

Cisco 3600 Data Sheet (Cisco 3620, 3640, 3620-DC, 3640-DC, 36XX-RPS) Cisco 3600 Multifunction Platform

The Cisco 3600 is the industry's first true multifunction platform with the versatility to support branch/enterprise dial access applications, LAN-to-LAN or routing applications, and multiservice applications in a single server. It provides unprecedented modularity options with a broad range of available network modules, enormous flexibility with a variety of configurable options for customer-specific application scenarios, and, above all, high performance to support any of these applications.

The Cisco 3640 server is equipped with four network module slots, the Cisco 3620 with two. Dial connectivity is supported with a series of network modules offering Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI), ISDN Basic Rate Interface (BRI), integrated digital modems, very high density asynchronous interfaces, and asynchronous/synchronous serial interfaces. LAN and WAN connectivity are provided by a series of mixed-media cards supporting Ethernet, Token Ring, and a variety of WAN technologies. Routing applications are supported with high-density Ethernet and a single-port, autosensing, Fast Ethernet network module. Finally, multiservice applications will be supported by integrated voice network modules, which will be available by Q4'97.

The Cisco 3600 is an ideal upgrade to branches that have outgrown their current routing hardware and require the next generation of hardware for their "power branch" applications. The flexibility of the Cisco 3600 series enables you to support a variety of solutions for the power branch office environment. No matter how much your requirements may vary from place to place, the Cisco 3600 platform has the performance and diversity to meet your needs, at a very cost-effective price. For instance, a branch office using ISDN to connect to the main office may require dedicated Frame Relay service in a year's time with increased traffic on the network—without a forklift upgrade in the wiring closet.

As a multifunction solution, you can rely upon the outstanding performance, reliability, security, and flexibility of the Cisco 3600 platform to meet your needs for many years. Multiple devices become quite expensive to manage, configure, and support when compared to a single, multifunction device with integrated management, configuration, and single vendor support.

Finally, Cisco IOS™ software contains many features that provide security, reliability, and WAN optimization. In any application, the Cisco IOS features can be used to control ongoing WAN costs. For example, the Cisco 3600 server supports dial-on-demand routing (DDR) and dial backup, as well as protocol spoofing and snapshot routing to reduce unnecessary WAN traffic. To further reduce WAN costs and increase effective bandwidth, Cisco IOS software supports data compression over Frame Relay, dedicated leased line, and dial networks.

Cisco IOS software has extensive multimedia capabilities that enable companies to support new applications such as teleconferencing over the WAN. Features such as the Resource Reservation Protocol (RSVP), Protocol Independent Multicast (PIM), and Weighted Fair Queuing (WFQ) ensure a consistent quality of service and high applications availability.

Multifunction Capabilities of the Cisco 3600 for the Power Branch

The Cisco 3600 is targeted at meeting the evolving requirements of the power branch. A power branch can be defined as one that has outgrown its initial networking hardware, and needs to add functionality such as high-density dial access server support, additional routing capabilities, and, at the same time, provide an open architecture for future requirements such as Digital Subscriber Line (DSL), voice, video, and Asynchronous Transfer Mode (ATM). The Cisco 3600 has the performance built-in to handle these diverse needs, and also has power to address the future branch requirements, in a modular chassis with network module options that provide the ultimate investment protection.

For example, as an ISDN access solution, a Cisco 3600 ISDN PRI access server with integrated digital modems is ideal for branch offices with limited rack space. Customers or telecommuters save line costs by dialing a local access number, and then are routed to services over the WAN. A backup T1 serial connection using a mixed-media LAN module with T1 WAN interface cards also provides LAN access. Up to 60 digital modems may be installed in a Cisco 3640 chassis to simplify management, conserve rack space, and ensure interoperability with the rest of your Cisco network.

