

## 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 has been 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, V.92, and ISDN Basic Rate Interface (BRI)
- 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 [GET VPN] with onboard acceleration, and Secure Sockets Layer [SSL] VPN

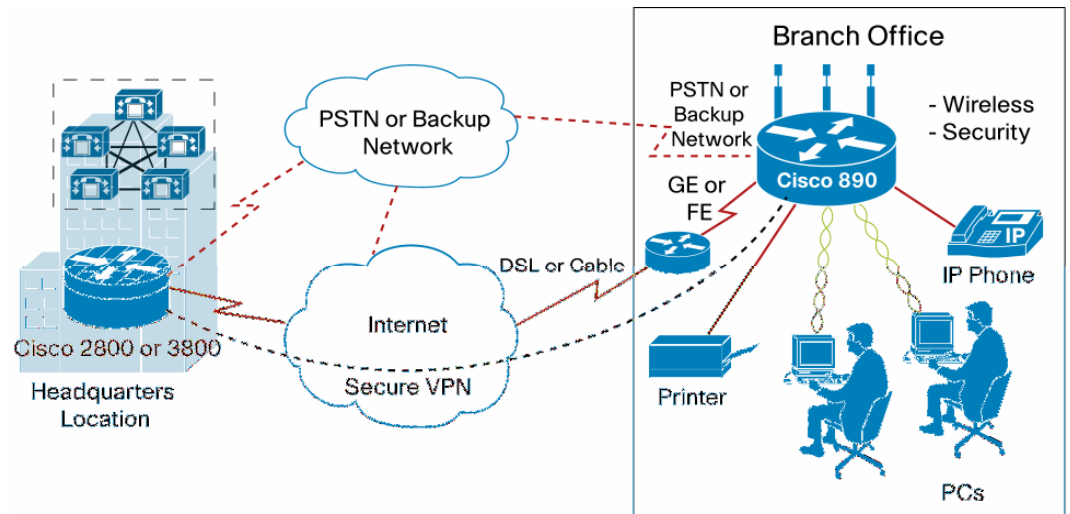
- Intrusion prevention system (IPS): An inline, deep-packet-inspection feature that mitigates a wide range of network attacks
- Content filtering: A subscription-based integrated security solution that offers category-based reputation rating, keyword blocking, and protection against adware, malware, spyware, and URL blocking
- An 8-port 10/100 Fast Ethernet managed switch with VLAN support and 4-port support for Power over Ethernet (PoE) (optional) to power IP phones or external access points
- Metro Ethernet features include:
  - One 1000 BASE-T Gigabit Ethernet WAN port
  - One 10/100 BASE-T Fast Ethernet WAN port
  - Intelligent hierarchical quality of service (HQoS): Supports hierarchical queuing and shaping
  - Connectivity Fault Management (CFM), based on 802.1ag
  - 802.3ah standard based Link operational administration and maintenance (OAM)
  - Ethernet Local Management Interface (E-LMI) for the Customer Edge
  - CFM Interworking and backwards 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
- Easy setup, 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
<b>Cisco 891</b>	1-port GE 1-port FE	8-port 10/100-Mbps managed switch	Yes	Yes/Yes/Yes	V.92 analog modem
<b>Cisco 892</b>	1-port GE 1-port FE	8-port 10/100-Mbps managed switch	Yes	Yes/Yes/Yes	ISDN BRI

