

Cisco 830 Series **Secure** Broadband Routers

Advanced security for data, voice, and video access ideal for small offices and teleworkers. The Cisco 830 Series of secure broadband routers is ideal for providing secure Internet and corporate network connectivity to small remote offices and teleworkers. Cisco 830 Series routers provide a wide range of integrated security services, as well as advanced quality of service (QoS) features for high-quality data, voice, and video applications, and offer easy deployment and remote management features with Cisco IOS® Software.

The Cisco 830 Series is comprised of the Cisco 831 Ethernet Broadband Router and the Cisco 837 ADSL Broadband Router. The Cisco 831 router has an Ethernet WAN port for use with an external DSL or cable modem, and the Cisco 837 router has an integrated ADSL WAN port. Both models offer a four-port 10/100 Ethernet LAN switch for connecting multiple PCs or network devices in a small-office network.

Advanced Security and Performance for Enterprise Class VPNs

The Cisco 830 Series delivers integrated enterprise-class security services, including hardware-accelerated IP security (IPSec), Triple Data Encryption Standard (3DES)

encryption for virtual private networks (VPNs), and stateful inspection firewall for secure Internet connectivity. Optional advanced features—such as Cisco Easy VPN Remote (a software feature that allows simple deployment and management of VPNs), public key infrastructure (PKI) security requiring digital certificates; IPSec Network Address Translation transparency (NAT-T); the Cisco Intrusion Detection System (IDS); and URL filtering—help ensure that the small office receives the highest level of security, which in turn ensures the corporate network's security.

High-Quality, Secure Voice and Video

The advanced QoS features of the Cisco 830 Series routers, combined with high-performance encryption, provide high-quality voice and video services to remote users. When IP phones are connected at a remote site, a Cisco 830 Series router can queue and prioritize the voice traffic over data traffic to ensure a high-quality, secure voice over IP (VoIP) connection from the remote or home-office back to the corporate network.

Figure 1
The Cisco 830 Series Router





Manageable, Scalable, and Reliable Access

The Cisco 830 Series utilizes valuable management and deployment tools to deliver the industry's lowest total cost of ownership for connecting small remote offices and teleworkers to the corporate network. As a remotely manageable platform, the Cisco 830 Series supports advanced remote troubleshooting commands available in Cisco IOS Software; a virtual auxiliary (AUX) port for out-of-band management with an external modem; and Secure Shell Protocol (SSH) for secure in-band management via telnet.

For scalability in deployment and management, the Cisco Router Web Set Up tool (CRWS) allows nontechnical users to quickly set up the router and turn on key features such as the stateful firewall. Cisco also provides a suite of solutions—such as Cisco Easy VPN, Cisco IE2100 management appliance, Cisco VPN Solution Center (VPN SC), Cisco Router Management Center (Router MC), and Cisco Configuration Express—that allow for scalable network deployment and management, including automated security policy push, and configuration updates.

For reliable access, the virtual AUX port can be used for dial backup with an external modem, should the primary WAN connection fail. Additionally, the Cisco 830 Series runs Cisco IOS Software, the industry proven software that has become the standard for reliable business access.

Features and Benefits

Table 1 Key Product Features and Benefits

Key Features	Benefits
Advanced Security and Performance for Enterprise-Class VPNs	
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) • Checks packet headers, dropping suspicious packets • Protects against unidentified, malicious Java applets • Details transactions for reporting on a per-application, per-feature basis
Network security features with Cisco IOS Software, including: Access Control Lists (ACLs), Network Address Translation/Port Address Translation (NAT/PAT), Lock-and-Key security, dynamic ACLs, and router and route authentication	<ul style="list-style-type: none"> • Provides perimeter network security to prevent unauthorized network access
Cisco Intrusion Detection System (IDS)*	<ul style="list-style-type: none"> • Detects and prevents DoS attacks and unauthorized network access; sends alerts to initiate appropriate action
Hardware-accelerated IPSec 3DES encryption	<ul style="list-style-type: none"> • Delivers high-performance IPSec VPN encryption for broadband connections • Supports Internet Key Exchange (IKE) and IPSec VPN standards for up to 10 simultaneous tunnels • Provides WAN encryption for all users on the LAN without requiring the configuration of individual PCs



