CISCO SYSTEMS

Cisco 806 Broadband
Gateway Router

Secure, Shared Broadband Access with the Power of Cisco IOS Technology for Small Offices and Teleworkers

The Cisco 806 Broadband Gateway Router adds business-class functionality to affordable broadband access for small offices and corporate teleworkers. Through the power of Cisco IOS® technology, the Cisco 806 provides business-class security, remote management, and quality of service capabilities. These value-added features, with the proven reliability of Cisco IOS technology, provide the mission-critical networking required by today's agile businesses.

The Cisco 806 Broadband Gateway Router, the newest member of the award-winning Cisco 800 Series, is a fixed configuration, business-class, dual Ethernet router. The software-upgradable platform provides business customers with multiuser access over a single broadband connection with business-class security features such as a stateful inspection firewall for perimeter security and data encryption for virtual private networks (VPNs).

The Cisco 806 router is ideal for a small business or enterprise telecommuter because it meets mission-critical business requirements including:
• Multiuser access
• Business-class security
• Manageability and reliability of Cisco IOS software
• Video, voice, and traffic management with quality of service (QoS)

Because the Cisco 806 connects to a broadband modem through an Ethernet port, an enterprise may choose to standardize on one secure, manageable device to connect employees to the corporate network- whether the broadband service uses DSL, cable, Ethernet, or Long Range Ethernet (LRE) technology. By standardizing on a single secure device, an enterprise can simplify initial deployment and ongoing management processes, reducing both time and cost.

Figure 1 The Cisco 806 Broadband Gateway Router is a business-class, dual Ethernet router. It is ideal for a small business or enterprise telecommuter with Cisco IOS Firewall and VPN software to provide secure and reliable access to the Internet and corporate offices.

Multiuser Broadband Access

The Cisco 806 allows business users to leverage a single, affordable broadband connection for multiuser access, whereas a broadband modem would provide only single-user access. Network Address Translation (NAT) uses a single public IP address provided by an Internet service provider, and provides multiple private IP address for users on the LAN. By connecting the Cisco 806 to a broadband modem, all users accessing an office LAN can share a single broadband connection.

Business-Class Security

To take advantage of unprecedented opportunities offered by Internet-based communications and commerce, private information must remain secure. Cisco IOS security services provide many technologies to help build a custom security solution. These include standard and extended access control lists (ACLs); Lock and Key (dynamic ACLs); router and route authentication; generic routing encapsulation (GRE) tunneling; and Network Address Translation. Perimeter security features control traffic entry and exit between private networks, intranets, extranets, and the Internet.

Beyond the basic security features in Cisco IOS Software, the Cisco 806 also supports optional advanced security features, including a stateful inspection firewall and data encryption. A stateful inspection firewall provides more intelligent perimeter security than simple packet filtering. It denies or permits WAN traffic based on a session's state, so requests from users behind the firewall can be received, while preventing unauthorized access.

VPNs allow secure communications over a public infrastructure such as the Internet. While a firewall provides perimeter network security for a given site, VPNs protect data when sent from one site to another, such as a branch office to corporate headquarters. VPNs use data encryption and secure tunnels to protect the integrity of data traveling over a public connection. The Cisco 806 supports IPsec 3DES encryption, which provides the most secure form of data encryption, and prevents hackers from gaining access to corporate information.

Business-class security features allow businesses to secure communications and take advantage of affordable broadband services. They further enable service providers and resellers to provide value-added managed firewall, VPN, and remote management services.

Manageability and Reliability of Cisco IOS Software

The Cisco 806 is based on Cisco IOS technology, so service providers and resellers can leverage their training and investment in Cisco IOS Software to reduce their overall cost of doing business while growing their customer base. Service providers and resellers can cost-effectively install and remotely manage the Cisco 806 router at business customers' premises, using key management and troubleshooting features:

• Cisco IOS manageability, including interactive diagnostics/debug features

• Cisco IOS command-line interface (CLI)

• Proven reliability

The Cisco 806 router supports centralized administration and management via Simple Network Management Protocol (SNMP), Telnet, and local management through the router console port. Cisco IOS Software provides many debug features that allow a service provider to remotely diagnose network problems. Cisco network management software such as VPN Solutions Center and Cisco Security Policy Manager can be used to support the Cisco 806 router.

