Cisco 890 Series Integrated Services Routers

Cisco® 890 Series Integrated Services Routers combine Internet access, comprehensive security, and wireless services in a single, secure device that is easy to deploy and manage (Figure 1). The best-in-class Cisco 890 Series architecture is specifically designed to deliver high performance with concurrent services, business continuity, and investment protection for enterprise small branch offices and service provider-managed services applications.

Figure 1. Cisco 890 Series Integrated Services Router with Integrated 802.11n Access Point

Product Overview

Cisco 890 Series Integrated Services Routers are fixed-configuration routers that provide collaborative business solutions for secure voice and data communications to enterprise small branch offices (Figure 2). They are designed to deliver secure broadband, Metro Ethernet, wireless LAN (WLAN) connectivity, and business continuity. The routers also come with powerful management tools, such as the web-based Cisco Configuration Professional configuration management tool, which simplifies setup and deployment. Centralized management capabilities give network managers visibility and control of the network configurations at the remote site.

Cisco 890 Series Integrated Services Routers offer:

- High performance for secure broadband and Metro Ethernet access with concurrent services for enterprise small branch offices
- Business continuity and WAN diversity with redundant WAN links: Fast Ethernet (FE), V.92, ISDN Basic Rate Interface (BRI), Gigabit Ethernet (GE), ADSL2+/VDSL (Annex A/B/M), Multimode G.SHDSL, and Small Form-Factor Pluggable (SFP)
- Integrated secure 802.11a/g/n access point (optional) based on the draft 802.11n standard; dual-band radios for mobility and support for autonomous or Cisco Unified WLAN architectures
- Enhanced security including:
  - Firewall with advance application and control for email, instant messaging (IM), and HTTP traffic
  - Site-to-site remote-access and dynamic VPN services: IP Security (IPsec) VPNs (Triple Data Encryption Standard [3DES] or Advanced Encryption Standard [AES], Dynamic Multipoint VPN [DMVPN], Group Encrypted Transport VPN with onboard acceleration, and Secure Sockets Layer [SSL] VPN)
  - Intrusion prevention system (IPS): An inline, deep-packet-inspection feature that mitigates a wide range of network attacks
- Web Security with Cisco ScanSafe deployment: An 8-port 10/100 Fast Ethernet managed switch with VLAN support and 4-port support for Power over Ethernet (PoE) (optional for certain models) to power IP phones or external access points; the Cisco 892FSP, 896VA, 897VA, and 898EA have an 8-port 10/100/1000 Gigabit Ethernet managed switch with VLAN support; no PoE support is available for the Cisco 892FSP
- Metro Ethernet features including:
  - One 1000BASE-T Gigabit Ethernet WAN port
  - One 10/100BASE-T Fast Ethernet WAN port on the Cisco 891 and 892 or 1-port Gigabit Ethernet WAN porton the Cisco 892FSP, 896VA, 897VA, and 898EA
  - One 1-port Gigabit Ethernet SFP socket for WAN connectivity on the Cisco 892F, 892FSP, 896VA, 897VA, and 898EA

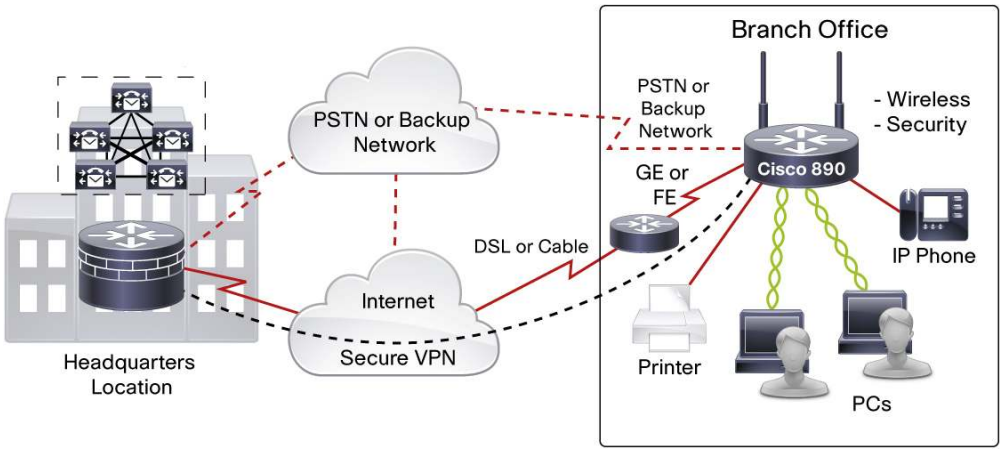
    (**Note:** Only the 1000BASE-T Gigabit Ethernet WAN or the SFP is operational at a given time.)
  - Intelligent hierarchical quality of service (HQoS): Support for hierarchical queuing and shaping
  - Connectivity Fault Management (CFM), based on 802.1ag
  - 802.3ah standards-based link operations, administration, and maintenance (OA&M)
  - Ethernet Local Management Interface (E-LMI) for the customer edge
  - CFM Interworking and backward compatibility
  - Performance management based on IP service-level agreement (SLA) for Ethernet
- Dedicated console and auxiliary ports for configuration and management
- Two USB 2.0 ports for security eToken credentials, booting, and loading configuration from USB available on the Cisco 891, 892, and 892F
- Easy setup and deployment, and centralized and remote-management capabilities through web-based tools and Cisco IOS® Software

Table 1 summarizes the Cisco 890 Series models.