**Figure 2.** Typical Two-box Enterprise Small Branch-Office Deployment

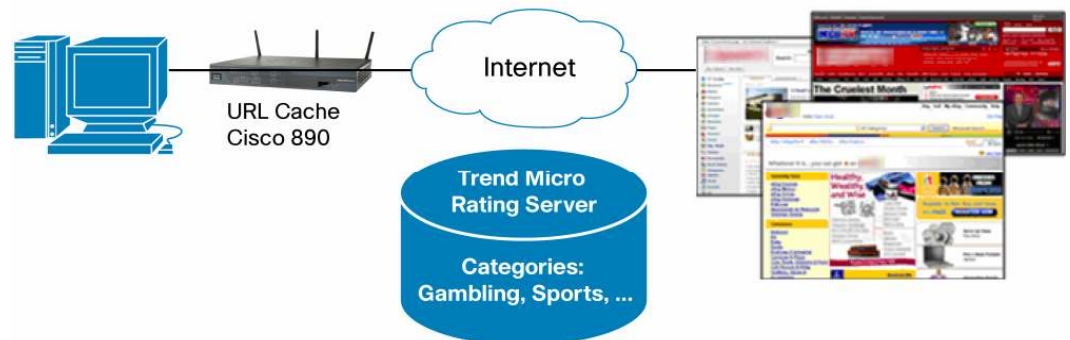


**Architecture Features and Benefits**

**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, content filtering, IPS support, IPsec VPNs (DES, 3DES, and AES), SSL VPN, 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 IOS Content Filtering uses an innovative website caching and rating architecture to deliver the scalability and flexibility of an enterprise-class filtering solution, at a breakthrough price point (Figure 3). This solution is scalable and easy to maintain, ideally suited for small businesses and enterprise small branch offices. 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.

**Figure 3.** Cisco IOS Content Filtering with a Cisco 890 Series Router



### Metro Ethernet Connectivity

Cisco 890 Series routers are ideal for service provider deployments as Metro Ethernet customer premises equipment (CPE). Cisco 891 and 892 Integrated Services Routers include two onboard WAN interfaces, one Gigabit Ethernet WAN port, and one Fast Ethernet WAN port to support the high-bandwidth demands of Metro Ethernet deployments. The router also provides 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 OAM, 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:

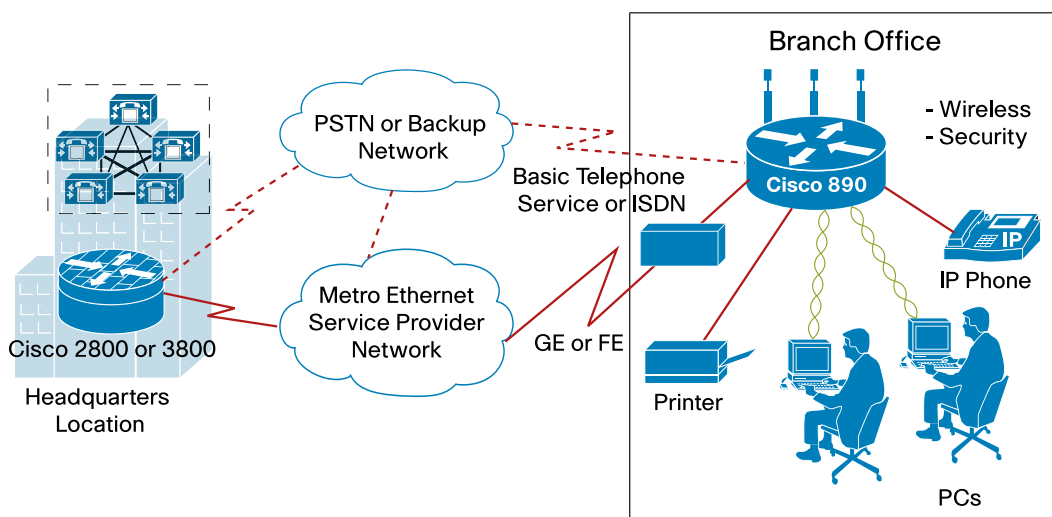
- E-LMI: Basic configuration for detection and isolation of connectivity in the Metro Ethernet network
- E-LMI: Automated configuration of customer edge based on profiles configured:
  - Layer 2 connectivity management
  - Ethernet LMI for the customer edge
- Metro Ethernet OAM:
  - Debugging hierarchy of Ethernet networks
  - Layer 2 service performance monitoring
- 802.1ag CFM:

Uses domains to contain OAM flows and bound OAM 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

