Cisco 2500 Access Server Series

The Cisco 2500 access server series represents Cisco's low-cost entry into the access server marketplace.

Fixed-Configuration Access Servers

Three new products have recently been added to this family: the dial-optimized AS2509-RJ and AS2511-RJ and the temperature-hardened Cisco 2509-ET. The Cisco 2500 access server series enables users to connect asynchronous devices such as dumb terminals, modems, router consoles, slot machines, and Integrated Services Digital Network (ISDN) terminal adapters (TAs) into a routed network. New features make these products easier to use than ever. Running the same Cisco IOS™ software that runs the backbone of the Internet on a high-performance router engine, this product family also gives users integrated synchronous serial ports to backhaul routed traffic through high-speed T1/E1 lines.
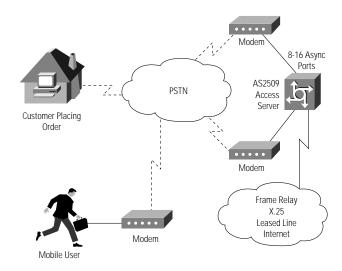
Cisco 2500 Access Server Series Applications

Here are four examples of how the Cisco 2500 series access servers can provide connectivity:

Low-Density Modem Concentration

Cisco 2500 access servers are ideally suited for low-density modem dial-in applications at branch and remote offices. With 8 or 16 asynchronous connections available for modems to be attached, the Cisco 2500 access server series is a low-cost alternative to higher-priced, integrated modem solutions. Modem solutions of 56K are available for this product line by using digitally terminated modem banks, like the U.S. Robotics MP/8 I-modem product for X2 support, or the Microcom ISPorte for K56Flex support. Ethernet or Token Ring LAN connections are available, and one or two synchronous serial ports enable customers to use high-speed T1/E1 WAN connections to the Internet or leased-line private networks.

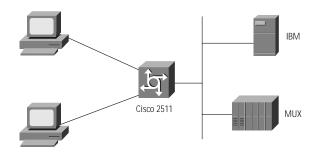Figure 1   Dial-in Application

Terminal Services

Customers can use Cisco's tried and true terminal support for applications with either local or remote terminals that need access to centralized main frames. Cisco's terminal services enable customers to use automatic protocol translation between different mainframes, for example, where a terminal user can transparently access services from both an IBM system and a Digital Equipment Corporation (DEC) VAX system.
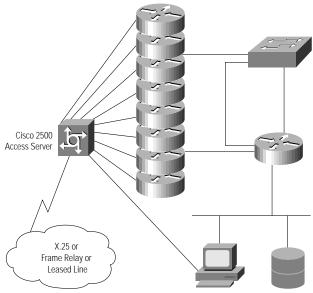
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Figure 2   Terminal Services
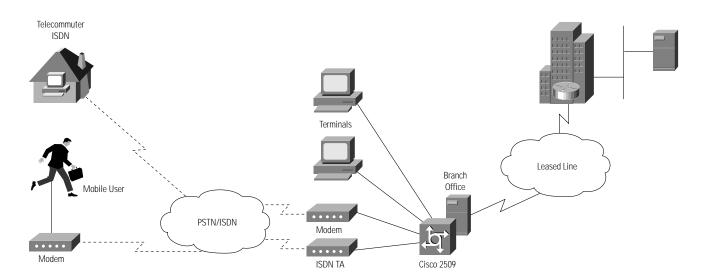

Network Telemetry

For customers who need a low-cost method of monitoring
real-time performance and status of network components,
the Cisco 2500 access server series can be deployed with
asynchronous ports connected directly to the console or
auxiliary ports of routers and other equipment in the
network closet. This solution allows a network engineer to
monitor and adjust equipment from a remote location,
saving the customer the cost of sending people to, or
stationing people near, all of their network wiring closets.

Figure 3   Network Monitoring and Telemetry

Mixed-Mode ISDN, Asynchronous, and Terminal Access

The Cisco 2500 access server series is ideal for mixed
asynchronous applications. Customers can attach terminals,
modems, ISDN TAs, and other async devices to the access
servers in whatever combination meets their needs.
Customers benefit from this flexibility, because as their needs
change over time, and as new technology becomes available,
customers can incrementally change their asynchronous
devices at will.

Figure 4   Mixed-Mode Application

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 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.

Cisco 2500 Access Server Series Summary

The Cisco 2500 access server series runs on the same Cisco IOS software that runs the backbone of the Internet. This family of products has sold well over 1 million ports since its introduction in September 1994, making it the most popular remote LAN access server in the world today.