Table 1. Cisco 890 Series Models

Models	WAN Interface	LAN Interfaces	802.11a/g/n Option	Integrated USB 2.0/AUX/Console	Integrated Dial Backup
Cisco 891	1-port GE 1-port Fast Ethernet (FE)	8-port 10-/100-Mbps managed switch	Yes	Yes/Yes/Yes	V.92 analog modem
Cisco 892	1-port GE 1-port FE	8-port 10-/100-Mbps managed switch	Yes	Yes/Yes/Yes	ISDN BRI
Cisco 892F	1-port GE or 1-port SFP 1-port FE	8-port 10-/100-Mbps managed switch	Yes	Yes/Yes/Yes	ISDN BRI
Cisco 892FSP	1-port GE or 1-port SFP 1-port GE	8-port 10-/100-/1000-Mbps managed switch	No	Yes/Yes/Yes	No
Cisco 896VA	1-port GE or 1-port SFP VDSL/ADSL2+ Annex B	8-port 10-/100-/1000-Mbps managed switch	No	Yes/Yes/Yes	ISDN
Cisco 897VA	1-port GE or 1-port SFP VDSL/ADSL2+ Annex A/M	8-port 10-/100-/1000-Mbps managed switch	Yes CleanAir® technology	Yes/Yes/Yes	ISDN (only on Cisco 897VA-K9)
Cisco 898EA	1-port GE or 1-port SFP 4 pair EFM	8-port 10-/100-/1000-Mbps managed switch	No	Yes/Yes/Yes	No

Figure 2. Typical Enterprise Small Branch-Office Deployment



Architecture Features and Benefits

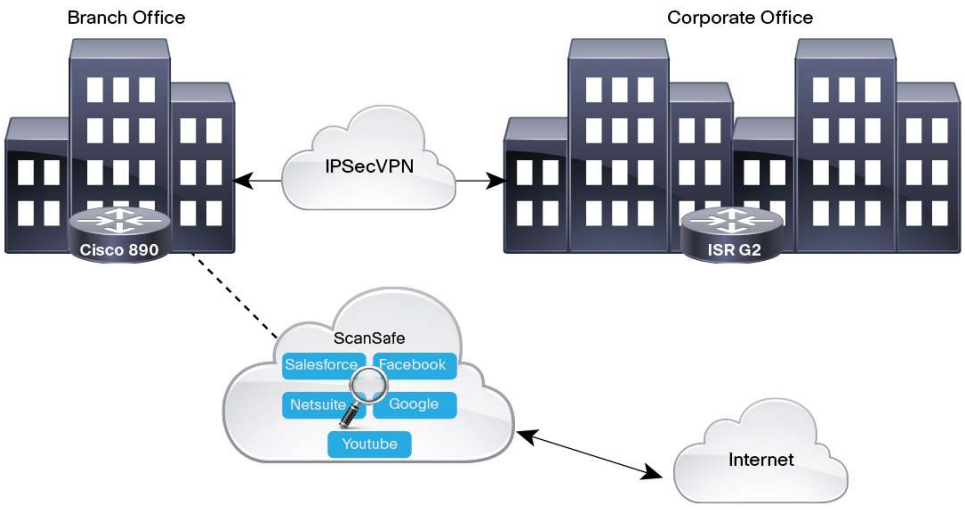
Secure Network Connectivity

Cisco 890 Series Routers deliver high performance with integrated security and threat defense. Network security has become a fundamental building block of any network, and Cisco routers play an important role in embedding security at the customer's access edge. Cisco recognizes this requirement, so Cisco 890 Series Routers are equipped with security hardware acceleration and Cisco IOS Software (by default, a universal image with Advanced IP Services feature license). This Cisco IOS Software feature set facilitates hardware-based IPsec encryption on the motherboard and provides a robust array of security capabilities such as Cisco IOS Firewall, Cisco ScanSafe Connector, IPS support, IPsec VPNs (DES, 3DES, and AES), SSLVPN, tunnel-less Group Encrypted Transport VPN, DMVPN, Easy VPN server and client support, Secure Shell (SSH) Protocol Version 2.0, and Simple Network Management Protocol (SNMP) in one solution set.

Cisco 890 Series Routers come with a comprehensive security solution that protects organizations' networks from known and new Internet vulnerabilities and attacks while improving employee productivity. Security suite also includes the following:

- FlexVPN: Large customers deploying IPsec VPN over IP networks are faced with high complexity and high cost of deploying multiple types of VPN to meet different types of connectivity requirements. Customers often have to learn different type of VPNs to manage and operate different types of networks. And when a technology is selected for a deployment, migrating or adding functions to enhance the VPN is often avoided. FlexVPN was created to simplify the deployment of VPN, to address the complexity of multiple solutions, and as a unified ecosystem to cover all types of VPNs: remote access, teleworker, site-to-site, mobility, managed security services, and others.
- NGE: Traditional encryption standards (Internet Key Exchange Version 1 [IKEv1], Secure Hash Algorithm1 [SHA-1], etc.) were developed more than a decade ago. They are no longer considered as secure as before. Next-Generation Encryption is meant to refresh the existing security protocols to the next level based on the standard Suite-B algorithms, such as, SHA-2, AES-Galois Counter Mode(AES-GCM), Elliptic Curve Diffie-Hellman(ECDH), Elliptic Curve Digital Signature Algorithm(ECDSA), IKEv2, etc. NGE will offer customers secure network communications systems that will be reliable for the next decade.
- Cisco ScanSafe Web Security: Cloud Web Security is a cloud-based service designed to prevent zero-day malware from reaching corporate networks, including roaming or mobile users. The Cisco ScanSafe Cloud Web Security solution requires no hardware, initial capital costs, or maintenance and provides unparalleled real-time threat protection (Figure 3). This solution is scalable and easy to maintain, and is ideally suited for small businesses and enterprise small branch offices.