As a remote distributed access server, the Cisco 3600 is optimal for deploying in a dispersed dial infrastructure. For example, geographic concerns require a service provider to deploy a large number of small points of presence (POPs) that are geographically dispersed. The Cisco 3600 with its redundant high-speed serial ports provides for backhaul of data to points of aggregation, while its redundant LAN interfaces, including the ability to provide Fast Ethernet and Token Ring, provide the maximum flexibility of deployment in a variety of LAN environments.

Cisco 3600 Provides Multiprotocol Dial Access into Enterprises

Increasingly, Enterprises and branch offices are experiencing the need to extend network access to a broad range of remote users, including employees, vendors, customers, and partners. Successful remote access means being able to connect these users from practically any location with support for any protocol, almost transparently. Varying demands of telecommuters and mobile users necessitate both ISDN and async connections. Today, users expect to get the same access and quality of service they receive when connected locally. To meet this requirement, the remote access server must be part of the total network solution and scale with it to meet the growing remote access needs.

The Cisco 3600 supports the most complete set of access protocols of any access server in the industry, including, IP, the IPX Protocol, AppleTalk, Point-to-Point Protocol (PPP), and Serial Line Internet Protocol (SLIP). The flexible configuration options of the Cisco 3600, when combined with the power of the Cisco IOS software, meet the requirements for secure, reliable, dial-in connections with rich software support of this critical multiprotocol, dial access application.

Features

Full Power of Cisco IOS Software

The Cisco 3600 is a component of Cisco's complete end-to-end solution set for dial connectivity. No other vendor can offer remote users as many options for Internet access and enterprise extension. This offering is also boosted considerably by the ability of the Cisco IOS software to affordably deploy dial virtual private networks (Dial VPNs). Users can also save through bandwidth optimization techniques such as data compression and can deploy high-quality network security firewalls and data encryption.

Security

The primary concern for most network managers today is security. The Cisco 3600, along with the popular and robust Cisco IOS software, provides comprehensive security throughout customer core networks. For remote user environments, the Cisco 3600 extends that proven core security to mixed-media dial-in sites. Among the security features supported by the Cisco IOS software are access lists, violation logging, Remote Access Dial-In User Service (RADIUS), Kerberos V, and TACACS+ with authentication, authorization, and accounting (AAA).

Management

The Cisco 3600 offers a complete graphical user interface (GUI) management tool called CiscoWorks, providing for graphical configuration, monitoring, and debugging of the Cisco 3600 chassis and its associated network modules.

Cisco's configuration management capabilities provide network managers with complete control over network statistics and the ability to configure and tune network operations from a central location. Comprehensive debugging tools are available in Cisco IOS software to substantially reduce the time and cost associated with problem isolation and recovery.

To address the internal modems available in the Cisco 3600, an optional, advanced, modem management feature set is available, which provides extensive bandwidth optimization features to help branch and enterprise customers lower the recurring costs associated with operating a geographically dispersed wide-area network. The modem management feature set includes call-in-progress monitoring, hard and soft busy out, grouping, a user-defined threshold for alarms, and statistics. Administrators can view real-time information (for current or previous calls) such as

modem modulation scheme, modem protocol, modem EIA/TIA-232 signal states, modem transmit and receive rates, and analog signal-to-noise ratio. The modems can be managed via the same tools used to manage the rest of the network, providing network managers with one solution at a central management point.

Scalability

Cisco's implementation of the Multichassis Multilink Point-to-Point Protocol (MMP) allows customers to start small and scale additional access servers as required, while still being able to dial into one center. Enterprise and branch office network managers with medium dial-in pools can easily scale and integrate their access infrastructures to aggregate multiple calls on multiple servers, providing a higher-bandwidth solution to their end users. These scalability features are critical for service providers and enterprise customers as they build resilient systems that leverage distributed network reliability.

Multilink Point-to-Point-Protocol (MP) allows users to take advantage of ISDN connections and achieve a raw 128-kbps data throughput using two B channels. Async users can also take advantage of this feature, if supported on their workstation, with two modems connected over two phone lines.

MMP support is a key factor in scaling the Cisco 3600 solution to meet expanding user requirements. MMP allows calls to be "linked," regardless of the physical chassis each call is placed to, allowing Cisco 3600 chassis to be stacked and viewed as one dial-in pool.