Table 1 Key Product Features and Benefits

Key Features	Benefits
Cisco Easy VPN Remote	<ul style="list-style-type: none"> • Easy deployment and maintenance of VPN connections with auto-IPSec tunnel initiation and policy push from a Cisco VPN concentrator or server
URL Filtering with WebSENSE software and server*	<ul style="list-style-type: none"> • Allows a network administrator to easily apply Internet use policies to permit access only to company-approved URLs or categories of sites • WebSENSE URL filtering software filters http requests based on destination hostname, destination IP address, keywords, and username • WebSENSE maintains and updates a URL database of over 20 million sites, organized into over 60 categories
IPSec NAT Transparency (NAT Traversal or NAT Aware IPSec)*	<ul style="list-style-type: none"> • Allows reliable creation of VPN tunnels independent of the placement of firewalls and NAT across multiple networks
PKI support with digital certificates	<ul style="list-style-type: none"> • Standards-based robust key management allows better network scaling and enhanced key security • Facilitates extranet communications
High-quality, Secure Voice and Video	
IP QoS—Low-latency queuing, Weighted Random Early Detection, committed access rate (CAR), Class-Based Traffic Shaping	<ul style="list-style-type: none"> • 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 throttling down certain Transmission Control Protocol (TCP) sessions, depending on each session’s priority level
Asynchronous Transfer Mode (ATM) QoS (for Cisco 837)—ATM Traffic UBR, VBRnrt, VBRrt, and CBR with per-VC queuing and traffic-shaping	<ul style="list-style-type: none"> • Ensures QoS guarantees for real-time traffic, with ability to send traffic over the appropriate virtual circuit to provide ATM-level shaping and ensure that no head-of-line blocking can occur between circuits of different or equal traffic classes
High-performance encryption	<ul style="list-style-type: none"> • Provides secure connectivity without impacting performance for bandwidth-intensive applications
IP Multicast technology	<ul style="list-style-type: none"> • Reduces redundant traffic and conserves bandwidth for corporate communications, and distance-learning applications such as Cisco IPTV®, the distribution of software, and access to stock quotes and news applications



Table 1 Key Product Features and Benefits

Key Features	Benefits
Advanced Management Features for Low Cost of Ownership	
Plug-and-play installation with default settings and Web-based setup tool	<ul style="list-style-type: none"> • Non-technical users can easily set up the router and customize advanced features
Cisco Router Web Setup Tool	<ul style="list-style-type: none"> • Allows non-technical users to complete installation by simply pointing a browser at the router and providing user information
Easy VPN Remote	<ul style="list-style-type: none"> • Provides easy deployment and maintenance of VPN connections with auto-IPSec tunnel initiation and pushed policy acceptance
Cisco Configuration Express	<ul style="list-style-type: none"> • Lowers the cost of deployment by shipping pre-configured units directly to end users without requiring staging or storage
“Router Status Page” in Cisco Router Web Set Up tool	<ul style="list-style-type: none"> • Provides a Web-based visual presentation of router configuration and feature status
Cisco IOS Software interactive debug and remote management features	<ul style="list-style-type: none"> • Enables remote management and monitoring via Simple Network Management Protocol (SNMP), Telnet, or HTTP and local management via console port to diagnose network problems in detail
Cisco IOS Software command-line interface (CLI)	<ul style="list-style-type: none"> • Allows customers to use existing knowledge of Cisco IOS Software CLI for easier installation and manageability without requiring additional training
Cisco IOS Software technology	<ul style="list-style-type: none"> • Offers technology that is used throughout the backbone of the Internet and in most enterprise networks
Cisco IE2100 Intelligent Engine management appliance	<ul style="list-style-type: none"> • Allows remote sites to be configured to automatically contact this centrally located device for Cisco IOS Software configuration updates
Supported by Cisco VPN Solution Center, CiscoWorks VPN/Security Management Solution (VMS) and Cisco Secure Policy Manager	<ul style="list-style-type: none"> • Allow for scalable deployment of security policy management
Secure Shell (SSH) Protocol	<ul style="list-style-type: none"> • Provides a secure, encrypted connection to a router that is similar to an inbound telnet session