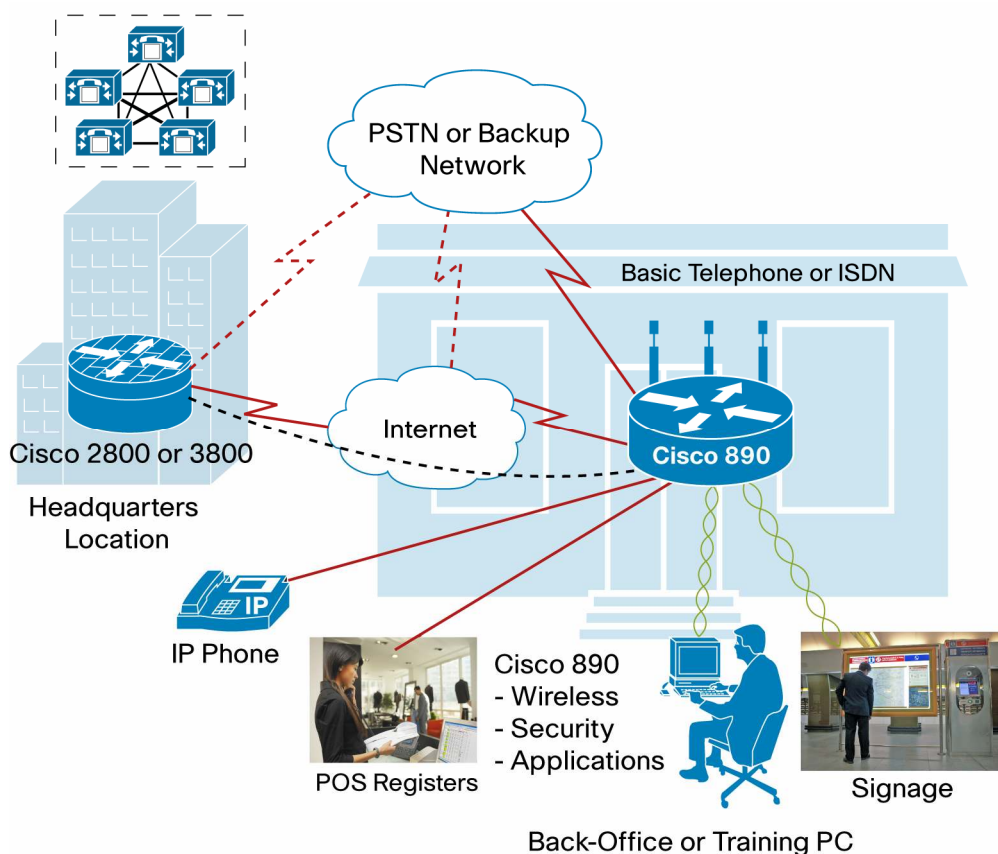
**Figure 4.** Typical Metro Ethernet Deployment (Two-box Solution with Media Converters)



## High Availability

Cisco 890 Series routers enable customers to deliver high-performance and 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), Multigroup HSRP (MHSRP), and dial backup with external modem through a virtual auxiliary port. Cisco 890 Series routers are integrated with ISDN BRI (892 model) or a V.92 analog modem (891 model) 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