Figure 3. Typical Cisco Integrated Services Router Web Security with Cisco ScanSafe Deployment



Metro Ethernet Connectivity

Cisco 890 Series Routers are ideal for service provider deployments as Metro Ethernet customer premises equipment (CPE). The routers also provide failover protection and load balancing. The 8-port managed switch provides enough LAN ports for connecting multiple devices, and the optional PoE capability can supply power to IP phones or other devices. The Cisco 890 Series provides significant value to customers by simplifying deployment of Ethernet WAN services with end-to-end OA&M, service-level agreement (SLA) monitoring and

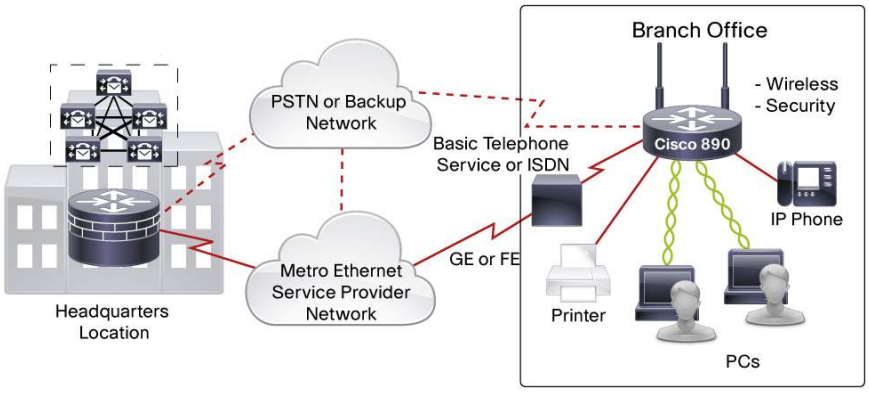
verification, and configuration management, resulting in increased operational efficiency and reduced operating expenses (OpEx).

The following Metro Ethernet features are supported for the Cisco 890 Series:

- E-LMI: Basic configuration for detection and isolation of connectivity in the Metro Ethernet network
- E-LMI: Automated configuration of customer edge based on profiles configured:
  - Layer 2 connectivity management
  - Ethernet LMI for the customer edge
- Metro Ethernet OA&M:
  - Debugging hierarchy of Ethernet networks
  - Layer 2 service performance monitoring
- 802.1agCFM:
  - Standard that uses domains to contain OA&M flows and bound OA&M responsibilities
- 802.3ah: Ethernet in the First Mile (EFM)
  - Three types of packets: Continuity Check, Layer 2 Ping, and Layer 2 Traceroute
- IP SLA for Ethernet

Figure 4 shows a typical small branch-office Metro Ethernet deployment.

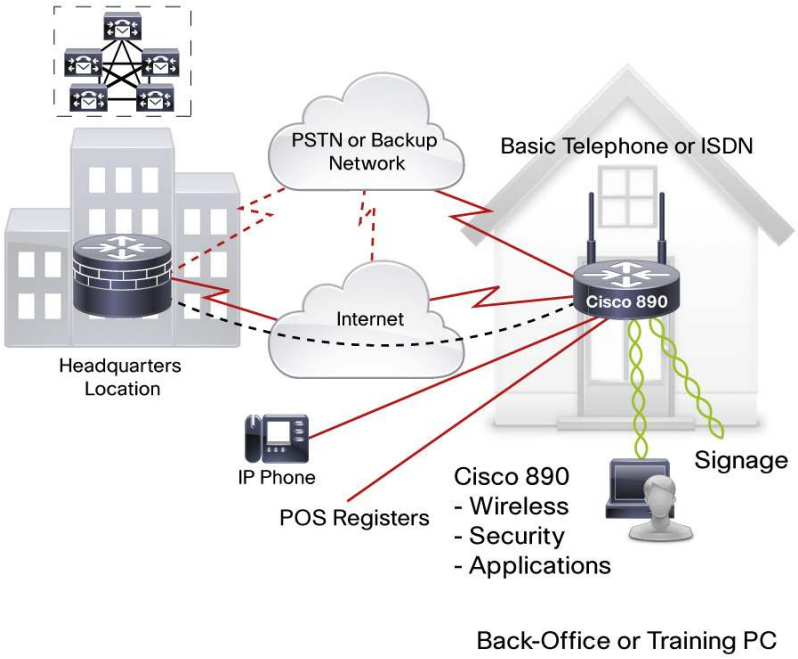
Figure 4. Typical Metro Ethernet Deployment



High Availability

Cisco 890 Series Routers enable customers to deliver high-performance, high-availability, mission-critical business applications (Figure 5). The Cisco IOS Software universal image with Advanced IP Services feature license (default) offers basic and advanced routing capabilities to deliver failover protection and load balancing. These capabilities include Virtual Router Redundancy Protocol (VRRP) (RFC 2338), Hot Standby Router Protocol (HSRP), MultigroupHSRP (MHSRP), and dial backup with external modem through a virtual auxiliary port. Cisco 890 Series Routers are integrated with ISDN BRI (892, 896, and 897 models), a V.92 analog modem (891 model), or a GigabitEthernet port for a secondary WAN backup connection. If the primary Ethernet-access WAN is disconnected, the router detects this failure and fails over to the secondary backup WAN.

