basic Maintenance

CON-SNT-PKG10	SMARTnet Maintenance for LocalDirector 416
CON-SNT-PKG15	SMARTnet Maintenance for LocalDirector 430

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the LocalDirector Web site: <http://www.cisco.com/go/localdir>

Cisco DistributedDirector¹

DistributedDirector provides dynamic, transparent, and scalable Internet traffic load distribution between multiple geographically dispersed servers.

DistributedDirector is the only global Internet service scaling solution that utilizes Cisco IOS Software and leverages routing table information in the network infrastructure to make “network intelligent” load distribution decisions.

DistributedDirector uses routing table intelligence in the network infrastructure to transparently redirect end-user service requests to the closest responsive server, which increases access performance and reduces transmission costs. Users need only a single subdomain name or Universal Resource Locator (URL)-embedded hostname for accessing a distributed set of servers, thus providing the appearance of a single virtual server. This feature eliminates the need for end users to choose a server from a list of possible sites.

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
- TN3270 sessions in an IBM environment

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
- Leverages Routing Table Information (BGP and IGP) in the Network Infrastructure to make “network intelligent” network service load distribution decisions, and improves access performance by redirecting clients 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 server access performance
- Redirects clients only to responsive servers, resulting in maximized service availability
- Utilizes Cisco IOS Software and standard Cisco IOS Software command line interface (CLI) for device configuration
- Allows servers to be added and removed transparently, simplifying maintenance of distributed servers
- Supports multiple domains; cost-effective IP service scalability solution

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	DistributedDirector 2501/2502	DistributedDirector 4700M
Supported Interfaces	D2501—1 port Ethernet DD2502—1 port Token Ring	DDD4700ME—1 Ethernet DD4700MFE—1 Fast Ethernet DD4700MTR—1 Token Ring DD4700MFDI—1 dual-attached multimode FDDI
Processor (type)	20-MHz (68030 processor)	133-MHz (IDT Orion RISC processor)
Flash Memory	8 MB	16 MB
DRAM	8 MB	32 MB
Dimensions (HxWxD)	1.75 x 17.5 x 10.56 in	3.4 x 17.6 in x 17.7 in

Competitive Products

- Alteon Networks: ACEdirector and Web Switches with WebOS GLSB
- F5 Labs: 3DNS
- Foundry Networks: ServerIron Switch with Internet IronWare
- IBM: Network Dispatcher
- 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 Cache Engine 500 Series



The Cisco Cache Engine 500 series products are network-integrated caching solutions that reduce WAN bandwidth usage, maximize network service quality, and increase the scalability of existing networks. Cisco's network caching solution is architected and optimized to work as a single caching system, combining cache-aware internetworking equipment, running Cisco IOS Software's industry-leading Web Cache Communication Protocol (WCCP) with network-integrated Cache Engine 500 series products that are managed and designed like networking products and adapt to the network.

Because the new Cache Engines can be easily integrated into existing network infrastructures, they have a low cost of ownership and can be deployed on a wide-scale basis.

When to Sell

Sell This Product

Cisco Cache Engine 500 Series

When a Customer Needs These Features

- A transparent solution for reducing WAN bandwidth usage associated with Web traffic
- A network accelerator that maximizes network service quality and content availability
- A cost-effective solution for greater network scalability

Key Features

- **Network Integration:** Designed and managed like networking products and dynamically adapts to the network
- Transparent caching using one or many routers
- Fault tolerance features that eliminate any single point of failure
- Fault prevention features that proactively prevent network or application-level problems associated with traditional caches
- Scalable clustering for cost-effective handling of heavy traffic loads
- Easy system administration using familiar Cisco IOS Software management and an intuitive web-based GUI

Specifications

Feature	Cisco Cache Engine 505	Cisco Cache Engine 550
Supported Interfaces	Two 10BaseT/100Base-TX ports	Two 10Base-T/100BaseTX ports
Processor Speed	266 MHz	366 MHz
SDRAM	128 MB	256 MB
Internal Storage	One 9 GB Ultra2 SCSI disk drive	Two 9 GB Ultra2 SCSI disk drives
Dimensions (HxWXD)	1.72 x 17.5 x 14.13 in.	1.72 x 17.5 x 14.13 in.
Service Category	7	Cache Engine 550: 9 Cache Engine 550-DS3: 15

Competitive Products

- CacheFlow: 100, 500, 2000
- Inktomi: Traffic Server
- Microsoft: Proxy Server
- Network Appliance: C720S/C720/C760

Distribution Part Number and Ordering Information

Cisco Cache Engine¹

CE-505	Cisco Cache Engine 505 (T1/E1 uplinks)
CE-550	Cisco Cache Engine 550 (11 Mbps uplinks)
CE-550-DS3	Cisco Cache Engine 550 clustered solution for DS3 uplinks

Cisco Cache Engine Basic Maintenance

CON-SNT-PKG7	SMARTnet Maintenance for Cisco Cache Engine 505
CON-SNT-PKG9	SMARTnet Maintenance for Cisco Cache Engine 550
CON-SNT-PKG15	SMARTnet Maintenance for Cisco Cache Engine 550-DS3

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cache Engine Web site: <http://www.cisco.com/go/cache>

Cisco IP/TV Products¹

Cisco IP/TV 3400 series servers represent complete, scalable, bandwidth-efficient solutions for next generation, high-quality video communications over enterprise networks. These servers support live and scheduled multicast video, video on demand (VoD), and a wide range of video management functions. They enable a broad spectrum of applications for enterprise communications including training, corporate communications, business TV, and distance learning.



When to Sell

Sell This Product

Cisco IP/TV

When a Customer Needs These Features

- A network video solution that multicasts live and scheduled video to unlimited number of users over an IP network and supports video-on-demand services
- The ability to communicate to a large audience effectively, affordably, and in a timely fashion
- Communication with a number of people who are geographically dispersed
- Product and employee training; corporate communications such as management presentations, conferences, meetings; business TV for professional growth; distance learning; monitoring requirements such as process or surveillance monitoring

Key Features

- Complete network video solution with Cisco IP/TV and Cisco IP/TV 3400 Series Servers
- Supports live and scheduled multicast video, and video on demand
- Powerful management capabilities with the IP/TV Content Manager software; services include program scheduling, bandwidth management, and server and content management
- Distributed video server architecture that easily scales and localizes bandwidth consumption
- Best-quality video utilizing a range of codecs to optimize available bandwidth
- Uses industry-standard technologies for network protocols, platform application programming interfaces (APIs), file formats, and codecs
- Runs on existing IP networks

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco 3411 Control Server	Cisco 3415 Video Starter System	Cisco 3422 Broadcast Server	Cisco 3423 Broadcast Server	Cisco 3431 Archive Server
Video Formats and Selected Audio Formats	N/A	MPEG-1 MPEG-2 MPEG-4 H.261 Indeo MP3 WM Audio	MPEG-4 H.261 Indeo MP3 WM Audio	MPEG-1 MPEG-2 MPEG-4 H.261 Indeo MP3 WM Audio	MPEG-1 MPEG-2 MPEG-4 H.261 Indeo MP3 WM Audio
File Formats	N/A	ASF AVI MPEG MP3	ASF AVI MPEG MP3	ASF AVI MPEG MP3	ASF AVI MPEG MP3
Video Storage (Approximate)	N/A	40 hours of MPEG-1 at 1.0 Mbps	80 hours of MPEG-4 at 500 kbps; 40 hours of MPEG-4 at 1.0 Mbps	80 hours of MPEG-1 at 1.0 Mbps; 13 hours of MPEG-2 at 6 Mbps	160 hours of MPEG-1 at 1.0 Mbps
Network Connectivity	One 10/100 Ethernet	One 10/100 Ethernet	One 10/100 Ethernet	One 10/100 Ethernet	One 10/100 Ethernet
MPEG Capture Card	N/A	MPEG-2 Half D1, MPEG-1	N/A	MPEG-2 Full D1, MPEG-2 Half D1, MPEG-1	N/A
VFW Capture Card	N/A	N/A	MPEG-4, H.261, Indeo, MP3, WM Audio	MPEG-4, H.261, Indeo, MP3, WM Audio	N/A
Peripherals	VGA graphics, mouse, floppy drive, CD-ROM, keyboard	VGA graphics, mouse, floppy drive, CD-ROM, keyboard	VGA graphics, mouse, floppy drive, CD-ROM, keyboard	VGA graphics, mouse, floppy drive, CD-ROM, keyboard	VGA graphics, mouse, floppy drive, CD-ROM, keyboard
Network Interoperability	All IP-based networks, IETF IP Multicast	All IP-based networks, IETF IP Multicast	All IP-based networks, IETF IP Multicast	All IP-based networks, IETF IP Multicast	All IP-based networks, IETF IP Multicast

Customer Requirements	Cisco IP/TV Servers Needed	Concurrent Users Supported
1 live multicast and 10 scheduled multicasts	One 3423 Broadcast Server and one 3411 Control Server	Unlimited
36 - 50 VOD sessions	One 3431 Archive Server and one 3411 Control Server	36 @ 1 Mbps 50 @ 750 kbps
1 live multicast, 5 scheduled multicasts, and 36 - 50 VOD sessions	One 3431 Archive Server, one 3423 Broadcast Server, and one 3411 Control Server	Unlimited live and scheduled multicasts; 36 - 50 VOD sessions, depending on bit rate

Competitive Products

- First Virtual Corporation: V-Caster, V-Cache
- Optivision: LiveSystem
- Real Network: RealSystem 6.0

For More Information

See the Cisco IP/TV Web site: <http://www.cisco.com/go/iptv>

Cisco IP/VC Products

The Cisco IP/VC Videoconferencing Product Family is an IP-based network videoconferencing solution.



Videoconferencing is a key business tool to re-engineer human potential within an organization, to maximize revenue opportunities while simultaneously reducing costs. Cisco IP/VC provides audio, video, and data collaboration; multipoint capability; the customer's choice of third-party H.323-compatible videoconferencing systems; and gateway resources to preserve customer investments in legacy circuit-switched networks and videoconferencing systems. The Cisco IP/VC Product Family comprises several products: the IP/VC 3510 Videoconferencing Multipoint Control Unit, the IP/VC 3520 and 3525 Videoconferencing Gateways, and the IP/VC 3530 Video Terminal Adapter. In addition, the Cisco Multimedia Conference Manager (MCM) is a Cisco IOS Software feature set that enables IP networks to support secure, reliable H.323 videoconferencing, with advanced QoS capabilities. The MCM provides high-performance H.323 gatekeeper and proxy services.