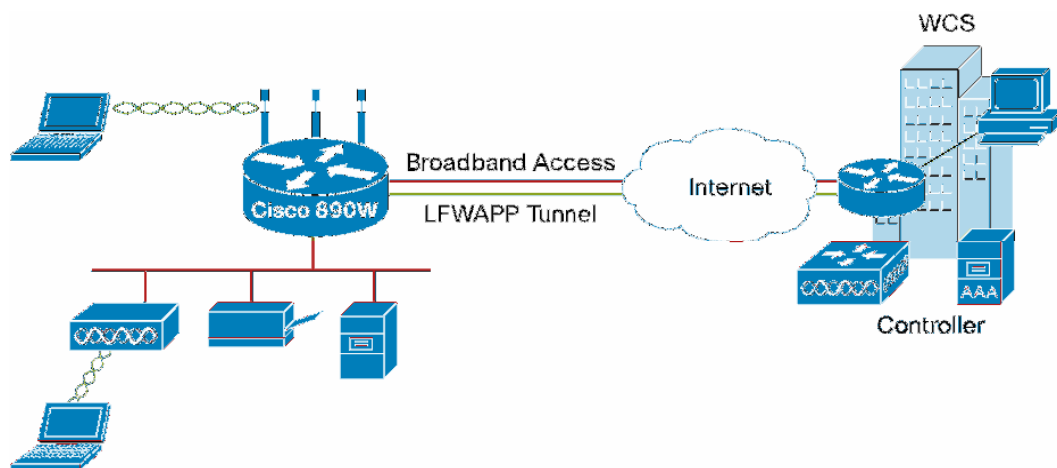
## Integrated Wireless LAN Capability

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 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).

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
<b>Increased performance for concurrent services</b>	<ul style="list-style-type: none"> <li>Router performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services.</li> </ul>
<b>Integrated Gigabit and Fast Ethernet WAN ports</b>	<ul style="list-style-type: none"> <li>Integrated ports offer flexibility in Ethernet WAN access, and the additional capability to deploy redundant WAN connections for failover protections and load balancing.</li> </ul>
<b>Integrated 8-port 10/100 BASE-T managed switch</b>	<ul style="list-style-type: none"> <li>Fully managed LAN switch ports connect multiple LAN devices and reduce the need for an additional LAN switch.</li> </ul>
<b>Integrated WAN backup</b>	<ul style="list-style-type: none"> <li>ISDN BRI S/T (Cisco 892) or analog modem (Cisco 891) port provides high availability by establishing a backup WAN connection if the primary connection fails.</li> </ul>
<b>Real-time clock</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Enhanced security</b>	<ul style="list-style-type: none"> <li>An integrated stateful and application inspection firewall provides network perimeter security.</li> <li>High-speed IPsec 3DES and AES encryption offers data privacy over the Internet.</li> <li>Intrusion prevention enforces security policy in a larger enterprise or service provider network.</li> <li>Content filtering offers category-based URL classification and blocking, thus providing increased productivity and better use of company resources.</li> </ul>

<b>Optional dual-radio/dual-band IEEE 802.11n access point</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The router supports IEEE 802.11n draft 2.0 and uses multiple-input, multiple-output (MIMO) technology that provides increased throughput, reliability, and predictability.</li> </ul>
<b>Separate console, auxiliary, and USB ports</b>	<ul style="list-style-type: none"> <li>• One auxiliary and one console port enable remote configuration and management.</li> <li>• 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 configuration stored on USB flash memory devices.</li> </ul>
<b>Unified wireless management</b>	<ul style="list-style-type: none"> <li>• Configuration and management of access points is automated and simplified without manual intervention.</li> <li>• A unified hybrid remote-edge access point (HREAP) provides the following: <ul style="list-style-type: none"> <li>◦ WLAN services to remote and branch offices without deploying a wireless LAN controller at each location</li> <li>◦ Central configuration and control of unified WLAN services for remote offices through a WAN link</li> <li>◦ Flexibility in setting up wireless access at remote locations by specifying how traffic is to be bridged or tunneled</li> </ul> </li> </ul>
<b>Cisco Configuration Professional</b>	<ul style="list-style-type: none"> <li>• Cisco Configuration Professional uses smart wizards and task-based tutorials, which reseller 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.</li> </ul>

## 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 3–5 list software and hardware features of the Cisco 890 Series.