*Features targeted for future Cisco IOS Software Release



Product Specifications

Table 2 Cisco 830 Series Hardware Specifications

Hardware Specifications	Cisco 831 and 837 Routers
Processor	Motorola RISC
Default DRAM ¹ Memory	32 MB
Maximum DRAM Memory	48 MB
Default Flash ¹ Memory	8 MB
Maximum Flash Memory	16 MB
WAN	10BASE-T Ethernet (Cisco 831) ADSL over POTS—Annex A (Cisco 837)
LAN	4-port 10/100BASE-T with autosensing MDI/MDX for autocrossover
Console port which can also be configured to behave as an auxiliary port (“virtual AUX” supports modem control for dial backup and out-of-band management)	RJ-45
LEDs	10
External Power Supply	Universal 100–240 VAC

¹DRAM and Flash must be obtained from Cisco

Table 3 Memory Requirements and Software Feature Sets for Cisco 831 and 837 Routers

Cisco 830 Series with Cisco IOS Software Images	Cisco 830 Series Memory Requirements	
	Flash	DRAM
IP/Firewall/IPSec 3DES (default)	8 MB	32 MB
IP/Firewall/IPSec 3DES PLUS	8 MB	32 MB



Table 4 Cisco 830 Series Software Feature Sets

Protocols and Features Supported by Cisco 830 Series Broadband Routers	IP/Firewall/IPSec 3DES (default feature set)	IP/Firewall/IPSec 3DES PLUS
Routing/Bridging		
Transparent Bridging	X	X
IP Routing, IRB	X	X
PPPoE (including TCP MSS adjust)	X	X
PPPoA (Cisco 837 only)	X	X
IP Enhanced IGRP		X
RIP, RIPv2	X	X
Security		
Route and Router Authentication		X
Multilevel user authentication for access to router for management	X	X
PAP, CHAP, Local Password	X	X
GRE Tunneling		X
IP Basic and Extended Access Lists, Lock & Key	X	X
Stateful Inspection Firewall	X	X
IPSec 56-Bit Encryption	X	X
IPSec 3DES Encryption	X	X
Hardware Accelerated IPSec 3DES Encryption	Cisco 831	X (Cisco 831 & 837)
PKI with digital certificates		X
Cisco Easy VPN Remote		X
Multi-user IPSec Pass-through (TCP and Un-encapsulated)	X	X
Multi-user PPTP Pass-through	X	X
AES (software based)*		X
URL Filtering with WebSENSE software and server*		X
IPSec NAT Transparency (NAT Traversal or NAT Aware IPSec)*		X
RADIUS		X
TACACS+		X



Table 4 Cisco 830 Series Software Feature Sets

Protocols and Features Supported by Cisco 830 Series Broadband Routers	IP/Firewall/IPSec 3DES (default feature set)	IP/Firewall/IPSec 3DES PLUS
Quality of Service		
Low-latency Queuing	X	X
IP Policy Routing	X	X
Class-based Traffic Shaping (Cisco 831 only)		X
Weighted Random Early Detection		X
Committed Access Rate		X
Link Fragmentation and Interleaving (LFI)		X
Per VC Queuing and Per VC Traffic Shaping (Cisco 837 only)	X	X
ATM UBR, CBR, VBR-nrt, VBR-rt (Cisco 837 only)	X	X
ATM Fault Management OAM (F5) Segment Continuity Check and segment and end-to-end loopback and ILMI support (Cisco 837 only)	X	X
10 Virtual Circuits/Permanent Virtual Circuits	X	X
TX Ring Adjustment (Cisco 837 only)	X	X
Bandwidth Optimization and Management		
IP Multicast		X
PIM Sparse mode		X
STAC Compression	X	X
Ease of Use and Deployment		
Cisco Router Web Setup Tool	X	X
Easy VPN Remote		X
Management		
SNMP, Telnet, Console Port	X	X
Syslog	X	X
NTP Client and Server	X	X
TFTP Client and Server	X	X
Service Assurance Agent (SAA)	X	X
Redundancy		
Hot Standby Routing Protocol (HSRP)		X