When to Sell

Sell This Product

Cisco IP/VC Videoconferencing Solution

When a Customer Needs These Features

- A reliable, easy-to-manage, cost-effective network infrastructure for videoconferencing applications deployment
- A bridge between legacy H.320-based videoconferencing systems and improved H.323 IP-based videoconferencing solutions
- Improved collaboration, faster and more consistent development, release, manufacture and delivery of sales messages
- Reduced travel costs and travel time
- Improved sales contact and customer support
- Rapid, consistent, well controlled training

Key Features

- Allows customers to build tailored videoconferencing solutions through interoperability with the customer's choice of H.323-compliant endpoints
- Provides connectivity between H.323 IP-based endpoints and legacy circuit-switched H.320 systems
- Allows users to initiate multipoint video conferences on demand
- Allows network managers to implement quality of service (QoS) polices to guarantee bandwidth availability and manage bandwidth usage
- Enables improved business productivity through increased collaboration and reduced expense
- Supports cost-effective video applications such as e-learning, corporate communications, and telemedicine

Specifications

Feature	Cisco IP/VC 3510 Multipoint Control Unit	Cisco IP/VC 3520/3525 Gateways	Cisco IP/VC 3530 Video Terminal Adapter
LAN Interface	One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ45	One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ45	One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ45
WAN Interface	Not applicable	3520: Two or four ports of any combination V.35 or ISDN BRI V.35; DTE nx56, nx64 up to 384 kbps; auto clock sensing; V.25bis or RS-366 dialing; 26-pin D-type connector ISDN BRI: dual BRI ports; RJ45 connector 3525: Configurable single PRI with standard RJ45 T1 mode 23B + D E1 mode 30B + D	Dual V.35 DCE with RS-366 Dialing-26-pin D-type connector
Serial Port	RS-232, 9-pin, D-type, DCE	RS-232, 9-pin, D-type, DCE	RS-232, 9-pin, D-type, DCE
Video Coding	H.261, QCIF/CIF, H.263	H.261, QCIF/CIF	H.261, QCIF/CIF
Audio Coding	G.711, A/μ Law	G.711, G.722, G.723, G.728; Transcoding between G.711/G.723 and G.711/G.728	G.711, G.722, G.728
Data Collaboration	Supports T.120 data collaboration	Supports T.120 data collaboration	Supports T.120 data collaboration
Gatekeeper Support	Built in gatekeeper; Optional support for the Cisco Multimedia Conference Manager	Built in gatekeeper; Optional support for the Cisco Multimedia Conference Manager	Supports gatekeeper in IP/VC Gateway, IP/VC MCU, or Cisco MCM
Sessions Supported	15 at 128 kbps, nine at 384 kbps, five at 768 kbps, three at 1.5 Mbps. Larger conferences created by cascading	3520: Up to two at 768 kbps (with V.35 WAN interfaces), or four at 128 kbps, or one at 384 kbps and one at 128 kbps (with 4 ISDN BRI interfaces) 3525: Up to three at 384 kbps (T1), or four at 384 kbps (E1), or up to eight at 128 kbps	One at up to 768 kbps
Call Control Features	Voice-activated and chair controlled video switching	Supports interactive voice response (IVR); DTMF; direct inward dialing (DID)/multiple subscriber line (MSN); TCS4; and default extension Advanced services—group hunting, call transfer	Conference bandwidth can be specified within H.323 dialing strings For incoming calls, supports all H.323 dialing modes (H.323 aliases or E.164 addresses) For outgoing calls, H.320 dialing string is directed to H.323 endpoints through a gatekeeper Gatekeeper registration supports H.323 standard access control, bandwidth management, and security features

Competitive Products

- Accord (Multipoint/Gateway vendor)
- Ezenia! (Multipoint/Gateway vendor)
- FVC.COM (H.321 ATM vendor)
- Lucent (PBX/Multipoint/Gateway vendor)
- Nortel (PBX/Multipoint vendor)
- White Pine Software (Multipoint, endpoint vendor)

Distribution Part Number and Ordering Information

Cisco IP/VC Products¹

IPVC-3510-MCU	IP/VC 3510 H.323 Videoconference Multipoint Control Unit
IPVC-3520-GW-2B	IP/VC 3520 H.320-H.323 Videoconf. Gateway-2 BRI
IPVC-3520-GW-2B2V	IP/VC 3520 H.320-H.323 Videoconf. Gateway-2 BRI/2 V.35
IPVC-3520-GW-2V	IP/VC 3520 H.320-H.323 Videoconf. Gateway-2 V.35
IPVC-3520-GW-4B	IP/VC 3520 H.320-H.323 Videoconf. Gateway-4 BRI
IPVC-3520-GW-4V	IP/VC 3520 H.320-H.323 Videoconf. Gateway-4 V.35
IPVC-3525-GW-1P	IP/VC 3525 H.320-H.323 Videoconf. Gateway-1 PRI
IPVC-3530-VTA	IP/VC 3530 H.320 Videoconference Terminal Adapter
IPVC-MW-BRI-2-EC	IP/VC 3520 GW WAN Module, BRI, 2 Ports w/EC
IPVC-MW-V35-2T	IP/VC 3520 GW WAN Module, V.35, 2 Ports, DTE-Cable Not Included.

Cisco IP/VC Gateway SMARTnet Maintenance

CON-SNT-PKG12	Cisco IP/VC Gateway SMARTnet Maintenance
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1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco Video Solutions Web site: <http://www.cisco.com/go/ipvc>

CiscoSecure Software Product Line

The CiscoSecure software product line supports Cisco's dial access solutions with dial-in access control, Internet services provisioning, and outbound dial and fax.

CiscoSecure ACS for UNIX provides access control services for large- and medium-sized access environments. CiscoSecure ACS for Windows NT delivers easy-to-use access control services for Windows NT environments. CiscoSecure Global Roaming Server (GRS) for UNIX enables service providers and corporate customers to take local Internet connectivity to a global scale. The Cisco DialOut Utility allows desktop LAN users to share NAS ports as a modem pool for outbound async communications.



When to Sell

Sell This Product

When a Customer Needs These Features

CiscoSecure ACS for UNIX

- Securing dialup access in enterprise and SP environments, including support for dial VPN services using Remote Access Dial-In User Service (RADIUS) or access control for Cisco network elements using TACACS+
- Operation in the Solaris environment
- Use of external relational databases such as Oracle and Sybase

CiscoSecure ACS for Windows NT

- Ease of use—The HTML user interface provides a ubiquitous interface that simplifies and distributes configuration for user profiles, group profiles, and ACS configuration
- Scalability—CiscoSecure ACS is built to support large networked environments with support for redundant servers and user database backup
- Management—Windows NT database support uses and consolidates Windows NT username/password management, and Windows NT Performance Monitor support for real-time statistics viewing
- Administration—Different access levels for each CiscoSecure administrator, and the ability to group network devices, enables easier management of these devices
- Product flexibility—Because Cisco IOS software supports AAA, ACS can be used across virtually any NAS that Cisco sells (IOS version must support RADIUS or TACACS+)

CiscoSecure GRS for UNIX

- Provide new Internet access points for network service provider (NSP) customers by virtually leasing out the NAP's PoPs to the ISP; ISPs can use existing AAA infrastructure and databases; the NAP provides Internet roaming service (wholesale dial access) to the NSP
- Provide intranet access for corporate customers
- Provide intranet roaming service for other NSP/NAP customers so mobile users can access the corporate intranet

Cisco DialOut Utility

- Replacement of desktop modems with centrally administered outbound dial pool
- Customer uses Windows PCs and Cisco NASs
- Ensure compatibility with existing asynchronous dial client applications
- Registered CCO users can download the Cisco DialOut Utility from www.cisco.com/kobayashi/sw-center/access/dialout-planner.shtml

Key Features

- All CiscoSecure products are tightly integrated with Cisco IOS Software features
- Standards-based approach to solution development, with implementations of TACACS+, RADIUS, and RFC 2217 reverse telnet dial-out ensures compatibility in multivendor network environments
- Web-based graphical-user interface for server-based products allows multiple user access from common Web browser clients on different host platforms

Specifications

Feature	GRS for UNIX	ACS for UNIX	ACS for Windows NT	DialOut Utility
Platform	Sun SPARCstation 20	Sun SPARCstation 20	IBM PC or compatible with Windows NT Server 4.0 and Service Pack 4 or later Pentium 350-MHz processor or faster Screen resolution of 256 colors at 800 x 600 lines	80486 or higher processor
RAM	128 MB	256 MB	128 MB required	Approximately 20K
Disk Drive	128 MB of disk swap space 500 MB of disk space	128 MB of disk swap space 500 MB of disk space	150 MB of disk space	Approximately 1.5 MB of hard disk space
Software Requirements	Operating System – Solaris V.2.6	Solaris V2.6 or V2.5.1 (with required patches)	NAS must run Cisco IOS Release 11.2 or higher, or a third-party device must be used that can be configured with TACACS+ or RADIUS	Windows 95 or NT 4.0 For dialup, this utility requires communications software For faxing, this utility requires fax software that supports Class 2 faxing
Platform Requirements	CiscoSecure GRS V.1.1 interoperates with Cisco IOS Software release 11.2.x or higher	Release 11.1 or higher on the network device (11.2 for RADIUS)	Cisco IOS Software 11.1 or higher on the NAS	The NAS must be running Cisco IOS Software 11.3(1) or higher Supports mica modems

Competitive Products

GRS for UNIX	ACS for UNIX	ACS for Windows NT
Ascend Communications: Access Control	Ascend Communications: Access Control	Ascend Communications: Access Control
Lucent Technologies: RADIUS	Nortel/Bay: Secure Access UNIX	Nortel/Bay: Secure Access NT
Authentication and Billing Manager (ABM)	Funk Software: Steel-Belted Radius	Funk Software: Steel-Belted Radius
Merit Network: Merit AAA Server	Lucent Technologies: RADIUS	Shiva: Access Manager
Nortel Networks: Baysecure Access Control	Authentication and Billing Manager (ABM)	Livingston: Radius NT Service
	Merit Network: Merit AAA Server	