Many enterprises, resellers and service providers already use Cisco IOS Software to operate larger networks and they can leverage their knowledge of the Cisco IOS command-line interface (CLI) for small office and teleworking applications.

Cisco 800 series routers are based on proven Cisco IOS technology used on the majority of routers that make up the Internet. Because Cisco IOS Software is the industry-standard application for mission-critical enterprise networks, small business and enterprise teleworkers can also depend on the Cisco 806 router.

Easy to Setup and Install

The Cisco 806 router includes the Cisco Router Web Setup tool, a Web-based configuration tool for simplified installation and setup. To configure the product, users simply point a Web browser to the IP address of the router and follow a few simple steps. This allows the Cisco 806 router to be readily installed by nontechnical personnel or end users. The setup tool allows a user to enable basic security in the IP software Feature Set, such as packet filtering, as well as the optional Cisco IOS software Firewall Feature Set.

Managed Network Services with Cisco IOS Software

Service providers and systems integretors can offer small business and enterprise teleworkers managed network services and Internet access with the Cisco 806 router, including service-level agreements (SLAs) for network uptime and fast response time for networking troubleshooting. Cisco IOS Software provides not only features to monitor network connections, but it also provides troubleshooting and debug tools to quickly determine performance or configuration issues.

Video, Voice, and Traffic Management with QoS

The Cisco 806 router employs IP quality-of-service (QoS) features that can give priority to voice and video traffic over lower-priority applications such as Web surfing. This enables voice and video communications such as IP phones by effeciently using bandwidth allocation. Using Low-Latency Queuing*, the Cisco 806 router enables service providers and resellers to guarantee or differentiate bandwidth based on data from application or user. For example, data from the customer service department can be given priority over the marketing department. The ability of the Cisco 806 to restrict the bandwidth of certain applications or users allows service providers and resellers to manage traffic based of application or user requirements.

*QoS features available Q4, CY 2001

Table 1 Key Product Features and Benefits

Key Features	Benefit
Multiuser Access	
NAT/PAT	• Creates multiple private IP addresses for a single private IP address • Allows multiple users to share a single broadband connection
PPPoE	• PPP over Ethernet encapsulation ensures compatibility with existing network
Business-Class Security	
Basic Security with Cisco IOS Software, Including: Access Control Lists, NAT/PAT, Lock and Key, Dynamic ACLs, Router and Route Authentication	• Provides perimeter network security to prevent unauthorized network access
Stateful Inspection Firewall (Cisco IOS Firewall Feature Set)	• 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 attacks • Checks packet headers, dropping suspicious packets • Protects against unidentified, malicious Java applets • Details transactions for reporting on a per-application, per-feature basis
IPSec 3DES/DES Encryption	• Ensure confidential data integrity and authenticity of origin by using standards-based encryption • Provide WAN encryption for all users on the LAN without configuring individual PCs
Enhanced Management Capabilities	
Cisco IOS Management	• Enables remote management and monitoring via SNMP, Telnet, or HTTP and local management via console port
Cisco IOS Interactive Debug Features	• Allow service providers or system administrators to remotely or locally diagnose network problems in detail (for example, via Telnet into the router)
Cisco IOS CLI	• Allows customers to use existing knowledge of Cisco IOS CLI for easier installation and manageability without additional training
Cisco IOS Technology	• Offers technology that is used throughout the backbone of the Internet and in most enterprise networks
Cisco Router Web Setup Tool	• Allows nontechnical users to complete installation by simply by pointing a browser at the router and providing user information
Supported by Cisco VPN Solution Center and Cisco Secure Policy Manager	• Security management tools that allow for scalable deployments of security policies
Secure Shell (SSH) Protocol	• Provides a secure, encrypted connection to a router similar to an inbound telnet session
Traffic Management	
IP Multicast Technology	• Reduces redundant traffic, conserves bandwidth; enabling corporate communications, distance learning, and distribution of software, stock quotes, and news applications

Key Features	Benefit
IP QoS*—Low Latency Queuing, Weighted Random Early Detection, Committed Access Rate* (CAR) *Available Q4 2001	• Ensures consistent response times for multiple applications by intelligently allocating bandwidth • Allows for classification of applications and gives the most important applications priority use of the WAN line • Provides congestion avoidance by telling certain TCP sessions depending on priority to throttle down