Table 4 Cisco 830 Series Software Feature Sets

Protocols and Features Supported by Cisco 830 Series Broadband Routers	IP/Firewall/IPSec 3DES (default feature set)	IP/Firewall/IPSec 3DES PLUS
Address Conservation/Allocation		
NAT Many to One (PAT)	X	X
NAT Many to Many (Multi-NAT)	X	X
H.323 support with NAT	X	X
NetMeeting V.2.10/1,3.01	X	X
SIP support with NAT*	X	X
IPCP Address and Subnet Negotiation	X	X
DHCP Client and Server	X	X
DHCP Relay	X	X
DHCP Client Address Negotiation	X	X
DHCP Client host name (Option 12) for certain cable services (831 only)	X	X

* Features targeted for a future Cisco IOS Software release

Table 5 Cisco 800 Series—DSLAM Interoperability

DSLAM	Chipset	Interoperability Status	Comments
Alcatel ASAM 1000	AME	Yes	
Alcatel 7300	AME	Yes	
Cisco 6x60/6015	ADI	Yes	Need external attenuator
Lucent Stinger	AME	Yes	
ECI	ADI 918	Yes	
ECI	ADI 930	Yes	



Regulatory and Standards Compliance

The Cisco 830 Series business-class routers are available for worldwide deployment.

Safety

- UL 1950/CSA 950-95, Third Edition
- IEC 950: Second Edition with Amendments 1, 2, 3, and 4
- EN60950:1992 with Amendments 1, 2, 3, and 4
- CS-03, Canadian Telecom Requirements
- FCC Part 68 US Telecom Requirements
- AS/NZS 3260: 1996 with Amendments 1, 2, 3, and 4
- ETSI 300-047
- TS 001 with Amendment 1
- EMI
- AS/NRZ 3548:1992 Class B
- CFR 47 Part 15 Class B
- EN60555-2 Class B
- EN55022 Class B
- VCCI Class II
- ICES-003, Issue 2, Class B, April 1997S
- IEC 1000-3-2

Immunity

- IEC 1000-4-2 (EN61000-4-2)
- IEC 1000-4-3 (ENV50140)
- IEC 1000-4-4 (EN61000-4-4)

Cisco 837 ADSL Specifications

ST-Micro DynaMiTe (formerly Alcatel Micro Electronics) ADSL Chipset (20150)

- T1.413 ANSI ADSL DMT issue 2
- G.992.1 ITU G.DMT support
- G.992.2 ITU G.Lite support
- G.992.3 ITU G.hs ADSL type negotiation

The chipset does not provide interoperability with carrierless amplitude modulation/phase modulation (CAP)-based ADSL lines.

Physical 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)

Power Ratings

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



Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
Capital Tower
168 Robinson Road
#22-01 to #29-01
Singapore 068912
www.cisco.com
Tel: +65 317 7777
Fax: +65 317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the
Cisco Web site at www.cisco.com/go/offices

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia
Czech Republic • Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland
Israel • Italy • Japan • Korea • Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland
Portugal • Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden
Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

All contents are Copyright © 1992-2002, Cisco Systems, Inc. All rights reserved. Cisco, IP/TV, Cisco Systems, Cisco IOS, and the Cisco Systems logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries.

All other trademarks mentioned in this document or Web site are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company.
(0208R) LW3802 10/02 ms11/8