Distribution Part Numbers and Ordering Information

CiscoSecure ACS¹

CSNT-2.4	CiscoSecure ACS for Windows NT V.2.4
CSNT-2.4-UG	CiscoSecure ACS for Windows NT to V.2.4 upgrade
CSU-2.3	CiscoSecure ACS for UNIX (Solaris) V.2.3
CSU-2.3-UG	CiscoSecure ACS for UNIX (Solaris) V.1.0/V.2.x for UNIX to V.2.3 upgrade
CON-SAS-CSNT	CiscoSecure Software Application Support for Windows NT
CON-SAU-CSNT	CiscoSecure Software Application Support plus upgrades for Windows NT

CiscoSecure GRS

CSU-GRS-1.3	CiscoSecure GRS V.1.3 for UNIX (1 server license)
CON-SAS-4S-1.3	CiscoSecure GRS V.1.3 for UNIX (4 server license)
CON-SAS-CSUGRS	CiscoSecure GRS Software Application Support
CON-SAS-CSUGRS4S	SAS Service, CSU-GRS-4S, CS GRS UNIX 4-Server License
CON-SAU-CSUGRS	CiscoSecure GRS Software Application Support plus Upgrade
CON-SAU-CSUGRS4S	SAU Service, CSU-GRS-4S, CS GRS UNIX 4-Server License

CiscoSecure SMARTnet Maintenance

CON-SNT-PKG7	CiscoSecure SMARTnet Maintenance
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- For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

For CiscoSecure ACS and GRS, see: <http://www.cisco.com/go/ciscosecure>

For Cisco DialOut Utility (requires CCO login), see:

<http://www.cisco.com/kobayashi/sw-center/access/dialout-planner.shtml>

Network Management Products at a Glance

Product	Features	Page
CiscoWorks2000 Routed WAN Management Solution	A comprehensive set of applications for managing the router elements of a multiservice wide-area network, which includes Access Control List Manager, Internetwork Performance Monitor, CiscoView, TrafficDirector, and Resource Manager Essentials	213
CiscoWorks2000 LAN Management Solution	Provides key applications needed to manage Catalyst-based campus networks. This bundle includes Campus Manager, CiscoView, TrafficDirector, Content Flow Monitor, and Resource Manager Essentials	215
CiscoWorks2000 Service Management Solution	Used to establish and validate service level agreements (SLA) for Cisco-based networks; leveraging embedded Cisco IOS technologies, the Service Management Solution's remotely deployable Cisco Management Engine (ME1110) collects SLA metrics, providing SLA conformance reports through an intuitive browser interface	217
CiscoWorks2000 User Registration Tool (URT)	Identifies users within the network and creates user registration policy bindings for policy registration, mobility, and tracking: <ul style="list-style-type: none"> • Ensures that users are associated with their authorized subnet/VLAN • Addresses the challenges associated with campus user mobility 	219
CiscoWorks2000 Voice Manager (CVM)	Web-based voice management and reporting solution providing <ul style="list-style-type: none"> • Enhanced capabilities to configure and provision voice ports, and create and modify dial plans on voice-enabled Cisco routers for VoIP, VoFR, and VoATM network deployments • Powerful reporting tool that allows users to easily analyze voice traffic based on configurable time intervals. 	221
CiscoWorks for Windows	A comprehensive suite of integrated network management tools: <ul style="list-style-type: none"> • Optional bundling with an event management and topology mapping application • Based on the SNMP industry standard 	223
CiscoWorks Blue	A suite of products designed to simplify management of a consolidated SNA and IP network: <ul style="list-style-type: none"> • Enables router monitoring and reporting from UNIX, mainframe, and the Web • End-to-end visibility and control of SNA sessions through a mixed SNA/IP network 	225
Cisco Netsys SLM Suite	Netsys Service-Level Management Suite (Cisco NSM) provides an integrated end-to-end network management solution combined with service-level management: <ul style="list-style-type: none"> • Won Infoworld's Product of the Year award for Network Software • Consists of two core modules: the enhanced Connectivity Service Manager and Performance Service Manager 	227
Cisco Netsys Baselineer	Netsys Baselineer for Windows NT displays, debugs, and validates your network configuration: <ul style="list-style-type: none"> • Lets you test configurations and changes offline before committing them to the live network • Allows you to visually navigate your network and gain a complete understanding of how it works 	229
Cisco SwitchProbe Series	A family of standalone, enhanced RMON probes for monitoring any segment, ring, or link in an enterprise network: <ul style="list-style-type: none"> • Employs powerful remote monitoring (RMON) agent technology that monitors network traffic at all seven layers • Enables users to analyze network traffic patterns, troubleshoot protocol-related problems, set up proactive alarms to detect problems before they affect users, and perform trend analysis for long-term planning 	231
Cisco Element Management Framework (EMF)	New common element management layer of the Cisco Service Management (CSM) system provides a highly scalable framework designed to support carrier-class element managers across Cisco's service provider product lines: <ul style="list-style-type: none"> • Flexible, modular model allows service providers to install the mix of element managers they need to support their dynamic businesses • Enables rapid development and deployment of new element managers, permitting service providers to more rapidly introduce and manage new services 	234
Cisco Info Center (CIC)	Service-level monitoring and diagnostics tool that provides network fault and performance monitoring, trouble isolation, and real-time service-level management for large networks: <ul style="list-style-type: none"> • Helps operators focus on important network events, offering a combination of alarm reduction rules, filtering, customizable alarm viewing, and partitioning • Provides a highly configurable client/server application that can consolidate, de-duplicate, filter, and correlate fault information from a wide range of management platforms and technologies 	236
Cisco Provisioning Center (CPC)	Service activation system that provisions Layer 2/Layer 3 (L2/L3) across Cisco Systems end-to-end networking technologies: <ul style="list-style-type: none"> • Provides an integrated, automated provisioning solution for network service providers who offer Frame Relay, ATM, Internet access, data-link switching (DSL), IP-virtual private network (VPN), quality of service (QoS) and other network services • Works across multiple network technologies and equipment so that operators can deploy end-to-end "services" rather than just configure "boxes." By automating the process, CPC reduces the complexity and expense associated with today's manually configured services 	238

Product	Features	Page
Cisco QoS Policy Manager (QPM)	<ul style="list-style-type: none">• Enables network administrators to reserve or prioritize bandwidth for critical applications through centralized policy control and automated policy deployment• Provides differentiated services to Web-based applications, voice traffic, Web hosting, and business-critical applications as an integral part of Cisco Content Networking, an intelligent network architecture that dynamically recognizes Internet business applications• Contains a new module that supports basic COPS implementations	240

Cisco Network Management Overview

Cisco is transforming traditional network management by focusing on the strengths of Internet-based architectures for greater accessibility and simplification of network management tools, tasks, and processes. Cisco's network management strategy calls for a Web-based model with the following characteristics:

- Standards-based
- Simplification of tools, tasks, and processes
- Web-level integration with NMS platforms and general management products
- Capable of providing end-to-end solutions for managing routers, switches, and access servers
- Creation of a management intranet by integrating discovered device knowledge with CCO and third-party application knowledge

Cisco Network Management Products

The CiscoWorks2000 products provide network management solutions focused on two key areas: wide-area and local-area network management. These solutions represent a significant milestone in Cisco's transition to a Web-based model. The CiscoWorks2000 server and desktop provides a user interface for management applications, and allows other Cisco, third party, or user-developed Web-based tools to be integrated into the desktop. CiscoWorks2000 packaging makes it easy for you to purchase, deploy, and stay updated. Its common user interface and Web standards foundation reduces network cost and improves application integration and consistency.

- CiscoWorks2000 Routed WAN Management Solution combines new and existing Cisco applications (CiscoView, Internet Performance Monitor [IPM], Access Control List Manager [ACL], TrafficDirector, and Resource Manager Essentials [RME]) to provide a full set of tools for monitoring the routed WAN elements in a network. The routed WAN solution uses an enhanced browser-based client and Web-based management server to integrate its individual applications.
- CiscoWorks2000 LAN Management Solution combines several Cisco management applications (Campus Manager, Content Flow Monitor [CFM], Resource Manager Essentials, TrafficDirector, and CiscoView) to provide strong Catalyst and Layer 2 and 3 switched network management, as well as path trace, user tracking, device inventory management, configuration tools, and device software updating.

- CiscoWorks2000 Service Management Solution combines service level management and an extended version of the CiscoWorks2000 server software with a new management engine 1110 (ME1110) hardware service metric/SMA collector device. Together, these products allow administrators to deploy and manage service level agreements.
- CiscoWorks2000 User Registration Tool (URT) solves many of the day-to-day mobility problems within a campus. It creates user registration policy bindings for policy registration, mobility, and tracking.
- CiscoWorks for Windows (CWW) is a suite of PC-based network configuration and diagnostic tools for small-to-medium-sized networks. Easy to use and install on a laptop, CWW is ideal for departmental users, branch offices, and mobile network managers.

Cisco network management tools also include other important applications and products such as CiscoWorks Blue, Netsys, and the Cisco SwitchProbe family.

CiscoWorks2000 Routed WAN Management Solution

CISCOWORKS2000
Routed WAN Management Solution

The CiscoWorks2000 Routed WAN Management Solution is a comprehensive set of management tools that help you to configure, monitor, manage, and troubleshoot router devices in a wide-area network (WAN). Its traffic tool can monitor statistics collected via our LAN, WAN and RMON probes. The Routed WAN Management Solution can be deployed standalone or alongside existing NMS products, thus reducing the complexities of deploying both in the same network. These products comply with Internet standards and can be used to create a management intranet framework for integrating other browser-based management tools. They also offer a “load-n-launch” interface with third-party solutions.