World Class Support

Life Cycle-Focused Support Solutions

Cisco's comprehensive support portfolio delivers solutions that enhance the network throughout its life cycle. From design and installation, to preventive and scheduled maintenance, to performance optimization, Cisco's solutions promote network reliability, efficiency, and flexibility. Designed to function as an integral product component, these programs deliver seamless support. Together, they proactively help organizations sharpen their competitive edge. Through access to the Cisco Connection Online (CCO) Web site, customers can both use and market expanded functionality and new features as soon as they become available. Moreover, access to Cisco's technical expertise is

available around the clock and around the globe. This virtual team of the world's top networking engineers is equipped to address every need, from troubleshooting to network design and planning.

Feature	Benefit
Integrated channel service units (CSUs), channel bank, router, and modems accommodate dual ISDN PRI T1/E1 lines	Services and terminates asynchronous modem and digital ISDN calls with one trunk line and one phone number, a simple, cost-efficient migration path from today's analog dialup environment to the fast-growing ISDN digital services
Modem management, including modem statistics, real-time call in progress, monitoring modem activity log and modem hard/soft busy out.	Enhanced monitoring of modem call progress and statistics in real time to reduce problem detection and resolution time
Full Cisco IOS support	Provides the widest array of networking and routing protocol support in the industry for large-scale deployment
Remote management of CSU, router, and modem components	Centralizes network management to reduce operating cost
Scalable chassis with MMP capable of carrying increased density and higher-speed traffic	Allows customers to start small and stack additional servers as required, while still being able to dial into one call center
Bandwidth management with dialer load threshold	Manages network bandwidth effectively to reduce unnecessary bandwidth-associated costs for customers
Dial VPN with Layer 2 Forwarding (L2F) Protocol	Adds more value to a branches' dial features by: <ul style="list-style-type: none"> • Allowing local dialup calls to an Internet Service Provider (ISP) who agrees to forward the client company's users to a company-run gateway • Supporting investments in non-IP protocol applications in a secure manner
WAN optimization, including compression, routing filters, snapshot routing, and DDR	Helps customers to reduce WAN costs, the single largest cost of internetwork operation
Security management, including TACACS+, RADIUS, access lists, and violation logging	Provides comprehensive security throughout customer's core network infrastructure
Global, life cycle-focused support solutions	<ul style="list-style-type: none"> • Improved network reliability • Increased network efficiency • Flexibility to scale network as demand grows • Access to technical leadership

The Cisco 3600 Platforms

The highly modular Cisco 3600 series access servers provide amazing versatility to support branch/enterprise dial access applications, LAN-to-LAN or routing applications, and multiservice applications in a single chassis. These unique features make the Cisco 3600 the ideal platform for the power branch. Cisco continues to develop new solutions for the Cisco 3600 series that help you stay ahead. Cisco provides unprecedented modularity options with a broad range of available network modules, enormous flexibility with the variety of configurable options for customer-specific application scenarios, and, above all, high performance to support any of these applications.

Cisco 3600 Family Overview

The following tables detail the range of platforms and current network modules available in the Cisco 3600 series.

Cisco 3600 Platforms

Cisco 3600 Series Feature	Cisco 3640	Cisco 3620
Processor Type	100-MHz IDT R4700 RISC	80-MHz IDT R4700 RISC
Flash Memory	4 MB, upgradable to 32 MB	4 MB, upgradable to 32 MB
System Memory	16 MB DRAM, upgradable to 128 MB DRAM	16 MB DRAM, upgradable to 64 MB DRAM
Network Module Slots	4 slots	2 slots
Power	AC, DC, Redundant Power Option	AC, DC, Redundant Power Option
Dimensions	17.5-in. width x 3.44-in. height x 15.75-in. depth	17.5-in. width x 1.69-in. height x 14.25-in. depth
Performance	50–70 kpps	20–40 kpps
Console and Auxiliary Ports (up to 115.2 kbps)	Yes	Yes
Rack and Wall Mounting	Yes	Yes
Dual Type II PC Card Slots	Yes	Yes

Cisco 3620-DC and 3640-DC Routers

For telco customers, where DC power is the only option available, the Cisco 3600 products are available in DC versions. These power supplies can also be ordered as spares, and they are field-replaceable units (FRUs). The spare power supplies are listed as PWR-3620-DC= and PWR-3640-DC=.

