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Cisco 1720 Access Router

Flexible Internet Access for Small and Medium-sized businesses and Small Branch Offices

The Internet is fundamentally changing the way companies do business. The future will bring even more change, driven by rapid advancements in networking technology and applications. Companies ready for this New World of Networking stand to gain a significant advantage.

Preparing a small or medium-sized business or small branch office network for the future means implementing networking equipment with three critical characteristics:

- Flexibility to adapt to changing requirements and growth
- Features and performance to support new WAN services and technologies including VPNs
- Integration of multiple network functions including an optional firewall and DSU to simplify deployment and management

The Cisco 1720 access router delivers these capabilities with the power of Cisco IOS software in a modular, integrated product for Internet, Intranet and extranet access. It provides a tailored access router solution for small and medium-sized businesses and small branch offices.

Key Features

- **Device Authentication and Key Management**
IKE, X.509v3 digital certification, support for certificate enrolment protocol (CEP) with certification authorities (CAs) such as Versign and Entrust
- **User Authentication**
PAP/CHAP, RADIUS, TACACS+, Token Ring
- **Management**
Manageable via SNMP (CiscoView, CiscoWorks2000), Telnet, and console port
- 1 autosensing 10/100 fast Ethernet port
- 2 WAN interface card (WIC) slots that support the same data WAN interface cards as the Cisco 1600, 2600, and 3600 routers



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- 1 internal expansion slot for support of a hardware-assisted encryption card (up to T1/E1)
- Quality of Service (QoS)
CAR, Policy Routing, WFQ, GTS, Policy Routing, RSVP
- Reliability and Scalability
Cisco IOS software, dial-on-demand routing; dual bank flash memory, scalable routing protocols such as OSPF, EIGRP, and HSRP
- Device Integration
Integrated router, firewall, encryption, VPN tunnel server, DSU/CSU, and NT1 in a single device

The Cisco 1720 router supports up to two WAN interface cards listed below. These cards support a wide variety of WAN technologies: Integrated Service Digital network (ISDN), asynchronous serial, and synchronous serial such as leased lines, Frame Relay, switched 56, X.25 and Switched Multimegabit Data Service (SMDS). Also available are WAN interface cards that integrate a data service unit / channel service unit (DSU/CSU) into the Cisco 1720 router, eliminating the support costs and complexity of deploying and managing external devices.

WAN Interface Cards for the Cisco 1720 Router

1-Port Serial	WIC-1T=
2-Port Serial	WIC-2T=
1-Port ISDN	WIC-1B-S/T=

Flexibility

The Cisco 1720 router offers a flexible solution. Interchangeable WAN interface cards enable easy upgrades or change of WAN technologies to keep pace with office needs. The ability to use the same WAN interface cards in Cisco 1600, 2600, and 3600 routers reduces requirements for spare parts inventory and protects investments in existing routers. As demand for LAN network performance increases, the Cisco 1720 autosensing 10/100 Fast Ethernet port allows for easy migration to Fast Ethernet Networks. Because of its RISC architecture, the Cisco 1720 has the performance capability necessary to support Digital Subscriber Line (DSL) and other broadband access technologies as they become more widely deployed.



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Internet and Intranet Access

In addition to the above features, extensive Cisco IOS software features for Internet and Intranet access differentiate the Cisco 1720 router from the competition:

- Multiprotocol routing (IP, IPX and Appletalk), IBM/SNA and transparent bridging over ISDN, asynchronous serial such as leased lines, Frame relay, SMDS, Switched 56, X.25 and X.23 over D
- Network Address translation (NAT), which reduces the cost of Internet access by eliminating the need to re-address all hosts with existing private network addresses (one-to-one translation) or by enabling all internal hosts to share a single registered IP address (many-to-one translation, also known as port address translation [PAT]). NAT also enhances network security by hiding internal addresses from public view.
- Easy IP simplifies deployment and minimises Internet access costs by combining:
 - PAT to conserve IP addresses
 - Point-to-point Protocol / Internet protocol Control Protocol (PPP/IPCP), enabling the router to dynamically and transparently assign reusable IP addresses to clients
- WAN optimisation features such as dial-on-demand routing (DDR), bandwidth-on-demand (BOD) and OSPF-on-demand circuit, Snapshot routing, compression, filtering and spoofing reduce WAN costs.