When to Sell

Sell This Product

Routed WAN Management Solution

When a Customer Needs These Features

- Optimize router performance by automatically streamlining access control lists, and applying policy-based changes via templates
- Understand the responsiveness of WAN connections to determine where bottlenecks are; provides real-time analysis of end-to-end hop delays
- Increase network performance by monitoring traffic of protocols, applications, and interface characteristics
- A watchdog system to monitor WAN characteristics
- An accurate inventory baseline; including memory, slots, software versions, and boot ROMs needed to make decisions
- Automate the process of updating device software and configuration
- A browser to graphically display a device's components and operational status while monitoring its activity or changing its configurations

Key Features

- Access Control List Manager—Provides a wizard- and template-based approach to simplifying the setup, management and optimization of Cisco IOS Software-based IP and IPX traffic filtering and device access control
- TrafficDirector—A comprehensive network traffic monitoring and troubleshooting application
- Internetwork Performance Monitor—A network response time and availability monitoring application
- Resource Manager Essentials—A powerful suite of Web-based network management solutions for small to large-scale enterprise networks
- CiscoView—A new Web version of Cisco's graphical device management application

Specifications

Feature ¹	Routed WAN Management Solution Requirements
System Hardware	Sun SPARC Ultra 20 or higher, or Wintel 400 MHz or higher 17-inch color monitor CD-ROM drive
Memory (RAM)	256 MB minimum; additional memory is required to host multiple RWAN applications on a single machine and for large networks
Available Drive Space	2 GB on the installation partition; additional disk space is needed for RWAN applications that keep historical logs
System Software	Solaris 2.6 with required patches: 105181-15, 105210-17, 105490-05, 105529-07, and 105568-13 Microsoft Windows NT 4.0 server or NT 4.0 workstation with Service Pack 5
Client / Browser	Netscape 4.6.1 with Windows NT 4.0, Solaris 2.6 or 2.5.1, HP-UX 10.10, 10.20, or 11.0, or AIX 4.2.1 or 4.3 Microsoft Internet Explorer 5.0 preferred on Windows NT 4.0—with Java, JavaScript, and Active-X enabled
Supported Devices	Most Cisco IOS Software routers, access servers, hubs, and switches; specific devices supported by RWAN applications are available on the Cisco Software Support Center Web site under each products Planner Page
Supported Cisco IOS Software Versions	Generally supports Cisco IOS Software Versions 10.3 and above; Catalyst Supervisor code 2.1 and above; testing focused on Y2K certified versions
NMS Co-Existence Support	RWAN applications that have NMS integration points support the following NMS: <ul style="list-style-type: none"> • HP OpenView 5.01, 6.0 on HP-UX, Solaris • HP OpenView 5.02 and 6.0 on NT • NetView 5.1 on NT and AIX
General Environment	Resource Manager Essentials 3.0 CANNOT be run on the same workstation as CWSI Campus 2.x. CWSI Campus 2.x cannot run on RME 3.0, and customers with older CWSI 2.x versions are encouraged to upgrade to the new LAN Management Solution with Campus Manager 3.0 to avoid this restriction. IPM ships in both Solaris and NT versions of the Routed WAN Management Solution. However, IPM server components are available only for Solaris; the IPM client supports Windows 95/98/NT and Solaris workstations.

1. This table contains general system requirements for the CiscoWorks2000 management server and its client components. System requirements will increase depending on how individual RWAN applications are installed. For more detailed system requirements and recommendations for tuning the management system for performance, refer to individual RWAN application's installations guides and release notes.

Distribution Part Numbers and Ordering Information

Cisco Routed WAN Management Solution¹

CWRW-1.0-SOL	For Solaris 2.6: CiscoWorks2000 Routed WAN Management Solution includes CiscoView-web 5.x, RME 3.x, TrafficDirector 5.x, ACL Manager 1.x, and IPM 2.x
CWRW-1.0-NT	For Windows NT 4.0: (IPM in this package requires a Solaris server) CiscoWorks2000 Routed WAN Management Solution includes CiscoView-web 5.x, RME 3.x, TrafficDirector 5.x, ACL Manager 1.x, and IPM 2.x
CWRW-1.0-SOL-P1	For Solaris 2.6: Routed WAN Management Solution PROMOTION. Offered to customers who have: 1) CiscoWorks2000 LAN Management Solution or other CiscoWorks2000 bundled product and want to add RWAN, <or> 2) ACL Manager 1.0 and want to migrate, <or> 3) IPM and want to migrate. Includes full RWAN product.
CWRW-1.0-NT-P1	For Windows NT 4.0: (IPM in this package requires a Solaris server) Routed WAN Management Solution PROMOTION. Offered to customers who have: 1) CiscoWorks2000 LAN Management Solution or other CiscoWorks2000 bundled product and want to add RWAN, <or> 2) ACL Manager 1.0 and want to migrate, <or> 3) IPM and want to migrate. Includes full RWAN product.

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Routed WAN Management Solution Web site: www.cisco.com/go/rwan

CiscoWorks2000 LAN Management Solution

CISCOWORKS2000
Campus Bundle



The CiscoWorks2000 LAN Management Solution now features a Web-based browser accessible set of comprehensive management solution for managing Cisco routers and Catalyst and LightStream switches. This bundle provides extensive switched network discovery and display, configuration, data path tracing, RMON/RMON2 traffic, and LAN/WAN performance management capabilities on a device and network-wide basis.

When to Sell

Sell This Product

LAN Management Solution

When a Customer Needs These Features

- A new Web-based set of tools for managing Cisco's award winning Catalyst and LightStream switches
- A time saving path trace analysis tool
- Automated process of inventorying network devices, updating device software, and managing configuration to reduce the time and errors involved in network updates
- Browser-accessible, graphical tool for configuring and monitoring Cisco device components and operational status
- VLAN, ATM, or LANE service management tools
- RMON traffic monitoring and analysis capability
- Ability to track users in the network

Key Features

- **Campus Manager**—A fully browser enabled version of Cisco's popular CWSI tools that offers Web-based path analysis, easier management of VLAN, ATM and LANE services, Catalyst switch topology tools, and user tacking capabilities
- **Resource Manager Essentials**—A powerful suite of Web-based network management solutions for small to large-scale enterprise networks
- **TrafficDirector**—A comprehensive network traffic monitoring and troubleshooting application
- **CiscoView**—A new Web version of Cisco's graphical device management application
- **Content Flow Monitor**—A tool for optimizing server traffic load distribution

Specifications

Feature	Description
Server Hardware	System: Sun SPARC Ultra 20 or higher, Wintel PC 400MHz or higher Memory: 256 MB minimum Available Disk: 4 GB minimum
Server Software	Solaris 2.6 Microsoft Windows NT 4.0 server or NT 4.0 workstation with Service Pack 5 or 6a LAN Management Solution applications can coexist with the following NMS products: <ul style="list-style-type: none"> • HP OpenView 6.0 • Tivoli NetView 4.1
Client	Browser client requirements are: <ul style="list-style-type: none"> • Netscape 4.5 with Windows NT 4.0, Windows 95, Solaris 2.6, or 2.5.1, HP-UNIX 10.10, 10.20, 11.0 or AIX 4.2.1, 4.3 • Microsoft Internet Explorer 4.0.1 with Windows NT4.0 or Windows 95 and Service Pack 5 • Java, JavaScript, Active-X enabled, and Active Desktop disabled
Supported Cisco Devices	Most Cisco IOS Software routers, access servers, hubs, and switches
Supported Cisco IOS Software Versions	Generally Cisco IOS Software Versions 10.3 and higher Catalyst Supervisor code 2.1 through 4.1
General Environment	For serviceability or performance tuning, customers may choose to install specific LAN Management Solution subcomponents on dedicated machines.

Distribution Part Numbers and Ordering Information

LAN Management Solution¹

CWLMS-1.0-NT	For Windows NT 4.0 LAN Management Solution; includes Campus Manager 3.x, Content Flow Monitor, Traffic Director 5.8x, RME 3.x, and CiscoView 5.x
CWLMS-1.0-SOL	For Solaris 2.6 LAN Management Solution; includes Campus Manager 3.x, Content Flow Monitor, Traffic Director 5.8x, RME 3.x, and CiscoView 5.x
CWLMS-1.0-NT-P	Promotion for Windows NT; This part number is available to customers who have purchased RWAN, SMS, or other qualifying CiscoWorks2000 bundled product
CWLMS-1.0-SOL-P	Promotion for Solaris; This part number is available to customers who have purchased RWAN, SMS, or other qualifying CiscoWorks2000 bundled product

LAN Management Solution Upgrades

CWLMS-1.0-NT-UPG	Upgrade to LMS for NT from CWSI 2.2+ and RME 2.x
CWLMS-1.0-SOL-UPG	Upgrade to LMS for SOL from CWSI 2.2+ and RME 2.x

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

Note: For customers running AIX or HPUX operating systems, a subset of the LAN Management Solutions applications is available in the CiscoWorks Campus Bundle for AIX/HPUX.

For More Information

See the LAN Management Solution Web site: www.cisco.com/go/lms

CiscoWorks2000 Service Management Solution

The new CiscoWorks2000 Service Management Solution enables IT managers to establish and validate service level agreements (SLA) for their Cisco-based networks. Leveraging embedded Cisco IOS technologies, the Service Management Solution's remotely deployable Cisco Management Engine (ME1110) collects SLA metrics, providing SLA conformance reports through an intuitive internet browser user interface.

When to Sell

Sell This Product

Service Management Solution

When a Customer Needs These Features

- Administrators who need to define service-level contracts and the service-level agreements associated, and to create detailed business and technical reports.
- Provides a simpler way to interact with embedded Cisco IOS Technologies to obtain Layer 3 and Layer 4 service metric data through synthetic testing and monitoring of service performance.
- Users who want to build end-to-end service level monitoring solution using complementary service management applications provided by third parties, which are integrated via the XML APIs of CiscoWorks2000 SLM.