Summary

As increasing computing capabilities change the landscape of the power branch office network, the highly modular Cisco 3600 series access servers protect your investment for years to come. Cisco continues to develop new solutions for the Cisco 3600 series that help you stay ahead. The amazing versatility to support branch/enterprise dial access applications, LAN-to-LAN or routing applications, and multiservice applications in a single chassis make the Cisco 3600 the ideal platform for the power branch. It provides unprecedented modularity options with a broad range of available network modules, enormous flexibility with the variety of configurable options for customer-specific application scenarios, and, above all, high performance to support any of these applications.

The benefits of a single-vendor, end-to-end networking solution are compelling. As part of a globally networked business, power branch offices must be positioned to take advantage of emerging, powerful, multimedia applications that define Internet/intranet networking today and tomorrow.

The Cisco 3600 series meets the challenge ahead with a comprehensive solution that you can depend upon for performance and flexibility.

You know you're partnering with a vendor you can trust. Cisco Systems stands behind every product it builds with outstanding service and support, and a proven record for performance, reliability, and standard-setting technology.

Cisco 3600 Series Network Modules

Module	Description
Serial Network Modules	
NM-16A	16 port high-density async network module
NM-32A	32 port high-density async network module
NM-4T	Four-port serial network module
NM-4A/S	Four-port async/sync serial network module
NM-8A/S	Eight-port async/sync serial network module
LAN Network Modules and Mixed-Media LAN/WAN Network Modules	
NM-1FE-TX	One-port Fast Ethernet network module (10/100BaseTX only)
NM-4E	Four-port Ethernet network module
NM-1E	One-port Ethernet network module
NM-1E2W	One-port Ethernet, two WAN card slot network module
NM-2E2W	Two-port Ethernet, two WAN card slot network module
NM-1E1R2W	One-port Ethernet, one-port Token Ring, two WAN card slot network module
ISDN and Channelized Serial Network Modules	
NM-1CT1	One-port channelized T1/ISDN PRI network module
NM-1CT1-CSU	One-port channelized T1/ISDN PRI with CSU network module
NM-2CT1	Two-port channelized T1/ISDN PRI network module
NM-2CT1-CSU	Two-port channelized T1/ISDN PRI with CSU network module
NM-1CE1B	One-port channelized E1/ISDN PRI balanced network module
NM-1CE1U	One-port channelized E1/ISDN PRI unbalanced network module
NM-2CE1B	Two-port channelized E1/ISDN PRI balanced network module

Module	Description
NM-2CE1U	Two-port channelized E1/ISDN PRI unbalanced network module
NM-4B-S/T	Four-port ISDN BRI network module
NM-4B-U	Four-port ISDN BRI with NT-1 network module
NM-8B-S/T	Eight-port ISDN BRI network module (S/T Interface)
NM-8B-U	Eight-port ISDN BRI with NT-1 network module (U Interface)
Modem Modules	
NM-6DM	6 digital modem network module
NM-12DM	12 digital modem network module
NM-18DM	18 digital modem network module
NM-24DM	24 digital modem network module
NM-30DM	30 digital modem network module
MICA-6MOD=	6 digital modem upgrade card
Other	
RPS	600W redundant power supply option
NM-COMPR	Compression network module