Table 2 Hardware Specifications

Hardware Specifications	Cisco 806
Processor	MPC 855T RISC
Processor Speed	50 MHz
Default DRAM[1] Memory	16 MB
Maximum DRAM Memory	32 MB
Default Flash[2] Memory	12 MB
Maximum Flash Memory	12 MB
Ethernet (one port WAN, four ports LAN)	10 Mbps
Console	RJ-45
LEDs	10
Crossover Hub Switch	Yes
Power Supply	Universal 100-240 VAC

Table 3 Memory Requirements and Software Feature Sets for Cisco 806

Cisco 806 IOS Software Images	Cisco 806 Memory Requirements	
	Flash	DRAM
Default Memory Configuration	12 MB	16 MB
IP	12 MB	16 MB
IP Plus	12 MB	16 MB
IP Firewall	12 MB	16 MB
IP/Firewall Plus IPSec 3DES	12 MB	20 MB

Table 4 Cisco 806 Software Feature Sets

Protocols and Features Supported by Cisco 806 Software Feature Sets-Basic Protocols/Features	IP	IP Plus	IP Firewall	IP/Firewall Plus IPSec 3DES
Routing/Bridging				
PPPoE	X	X	X	X
Transparent Bridging	X	X	X	X
IP	X	X	X	X
Routing Protocols				
IP Enhanced IGRP		X		X
RIP, RIPv2	X	X	X	X
Security				
Route and Router Authentication	X	X	X	X
PAP, CHAP, Local Password	X	X	X	X
GRE Tunneling		X		X
IP Basic and Extended Access Lists	X	X	X	X
Stateful Inspection Firewall			X	X
IPSec 56-Bit Encryption				X
IPSec 3DES Encryption				X
RADIUS		X		X
TACACS +		X		X
Quality of Service				
Low-Latency Queuing (Available Q4 2001)		X		X
IP Policy Routing	X	X	X	X
NetMeeting Support V.2.10/1,3.01	X	X	X	X
Bandwidth Optimization & Management				
IP Multicast		X		X
STAC Compression	X	X	X	X
Ease of Use and Deployment				
Cisco Router Web Setup Tool	X	X	X	X
Management				
SNMP, Telnet, Console Port	X	X	X	X

Protocols and Features Supported by Cisco 806 Software Feature Sets-Basic Protocols/Features	IP	IP Plus	IP Firewall	IP/Firewall Plus IPSec 3DES
Syslog	X	X	X	X
NTP Client and Server	X	X	X	X
TFTP Client and Server	X	X	X	X
DHCP Client and Server	X	X	X	X
DHCP Relay	X	X	X	X
Address Conservation				
NAT Many to One (PAT)	X	X	X	X
NAT Many to Many (Multi-NAT)	X	X	X	X
IPCP Address Negotiation	X	X	X	X
DHCP Client Address Negotiation	X	X	X	X

Regulatory and Standards Compliance

This product complies with the following requirements:

Electro Magnetic Compatibility

- EN 55022, 1998 class B
- CISPR22, 1997 class B
- CFR47, Part 15, Subpart B, 1995, class B
- EN61000-3-3
- CISPR24, 1997
- EN 55024:1998

Safety Certifications

- CSA/NRTL & C Approval to UL 1950, 3rd ed./CSA 22.2 No. 950-95, 3rd ed. (USA, Canada)
- ACA/A2LA Approval to TS001-1997, AS/NZS 3260 (Australia/New Zealand)
- CB Cert./Report from CSA to IEC 60950 with all country deviations
- CCIB Approval to GB4943-9 (China)

Physical Specifications

Dimensions and Weight Specifications

- Dimensions (H x W x D): 2.0 x 9.7 x 8.5 in. (5.1 x 24.6 x 21.6 cm)
- Weight: 1.48/1.5 lb (0.67/0.68 kg)

Environmental Operating Ranges

- Nonoperating temperature: –4 to 149 ; F (–20 to 65 ; C)
- Nonoperating humidity: 5 to 95%, relative humidity (noncondensing)
- Nonoperating altitude: 0 to 15,000 ft (0 to 4570m)
- Operating temperature: 32 to 104 ; F (0 to 40 ; C)
- Operating humidity: 10 to 85%, relative humidity (noncondensing)

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- Operating altitude: 0 to 10,000 ft (0 to 3000m)

Router Power

- AC input voltage: 100 to 250 VAC, 50 to 60 Hz
- Power consumption: 6 to 10W (idle-maximum consumption)
- Power supply rating: 15

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