

# Cisco 806 Broadband Router

## Secure and manageable VPN access with the power of Cisco IOS technologies for small offices and teleworkers

The Cisco 806 Broadband Router is an Ethernet-to-Ethernet router providing secure Internet and corporate network access with digital subscriber line (DSL) and cable modems. The Cisco 806 Router includes a stateful inspection firewall, optional VPN IP Security Triple Digital Encryption Standard (IPSec 3DES) encryption software, and quality of service (QoS) features for voice and video traffic management. Featuring the proven reliability of Cisco IOS<sup>®</sup> Software, the Cisco 806 Router is easy to deploy and provides a secure, manageable access solution for teleworkers and small remote offices.

- The Cisco 806 Router is ideal for teleworkers or small remote offices (recommend up to 20 users) because it meets mission-critical business requirements, including:

- Business-class security for Internet and VPN access
- Low deployment and life-cycle costs
- Voice, video, and traffic management
- Proven reliability and manageability with Cisco IOS Software

The Cisco 806 Router benefits businesses of all sizes. Small to medium-sized businesses can use the Cisco 806 Router to provide secure, reliable multiuser access with affordable broadband connections. Enterprises can use the Cisco 806 Router to standardize on one secure, manageable device to connect teleworkers or agents to the corporate network. Service providers and systems integrators can utilize the Cisco 806 Router to provide remotely managed access and security services (refer to Figure 1).

### Business-Class Security for Internet and VPN Access

To take advantage of unprecedented opportunities offered by Internet-based communications and commerce, private information must remain secure. Cisco IOS Software provides many features to enable network security in the Cisco 806 Router, including a stateful inspection firewall, the Cisco IOS Firewall. This firewall includes state-of-the-art security features, such as stateful, application-based filtering

Figure 1  
 The Cisco 806  
 Broadband Router





(Context-Based Access Control), defense against network attacks, per-user authentication and authorization, and real-time alerts. A stateful firewall provides the level of protection businesses require, offering more than simply hiding addresses behind Network Address Translation (NAT). Additionally, Cisco IOS Software includes additional perimeter security features such as standard and extended access control lists (ACLs); Lock and Key (dynamic ACLs); router and route authentication; generic routing encapsulation (GRE) tunneling; as well as NAT. These perimeter security features control traffic entry and exit between private networks, intranets, extranets, and the Internet.

Beyond firewall security, the Cisco 806 Router also supports optional data encryption for VPNs. VPNs allow secure communications over a public infrastructure such as the Internet. Whereas a firewall provides perimeter network security for a given location, VPNs protect the data that is actually 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 public connections. The Cisco 806 Router supports IPSec 3DES encryption, the most secure form of data encryption, to prevent hackers from gaining access to corporate information.

To simplify the setup of VPNs at remote locations, the Cisco 806 Router supports Cisco Easy VPN Remote. This feature allows a Cisco router with a static or dynamic IP address to automatically establish, communicate with, and maintain a VPN tunnel between a remote site and a central site, greatly simplifying the deployment and configuration of VPNs. This provides the same ease of configuration and ongoing policy management of VPNs that traditionally were provided only by software VPN clients on individual PCs. For remote offices or teleworkers, Cisco Easy VPN Remote is initiated by entering password and connection information in the integrated Cisco Router Web Setup tool (CRWS). This cost-effective Easy VPN solution is ideal for remote offices with few IT resources, and large customer premises equipment (CPE) deployments, such as teleworkers, where it is impractical to individually preconfigure and manage multiple remote devices.

## Low Deployment and Life-Cycle Cost

### **Easy to Deploy and Set Up**

The Cisco 806 Router includes the Cisco Router Web Setup tool (CRWS) tool, a Web-based configuration tool for simplified installation and setup. To configure the router, 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 and allows a user to easily enable the stateful firewall. For no additional cost, Cisco Configuration Express is used by service providers, system integrators, and enterprises for large deployments where uniquely configured, plug-and-play-ready devices are drop-shipped directly to the end user from Cisco's factory. Cisco Configuration Express eliminates the cost of deployment logistics and product warehousing. Custom configurations and address ranges are entered during the ordering process, and then merged to produce a uniquely configured Cisco IOS router with a unique asset tag and customized labels.

The Cisco 806 Router is based on Cisco IOS technology so enterprises, service providers, and resellers can take advantage of their training and investment in Cisco IOS Software to reduce the total costs of supporting Cisco 806 routers. Many enterprises, resellers, and service providers already use Cisco IOS Software to operate larger networks, and they can take advantage of their knowledge of the Cisco IOS Software command-line interface (CLI) for small office and teleworking applications.



