

Cisco 1701 ADSL Security Access Router

The Cisco 1701 ADSL Security Access Router provides secure and reliable Internet and corporate network connectivity to enterprise small branch offices and small and medium-sized businesses. It offers business-class ADSL over basic telephone service (Plain Old Telephone Service [POTS]) with a redundant WAN link to help ensure high availability of critical business applications. The Cisco 1701 router also supports integrated security services that help ensure protection of the network and secure data traveling over the Internet. Additionally, advanced quality-of-service (QoS) features prioritize mission-critical data traffic.

Optimized for data connections, the Cisco® 1701 router provides high-speed broadband access through ADSL over POTS (ADSLoPOTS) while helping to ensure high-availability networking with an integrated ISDN backup (see Figure 1 for front view and Figure 3 for rear view). This fixed-configuration router helps to enable a seamless network infrastructure for small and medium-sized businesses and enterprise small branch offices.

When deployed at a small or medium-sized business, the Cisco 1701 router provides access to the Internet and other remote offices, while securing and protecting critical data with integrated Cisco IOS®

Software security features. Likewise, when deployed in the enterprise small branch office, the Cisco 1701 router helps to enable secure, reliable connections to corporate headquarters or other branch offices, providing employees access to the corporate intranet.

The Cisco 1701 router helps businesses reduce costs by allowing deployment of a single device to provide multiple services (integrated router, firewall, virtual private network [VPN], QoS, and WAN interfaces) typically performed by separate devices. Cisco IOS Software allows this flexibility, providing the industry's most robust, scalable, and feature-rich internetworking software support, using the accepted standard networking software for the Internet and private WANs.

Business-Class DSL

The Cisco 1701 router combines the cost benefits of DSL service with the advanced routing capability required for business use of the Internet. Cisco business-class DSL delivers strong security features, including wire-speed Triple Data Encryption Standard (3DES) VPN (with the optional

Figure 1:
The Cisco 1701 ADSL
Security Access Router





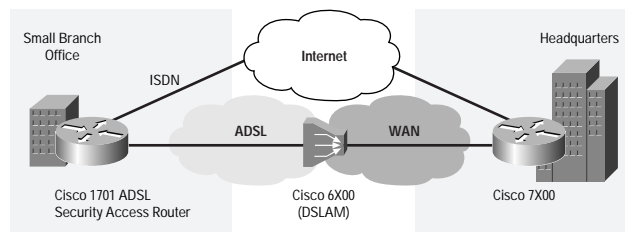
hardware encryption module), the Cisco Intrusion Detection System (IDS), and stateful inspection firewall to protect the branch network from malicious attacks. Through enhanced DSL QoS features, such as Weighted Random Early Detection (WRED), committed access rate (CAR), and Class-Based Traffic Shaping (CBTS), the Cisco 1701 helps ensure performance levels for mission-critical applications.

High Availability

For reliable access, the ISDN port on the Cisco 1701 router functions as a backup WAN connection should the primary ADSL WAN connection fail (Figure 2). Additionally, the Cisco 1701 router runs Cisco IOS Software, which can automatically detect WAN failures and automatically re-establish connectivity through the ISDN link. Cisco IOS Software has become the industry-proven standard for reliable business access, and allows businesses to avoid losses resulting from interruptions in WAN connectivity.

Figure 2:

The ISDN Port on the Cisco 1701 Functions as a Backup WAN Connection



Integrated Security and Performance for Enterprise-Class VPNs

The Cisco 1701 router delivers standard integrated enterprise-class security services, including IP Security (IPSec) 3DES for VPNs, as well as stateful inspection firewall and Cisco IDS for network protection. Optional hardware-accelerated IPSec encryption is also available to provide wire-speed site-to-site VPNs. These features provide secure connections via the Internet to connect geographically dispersed offices, business partners, and remote users while providing security, traffic prioritization, management, and reliability equal to that of private networks.