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

Feature	Description
<b>IP and IP services features</b>	<ul style="list-style-type: none"> <li>• Routing Information Protocol Versions 1 and 2 (RIPv1 and RIPv2)</li> <li>• Generic routing encapsulation (GRE) and Multipoint GRE (MGRE)</li> <li>• Cisco Express Forwarding</li> <li>• Standard 802.1d Spanning Tree Protocol</li> <li>• Layer 2 Tunneling Protocol (L2TP)</li> <li>• Layer 2 Tunneling Protocol Version 3 (L2TPv3)</li> <li>• Network Address Translation (NAT)</li> <li>• Dynamic Host Configuration Protocol (DHCP) server, relay, and client</li> <li>• Dynamic Domain Name System (DNS)</li> <li>• DNS Proxy</li> <li>• DNS Spoofing</li> <li>• Access control lists (ACLs)</li> <li>• IPv4 and IPv6 Multicast</li> <li>• Open Shortest Path First (OSPF)</li> <li>• Border Gateway Protocol (BGP)</li> <li>• Performance Routing (PFR)</li> <li>• Enhanced Interior Gateway Routing Protocol (EIGRP)</li> <li>• Virtual Route Forwarding (VRF) Lite</li> <li>• Next Hop Resolution Protocol (NHRP)</li> <li>• Bidirectional Forwarding Detection (BFD)</li> <li>• Web Cache Communication Protocol (WCCP)</li> </ul>


<b>Switch features</b>	<ul style="list-style-type: none"> <li>• Auto Media Device In/Media Device Cross Over (MDI-MDX)</li> <li>• 14 802.1Q VLANs</li> <li>• MAC filtering</li> <li>• 4-port 802.3af and Cisco compliant PoE</li> <li>• Switched Port Analyzer (SPAN)</li> <li>• Storm Control</li> <li>• Smart ports</li> <li>• Secure MAC address</li> <li>• Internet Group Management Protocol Version 3 (IGMPv3) snooping</li> <li>• 802.1x</li> </ul>
<b>Security features</b>	<p>Secure connectivity:</p> <ul style="list-style-type: none"> <li>• SSL VPN for secure remote access</li> <li>• Hardware-accelerated DES, 3DES, AES 128, AES 192, and AES 256</li> <li>• Public-key-infrastructure (PKI) support</li> <li>• 50 IPsec tunnels</li> <li>• Cisco Easy VPN Client and Server</li> <li>• NAT transparency</li> <li>• DMVPN</li> <li>• Tunnel-less Group Encrypted Transport VPN</li> <li>• IPsec stateful failover</li> <li>• VRF-aware IPsec</li> <li>• IPsec over IPv6</li> <li>• Adaptive control technology</li> <li>• Session Initiation Protocol (SIP) application-layer gateway</li> <li>• Cisco IOS Firewall:</li> <li>• Zone-Based Policy Firewall</li> <li>• VRF-aware stateful inspection routing firewall</li> <li>• Stateful inspection transparent firewall</li> <li>• Advanced application inspection and control</li> <li>• HTTPS, FTP, and Telnet Authentication Proxy</li> <li>• Dynamic and static port security</li> <li>• Firewall stateful failover</li> <li>• VRF-aware firewall</li> <li>• Content Filtering:</li> <li>• Subscription-based content filtering with Trend Micro</li> <li>• Support for Websense and SmartFilter</li> <li>• Cisco IOS Software black and white lists</li> <li>• Integrated threat control:</li> <li>• Intrusion prevention system (IPS)</li> <li>• Control Plane Policing</li> <li>• Flexible Packet Matching</li> <li>• Network foundation protection</li> </ul>
<b>QoS features</b>	<ul style="list-style-type: none"> <li>• Low-Latency Queuing (LLQ)</li> <li>• Weighted Fair Queuing (WFQ)</li> <li>• Class-Based WFQ (CBWFQ)</li> <li>• Class-Based Traffic Shaping (CBTS)</li> <li>• Class-Based Traffic Policing (CBTP)</li> <li>• Policy-based routing (PBR)</li> <li>• Class-Based QoS MIB</li> <li>• Class of service (CoS)-to-differentiated services code point (DSCP) mapping</li> <li>• Class-Based Weighted Random Early Detection (CBWRED)</li> <li>• Network-Based Application Recognition (NBAR)</li> <li>• Link fragmentation and interleaving (LFI)</li> <li>• Resource Reservation Protocol (RSVP)</li> <li>• Real-Time Transport Protocol (RTP) header compression (cRTP)</li> <li>• Differentiated Services (DiffServ)</li> <li>• QoS preclassify and prefragmentation</li> <li>• Hierarchical QoS (HQoS)</li> </ul>