Security and VPN Support

The de facto standard networking software for the Internet and private WANs, Cisco IOS software delivers the most comprehensive set of security, quality of service (QoS), management, reliability, and scalability VPN features. The Cisco 1720 router with Cisco IOS software enables practical, cost-effective, and wide-scale current or future VPN deployment.

Security

Cisco IOS software supports an extensive set of basic and advanced network security features, including access control lists (ACLs), user authentication, authorisation, and accounting (such as PAP/CHAP, TACACS+ and RADIUS), and complete VPN support including encryption. To increase



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security, the integrated Cisco IOS Firewall protects internal LANs from attacks with context-based access control (CBAC).

VPNs enable companies to connect their offices, mobile workers and business partners with dramatically reduced costs by leveraging the vast, shared communications infrastructure of the Internet or a service-provider-shared backbone, thus avoiding the long-distance charges of traditional private networks. With today's technology, VPNs enable companies to reduce recurring WAN costs, improve data security, increase network performance and availability, and simplify network operations.

IPSec tunneling with data encryption standard (DES) and TRIPLE DES encryption provide standards based data privacy, integrity, and authenticity as data travels through a public network. Layer 2 Forwarding (L2F) and Layer 2 Tunneling protocol (L2TP) combine with IPSec encryption to provide a secure multiprotocol solution (such as IP, IPX, Appletalk, and more) for remote access VPN. Mobile user's dial into a service provider's local points of presence (POPs) and data is "tunneled" (or encapsulated inside a second protocol such as L2TP) back to the Cisco 1720 router to securely access the corporate network via the Internet.

QoS (Traffic Management)

Cisco IOS features for QoS control the allocation of VPN bandwidth to mission-critical applications. The Cisco 1720 supports leadership QoS features such as committed access rate (CAR), policy routing, weighted fair queuing (WFQ), generic traffic shaping (GTS), and resource reservation protocol (RSVP).

Management and Ease of Installation

The Cisco 1720 router supports a range of network management and ease of installation tools :

- Cisco ConfigMaker is a Windows Wizard-based tool designed to configure a small network of Cisco routers, switches, hubs, and other network devices from a single PC. This tool makes it simple to configure value-add security features such as the Cisco IOS Firewall Feature Set, IPSec encryption, and network address translation (NAT); establish VPN policies (including QoS and Security); and configure the Dynamic Host Configuration Protocol (DHCP) server.
 - CiscoView, a GUI-based device management software application for UNIX platforms, provides dynamic status, statistics, and comprehensive configuration information.
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- CiscoWorks 2000, the industry-leading Web-based network management suite from Cisco, simplifies tasks such as network inventory management and device change, rapid software image deployment, and troubleshooting.
- For service providers, Cisco Service Management (CSM) provides an extensive suite of service management solutions to enable service providers to quickly plan, provision, monitor and bill for VPNs.

Reliability and Scalability

Cisco IOS software is the industry-standard networking software with proven reliability. Cisco IOS technologies ensure that a VPN can scale reliably to large networks through the support of :

- Internet Key exchange (IKE)
- Digital certificates with leading certificate authorities
- Scalable routing protocol features such as Open Shortest Path First (OSPF) Protocol
- Enhanced Interior Gateway Routing Protocol (EIGRP)
- Reliability services such as Hot Standby Router Protocol (HSRP)

Encryption Performance

Powered by an RISC processor, the Cisco 1720 supports IPsec software-based encryption at 512 Kbps for 256-byte packets, (typical packet size for most networks). Performance may vary depending on the encryption algorithm used, network packet sizes, and more. An expansion slot on the Cisco 1720 motherboard allows for support of future hardware-assisted services such as encryption (up to T1/E1) and compression.

Device Integration

The Cisco 1720 router provides a complete access solution in a single product, with options to combine a router, DSU/CSU, ISDN network termination-1 device (NT1) as well as a dynamic firewall, VPN tunnel server (home gateway), and encryption functionality. This integration reduces deployment and management time and expense because fewer devices and cables need to be installed and configured. An integrated product also saves space and increases reliability because fewer standalone devices are required to build the solution. The Cisco 1720 router simplifies ongoing support of small branch offices from a central site through remote configuration, monitoring, and troubleshooting of all integrated functions in the router.