## Video, Voice, and Traffic Management

The Cisco 806 Router employs IP QoS features that can give priority to voice and video traffic over lower-priority applications such as Web surfing. By efficiently allocating bandwidth, voice and video communications are better managed. With traffic policing features on the Cisco 806 Router, service providers and resellers can differentiate traffic and guarantee service levels or fix bandwidth usage by application or user. For example, data from the customer service department may be prioritized over that from the marketing department.

## Proven Reliability and Manageability of Cisco IOS Software

Cisco 800 Series routers are based on proven Cisco IOS technology used on most of the 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 for the same level of 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 or IT manager to remotely diagnose network problems. Cisco network management software such as the Cisco VPN Solutions Center, Cisco VPN/Security Management System (VMS), and Cisco Security Policy Manager can be used to support the Cisco 806 Router. Tables 1 through 4 list Cisco 806 Router features, benefits, hardware requirements, and software requirements.

Table 1 Key Product Features and Benefits of Cisco 806 Router

Key features	Benefit
<b>Multuser access</b>	
NAT/PAT <sup>1</sup>	<ul style="list-style-type: none"> <li>• Creates multiple private IP addresses from a single valid public IP address</li> <li>• Allows multiple users to share a single broadband connection</li> </ul>
PPPoE <sup>2</sup>	<ul style="list-style-type: none"> <li>• Ensures compatibility with service provider network requirements</li> </ul>
<b>Business-class security</b>	
Stateful inspection firewall (Cisco IOS Firewall Feature Set)	<ul style="list-style-type: none"> <li>• Offers internal users secure, per-application dynamic access control (stateful inspection) for all traffic across perimeters</li> <li>• Defends and protects router resources against denial-of-service attacks</li> <li>• Checks packet headers, dropping suspicious packets</li> <li>• Protects against unidentified, malicious Java applets</li> <li>• Details transactions for reporting on a per-application, per-feature basis</li> </ul>
Basic security with Cisco IOS Software, including: ACLs, NAT/PAT, Lock and Key, dynamic ACLs, and router and route authentication	<ul style="list-style-type: none"> <li>• Provides perimeter network security to prevent unauthorized network access</li> </ul>
Optional IPSec 3DES/DES encryption	<ul style="list-style-type: none"> <li>• Ensures confidential data integrity and authenticity of origin by using standards-based encryption (up to ten simultaneous tunnels)</li> </ul>



Table 1 Key Product Features and Benefits of Cisco 806 Router

Key features	Benefit
	<ul style="list-style-type: none"> <li>Provides WAN encryption for all users on the LAN without configuring individual PCs</li> </ul>
Cisco Easy VPN Remote	<ul style="list-style-type: none"> <li>Offers easy deployment and maintenance of VPN connections with auto-IPSec tunnel initiation and pushed policy acceptance</li> </ul>
Multuser IPSec pass-through	<ul style="list-style-type: none"> <li>Allows IPSec tunnels to pass through the router when VPN PC Software clients are required</li> <li>Support for PPTP<sup>3</sup> tunnels, encrypted or unencrypted, initiated at the PC</li> </ul>
<b>Traffic management</b>	
Multicast technology	<ul style="list-style-type: none"> <li>Reduces redundant traffic, conserves bandwidth, enabling corporate communications, distance learning, and distribution of software, stock quotes, and news applications</li> <li>Protocol independent multicasting supports IP and other protocols</li> </ul>
IP QoS—low-latency queuing, WRED <sup>4</sup> , CAR <sup>5</sup> , Class-based traffic shaping	<ul style="list-style-type: none"> <li>Ensures consistent response times for multiple applications by intelligently allocating bandwidth</li> <li>Allows for classification of applications and gives the most important applications priority use of the WAN line</li> <li>Provides congestion avoidance by telling certain TCP sessions, depending on priority to throttle down</li> </ul>
<b>Enhanced management capabilities</b>	
Cisco IOS Software management	<ul style="list-style-type: none"> <li>Enables remote management and monitoring via SNMP, Telnet, or HTTP and local management via console port</li> </ul>
Cisco IOS Software interactive debug features	<ul style="list-style-type: none"> <li>Allow service providers or system administrators to remotely or locally diagnose network problems in detail (for example, via Telnet into the router)</li> </ul>
Cisco IOS Software CLI	<ul style="list-style-type: none"> <li>Allows customers to use existing knowledge of Cisco IOS Software CLI for easier installation and manageability without additional training</li> </ul>
Cisco IOS Software technology	<ul style="list-style-type: none"> <li>Offers technology that is used throughout the backbone of the Internet and in most enterprise networks</li> </ul>
Cisco Router Web Setup (CRWS) tool	<ul style="list-style-type: none"> <li>Allows nontechnical users to complete installation by simply pointing a browser at the router and providing user information</li> </ul>
Support by Cisco VPN Solution Center, Cisco VMS Cisco Secure Policy Manager	<ul style="list-style-type: none"> <li>Allows for network management and security policy management</li> </ul>
Cisco IE 2100 Intelligent Engine	<ul style="list-style-type: none"> <li>Provides a repository for Cisco IOS configuration updates; remote sites are configured to contact this centrally located device for updates</li> </ul>
SSH <sup>6</sup>	<ul style="list-style-type: none"> <li>Provides a secure, encrypted connection to a router similar to an inbound Telnet session</li> </ul>