Key Features

- **Service Level Manager**—define and monitors service level agreements based on:
 - Latency—using UDP and ICMP, with the ability to set the ToS value and payload size for network latency tests
 - Network service—determines DNS resolve times and HTTP response times (for the HTTP service the network manager can see the time taken to perform the DNS lookup, TCP connection, and page download)
 - Voice-over-IP—forward and return jitter can be measured between two points in the network with the ability to change the number of packets, payload, ToS value, and inter-packet gap
- **Inventor Manager**—provides a central database for storing Cisco device information, including address, location, firmware, available slots, software versions, and memory resources
- **CiscoView**—a new Web version of Cisco's graphical device management application
- **ME1110 hardware**—a network management hardware appliance that installs in the network and acts as the interface between CW2000 SLM and the network elements where the SA Agent is configured for service conformance testing

Specifications

Feature	Description
Server Hardware	System: Sun SPARC Ultra 20 or higher, Wintel PC 450 MHz or higher Memory: 512 MB minimum Available Disk: 6 GB minimum
Server Software	Solaris 2.6 Microsoft Windows NT 4.0 server or NT 4.0 workstation with Service Pack 5 or 6a
Client	Browser client requirements are: <ul style="list-style-type: none"> • Netscape 4.5 with Windows NT 4.0, Windows 95, Solaris 2.6 • Microsoft Internet Explorer 4.0.1 with Windows NT4.0 or Windows 95 and Service Pack 5 • Java, JavaScript, Active-X enabled, and Active Desktop disabled

Distribution Part Numbers and Ordering Information

CiscoWorks2000 Service Management Solution¹

CWSMS-1.0	Service Management Solution 1.0; includes SW and HW (1-ME1110 HW, SML, CiscoView, and CW2000 Management Server SW)
CWSMS-1.0-P1	CiscoWorks2000 cross bundle promotion. Available to customers who have purchased RWAN 1.0, or LMS 1.0. Contains full SMS product (HW+SW)
CWME1110-HW	Standalone Mgmt Engine 1110, HW ONLY, 1-RU rack mountable, 110/220v. For adding additional collects to SMS environments

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the CiscoWorks2000 Service Management Solution Web site:
www.cisco.com/go/cwsms

CiscoWorks2000 User Registration Tool (URT)

User Registration Tool (URT) actively identifies users within the network and creates user registration policy bindings for policy registration, mobility, and tracking. URT solves many of the day-to-day mobility problems within a campus by ensuring that each user is appropriately associated with their authorized



subnet/VLAN and that they all receive IP addresses that correspond to the logical groups to which they belong. These network management links significantly reduce the time it takes to resolve problems within both the help desk and the network operations groups. URT is essential for companies that have highly dynamic, constantly changing work environments, and require control over changes with respect to their logical workgroup associations.

When to Sell

Sell This Product

User Registration Tool

When a Customer Needs These Features

- Ability to better manage campus user mobility with logical access security
- Better management of walk-computing environments
- End node tracking via login name look-up utilities

Key Features

- Automated switch port configuration for users logging into the network
- Integration with Microsoft NT and Netware NDS
- Fully redundant architecture, which is essential for ensuring continuous 24 x 7 successful login and switch port reconfiguration
- Fully scalable for large networks
- Broad range of Catalyst switches supported

Specifications

User Registration Tool¹ Description

Supported Cisco Products	Catalyst Switch Family System Operating Software Version Catalyst 1900 Series with System Software Version 8.01.02(5) Catalyst 2820 with System Software Version 8.01.02(5) Catalyst 2900XL Series with System Software Version 11.2(8) SA5 Catalyst 2926 Series with System Software Version 3.3 Catalyst 2948G with System Software Version 5.1(1) Catalyst 3500XL with System Software Version 11.2(8)-SA6 Catalyst 4000 Series with System Software Version 5.1(1) Catalyst 5000 Series (including 5002 and 5500) with System Software Version 4.3(1a) Catalyst 6000 with System Software Version 5.3(1)
CWSI Campus Requirements	Includes a copy of CiscoWorks2000 CWSI Campus 2.4
Microsoft Client Software Requirements	DHCP-enabled Windows 95, Windows 98, and Windows NT clients
Microsoft Server Requirements	Microsoft Windows NT 4.0 server running SP 4 or 5, PDCS-enabled, WINS
Novell NDS Server Requirements	Novell NetWare 5.0 running the IP stack with the Z.E.N. Works Starter pack
DHCP Server Requirements	Microsoft DHCP server (NT 4.0) American Internet DHCP server (Versions 1.2 and 2.0) Cisco CDDM DHCP server Cisco Network Registrar DHCP server
Service Category	13

1. URT requires the following: 1) VMPS client-enabled, 2) Catalyst end-user ports configured as "dynamic ports"

Competitive Products

- 3Com: Transcend
- Xylan: Xvision/Switched Network Services

Distribution Part Numbers and Ordering Information

User Registration Tool¹

URT-1.2-WIN-NT	User Registration Tool Version 1.2
URT-1.2-WIN-NT-UPG	URT Upgrade To 1.2

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the User Registration Tool Web site: www.cisco.com/go/urt

CiscoWorks2000 Voice Manager

CiscoWorks2000 Voice Manager 2.0 (CVM) is a Web-based voice management and reporting solution. The application provides enhanced capabilities to configure and provision voice ports, and create and modify dial plans on voice-enabled Cisco routers for VoIP, VoFR, and VoATM network deployments. Additionally, CVM has a powerful reporting tool that allows users to easily analyze voice traffic based on configurable time intervals. Optionally, customers can purchase an enhanced reporting package or additional data collectors.

CISCOWORKS2000
Campus Bundle



When to Sell

Sell This Product

CiscoWorks2000 Voice Manager

When a Customer Needs These Features

- An inexpensive means to support rapid voice network deployment, considerably reducing the time spent in provisioning services
- Foundation management for Cisco voice platforms
- A Web-based solution for testing, configuring, and monitoring VoX cards and networks
- Extensive, flexible reporting of voice related time and usage data
- Management of Cisco 1700, 2600, 3600, and MC3810 series devices, the AS5300 series universal access server, and 7200 and 7500 series routers
- Time-saving bulk configuration, dial up plan configuration checking, and context sensitive help

Key Features

- **Voice port management**—New tools for managing FXO, FXS, E&M, and ISDN configurations in single or batch mode
- **Dial plan management**—Create and manage local and VoIP, VoFR, and VoATM network dial plans
- **New standard reports**—Provide valuable call time and usage summaries, and basic accounting information; advanced reports are provided in partnership with Telemate.net, a leading developer of information management tools
- **Multiple platform support**—The CVM browser client runs on Windows 95, Windows 98, Windows NT, or UNIX platforms
- **CiscoWorks2000 integration**—Provides a common platform for running CVM alongside different applications that manage other router and switch functions
- **Improved performance and scalability**—CVM scales to support multiple voice-enabled Cisco routers across small or large enterprises
- **Quality of service**—Tools for provisioning voice ports
- **Optional add-on capabilities** to provide reporting on other data sources such as PBXs and selected firewalls, or an expanded report package providing more than 200 additional reports and a custom report editor

Specifications

Feature	CiscoWorks2000 Voice Manager 2.0
Hardware Requirements	<ul style="list-style-type: none"> • Pentium 300 MHz processor or Sparc Ultra 10 • 256 MB RAM • 2 GB
Operating System Requirements	<ul style="list-style-type: none"> • Windows NT Workstation or Server with Service Pack 5 or higher; TCP/IP and Microsoft Networking must be running • Solaris 2.6
Client Requirements	<ul style="list-style-type: none"> • Any of these operating systems running TCP/IP: <ul style="list-style-type: none"> – Solaris 2.6 – Windows 95, or 98 with the Year 2000 upgrade – Windows NT Workstation or Server with Service Pack 5 or higher • Browser: Netscape Navigator Version 4.6.1 or higher or Microsoft Internet Explorer Version 5.0 or higher
Supported Cisco Devices	Cisco 1750, 2600, 3600, 7200, and 7500 series, Cisco MC3810 multiservice, access concentrator, and Cisco AS5300 series universal access server
Supported Cisco IOS Software Versions	Cisco IOS Releases: <ul style="list-style-type: none"> • VoIP: 12.0.7T • VoFR/ VoATM: 12.0.7.XK, 12.1.2T (when available). NOTE: 12.1.1 T is NOT supported.

Distribution Part Numbers and Ordering Information

CiscoWorks Voice Manager¹

CWVM-2.0-NT	CW2000 Voice Manager 2.0 for NT, Includes SW and Doc
CWVM-2.0-NT-UPG	Upgrade from Cisco Voice Manager 1.0/1.1 to CVM 2.0 on NT
CWVM-2.0-NT-P1	CW2000 Voice Manager 2.0 for NT, Introductory PROMO

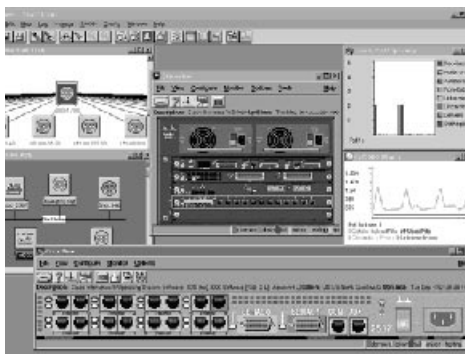
1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the CiscoWorks2000 Voice Manager Web site: www.cisco.com/go/cvm

CiscoWorks for Windows

CiscoWorks for Windows, Version 5.0, is comprehensive network management software that provides a powerful set of tools to easily manage your small to medium network or workgroup. Information such as dynamic status, statistics, and comprehensive configuration information is available for Cisco routers, switches, hubs, and access servers. Using WhatsUp Gold from Ipswitch, you can also monitor printer, workstations, servers and important network services.