<b>Management features</b>	<ul style="list-style-type: none"> <li>• Cisco Configuration Professional</li> <li>• Cisco Configuration Express</li> <li>• Cisco Configuration Engine support</li> <li>• Cisco AutoInstall</li> <li>• IP SLA</li> <li>• Cisco IOS Embedded Event Manager (EEM)</li> <li>• CiscoWorks</li> <li>• Cisco Security Manager</li> <li>• Telnet, SNMPv3, SSH, CLI, and HTTP management</li> <li>• RADIUS and TACACS+</li> <li>• Out-of-band management with ISDN S/T port or external modem through virtual auxiliary port</li> <li>• Cisco Wireless Control System (WCS) for management of unified access points in models supporting WLAN</li> </ul>
<b>High-availability features</b>	<ul style="list-style-type: none"> <li>• Virtual Router Redundancy Protocol (VRRP) (RFC 2338)</li> <li>• HSRP</li> <li>• MHSRP</li> <li>• Dial backup with external modem through virtual auxiliary port</li> <li>• Dial backup with ISDN S/T or V.92 Analog modem port</li> </ul>
<b>Metro Ethernet features</b>	<ul style="list-style-type: none"> <li>• Ethernet OAM</li> <li>• Ethernet LMI</li> <li>• IP SLA for Ethernet</li> </ul>
<b>IPv6 features</b>	<ul style="list-style-type: none"> <li>• IPv6 addressing architecture</li> <li>• IPv6 name resolution</li> <li>• IPv6 statistics</li> <li>• IPv6 translation: Transport packets between IPv6-only and IPv4-only endpoints (NAT-PT)</li> <li>• Internet Control Message Protocol Version 6 (ICMPv6)</li> <li>• IPv6 DHCP</li> </ul>
<b>Unified WLAN management</b>	<ul style="list-style-type: none"> <li>• Unified access point features: <ul style="list-style-type: none"> <li>• Supported by wireless LAN controller and Cisco WCS</li> <li>• Configurable local or central switching for HREAP mode</li> <li>• Radio management through Cisco WCS</li> <li>• Transparent roaming with mobility groups</li> </ul> </li> </ul>
<b>Number of recommended users</b>	50

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

Feature	Description
<b>Standard 802.11 a/g/n access point based on IEEE 802.11n draft 2.0 standard</b>	Optional on all 89x models
<b>WLAN hardware</b>	<ul style="list-style-type: none"> <li>• IEEE 802.11n draft v2.0 standards-based access point with 802.11 a/g compatibility</li> <li>• Automatic rate selection for 802.11a/g/n</li> <li>• Noncaptive RPTNC omnidirectional dipole antennae; 2 dBi gain @ 2.4 GHz, 5 dBi gain @ 5GHz</li> <li>• 2x3 MIMO radio operation</li> <li>• Wi-Fi 802.11n Draft v2.0 certified</li> </ul>
<b>WLAN software features</b>	<ul style="list-style-type: none"> <li>• Autonomous or unified access point</li> <li>• Cisco WCS support for monitoring of autonomous-mode access points</li> <li>• Option to maximize throughput or maximize range</li> <li>• Software-configurable transmit power</li> <li>• Radio roles, including access point, root bridge, nonroot bridge, and workgroup bridge</li> <li>• Wi-Fi Multimedia (WMM) certification</li> <li>• Traffic specifications (TSPEC) Call Admission Control (CAC) to ensure voice quality is maintained</li> <li>• Unscheduled Automatic Power Save Delivery (UPSD) to reduce latency</li> </ul>