Cisco 2500 Access Server Features and Benefits

Features	Benefits
WAN Interfaces	• One port available on AS2509-RJ and AS2511-RJ for cost-sensitive environments • Two ports available on Cisco 2509, Cisco 2509-ET, Cisco 2511, and Cisco 2512 for multipoint or redundant backhaul applications • Enables connections to fast WAN technologies like T1/E1, Frame Relay, leased lines, and so on
8 or 16 Asynchronous Ports	• Technology migration—Can update modems and other devices as new technology becomes available; not tied down to one manufacturer • High-speed asynchronous ports support everything from legacy terminals to advanced PPP applications • AS25XX-RJ products come with a full compliment of color-coded modem-ready RJ-45 to DB-25 cables • Cisco 25XX access servers have octal fan-out cable options
Based on Cisco 2500 Family	• Proven, reliable architecture—over one million units sold in Cisco 2500 family • Full Cisco IOS compatibility gives customers the most feature-rich routing and access server software in the world
Flexible Memory Architecture	• Backup image storage in Flash • Single DRAM SIMM for both packet buffer and routing-table storage
Auxiliary and Console Ports	• Backup asynchronous WAN interface • Local configuration interface

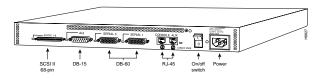Figure 5   Rear view of the CISCO2509 and CISCO2509-ET

Figure 6   Rear view of the CISCO2511
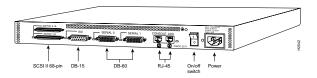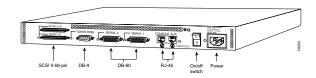

Figure 7   Rear view of the CISCO2512
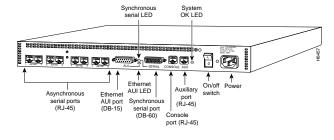

Figure 8   Rear view of the AS2509-RJ
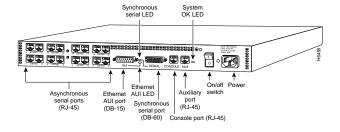

Figure 9   Rear view of the AS252511-RJ

Cisco 2500 Access Server Series Technical Specifications

Cisco 2500 Access Server Specifications

—	Cisco 2509, 2509-ET, 2511, 2512	AS2509-RJ, AS2511-RJ
Processor	20 MHz 68030	20 MHz 68030
Flash Memory	8 to 16 Megabytes	8 to 16 Megabytes
System/Packet Memory	4 to 16 Megabytes	4 to 16 Megabytes
Synchronous Serial Ports	2	1
Console and Auxiliary Ports	Yes	Yes
Rack- and Wall-mounting	Included	Included
Asynchronous Cables	Octal fan-out cable options	Includes RJ45 to DB-25 modem-ready cables

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
- Width 17.5 in (44.5 cm)
- Height: 1.75 in (4.4 cm)
- Depth: 10.5 in (26.8 cm)
- Shipping Weight: 10 lbs (4.5 kg)

Power Requirements
- Output, Watts: 40W (135 Btu/hour)
- AC Input Voltage: 100 to 220 VAC
- Frequency: 50 to 60 Hz
- AC Input Current: 1.0 to 0.5A
- DC Input Voltage: -48 VDC

Environmental Specifications
- Operating Temperature: 32 to 104 F (0 to 40 C)
- Operating Temperature (Cisco 2509-ET only): -4 to 145 F (-20 to 63 C)
- Nonoperating Temperature: -40 to 185 F (-40 to 85 C)
- Relative Humidity: 5 to 95%

Regulatory Compliance
The Cisco 2500 access server series conforms to a number of different safety, electromagnetic interference (EMI), immunity, and network homologation standards. Details of the regulatory specifications are included at `http://www.cisco.com/public/Support_root.shtml`.

Products at a Glance

Product	LAN	WAN	Async Ports	Position
AS2509-RJ	AUI or 10BaseT Ethernet	Single 5-in-1 synchronous serial port	8 RJ-45 ports	Low-cost dial-in access server
AS2511-RJ	AUI or 10BaseT Ethernet	Single 5-in-1 synchronous serial port	16 RJ-45 ports	Low-cost dial-in access server
Cisco 2509	AUI Ethernet	Dual 5-in-1 synchronous serial port	8 ports via octal fan-out cable	Low-density general-purpose access server
Cisco 2511	AUI Ethernet	Dual 5-in-1 synchronous serial port	16 ports via octal fan-out cables	Low-density general-purpose access server
Cisco 2512	4/16 MB Token Ring	Dual 5-in-1 synchronous serial port	16 ports via octal fan-out cables	Low-density general-purpose access server
Cisco 2509-ET	AUI Ethernet	Dual 5-in-1 synchronous serial port	8 ports via octal fan-out cable	Extended-temperature general purpose access server; available in the U.S. only

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