More advanced security features supported on the Cisco 1701 router include Cisco Easy VPN Server and Cisco Easy VPN Remote, software that allows simple deployment and management of VPNs. Using the Cisco Easy VPN Server feature with the optional hardware encryption module, the Cisco 1701 router supports VPN server functionality and establishes VPNs initiated by remote workers running VPN client software on PCs. This helps businesses increase productivity by empowering employees to access information and applications at any time. Additionally enterprise small branch offices can use the Cisco Easy VPN Remote feature to configure site-to-site VPNs with security policies pushed from corporate headquarters to the Cisco 1701 routers, reducing IT support costs at the branch.

Advanced QoS

Cisco QoS features help ensure network performance levels and help businesses reduce WAN access costs by classifying applications, giving the most important applications priority use of the WAN line. The Cisco 1701 router comes standard with a complete suite of advanced QoS features such as the Resource Reservation Protocol (RSVP), Weighted Fair Queuing (WFQ), and IP Precedence. Features such as CAR, policy routing, low-latency queuing (LLQ), generic traffic shaping (GTS), Frame Relay traffic shaping (FRTS), and RSVP help allocate WAN bandwidth for improved performance.



Superior Manageability

The Cisco 1701 router offers superior manageability, supporting numerous enterprise-class network management and ease of installation tools, including Cisco Security Device Manager (SDM), CiscoWorks, CiscoView, and CiscoWorks Small Network Management Solution (SNMS).

Cisco SDM is an intuitive, easy to use, Web-based device management tool embedded within Cisco IOS Software access routers. Cisco SDM enables resellers and customers to quickly and easily deploy, configure, and monitor a Cisco access router without requiring knowledge of the Cisco IOS Software command line interface (CLI). Through smart wizards, Cisco SDM can automate best practices for Network Address Translation (NAT), access control lists (ACLs), and VPN and firewall deployment. Other common LAN, WAN, and routing protocol configurations can also be easily performed through Cisco SDM. Network resellers and customers can further fine-tune router configurations for changing business needs, and can preview the Cisco IOS Software CLI for each configuration through Cisco SDM.

CiscoWorks, the industry-leading Web-based network management suite, provides the ability to remotely configure, administer, monitor, and troubleshoot the Cisco 1701 router. It increases visibility into network behavior to quickly identify performance bottlenecks and long-term performance trends. It also provides sophisticated configuration tools to optimize bandwidth and utilization across expensive and critical WAN links in the network.

CiscoView, part of the CiscoWorks software suite, is a Web-based tool that graphically provides real-time status of the Cisco 1701 router and other Cisco devices. It can display monitoring information on interfaces and provide dynamic status, statistics, and comprehensive configuration information.

CiscoWorks SNMS is a comprehensive, Web-based network management solution that provides a powerful set of monitoring, configuration, and management tools to simplify the administration of small to medium-sized business networks and workgroups that contain up to 20 Cisco internetworking products (switches, routers, hubs, and access servers).

Table 1 Features and Benefits

Features	Benefits
Business-Class DSL	
Supports ADSLoPOTS with advanced QoS features	<ul style="list-style-type: none"> • Takes advantage of affordable high-speed broadband access ADSL technology to increase WAN connectivity speeds and reduce WAN access costs • Enhanced QoS offers efficient use of WAN bandwidth
High Availability	
Secondary ISDN port provides redundant link	<ul style="list-style-type: none"> • Provides reliable access to help ensure availability of Internet access and connection to the corporate site
Dial-on-demand routing through dynamic routing protocols like Open Shortest Path First (OSPF) or line protocol going down	<ul style="list-style-type: none"> • Allows automatic failover of WAN connection in case of a primary link failure
Dual-bank Flash memory	<ul style="list-style-type: none"> • Allows a backup copy of Cisco IOS Software to be stored in Flash memory
Hot Standby Router Protocol (HSRP)	<ul style="list-style-type: none"> • Enables proactive failover to a standby HSRP device if the upstream connection goes down (but the HSRP device is still active)



Table 1 Features and Benefits (Continued)