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Technical Specifications

Physical Interfaces /Ports

- 1 10/100BaseTX Fast Ethernet port (RJ45)
 - Automatic speed detection
 - Automatic duplex negotiation
 - 2 WAN interface card slots
 - Support any combination of up to 2 WAN interface cards (WIC-1T, WIC-2T, WIC-1B-S/T)
 - Synchronous Serial Interfaces on Serial WAN Interface Cards
 - Interface speed: up to 2.048 Mbps (T1/E1)
 - Synchronous serial protocols : PPP,HDLC,LAPB, IBM/SNA
 - Synchronous serial WAN services: Frame Relay, X.25, SMDS
 - Synchronous serial interfaces supported on the WIC-1T, WIC-2T
 - Asynchronous Serial Interfaces on Serial WAN Interface Cards
 - Interface Speed: up to 115.2 kbps
 - Asynchronous serial protocols: Point-to-Point Protocol (PPP), Serial Line Internet (SLIP)
 - Asynchronous interface: EIA/TIA-232
 - ISDN WAN Interface Cards
 - ISDN dialup and ISDN Leased Line (IDSL) at 64 and 128 kbps
 - Encapsulation over ISDN Leased Line: Frame Relay and PPP
 - 1 auxilliary (AUX) port
 - RJ-45 jack with RS232 interface (plug compatible with Cisco 2500 series AUX port)
 - Asynchronous serial DTE with full modem controls (CD, DSR, RTS, CTS)
 - Asynchronous serial data rates up to 115.2 kbps
 - 1 console port
 - RJ-45 jack with RS232 interface (plug compatible with Cisco 1000/ 1600/ 2500 series console ports)
 - Asynchronous serial DTE
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- Transmit / receive rates up to 115.2 kbps (default 9600 bps, not a network data port)
- No hardware handshaking such as RTS / CTS

- 1 internal expansion slot for support of future hardware-assisted services such as encryption (up to T1/E1) and compression

Processor

- Motorola MPC860T PowerQUICC at 48Mhz

DRAM and Flash Memory

- Run from RAM architecture
- DRAM
 - Onboard (fixed/default): 16 MB
 - One DIMM slot; available DIMM sizes: 4, 8, 16, 32 MB
 - Maximum DRAM: 48 MB
- Flash
 - Type: onboard (socketed) mini-flash card
 - Default: 4 MB
 - Available sizes: 4, 8, 16 MB
 - Maximum Flash: 16 MB
 - Support Dual Flash Bank

Dimensions

- Width: 28.4 cm
 - Height: 7.85 cm
 - Depth: 22.1 cm
 - Weight (minimum): 1.18kg
 - Weight (maximum): 1.32 kg
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Power

- Locking connector on power socket
- AC Input Voltage: 100 to 240 VAC
- Frequency: 47 to 64 Hz
- AC Input Current: 0.5 amps
- Power Dissipation: 20 watts (maximum)

Environmental

- Operating Temperature: 0 to 40 C
- Nonoperating Temperature: -20 to 65 C
- Relative Humidity: 10 to 85% noncondensing operating; 5 to 95% noncondensing, nonoperating

Safety

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

EMI

- 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
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Immunity

- 55082-1 Generic Immunity Specifications 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

- Europe: CTR2, CTR3
- Canada: CS-03
- United States: FCC Part 68
- Japan: Jate NTT
- Australia / New Zealand: TS013/TS-031
- Hong Kong: CR22

Cisco IOS Software Feature Sets

The Cisco 1720 router supports a choice of Cisco IOS software feature sets. Each feature set requires specific amounts of RAM and Flash memory in the router.

Software Feature set	Flash Requirements	Memory Required (MB)
IP	4	16
IP/Firewall	4	16
IP Plus 40	4	20
IP/IPX	4	16
IP/IPX/AppleTalk/IBM	4	20



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Ordering Information

Cisco 1720	CISCO1720
<i>Memory Options</i> Cisco 1700 4-MB Mini – Flash Card Cisco 1700 4-MB DRAM DIMM Cisco 1700 8MB DRAM DIMM	MEM1700-4MFC= MEM1700-4D= MEM1700-8D=
<i>Cisco 1700 Series Feature Pack Software</i> Cisco 1700 IOS IP Cisco 1700 IOS IP/Firewall Cisco 1700 IOS IP Plus 40 Encryption Cisco 1700 IOS IP/IPX Cisco 1700 IOS IP/IPX/AppleTalk/IBM*	CD17-C-12.0= CD17-CH-12.0= CD17-CW-12.0= CD17-B-12.0= CD17-Q-12.0=
<i>Cisco WAN Interface Cards</i> 1-Port Serial 2-Port Serial 1-Port ISDN	WIC-1T= WIC-2T= WIC-1B-S/T=