Figure 5. High Availability

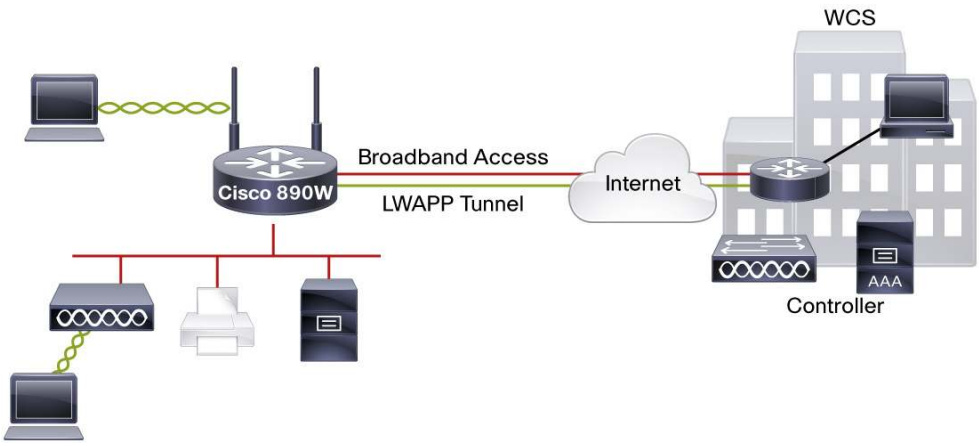


Integrated Wireless LAN Capability

The Cisco 890 Series is ideal for enterprise small branch offices and small businesses that need to be connected to larger enterprise networks. These routers help extend corporate networks to secure remote sites while giving users access to the same applications found in a corporate office. They provide increased reliability for diversity of wireless data, voice, and video applications. When users require wireless LAN (WLAN) access, visibility and control of network security are even more critical at the remote site. The Cisco 890 Series meets this need with a single device that combines integrated 802.11a/g/n capabilities with security features such as Wi-Fi Protected Access (WPA), including authentication with IEEE 802.1X with Cisco Extensible Authentication Protocol (LEAP) and Protected EAP (PEAP), and encryption with WPA Temporal Key Integrity Protocol (TKIP). The Cisco 890 Series wireless models that include the integrated access point have full feature parity with the Cisco Aironet® 1250 Series Access Point and can be used in either autonomous or Cisco Unified WLAN modes. In Cisco Unified WLAN mode, as part of an enterprise WLAN architecture, all WLAN functions are centrally managed through Cisco Wireless LAN Controllers and the Cisco Wireless Control System (WCS). The Cisco 897 with wireless supports Cisco CleanAir technology.

Figure 6 shows a Cisco 890 Series Router deployed in an enterprise small branch-office WLAN application.

Figure 6. Enterprise Small Branch-Office WLAN



Manageability

Cisco 890 Series Routers support a whole suite of management tools to provide ease of use. Tools such as Cisco Configuration Professional use smart wizards and task-based tutorials, which resellers and customers can use to quickly and easily deploy, configure, and monitor a Cisco access router without requiring knowledge of the Cisco IOS Software command-line interface (CLI).

Table 2 lists the features and benefits of the Cisco 890 Series Routers.

Table 2. Features and Benefits of Cisco 890 Series Routers

Feature	Benefit
Increased performance for concurrent services	• Router performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services.
Integrated Gigabit Ethernet, SFP, and Fast Ethernet WAN ports	• Integrated ports offer flexibility in Ethernet WAN access, and the additional capability to deploy redundant WAN connections for failover protections and load balancing. • Refer to Table 1 for details about the WAN interface.
Option of integrated 8-port 10/100BASE-T managed switch or integrated 8-port 10/100/1000BASE-T managed switch	• Fully managed LAN switch ports connect multiple LAN devices and reduce the need for an additional LAN switch. • The Cisco 891, 892, and 892F support 10/100BASE-T. • The Cisco 892FSP, 896VA, 897VA, and 898EA support 10/100/1000BASE-T.
Integrated WAN backup	• Refer to Table 1 for details about the backup WAN interface.
Real-time clock	• A built-in, real-time clock maintains an accurate date and time for applications that require an accurate time stamp, such as logging and digital certificates.
Enhanced security	• An integrated stateful and application inspection firewall provides network perimeter security. • High-speed IPsec 3DES and AES encryption offers data privacy over the Internet. • Intrusion prevention enforces security policy in a larger enterprise or service provider network. • Web Security is supported with Cisco ScanSafe deployments.
Optional dual-radio or dual-band IEEE 802.11n access point	• The Cisco 890 Series offers a secure, integrated access point in a single device. It supports both autonomous and unified modes. It is backward-compatible with 802.11a/b/g. • The router supports IEEE 802.11n draft 2.0 and uses multiple-input, multiple-output (MIMO) technology that provides increased throughput, reliability, and predictability. • Refer to Table 1 for details about Wi-Fi options.
Separate console, auxiliary, and USB ports	• One auxiliary and one console port enable remote configuration and management. • The router has two USB 2.0 flash memory or security eTokens. Integrated USB ports can be configured to work with an optional USB token for off-platform storage of VPN credentials or for deployment of

Feature	Benefit
	configurations stored on USB flash-memory devices.
Unified wireless management	• Configuration and management of access points is automated and simplified without manual intervention. • A unified hybrid remote-edge access point (HREAP) provides the following: ◦ WLAN services to remote and branch offices without deploying a wireless LAN controller at each location. ◦ Central configuration and control of unified WLAN services for remote offices through a WAN link. ◦ Flexibility in setting up wireless access at remote locations by specifying how traffic is to be bridged or tunneled.
Cisco Configuration Professional	• Cisco Configuration Professional uses smart wizards and task-based tutorials, which resellers and customers can use to quickly and easily deploy, configure, and monitor a Cisco access router without requiring knowledge of the Cisco IOS Software CLI.