Features	Benefits
Simplified Management and Ease of Deployment	
Device integration (integrated router, firewall, VPN, tunnel server, and data/channel service unit [DSU/CSU] in a single device)	<ul style="list-style-type: none"> • All-in-one device reduces costs and simplifies management compared to solutions based upon multiple, separate devices
Manageable via Simple Network Management Protocol (SNMP), Telnet, and console port	<ul style="list-style-type: none"> • Allows central monitoring, configuration, and diagnostics for all functions integrated in the Cisco router, reducing management time and costs
Virtual LAN support	<ul style="list-style-type: none"> • Enables inter-VLAN routing via the standards-based IEEE 802.1Q
Integrated Security	
Cisco Easy VPN Server and Easy VPN Remote	<ul style="list-style-type: none"> • Provides easy deployment and simplified maintenance of VPN connections with auto-IPSec tunnel initiation • Security policies can be pushed from a Cisco 1701 router to remote clients, or pushed from a Cisco VPN concentrator or server to a Cisco 1701 router
Optional hardware-accelerated IPSec 3DES encryption	<ul style="list-style-type: none"> • Delivers wire-speed IPSec VPN encryption for broadband connections • Supports Internet Key Exchange (IKE) and IPSec VPN standards for up to 100 simultaneous tunnels
Stateful inspection firewall	<ul style="list-style-type: none"> • Offers internal users secure, per-application dynamic access control (stateful inspection) for all traffic across perimeters • Defends and protects router resources against denial-of-service (DoS) attacks • Context-Based Access Control (CBAC)
Cisco IDS	<ul style="list-style-type: none"> • Detects and prevents DoS attacks and unauthorized network access; sends alerts to initiate appropriate action
Advanced QoS	
IP QoS (LLQ, WRED, CAR, and CBTS)	<ul style="list-style-type: none"> • Ensures consistent response times for multiple applications by intelligently allocating bandwidth • Allows for classification of applications and gives business-critical applications priority use of the WAN line • Provides congestion avoidance by throttling down certain Transmission Control Protocol (TCP) sessions, depending on each session's priority level
Asynchronous Transfer Mode (ATM) QoS (ATM Traffic unspecified bit rate [UBR], variable bit rate non-real-time [VBRnrt], VBR real-time [VBRrt], and class-based routing [CBR] with per-VC queuing and traffic shaping)	<ul style="list-style-type: none"> • Provides QoS for real-time traffic, with the ability to send traffic over the appropriate virtual circuit to provide ATM-level shaping and help ensure that no head-of-line blocking can occur between circuits of different or equal traffic classes

Figure 3:
Rear View of the Cisco 1701 Router



Ordering Information and Part Numbers

- CISCO1701-K9
 - Cisco 1701 ADSL Security Access Router with ISDN backup
- MOD1700-VPN
 - Optional hardware-accelerated VPN encryption module

Physical Interfaces/Ports

- One ADSLoPOTS WAN port
 - Complies with ANSI T1.413 issue 2 and ITU 992.1 (G.DMT)
 - Supports ATM adaptation layer 5 (AAL5) services and applications
 - Interoperates with the following DSLAMs:
 - Cisco (6130 and 6260)
 - Alcatel (ASAM 1000 and 7300)
 - Lucent Stinger (24 and 48-port Linecards)
 - ECI HiFOCuS (ADI 918 and 930)
- One ISDN BRI WAN port
 - ISDN dialup and ISDN DSL (IDSL) at 64 and 128 Kbps
 - Encapsulation over IDSL, Frame Relay, and Point-to-Point Protocol (PPP)
 - ISDN WAN port features are consistent with the Cisco 1-port ISDN WAN interface card (WIC-1B-S/T)
- One 10/100BASE-TX Fast Ethernet port (RJ-45)
 - Automatic speed detection
 - Automatic duplex negotiation
 - IEEE 802.1Q VLAN routing
- One auxiliary (AUX) port
 - RJ-45 jack with EIA/TIA-232 interface
 - Asynchronous serial data rates up to 115.2 Kbps
- One console port
 - RJ-45 jack with EIA/TIA-232 interface
 - Transmit/receive rates up to 115.2 Kbps (default 9600 bps, not a network data port)