When to Sell

Sell This Product

CiscoWorks for Windows

When a Customer Needs These Features

- A single solution for managing all resources attached to a multivendor network
- A smaller solution that fits on a laptop or shared workstation
- Low-cost network management

Key Features

CiscoWorks for Windows provides the following features when used in conjunction with WhatsUp Gold from Ipswitch (included in the CWW box):

- Automatic discovery process for networked devices
- Management of network hardware, printers, servers and workstations
- Customizable monitoring of services such as FTP and HTTP
- Access to extensive data on port status, bandwidth utilization, traffic statistics, protocol information, and other network performance statistics
- Flexible graphing capabilities for quickly recording and analyzing historical data that can be exported to files
- Management Information Base (MIB) compiler and browser for managing third-party SNMP devices
- Tools to simplify device configuration and management for Cisco routers, switches, hubs, and access servers
- Threshold management features that can be set for many performance variables to generate an alarm or event notification
- Flexible event notification, including voice, paging and email notification of user-defined events

CiscoWorks for Windows Components

CiscoWorks for Windows comprises of the following tools:

- **WhatsUp Gold** from Ipswitch, Inc.—Provides network discovery, mapping, monitoring, and alarm tracking
- **CiscoView**—Provides back- and front-panel displays; dynamic, color-coded graphical displays simplify device-status monitoring, device-specific component diagnostics, and application launching
- **Threshold Manager**—Enhances the ability to set thresholds on Cisco RMON-enabled devices, reducing management overhead and improving troubleshooting capabilities
- **StackMaker**—Allows users to combine multiple Cisco devices of specific types into a single stack and visually manage them in a single window
- **Show Commands**—Displays detailed router system and protocol information without requiring the user to remember complex Cisco IOS Software command-line languages or syntax

Specifications

Feature	CiscoWorks for Windows
Hardware Requirements	166 MHz Pentium-based IBM PC or compatible computer 64-MB RAM total 500 MB free hard drive space, 1 GB free hard drive space recommended CD-ROM drive for installation
Software Requirements	Windows 95, Windows 98 or Windows NT 4.0 Netscape 4.61 or Internet Explorer 5.0 for displaying online help

Competitive Products

- 3Com: Transcend Network Management for Windows
- Nortel/Bay: EX Internetwork and EZLAN
- Cabletron: Spectrum Element Manager

Distribution Part Numbers and Ordering Information

CiscoWorks for Windows¹

CWW-5.0	CiscoWorks for Windows, V5.0
CWW-5.0-UPG	CiscoWorks for Windows, v5.0 Upgrade

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the CiscoWorks for Windows Web site: www.cisco.com/go/cwwin

CiscoWorks Blue¹

The CiscoWorks Blue suite of applications provide the management tools required to help customers make the transition from legacy networks to multiprotocol networks, including IP. The different tools support different platforms, so whether customers want to manage from the mainframe, from UNIX, or from the Web, there is a CiscoWorks Blue solution for their needs,

When to Sell

Sell This Product

When a Customer Needs These Features

CiscoWorks Blue Internetwork Status Monitor

- Router management from the mainframe
- Status at a glance
- Channel Interface Protocol (CIP) and Channel Port Adapter (CPA) management

CiscoWorks Blue Maps

- Graphical management of IBM SNA/IP Protocols (remote source-route bridging [RSRB], data-link switching [DLSw], Advanced Peer-to-Peer Networking [APPN])
- Status at a glance

CiscoWorks Blue SNA View

- SNA Session Management from the Web
- Correlation of virtual telecommunications access method (VTAM) information with IP information to show end-to-end connectivity

Key Features

- Visibility, management, and control of Cisco devices from the mainframe
- Graphical displays of SNA sessions running over Cisco devices
- Correlation of SNA sessions with TCP/IP information in the routed network
- Protocol-level statistics for RSRB, DLSw, and APPN
- Launch capability for other tools like Tivoli NetView, CiscoView, and CiscoWorks2000
- Web browser enabled

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	CiscoWorks Blue Internetwork Status Monitor	CiscoWorks Blue Maps	CiscoWorks Blue SNA View
Platform Compatibility	Tivoli NetView for OS/390 IBM NetView for MVS SOLVE: Netmaster for TCP/IP SOLVE: Netmaster	Solaris HP-UX AIX	Solaris HP-UX AIX
Supported Cisco Products	Routers running Cisco IOS Software Release 11.0 or above	Routers running Cisco IOS Software Release 11.0 or above, configured with RSRB, DLsw, or APPN	Routers running Cisco IOS Software Release 11.0 or above, configured with RSRB, DLsw, or APPN Cisco TN3270 Servers for CIP and CPA
Software Requirements	IBM NetView for MVS 2.4 or above Tivoli NetView for OS/390 Sterling SOLVE: Netmaster 3.1 or above Sterling SOLVE: Netmaster for TCP/IP: all releases	AIX Version 4.2.1 or 4.3.1 Solaris 2.5.1 or 2.6 HP-UX 10.20 or 11.0 HP OpenView 5.0, 5.01, 5.03, or 6.0 (optional) SunNet Manager 2.2.3 or 2.3 (optional) NetView for AIX 4.1 or 5.1 (Tivoli NetView) (optional) VTAM 4.1 or above	AIX Version 4.2.1 or 4.3.1 Solaris 2.5.1 or 2.6 HP-UX 10.20 or 11.0 HP OpenView 5.0, 5.01, 5.03, or 6.0 (optional) SunNet Manager 2.2.3 or 2.3 (optional) NetView for AIX 4.1 or 5.1 (Tivoli NetView) (optional) VTAM 4.1 or above

Competitive Products

These products have no direct competition.

For More Information

See the CiscoWorks Blue Web site: www.cisco.com/go/cwblue

Cisco Netsys SLM Suite ¹

Now you can manage all aspects of network connectivity and performance with a single service-level management solution. Cisco's Netsys Service-Level Management Suite makes it easy to understand the inner workings of your network so that you can quickly solve problems and optimize performance. Together, the two modules—Connectivity Service Manager and Performance Service Manager—provide a complete, end-to-end, scalable solution that grows with your requirements, helping you solve your key network management challenges today and positioning you to take full advantage of future innovations.

When to Sell

Sell This Product

Netsys Connectivity Service Manager V.4.1

Netsys Performance Service Manager V.4.1

When a Customer Needs These Features

- Manage and optimize your network's connectivity, security, and reliability—end to end

- End-to-end performance analysis for problem solving, capacity planning, and service-level management

Key Features

- Defines, monitors, and assesses service-level policies
- Troubleshoots connectivity and performance problems
- Checks for over 100 common yet difficult-to-isolate configuration problems
- Gives you the big picture instantly, allowing you to visually navigate your network and gain a complete understanding of how it works
- Graphically plans data, routing, protocol, and topology changes
- Performs capacity, redundancy, and topology analysis
- Proactively monitors configuration changes

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Connectivity Service Manager V.4.1	Performance Service Manager
Platform Compatibility	Integration with CiscoWorks and CiscoView	Not required
Supported Cisco Products	<p>LAN topologies: Ethernet, Fast Ethernet, Token Ring, FDDI, ATM interface</p> <p>WAN connectivity: Serial, HSSI, BRI, Frame Relay, IP unnumbered, SDMS, X.25, async, dialer, channelized T1</p> <p>Data protocols: IP, IPX, SNA, AppleTalk, VINES, DECnet</p> <p>Routing protocols: Routing Information Protocol (RIP), Interior Gateway Routing Protocol (IGRP), Enhanced IGRP (EIGRP), Open Shortest Path First (OSPF), IPX-RIP, source-route bridging (SRB), RSRB, DLsw+, Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS) (IP)</p> <p>Device Support: All Cisco IOS Software-based routers, Catalyst 5000 and 5500 switching products</p>	<p>Same as Connectivity Service Manager plus:</p> <p>Cisco IOS IP/IPX accounting support; Cisco Switch Probes (RMON2); Built-in router performance modes for 7500, 7200, 7000, 7000/RSP, 4700, 4500, 2500, 1005, and AS5100/5200; and Cisco Netflow Accounting Data</p>
Software Requirements	<p>SunOS 4.1.3/4.1.4, Solaris 2.5/2.6, Solaris-J</p> <p>IBM-AIX 4.1.5,</p> <p>HP-UX 10.x</p> <p>CWSI V.1.3 switch support</p> <p>Java-enabled Web browser</p>	Netsys Connectivity Service Manager

Competitive Products

These products have no direct competitors.

For More Information

See the Cisco Netsys SLM Web site: www.cisco.com/go/nslms4

Cisco Netsys Baseline

Avoid costly network configuration problems—have your network checked by Netsys! Fixing network problems is expensive and time-consuming. The combination of costly downtime and time-consuming fault isolation and repair can bring a business to its knees. Geographically dispersed networks amplify the problem because the length and expense of downtime often increase, and fixing the problem can require travel. Most reported network problems are configuration related. More than 40 percent of technical support calls involve device misconfigurations. As the number of routers grows, configuration problems become harder to detect and avoid. The result is either operational or latent configuration problems.

When to Sell

Sell This Product

NetSys Baseline

When a Customer Needs These Features

- Avoid costly network configuration problems by safely testing configurations offline before committing them to the live network
- Network configuration troubleshooting

Key Features

- Creates a model of your network and checks for more than 100 common yet difficult-to-isolate configuration problems
- Gives you the “big picture” instantly, allowing you to visually navigate your network and gain a complete understanding of how it works
- Proactively monitors configuration changes

Specifications

Feature	Netsys Baseliner V.4.1
Platform Compatibility	Not required
Supported Cisco Products	LAN topologies: Ethernet, Fast Ethernet, Token Ring, FDDI, ATM interface WAN connectivity: Serial, HSSI, BRI, Frame Relay, IP unnumbered, SDMS, X.25, async, dialer, channelized T1. Data protocols: IP, IPX, SNA, AppleTalk, VINES, DECnet Routing protocols: RIP, IGRP, EIGRP, OSPF, IPX-RIP, SRB, RSRB, DLSw+, BGP, IS-IS (IP) Device support: All Cisco IOS Software-based routers
Software Requirements	Windows NT workstation and server Java-enabled Web browser
Service Number	11

Distribution Part Numbers and Ordering Information

Cisco Netsys Connectivity Tools¹

BASE-4.0-UNL-NT	Netsys Baseliner 4.0. Unlimited Routers, Win NT
CON-SNT-PKG11	SMARTnet Maintenance

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)
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For More Information

See the Cisco Netsys Baseliner Web site: www.cisco.com/go/baseliner

Cisco SwitchProbe Series¹



Cisco Systems offers a complete family of dedicated, enhanced LAN, WAN, and ATM Remote Monitoring (RMON) probes for comprehensive, end-to-end, seven-layer monitoring of an enterprise network. SwitchProbe products provide a powerful distributed management architecture for performing application flow management, traffic analysis and troubleshooting, trend reporting, and proactive network management. The real-time traffic analysis and trend reporting capabilities of SwitchProbe devices provide visibility into network behavior for long-term planning. They provide the diagnostic information needed for troubleshooting the Media Access Control (MAC), network, or application-layer problems before they can affect network availability. The probes' network-based thresholding and alarm capabilities provide an early warning system to improve network reliability and availability.