Summary

Cisco 890 Series Integrated Services Routers combine increased network performance with advanced security and wireless technology to allow enterprise small branch-office customers to get the most from their broadband connections. Service providers and value-added resellers can take advantage of the Cisco 890 Series to provide a true business-class broadband service. The Cisco 890 Series delivers on the requirements of enterprise small branch offices and managed services providers.

Product Specifications

Tables 3 and 4 list software and hardware features of the Cisco 890 Series.

Table 3. Cisco IOS Software Features on Cisco 890 Series Routers: Advanced IP Features Set (Default)

Feature	Description
IP and IP services features	• Routing Information Protocol Versions 1 and 2 (RIPv1 and RIPv2) • Generic routing encapsulation (GRE) and multipoint GRE (MGRE) • Cisco Express Forwarding • Standard 802.1d Spanning Tree Protocol • Layer 2 Tunneling Protocol (L2TP) • Layer 2 Tunneling Protocol Version 3 (L2TPv3) • Network Address Translation (NAT) • Dynamic Host Configuration Protocol (DHCP) server, relay, and client • Dynamic Domain Name System (DNS) • DNS Proxy • DNS Spoofing • Access control lists (ACLs) • IPv4 and IPv6 Multicast • Open Shortest Path First (OSPF) • Border Gateway Protocol (BGP) • Performance Routing (PfR) • Enhanced Interior Gateway Routing Protocol (EIGRP) • Virtual Route Forwarding (VRF) Lite • Next Hop Resolution Protocol (NHRP) • Bidirectional Forwarding Detection (BFD) • Web Cache Communication Protocol (WCCP)

Feature	Description
xDSL	• True Multimode VDSL2/ADSL2+ over Annex A, B, J, and M including traditional G.DMT and T1.413 • World-class interoperability with industry-standard DSL access multiplexers (DSLAM)chipsets • Highest field reliability with Impulse Noise Protection over REIN/SHINE, Extended INP-Delay, G.INP, Physical Layer Retransmission, SRA, and Bitswap • VDSL2 PSD Profiles upto 17a/b with support for Spectral Shaping • VDSL2 Vectoring to offer blazing fiber speeds over copper • Support for 4-pair multimode G.SHDSL; that is, ATM and EFM • Remote management with TR069/CWMP • Investment protection with GE/SFP for Future Fiber that could replace xDSL deployment
Switch features	• Auto Media Device In/Media Device Cross Over (MDI-MDX) • 14 802.1QVLANs • MAC filtering • Four-port 802.3af and Cisco compliant PoE • Switched Port Analyzer (SPAN) • Storm Control • Smart ports • Secure MAC address • Internet Group Management Protocol Version 3 (IGMPv3) snooping • 802.1x
Security features	Secure connectivity: • SSLVPN for secure remote access • Hardware-accelerated DES, 3DES, AES 128, AES 192, and AES 256 • Public-key-infrastructure (PKI) support • Fifty IPsec tunnels • Cisco Easy VPN Client and Server • Network Address Translation (NAT) transparency • DMVPN • Tunnel-less Group Encrypted Transport VPN • IPsec stateful failover • VRF-aware IPsec • IPsec over IPv6 • Adaptive control technology • Session Initiation Protocol (SIP) application-layer gateway • Cisco IOS Firewall: ◦ Zone-Based Policy Firewall ◦ VRF-aware stateful inspection routing firewall ◦ Stateful inspection transparent firewall • Advanced application inspection and control • Secure HTTP (HTTPS), FTP, and Telnet Authentication Proxy • Dynamic and static port security • Firewall stateful failover • VRF-aware firewall • Cisco ScanSafe Connector • Cisco IOS Software black and white lists • Integrated threat control: ◦ IPS • Control Plane Policing • Flexible Packet Matching • Network foundation protection