Memory

- Default DRAM memory: 64 MB
- Maximum DRAM memory: 128 MB
- Default Flash memory: 32 MB
- Maximum Flash memory: 32 MB

Dimensions and Weight

- Width: 11.2 in. (28.4 cm)
- Height: 3.1 in. (7.85 cm)
- Depth: 8.7 in. (22.1 cm)
- Weight: 2.9 lb (1.32 kg)

Power

- AC input voltage: 100 to 240 VAC
- Frequency: 47 to 64 Hz
- AC input current: 0.5 amps
- Power dissipation: 20W (maximum)

Environmental

- Operating temperature: 32 to 104 F (0 to 40 C)
- Nonoperating temperature: -4 to 149 F (-20 to 65 C)
- Relative humidity: 10 to 85 percent noncondensing, operating; 5 to 95 percent noncondensing, nonoperating

Safety

- Certifications
 - UL 1950
 - CSA 22.2—No. 950
 - EN60950
 - EN41003
 - AUSTEL TS001
 - AS/NZS 3260
 - ETSI 300-047
 - BS 6301 (power supply)

EMI

- Classifications
 - AS/NRZ 3548 Class A
 - Class B
 - FCC Part 15 Class B
 - EN60555-2 Class B
 - EN55022 Class B
 - VCCI Class II
 - CISPR-22 Class B

Immunity

- Standards
 - 55082-1 Generic Immunity Specification Part 1: Residential and Light Industry
 - IEC 1000-4-2 (EN61000-4-2)
 - IEC 1000-4-3 (ENV50140)
 - IEC 1000-4-4 (EN61000-4-4)
 - IEC 1000-4-5 (EN61000-4-5)
 - IEC 1000-4-6 (ENV50141)
 - IEC 1000-4-11
 - IEC 1000-3-2

Network Homologation

• Standards

- USA: ATIS/ACTA -TIA/EIA/IS – 968 (Former part 68), TIA/EIA/IS-883, T1.TRQ.6-2001, TIA/EIA/TSB-129
- Canada: CS-03
- Japan: JATE
- Australia: AS/ACIF: S-02, S-043, C-559; ACA TS-002, TS-003, TS-006, TS-016, TS-031
- New Zealand: PTC107, PTC200, PTC211, PTC270, CTR3
- European Union + Switzerland: Directive 1999/5/EC
- Russia: CTR2, CTR3, CTR21, ITU-G.992.1, ITU-G991.2
- Belarus: CTR3, CTR21
- Czech Republic: CTR2, CTR3, CTR21
- Poland: CTR3, PB-TE ITU-G.992.1
- Hungary: CTR2, CTR3, CTR21, ITU-G.992.1
- Singapore: IDA: TS-PSTN1, TS-ISDN1, TS-ADSL
- Taiwan: PSTN01, IS6100, ID002
- Brazil: CTR3, CS-03
- Mexico: CTR3, CS-03, FCC part 68
- South Africa: CTR3

The Cisco 1700 Series, including the Cisco 1701, is in compliance with the requirements of these countries for distribution. The Cisco 1700 Series conforms to safety, EMI, immunity, and network homologation standards. Details can be obtained through your Cisco reseller or account manager.

Service and Support

Technical support services for the Cisco 1701 router are available through Cisco SMARTnet™ and Cisco SMARTnet Onsite service programs. Cisco SMARTnet support augments the resources of your operations staff, providing them with access to a wealth of expertise (both online and via telephone), the ability to refresh their system software at will, and numerous hardware advance replacement options.

The Cisco SMARTnet Onsite program provides all Cisco SMARTnet services and complements the hardware advance replacement feature by adding the services of a field engineer, offering support that can be critical for locations where staffing is insufficient or unavailable to perform parts replacement activities. Table 2 lists the features and benefits of Cisco SMARTnet support.

Table 2 Cisco SMARTnet Support

Features	Benefits
Access 24 x 7 to software updates	• Enables proactive or expedited issue resolution
Web access to technical repositories	• Lowers total cost of ownership by using Cisco expertise and knowledge
Telephone support through the Cisco Technical Assistance Center (TAC)	• Minimizes network downtime



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