Cisco 3600 WAN Interface Cards

WAN Interface Card	Description
Serial WAN Interface Card	
WIC-1T	One-port sync serial
WIC-1DSU-56K4	One-port, four-Wire, 56 Kbps CSU/DSU
ISDN WAN Interface Card	
WIC-1B-S/T	One-port ISDN BRI
WIC-1B-U	One-port ISDN BRI with NT1
<p>WAN interface cards are available as daughter cards to the mixed-media LAN/WAN network modules. Up to two WAN interface cards can be installed on a single, mixed-media LAN/WAN network module. The WAN interface cards are <i>not</i> included in the price of the mixed-media network modules</p>	

Cables

Cables for Network Modules:

Network Module Type	Cable Type	Product Number	Length	Male/Female
NM-4A/S	V.35 DTE	CAB-V35MT	10 ft	Male
NM-8A/S (up to 115.2 Async or 128 Kbps Async)	V.35 DCE	CAB-V35FC	10 ft	Female
NM-4T	RS-232 DTE	CAB-232MT	10 ft	Male
WIC-IT	RS-232 DCE	CAB-232FC	10 ft	Female
	RS-449 DTE	CAB-449MT	10 ft	Male
	RS-449 DCE	CAB-449FC	10 ft	Female
	X.21 DTE	CAB-X21MT	10 ft	Male
	X.21 DCE	CAB-X21FC	10 ft	Female
	RS-530 DTE	CAB-530MT	10 ft	Male
CT1/CE1 PRI	MIP-CT1 DSX1 to DB15 cable	CAB-7KCT1DB15		
CT1/PRI	RJ-45-RJ-45	CAB-T1-RJ-45	10 ft	Male
CE1/PRI	E1-ISDN PRI	CAB-E1-PRI	10 ft	
	E1 twinax 120-ohm balanced	CAB-E1-TWINAX	3 m	
	E1 DB15 120-ohm balanced	CAB-E1-DB15	5 m	
	FSIP and MIP-CE1 BNC 75-ohm unbalanced	CAB-E1-BNC	5 m	
16/32 Async	Eight port with RJ-45 ends	CAB-OCTAL-ASYNC	10 ft	Male RJ-45
	Eight port with 25 pin ends	CAB-OCTAL-MODEM	10 ft	Male RS-232
	Eight port RJ-45 + eight xMMOD	CAB-OCTAL-KIT	10 ft	Male RS-232
CAB-OCTAL-ASYNC	Adapter cable	CAB-25AS-MMOD		RJ-45 -RS-232M
	Adapter cable	CAB-25AS-FDTE		RJ-45 -RS-232F Female

Cisco IOS Software Subsets

Full Cisco IOS software support with a variety of Cisco IOS feature sets (IP through Enterprise with APPN)

Dimensions and Weight Specifications

	Cisco 3640	Cisco 3620
Width	17.5 in (44.5 cm)	17.5 in (44.5 cm)
Height	3.44 in (8.7 cm)	1.69 in (4.3 cm)
Depth	15.75 in (40.0 cm)	14.25 in (36.2 cm)
Weight (minimum)	18 lb (8.18 kg)	14 lb (6.36 kg)
Weight (maximum)	23 lb (10.5 kg)	15 lb (6.8 kg)

Power Requirements

	Cisco 3640	Cisco 3620
Output, Watts	140W Max	70W Max
AC Input Voltage	100 to 240 VAC	100 to 240 VAC
Frequency	47 to 64 Hz	47 to 64 Hz
AC Input Current	2 Amps	2 Amps
DC Input Voltage	-38V to -75V	-3V to -75V
DC Input Current	5 Amps	5 Amps

Environmental Specifications

	Cisco 3640	Cisco 3620
Operating Temperature	32 to 104 F (0 to 40 C)	32 to 104 F (0 to 40 C)
Nonoperating Temperature	-13 to 158 F (-25 to 70 C)	-13 to 158 F (-25 to 70 C)
Relative Humidity	5 to 95%	5 to 95%
Noise Level (Maximum)	45 dbA	40 dbA

Regulatory Compliance

The Cisco 3600 series conforms to a number of different safety, EMI, immunity and network homologation standards. Details of the regulatory specifications are included at http://www.cisco.com/public/Support_root.shtml

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