Feature	Description
QoS features	• Low-Latency Queuing (LLQ) • Weighted Fair Queuing (WFQ) • Class-Based WFQ (CBWFQ) • Class-Based Traffic Shaping (CBTS) • Class-Based Traffic Policing (CBTP) • Policy-Based Routing (PBR) • Class-Based QoS MIB • Class of service (CoS)-to-differentiated services code point (DSCP) mapping • Class-Based Weighted Random Early Detection (CBWRED) • Network-Based Application Recognition (NBAR) • Link fragmentation and interleaving (LFI) • Resource Reservation Protocol (RSVP) • Real-Time Transport Protocol (RTP) header compression (cRTP) • Differentiated Services (DiffServ) • QoS preclassify and prefragmentation • HQoS
Management features	• Cisco Configuration Professional • Cisco Configuration Express • Cisco Configuration Engine support • Cisco AutoInstall • IP SLA • Cisco IOS Embedded Event Manager (EEM) • CiscoWorks • Cisco Security Manager • Telnet, SNMPv3, SSH, CLI, and HTTP management • RADIUS and TACACS+ • Out-of-band management with ISDN S/T port or external modem through a virtual auxiliary port on models supporting those interfaces; refer to Table 1 for details • Cisco Wireless Control System (WCS) for management of unified access points in models supporting WLAN; on models supporting WLAN, refer to Table 1 for details
High-availability features	• Virtual Router Redundancy Protocol (VRRP) (RFC 2338) • HSRP • MHSRP • Dial backup with external modem through virtual auxiliary port • Dial backup with ISDN S/T or V.92 Analog modem port
Metro Ethernet features	• Ethernet OA&M • Ethernet LMI • IP SLA for Ethernet
IPv6 features	• IPv6 addressing architecture • IPv6 name resolution • IPv6 statistics • IPv6 translation: Transport packets between IPv6-only and IPv4-only endpoints NAT-PT) • Internet Control Message Protocol Version 6 (ICMPv6) • IPv6 DHCP • OSPFv3 • BGP4+ • IPv6 path maximum transmission unit (PMTU) • IPv6 Neighbor Discovery • IPv6 stateless address autoconfiguration (SLAAC) • IPv6 Multicast Routing

Feature	Description
Unified WLAN management	• Unified access point features: ◦ Supported by wireless LAN controller and Cisco WCS • Configurable local or central switching for HREAP mode • Radio management through Cisco WCS • Transparent roaming with mobility groups
Application visibility and control	• Cisco Wide Area Application Services (WAASx) • NBAR2 • Flexible NetFlow (FNF) • Performance Agent
Number of recommended users	50

Table 4. Cisco IOS Software Features on Cisco 890 Series Routers: WLAN Features (Available with Wireless Option)

Feature	Description
Standard 802.11 a/g/n access point	Optional on Cisco 890 Series models
WLAN hardware	• Support for CleanAir technology on Cisco 897 • Automatic rate selection for 802.11a/g/n • Noncaptive RPTNC omnidirectional dipole antennae; 2-dBi gain @ 2.4 GHz, 5-dBi gain @ 5 GHz • 2 x 3 MIMO radio operation • Wi-Fi 802.11n Draft v2.0 certified
WLAN software features	• Autonomous or unified access point • Cisco WCS support for monitoring of autonomous-mode access points • Option to maximize throughput or maximize range • Software-configurable transmit power • Radio roles, including access point, root bridge, nonroot bridge, and workgroup bridge • Wi-Fi Multimedia (WMM) certification • Traffic specifications (TSPEC) Call Admission Control (CAC) to ensure voice quality is maintained • Unscheduled Automatic Power Save Delivery (UPSD) to reduce latency
WLAN security features	• Standard 802.11i • WPA and AES (WPA2) • EAP authentication: Cisco LEAP, PEAP, Extensible Authentication Protocol Transport Layer Security (EAP TLS), Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST), Extensible Authentication Protocol-Subscriber Information Module (EAP-SIM), Extensible Authentication Protocol-Message Digest Algorithm 5 (EAP-MD5), and Extensible Authentication Protocol-Tunneled TLS (EAP-TTLS) • Static and dynamic Wired Equivalent Privacy (WEP) • TKIP/Simple Security Network (TKIP/SSN) encryption • MAC authentication and filter • User database for survivable local authentication using LEAP and EAP-FAST • Configurable limit to the number of wireless clients • Configurable RADIUS accounting for wireless clients • Preshared keys (PSKs) (WPA-small office or home office [WPA-SOHO])
Certifications	
Service Set Identifiers (SSIDs) and Multiple Broadcast SSIDs	16
Wireless VLANs	14 (encrypted and nonencrypted VLANs)

System Specifications

Table 5 lists the system specifications for Cisco 890 Series Integrated Services Routers.

Table 5. System Specifications

Feature	Specification
Default and maximum DRAM	• 512 and 768 MB, respectively, on Cisco 891 and 892 Series data models; upgrade option available • 512 MB on Cisco 892F • Upto 1GB on Cisco 892FSP, 896VA, 897VA, and 898EA data models; upgrade option available
Default and maximum flash memory	• 256 on all Cisco 890 models; not upgradable
WAN	• Refer to Table 1 for details
LAN switch	• Refer to Table 1 for details
Separate console and auxiliary ports	• RJ-45
USB 2.0	• Two USB 2.0 ports available on Cisco 891, 892, and 892F models • One USB 2.0 port available on Cisco 892FSP, 896VA, 897VA, and 898EA • USB devices supported: ◦ USB eTokens on Cisco 891, 892, and 892F only ◦ USB flash memory **Note:** USB 2.0 ports cannot be used for connecting external devices other than those specified at: http://www.cisco.com/en/US/prod/collateral/modules/ps6247/product_data_sheet0900aecd80232473.html.
ISDN BRI S/T	• Refer to Table 1 for details
Inline PoE	• Optional internal adapter for inline PoE on 4 switch ports for IP phones or external wireless access points; 802.3af compliant and Cisco PoE compliant • No PoE support on Cisco 892FSP
Wireless specifications	2.4 and 5 GHz
Data rates supported	• 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps • 802.11b: 1, 2, 5.5, 6, 9, and 11 Mbps • 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps • 802.11n: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, and m0-m15
Maximum transmit power (2-channel aggregate)	• 802.11a: 15dBm • 802.11b: 20 dBm • 802.11g: 17 dBm • 802.11n: 16 dBm **Note:** Maximum power setting is subject to changes by channel and by region, depending on regulations.
Physical dimensions and weight	Product dimensions: Cisco 891, 892, and 892F: Nonwireless models: • H x W x D = 1.9 x 12.8 x 9.8 in. (includes rubber feet) • H x W x D = 1.75 x 12.8 x 9.8 in. (without rubber feet) Wireless models: • H x W x D = 1.9 x 12.8 x 10.4 in. (includes rubber feet) • H x W x D = 1.75 x 12.8 x 10.4 in. (without rubber feet; excludes antennas) • Weight: 5.5 lb (2.5 kg) maximum Cisco 892FSP, 896VA, 897VA, and 898EA: • H x W x D =1.82 x 12.71 x 9.78 in. (includes rubber feet) • H x W x D =1.75 x 12.71 x 9.78 in. (without rubber feet)