1. Network Address Translation/Port Address Translation

2. PPP over Ethernet

3. Point-to-Point Tunneling Protocol



- 4. Weighted Random Early Detection
- 5. Committed Access Rate
- 6. Secure Shell Protocol

Table 2 Hardware Specifications of Cisco 806 Router

Hardware specifications	Cisco 806
Processor	MPC 855T RISC
Processor speed	50 MHz
Default DRAM memory	32 MB
Maximum DRAM memory	32 MB
Default Flash memory	8 MB (12 MB on board, 4 MB used with Web Flash for Web configuration tool)
Maximum Flash memory	8 MB
Ethernet (one port WAN, four ports LAN)	10 Mbps
Console	RJ-45
LEDs	10
Hub/No Hub connection switch	Yes
External power supply	Universal 100–240 VAC

Table 3 Memory Requirements and Software Feature Sets for Cisco 806

Cisco IOS Software for Cisco 806 feature sets	Cisco 806 memory requirements	
	Flash	DRAM
Default memory configuration with IP firewall	8 MB	16 MB
IP plus	8 MB	16 MB
IP/firewall plus IPSec 3DES	8 MB	20 MB

Table 4 Cisco 806 Software Feature Sets

Protocols and features supported by Cisco 806 Software feature sets—basic protocols/features	Default IP firewall	IP plus	IP/firewall plus IPSec 3DES
<b>Routing/bridging</b>			
PPPoE	X	X	X
Transparent bridging	X	X	X
IP	X	X	X
Hostname entry for some cable services	X	X	X



Table 4 Cisco 806 Software Feature Sets

Protocols and features supported by Cisco 806 Software feature sets—basic protocols/features	Default IP firewall	IP plus	IP/firewall plus IPSec 3DES
<b>Routing protocols</b>			
IP Enhanced IGRP <sup>1</sup>		X	X
RIP <sup>2</sup> , RIPv2	X	X	X
<b>Security</b>			
Route and router authentication	X	X	X
PAP <sup>3</sup> , CHAP <sup>4</sup> , local password	X	X	X
GRE tunneling		X	X
IP basic and extended access lists	X	X	X
Stateful inspection firewall	X		X
IPSec 56-bit encryption			X
IPSec 3DES encryption			X
Easy VPN Remote			X
Multiuser IPSec pass-through (TCP and unencapsulated)	X	X	X
Multiuser PPTP pass-through	X	X	X
RADIUS <sup>5</sup>		X	X
TACACS +		X	X
<b>QoS</b>			
Low-latency queuing		X	X
IP policy routing	X	X	X
NetMeeting V.2.10/1,3.01	X	X	X
CAR		X	X
Class-based traffic shaping		X	X
<b>Bandwidth optimization and management</b>			
IP multicast through protocol independent multicasting		X	X
Fast switching	X	X	X
STAC compression	X	X	X
<b>Ease of use and deployment</b>			
Cisco RWS tool	X	X	X



Table 4 Cisco 806 Software Feature Sets

Protocols and features supported by Cisco 806 Software feature sets—basic protocols/features	Default IP firewall	IP plus	IP/firewall plus IPSec 3DES
Cisco Easy VPN Remote			X
<b>Management</b>			
SNMP, Telnet, console port	X	X	X
Syslog	X	X	X
NTP <sup>6</sup> client and server		X	X
TFTP <sup>7</sup> client and server	X	X	X
DHCP <sup>8</sup> client and server	X	X	X
DHCP relay	X	X	X
<b>Address conservation</b>			
NAT many to one (PAT)	X	X	X
NAT many to many (multi-NAT)	X	X	X
IPCP <sup>9</sup> address negotiation	X	X	X
DHCP client address negotiation	X	X	X

1. Interior Gateway Routing Protocol
2. Routing Information Protocol
3. Password Authentication Protocol
4. Challenge Handshake Authentication Protocol
5. Remote Access Dial-In User Service
6. Network Timing Protocol
7. Trivial File Transfer Protocol
8. Dynamic Host Configuration Protocol
9. IP Control Protocol

## Regulatory and Standards Compliance

The Cisco 806 Router complies with the following requirements:

### Electromagnetic 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 and C Approval to UL 1950, 3rd ed./CSA 22.2 No. 950-95, 3rd ed. (United States, 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)
- 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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