When to Sell

Sell This Product	When a Customer Needs These Features
Ethernet Probes	<ul style="list-style-type: none"> • Monitoring Catalyst Ethernet switch ports
Fast Ethernet Probes	<ul style="list-style-type: none"> • Monitoring Catalyst Fast Ethernet switch ports and Fast Ethernet links, Half Duplex for SPAN and Full Duplex for Catalyst interswitch and server links
Gigabit Ethernet Probes	<ul style="list-style-type: none"> • Monitoring Catalyst Gigabit Ethernet switch ports and Gigabit Ethernet network core, enterprise backbone, and server links
Token Ring Probes	<ul style="list-style-type: none"> • Monitoring Catalyst Token Ring switch ports
WAN Probes	<ul style="list-style-type: none"> • Monitoring fractional, full, or channelized T1 and E1 WAN links (supports the following encapsulated protocols: Cisco HDLC, Digital HDLC, Proteon HDLC, PPP, Frame Relay, Annex G, X.25, SMDS-DX)
T3 Probes	<ul style="list-style-type: none"> • Monitoring T3 (HSSI) and DS-3/E3 Frame-based WAN links
FDDI Probes	<ul style="list-style-type: none"> • Monitoring FDDI rings (single or dual)
ATM Probes	<ul style="list-style-type: none"> • Monitoring DS-3/E3 or OC-3 ATM links (supports the following additional standards: LANE 1.0 and 2.0; Classical IP [RFC 1577]; MPOA [RFC 1483]; and UNI 3.0, 3.1, and 4.0)

Key Features

- Support of Internet Engineering Task Force (IETF) RMON and RMON2 standards RFC 1757, 1513, 2021, and 2074, as well as emerging standards for High-Capacity RMON, ATM RMON, and Switch Monitoring
- Compatible with SNMP-based network management systems
- Out-of-band or side-band access to management data
- Remote configuration support via BOOTP and Trivial File Transfer Protocol (TFTP)
- Automatic logging of statistical data for trend analysis and reporting
- Selective packet capture and seven-level protocol decode functionality with pre- and post-capture filters
- Flash memory for easy software upgrades

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	SwitchProbe
Management	The probes can be managed through a serial out of band or an Ethernet or Token Ring sideband. For example, the Fast Ethernet probe comes standard with Fast Ethernet Interface(s) for monitoring Fast Ethernet ports and an Ethernet sideband used for managing the probes.
Ports	One serial console port (RS-232-C Type) One remote port (RS-232-C Type)
Interfaces	Ethernet interface—15-pin D-type 10Base5 (Thicknet), BNC 10Base2 (Thinnet), RJ-45 10BaseT Token Ring interface—9-pin D-type (Type 1), RJ-45 (Type 2) FDDI interface—Single (SAS) or dual (DAS) SC-type connectors for SC-to-SC or SC-to-MIC 62.5/125-micron multimode, fiber-optic cable 100BaseTX interface—RJ-45 for Category 5 UTP or Category 5 sheath-shielded TP with TP-MIC plug 100BaseFX interface—SC-type connector for SC-to-SC, ST-to-SC, or SC-to-MIC 62.5/125-micron fiber-optic cable Gigabit Ethernet interface—SC-type connector (fiber optic) WAN interface—26-pin D-type supports connections to V.35, X.21, RS-449, and EIA-530 HSSI interface—26-pin, D-type SCSI II connectors externally clocked up to T3/E3 speed DS-3 ATM interface—DB-15 connector (supports connection to DS-3 Tap) E3 ATM interface—DB15 connector (supports connection to E3 Tap) DS-3 Frame interface—DB15 connector (supports connection to DS-3 Tap) E3 Frame interface—DB15 connector (supports connection to E3 Tap) OC-3 ATM interface—OC-3 multimode fiber twin connector
Separately Priced Software Options	Application Response Time (ART) Monitor Option—Extends RMON2 standards to measure delays between request/response sequences in application flows for popular applications, such as the HTTP and FTP Fast EtherChannel (FEC) Monitor Option—Enables the Four Port Fast Ethernet SwitchProbe to aggregate data from two full-duplex, Fast Ethernet links, thus providing a consolidated view of traffic flows between the Catalyst switches NetFlow Monitor Option—Provides detailed traffic statistics on Cisco NetFlow-enabled routers and Catalyst switches with a NetFlow Feature Card (NFFC) Resource Monitor Option—Provides remote monitoring of LAN and WAN system resources via distributed polling and threshold monitoring WAN Decompression Option—Enables Multiprot T1/E1 WAN probes to monitor a WAN link comprised of compressed data. The option supports the STAC (hi/fn) and Van Jacobson compression algorithms, and HDLC, Frame Relay and PPP encapsulation types. VLAN Monitor Option—Enables the user to drill down to obtain host and conversation information on a per-VLAN basis

Distribution Part Numbers and Ordering Information

SwitchProbes¹

WS-PB6-1ETH-32	SwitchProbe, 1-port Ethernet, 32MB
WS-PB6-2ETH-32	SwitchProbe, 2-port Ethernet, 32 MB
WS-PB8-4ETH-128	SwitchProbe, 4-port Ethernet, 128 MB
WS-PB8-8ETH-128	SwitchProbe, 8-port Ethernet, 128 MB
WS-PB6-1TR-32	SwitchProbe, 1-port Token Ring, 32 MB
WS-PB8-SFDDIET-128	SwitchProbe, FDDI (SAS) and Ethernet, 128 MB
WS-PB8-DFDDIET-128	SwitchProbe, FDDI (DAS) and Ethernet, 128 MB
WS-PB8-1FEHDTX-128	SwitchProbe, 1-port Fast Ethernet, HDX, 100BaseTX, 128 MB
WS-PB8-2FEHDTX-128	SwitchProbe, 2-port Fast Ethernet, HDX, 100BaseTX, 128 MB
WS-PB8-1FEFDTX-128	SwitchProbe, 1-port Fast Ethernet, FDX, 100BaseTX, 128 MB
WS-PB8-4FE-TX-128	SwitchProbe, 4-port Fast Ethernet, 100BaseTX, 128 MB
WS-PB8-1FEHDFX-128	SwitchProbe, 1-port Fast Ethernet, HDX, 100BaseFX, 128 MB
WS-PB8-2FEHDFX-128	SwitchProbe, 2-port Fast Ethernet, HDX, 100BaseFX, 128 MB
WS-PB8-1FEFDX-128	SwitchProbe, 1-port Fast Ethernet, FDX, 100BaseFX, 128 MB
WS-PB8-4FE-FX-128	SwitchProbe, 4-port Fast Ethernet, 100BaseFX, 128 MB
WS-PB8-2GESX-M-128	SwitchProbe, 2-port Gigabit Ethernet, 1000BaseSX, Multi-Mode, 128 MB
WS-PB8-2GELX-M-128	SwitchProbe, 2-port Gigabit Ethernet, 1000BaseLX, Multi-Mode, 128 MB
WS-PB8-2GELX-S-128	SwitchProbe, 2-port Gigabit Ethernet, 1000BaseLX, Single-Mode, 128 MB
WS-PB6-1WANETH-32	SwitchProbe, 1-port T1/E1 WAN and Ethernet, 32 MB
WS-PB8-2WANETH-128	SwitchProbe, 2-port T1/E1 WAN and Ethernet, 128 MB
WS-PB8-4WANETH-128	SwitchProbe, 4-port T1/E1 WAN and Ethernet, 128 MB
WS-PB6-1WANTR-32	SwitchProbe, 1-port T1/E1 WAN and Token Ring, 32 MB
WS-PB8-2T1DETH-128	SwitchProbe, 2-port T1/D WAN and Ethernet, 128 MB

WS-PB8-4T1DETH-128	SwitchProbe, 4-port T1/D WAN and Ethernet, 128 MB
WS-PB8-2E1DETH-128	SwitchProbe, 2-port E1/D WAN and Ethernet, 128 MB
WS-PB8-4E1DETH-128	SwitchProbe, 4-port E1/D WAN and Ethernet, 128 MB
WS-PB8-2CHT1ET-128	SwitchProbe, 2-port channelized T1/D WAN and Ethernet, 128 MB
WS-PB8-2CHE1ET-128	SwitchProbe, 2-port channelized E1/D WAN and Ethernet, 128 MB
WS-PB8-HSSIETH-128	SwitchProbe, HSSI and Ethernet, 128 MB
WS-PB8-DS3FRM-128	SwitchProbe, DS-3 Frame WAN and Ethernet, 128 MB
WS-PB8-E3FRM-128	SwitchProbe, E3 Frame WAN and Ethernet, 128 MB
WS-PB8-ATM3ETH-128	SwitchProbe, ATM (OC-3) and Ethernet, 128 MB
WS-PB8-ATMDSET-128	SwitchProbe, ATM (DS-3) and Ethernet, 128 MB
WS-PB8-E3ATM-128	SwitchProbe, ATM (E3) and Ethernet, 128 MB

SwitchProbe Software Options

WS-PB-ART	Application Response Time (ART) monitor option
WS-PB-FEC-TX	Fast EtherChannel-TX (FEC) monitor option (for 4FE-TX probes only, inc. 1 WS-PB-FEFDTAP-TX Kit)
WS-PB-FEC-FX	Fast EtherChannel-FX (FEC) monitor option (for 4FE-FX probes only, inc. 1 WS-PB-OPTI-SPLT1 Kit)
WS-PB-NFM	NetFlow monitor option
WS-PB-RSM	Resource monitor option
WS-PB-WDC	WAN decompression option
WS-PB-VLAN	VLAN monitor option

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco SwitchProbe Web site: www.cisco.com/go/switchprobe

Cisco Element Management Framework (EMF)¹

Cisco Element Management Framework (CEMF) is a highly scalable framework designed to support carrier-class element managers across Cisco's service provider product lines. This flexible, modular model allows service providers to install the mix of element managers they need to support their dynamic businesses. It also enables rapid development and deployment of new element managers, so service providers can easily introduce and manage new services.

Cisco EMF provides common interfaces and element management services to applications in the network and service management levels of CSM. Cisco's EcoSystem partners can also build third-party element management systems to provide element management support in mixed network environments.

When to Sell

Sell This Product

Cisco Element Management Framework

When a Customer Needs These Features

- Highly scalable framework designed to support carrier-class element managers across Cisco's service-provider product lines.
- Open system designed to integrate with third party product and proprietary operational support systems.