Feature	Specification
External power supply	Product power specifications: AC input voltage: Universal 100 to 240 VAC Frequency: 50 to 60 Hz Maximum output power: 60W Output voltages: 12 VDC Optional POE: Separate 80W POE power supply for CISCO891, CISCO892 Single 125W power supply required for C896, C897, C898 for router and POE External output voltage: 48 VDC
Approvals and compliance	• Emission • 47 CFR Part 15: 2006 ◦ CISPR22: 2005 ◦ EN300386: V1.3.3: 2005 ◦ EN55022: 2006 ◦ EN61000-3-2: 2000 [Inc amd 1 & 2] ◦ EN61000-3-3: 1995 [+ amd 1: 2001] ◦ ICES-003 Issue 4: 2004 ◦ KN 22: 2005 ◦ VCCI: V-3/2006.04 • Immunity • CISPR24: 1997 [+ amd 1 & 2] ◦ EN300386: V1.3.3: 2005 ◦ EN50082-1: 1992 ◦ EN50082-1: 1997 ◦ EN55024: 1998 [+ amd 1 & 2] ◦ EN61000-6-1: 2001
Certifications	
Environmental operating range	• Nonoperating temperature: -4 to 149℉ (-20 to 65℃) • Nonoperating humidity: 5 to 95% relative humidity (noncondensing) • Nonoperating altitude: 0 to 15,000 ft (0 to 4570m) • Operating temperature: 32 to 104℉ (0 to 40℃) • Operating humidity: 10 to 85% relative humidity (noncondensing) • Operating altitude: 0 to 10,000 ft (0 to 3,000m)

Ordering Information

To place an order, visit the Cisco Ordering Home Page.

For more information about the Cisco 890 Series, visit http://www.cisco.com/go/800. Table 6 lists the ordering information for Cisco 890 Series Integrated Services Routers and other available options.

Table 6. Ordering Information

Product Part Number	Product Description
Integrated Services Routers	
CISCO891-K9	Cisco 891 Gigabit Ethernet security router
CISCO891W-AGN-A-K9	Cisco 891W Gigabit Ethernet security router with802.11n, FCC compliant
CISCO891W-AGN-N-K9	Cisco 891W Gigabit Ethernet security router with802.11n, Australia compliant
CISCO892-K9	Cisco 892 Gigabit Ethernet security router
CISCO892W-AGN-E-K9	Cisco 892W Gigabit Ethernet security router with802.11n,ETSIcompliant