Key Features

- Cisco Element Management Framework (CEMF):
 - Manageability—highly scalable framework supports carrier-class element managers across Cisco's service-provider product lines
 - Scalability—small pilot or trial networks can be deployed and then expanded as the network and management requirements grow
 - Integration—open system designed to integrate with third-party product and proprietary operational support systems
 - Extensibility—new management applications can be developed quickly using configuration and developers toolkits
- Cisco EMF Event Manager—provides concise, tailored scoreboards of element status and powerful filtering and normalization of events from different sources; can be used on its own or as a preprocessor for Cisco Information Center (CIC)
- CEMF Event Manager:
 - An intuitive and flexible view of current network status via user-defined Event
 - Group filters and scoreboards
 - Notification of event status via external media such as fax, e-mail, pager
 - Sophisticated thresholding capability enables users to capture events that may not be proactively indicated by the network
 - Creates a model of the network and checks for more than 100 common, yet difficult-to-isolate, configuration problems

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco Element Management Framework (CEMF)
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Platform Compatibility	Event Manager needs CEMF
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Supported Cisco Products	Cisco DSL Manager (CDM): Cisco 6400 Service Connection Manager (SCM)
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Software Requirements	Sun Solaris 2.6 Event Manager requires CEMF
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For More Information

See more information about Network and Element Management at:
www.cisco.com/go/neman

See more specific information on Cisco EFM and the Cisco Event Manager at:
www.cisco.com/go/emf

Cisco Info Center¹

Cisco Info Center (CIC) is a service-level monitoring and diagnostics tool that provides network fault and performance monitoring, trouble isolation, and real-time service-level management for large networks. Cisco Info Center is designed to help operators focus on important network events, offering a combination of alarm reduction rules, filtering, customizable alarm viewing, and partitioning. Cisco Info Center provides a highly configurable client/server application that can consolidate, de-duplicate, filter, and correlate fault information from a wide range of management platforms and technologies.

When to Sell

Sell This Product

Cisco Info Center

When a Customer Needs These Features

- Service-level monitoring and diagnostics tool that provides network fault and performance monitoring, trouble isolation, and real-time service-level management for large networks.
- Highly configurable client/server application that can consolidate, de-duplicate, filter, and correlate fault information from a wide range of management platforms and technologies.

Key Features

- Simplified operations—integrates alarms and events from multiple technologies and vendors into a single environment
- Scalable and highly distributable architecture—allows for configuration of distributed multi-management domains; data filtering and de-duplication features let operators monitor domains by workgroups, geographies, or customer ID
- Immediate return on investment (ROI)—consolidates fault data from multivendor multi-technology systems enabling efficient and timely resolution of network problems and reduced operations cost
- Enhanced service offering—supports Web and Java-based service-level monitoring applications developed by service providers
- Powerful administrative interface—highly customizable to suit a network manager's specific viewing requirements
- Robust trap mechanism—facilitates guaranteed trap delivery to ensure receipt and processing of every trap
- Highly customizable event correlation engine—empowers operators to interpret data, and event-triggered actions can be configured to respond to certain behaviors automatically
- Information overload—can consolidate, de-duplicate, partition, and correlate information so core fault data is easy to interpret
- Multivendor networks—can receive multiple data streams, independent of the underlying network element technology, providing a comprehensive centralized fault management center

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco Info Center
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Platform Compatibility	Administrative desktops, Info Server, Info Gateways, and Info Mediators are supported on Sun Solaris 2.6. Info Server - Ultra II or higher with a minimum of 256 MB RAM, 200 MB hard drive. Info Mediators - Ultra II or higher with a minimum of 64 MB RAM, minimum 100 MB hard drive. Info Admin Desktops - Sun workstation with a minimum of 48 MB RAM, minimum 75 MB hard drive.
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Note: WAN solutions require CWM Release 9.2.

For More Information

See the Cisco Info Center Web site: www.cisco.com/go/cic

Cisco Provisioning Center¹

Cisco Provisioning Center (CPC) is a service activation system that provisions Layer 2/Layer 3 (L2/L3) across Cisco Systems end-to-end networking technologies. CPC provides an integrated, automated provisioning solution for network service providers who offer Frame Relay, ATM, Internet access, data-link switching (DSL), IP-virtual private network (VPN), quality of service (QoS) and other network services. CPC works across multiple network technologies and equipment so that operators can deploy end-to-end “services” rather than just configure “boxes.” By automating the process, CPC reduces the complexity and expense associated with today's manually configured services.

Cisco Provisioning Center is part of the Cisco Service Management (CSM) System of Operations, Administration, Maintenance, and Provisioning (OAM&P) and management tools for service provider or large enterprise networks. Operating at the service and network management layers of the Telecommunication Management Network (TMN) model, CPC interacts with other tools in the suite to provide customer-focused service management. It contains powerful tools for creating new services and extending them to support the specific requirements of service provider environments.

When to Sell

Sell This Product

Cisco Provisioning Center

When a Customer Needs These Features

- Service activation system that provisions Layer 2/Layer 3 (L2/L3) across Cisco Systems end-to-end networking technologies.
- Integrated, automated provisioning solution for network service providers who offer Frame Relay, ATM, Internet access, data-link switching (DSL), IP-virtual private network (VPN), quality of service (QoS) and other network services.

Key Features

- Rapid deployment of integrated L2/L3 services such as VPN and customer network management (CNM) by maintaining a database that associates customers with network elements and the services they are providing.
- Higher-quality deployment through automation improves service quality over error-prone, manual deployment methods
- Lower operation costs through improved efficiency
- Reduced training costs since less expertise is required
- Faster time to market through automation features that simplify deployment
- True end-to-end provisioning through future integrated L2/L3 provisioning capability across multiple platforms from multiple vendors

1. For ordering information on this product, contact your Cisco Account Team.

Specifications

Feature	Cisco Provisioning Center
Platform Compatibility	<p>Cisco Provisioning Center runs on a Sun workstation with Solaris v2.5.1 to support provisioning in the following Cisco equipment:</p> <ul style="list-style-type: none">-Cisco BPX® 8600 series wide-area switch-Cisco IGX wide-area switch-Cisco MGX 8220 edge concentrator-Newbridge 36170 series switches (attainable through Cisco Partner Syndesis, Ltd.) <p>Future support for:</p> <ul style="list-style-type: none">-Cisco IOS® Software-based devices-LightStream® 1010-Catalyst® 5x00 switches

For More Information

See the Cisco Provisioning Center Web site: www.cisco.com/go/cpc

Cisco QoS Policy Manager 1.1

Cisco QoS Policy Manager (QPM), is a GUI-based software package that, enables network administrators to reserve or prioritize bandwidth for critical applications through centralized policy control and automated policy deployment. An integral part of Cisco Content Networking, an intelligent network architecture that dynamically recognizes Internet business applications, QPM provides differentiated services to Web-based applications, voice traffic, Web hosting, and business-critical applications. QPM also features a QoS COPS module.

When to Sell

Sell This Product

Cisco QoS Policy Manager

When a Customer Needs These Features

- Specify policies that establish differentiated traffic classes for applications
- Create powerful rules-based policies that combine static and dynamic port applications and host system traffic filters
- Utilize QoS Policy Manager's services, including congestion management, congestion avoidance, and traffic-shaping
- Efficiently translate policies to specific QoS configuration commands, ensuring policy consistency across policy domains
- Validate policies prior to deploying them to the network
- Quickly and reliably distribute policies to LAN and WAN policy domains
- Generate Web-based reports on QoS policies deployed in the network

Key Features

- **Centralized policy control**—Provides an end to end interface to devices that eliminates for need for device-by-device configuration and modification, and greatly simplifies the deployment of QoS for LAN and WAN routing and switching equipment
- **Differentiated service for application traffic**—QPM simplifies configuration of traffic classification, bandwidth reservation, and QoS enforcement policies used to achieve service-level differentiation in Cisco devices
- **Enhanced application-level classification**—Support for the integrated packet inspection engine (NBAR) within Cisco IOS Software that extends IP packet classification to include content-based application signaling, Web URLs, and dynamic protocols
- **Voice QoS Configuration**—Rapid configuration of advanced voice QoS features provides absolute priority to voice traffic
- **Guaranteed network service**—Configuration of Resource Reservation Protocol (RSVP) signaling across the enterprise network for throughput and latency guarantees needed by voice, video, audio and other real-time applications
- **Policy domain configuration**—Intelligent interface grouping allows you to selectively enable QoS mechanisms for LAN or WAN policy domains
- **Comprehensive QoS feature support**—Extensive congestion management, congestion avoidance, and traffic shaping services leveraging QoS features in Cisco IOS Software and device mechanisms

Specifications

Feature	Cisco QoS Policy Manager 1.1
Hardware Requirements	<ul style="list-style-type: none"> • Pentium 266 MHz processor or better recommended • Works on a single or multiple processor machines • 32 MB RAM (64 MB or more recommended) • 40 MB or more hard disk space • CD-ROM drive for installation
Operating System Requirements	<p>For complete QoS Policy Manager:</p> <ul style="list-style-type: none"> • Windows NT Workstation or Server with Service Pack 4 or higher • TCP/IP and Microsoft Networking must be running <p>Or, for Client only version:</p> <ul style="list-style-type: none"> • Any of these operating systems running TCP/IP and Microsoft Networking: <ul style="list-style-type: none"> • Windows 95 with the Year 2000 upgrade • Windows 98 • Windows NT Workstation or Server with Service Pack 4 or Higher
Browser Version	Netscape Navigator Version 4.0 or higher or Microsoft Internet Explorer Version 4.0 or higher
Supported Cisco Devices	Cisco 2500, 2600, 3600, 4000, 4500, 4700, 7100, 7200, and 7500 series routers, the Catalyst® 5000 and 6000 switch family, the router switch module (RSM) for the Catalyst 5000, the Cisco 8510 and 8540, and LocalDirector V.3.1.1
Supported Cisco IOS® Software Versions	Cisco IOS Software releases: 11.1cc, 11.2, 11.3, 12.0, 12.0(5), 12.0(5)T, 12.0(5)XE, and 12.0(7)T

Distribution Part Numbers and Ordering Information

Cisco QoS Policy Manager 1.1¹

OPM-1.1	Cisco QoS Policy Manager 1.1 for Windows NT with a QoS COPS add-on
CON-SAS-QPM	Software support, Cisco QoS Policy Manager

1. For the latest part number and pricing information, see the *Distribution Product Reference Guide* Web site: <http://www.cisco.com/dprg>. (Only available in some countries at this time; worldwide rollout in place.)

For More Information

See the Cisco QoS Policy Manager Web site: www.cisco.com/go/qpm