Product Part Number	Product Description
CISCO892F-K9	Cisco 892 Gigabit Ethernet security router with SFP
CISCO892FW-A-K9	Cisco 892 Gigabit security router with SFP and 802.11n, FCC compliant
CISCO892FW-E-K9	Cisco 892 Gigabit security router with SFP and 802.11n, ETSI compliant
C892FSP-K9	Cisco 892FSP Gigabit Ethernet security router with SFP
C896VA-K9	Cisco 896VA Gigabit Ethernet security router with SFP and VDSL/ADSL2+ Annex B
C897VA-K9	Cisco 897VA Gigabit Ethernet security router with SFP and VDSL/ADSL2+ Annex A
C897VAW-A-K9	Cisco 897 VA Gigabit Ethernet security router with SFP and VDSL/ADSL2+ Annex A with Wireless
C897VAW-E-K9	Cisco 897VA Gigabit Ethernet security router with SFP and VDSL/ADSL2+ Annex A with Wireless
C897VA-M-K9	Cisco 897VA Gigabit Ethernet security router with SFP and VDSL/ADSL2+ Annex M
C897VAM-W-E-K9	Cisco 897VA Gigabit Ethernet security router with SFP and VDSL/ADSL2+ Annex M with Wireless
C898EA-K9	Cisco 898EA Gigabit Ethernet security router with SFP and 4 channel multimode G.SHDSL (EFM/ATM)
***Cisco 892FSP is supported only on Cisco IOS Software Release 15.2(4)M and later** **Cisco 896, 897, 898EA is supported only on Cisco IOS Software Release 15.2(4)M1 and later**	
Memory Options	
MEM8XX-512U768D	512 MB DRAM upgrade to 768 MB for Cisco 891 and 892models
MEM8XX-512U1GBD	512 MB DRAM upgrade to 1 GB for Cisco 892F
FL-8XX-512U1GB	512 MB DRAM upgrade to 1 GB for Cisco 892FSP, 896VA, 897VA, 898EA model (Feature License)
Router Software	
Image	C890-universalk9-mz: Universal image for Cisco 891, Cisco 892 and Cisco 892F C800-universalk9-mz: Universal image for Cisco 892FSP, 896VA, 897VA, 898EA
Access Point Software	
ap801-k9w7-tar	Autonomous software image for ap801
ap801-rcvk9w8-tar	Lightweight Access Point Protocol (LWAPP) recovery image for ap801
Power over Ethernet Options	
800-IL-PM-4	4-port 802.3af capable internal power module for Cisco 891, Cisco 892, Cisco 892F, C896, C897, C898routers
Security Services **Scan SafeCloud Web Security**	
ScanSafe Connector	http://www.cisco.com/en/US/prod/vpndevc/ps6525/ps6538/ps6540/isr_web_security.html
SSL	
FL-SSLVPN25-K9	Feature license SSLVPN for up to 25 users (incremental), for 15.x based Cisco IOS Software releases only
Supported SFP Types on the Cisco 892F (*) Series and Cisco 892FSP, 896VA, 897VA, 898EA	
GLC-LH-SM	1000BASE-LX/LHSFP transceiver module for MMF and SMF, 1300-nm wavelength, dual LC/PC connector
GLC-SX-MM	1000BASE-SXSFP transceiver module for MMF, 850-nm wavelength, dual LC/PC connector
GLC-ZX-SM	1000BASE-ZXSFP transceiver module for SMF, 1550-nm wavelength, dual LC/PC connector
GLC-BX-D	1000BASE-BX10SFP module for single-strand SMF, 1490-nm TX/1310-nm RX wavelength, single LC/PC connector
GLC-BX-U	1000BASE-BX10SFP module for single-strand SMF, 1310-nm TX/1490-nm RX wavelength, single LC/PC connector
GLC-T	1000BASE-T standard
GLC-GE-100FX (*)	Cisco 100BASE-FX SFP for Gigabit Ethernet SFP ports with multimode fiber-optic (MMF) link
GLC-FE-100LX(*)	Cisco 100BASE-LX10SFP with single-mode fiber-optic (SMF) link
GLC-FE-100BX-U(*)	100BASE-BX10-U SFP module for 100-MB ports, 1310 nm TX/1550 nm RX wavelength, 10 km over single-strand SMF
GLC-FE-100BX-D(*)	100BASE-BX10-D SFP module for 100-MB ports, 1550 nm TX/1310 nm RX wavelength, 10 km over single-strand SMF

Product Part Number	Product Description
CWDM-SFP-1470=(*)	Cisco Coarse-Wavelength Division Multiplexing (CWDM) 1470-nm SFP Gigabit Ethernet and 1G/2GFibre Channel
Rack Mount Kit for 890	
ACS-890-RM-19	Rackmount kit for 890
WAASX Feature License	
FL-C890-WAASX	WAASx Feature License

(*) Supported only on Cisco 892F. For more information regarding Cisco 890 Series Routers and options, contact your local Cisco representative or visit: http://www.cisco.com/go/800.To upgrade the Cisco IOS Software for the Cisco 890 Series, visit the Cisco Software Center.

Table 7 gives the Cisco IOS Software images for the Cisco 891 and 892 Integrated Services Routers.

Table 7. Cisco IOS Software Images for Cisco 890 Series

Series	Models	Image	Default Feature License	First Cisco IOS Software Release
Router Software				
Cisco 890 Series	Cisco 891 and 892 models	C890-universalk9-mz	SL-890-AIS (Advanced IP Services Image feature)	12.4(22)YB and will be in 15.0[1]m. S890VK9-12422YB
Cisco 892F Series	Cisco 892F	C890-universalk9-mz	SL-890-AIS (Advanced IP Services Image feature)	15.1(2)T2 S890VK9- 15102T2
Cisco 892FSP Series	Cisco 892FSP	C800-universalk9-mz	SL-890-AIS (Advanced IP Services Image feature)	15.2(4)M S89UK9-15204M
Cisco 896VA, 897VA, and 898EA	Cisco 896VA, 897VA, and 898EA	C800-universalk9-mz	SL-890-AIS (Advanced IP Services Image feature)	15.2(4)M1
Access Point Software				
ap801	Cisco 891 and 892 models	ap801-k9w7-tar ap801-rcvk9w8-tar (LWAPP recovery software)	-	12.4(10b)JA3
ap802	Cisco 897 model	ap802-k9w7-tar ap802-rcvk9w8-tar(LWAPP recovery software)	-	-

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Services from Cisco and our certified partners can help you reduce the cost and complexity of branch-office deployments. We have the depth and breadth of experience across technologies to architect a blueprint for a branch-office solution to meet your company's needs. Planning and design services align technology with business goals and can increase the accuracy, speed, and efficiency of deployment. Technical services help maintain operational health, strengthen software application functions, solve performance problems, and lower expenses. Optimization services are designed to continually improve performance and help your team succeed with new technologies. For more information, visit http://www.cisco.com/go/services.

Cisco SMARTnet® technical support for the Cisco 890 Series is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation. All support contracts include:

- Major Cisco IOS Software updates in protocol, security, bandwidth, and feature improvements
- Full access rights to Cisco.com technical libraries for technical assistance, electronic commerce, and product information
- 24-hour access to the industry's largest dedicated technical support staff

For More Information

For more information about the Cisco 890 Series Integrated Services Routers, visit http://www.cisco.com/go/800 or contact your local Cisco account representative.

For more information about Cisco products, contact:

- United States and Canada: 800 553-NETS (6387)
- Europe: 32 2 778 4242
- Australia: 61 2 9935 4107
- Other: 408 526-7209
- Web: http://www.cisco.com

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