<b>WLAN security features</b>	<ul style="list-style-type: none"> <li>• Standard 802.11i</li> <li>• WPA and AES (WPA2)</li> <li>• 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)</li> <li>• Static and dynamic Wired Equivalent Privacy (WEP)</li> <li>• Temporal Key Integrity Protocol/Simple Security Network (TKIP/SSN) encryption</li> <li>• MAC authentication and filter</li> <li>• User database for survivable local authentication using LEAP and EAP-FAST</li> <li>• Configurable limit to the number of wireless clients</li> <li>• Configurable RADIUS accounting for wireless clients</li> <li>• Preshared keys (PSKs) (WPA-small office or home office [WPA-SOHO])</li> </ul>
<b>Certifications</b>	
<b>Service Set Identifiers (SSIDs) and Multiple Broadcast SSIDs</b>	16
<b>Wireless VLANs</b>	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
<b>Default and maximum DRAM</b>	<ul style="list-style-type: none"> <li>• 512 MB/768 MB on Cisco 890 Series data models; upgrade option available</li> </ul>
<b>Default and maximum flash memory</b>	<ul style="list-style-type: none"> <li>• 256/256 MB on all Cisco 890 models; not upgradable</li> </ul>
<b>WAN</b>	<ul style="list-style-type: none"> <li>• 1-port Gigabit Ethernet and 1-port Fast Ethernet</li> </ul>
<b>LAN switch</b>	<ul style="list-style-type: none"> <li>• Managed 8-port 10/100 BASE-T with autosensing MDI/MDX for auto crossover</li> </ul>
<b>Separate console and auxiliary ports</b>	<ul style="list-style-type: none"> <li>• RJ-45</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• Two USB 2.0 ports available on Cisco 890 models</li> <li>• USB devices supported: <ul style="list-style-type: none"> <li>◦ USB eTokens</li> <li>◦ USB Flash</li> </ul> </li> </ul> <p>Note: USB 2.0 ports cannot be used for connecting external devices other than those specified at:  <a href="http://www.cisco.com/en/US/prod/collateral/modules/ps6247/product_data_sheet0900aecd80232473.html">http://www.cisco.com/en/US/prod/collateral/modules/ps6247/product_data_sheet0900aecd80232473.html</a></p>
<b>ISDN BRI S/T</b>	<p>Available on:</p> <ul style="list-style-type: none"> <li>• Cisco 892 for out-of-band management and dial backup or primary</li> <li>• Point-to-multipoint configurations</li> </ul>
<b>Inline PoE</b>	<ul style="list-style-type: none"> <li>• 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</li> </ul>
<b>Wireless specifications</b>	2.4 and 5 GHz
<b>Data rates supported</b>	<ul style="list-style-type: none"> <li>• 802.11b: 1, 2, 5.5, 6, 9, and 11 Mbps</li> <li>• 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</li> <li>• 802.11n: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, and m0-m15</li> </ul>
<b>Maximum transmit power (2-channel aggregate)</b>	<ul style="list-style-type: none"> <li>• 802.11b: 20 dBm</li> <li>• 802.11g: 17 dBm</li> <li>• 802.11n: 16 dBm</li> </ul> <p>Note: Maximum power setting is subject to changes by channel and by region, depending on regulations.</p>

<b>Physical dimensions and weight</b>	<p>Product dimensions:</p> <p>Nonwireless models:</p> <ul style="list-style-type: none"> <li>• H x W x D = 1.9 x 12.8 x 9.8 in. (48 x 325 x 249 mm) (includes rubber feet)</li> <li>• H x W x D = 1.75 x 12.8 x 9.8 in. (44 x 325 x 249 mm) (without rubber feet)</li> </ul> <p>Wireless models:</p> <ul style="list-style-type: none"> <li>• H x W x D = 1.9 x 12.8 x 10.4 in. (48 x 325 x 264 mm) (includes rubber feet)</li> <li>• H x W x D = 1.75 x 12.8 x 10.4 in. (44 x 325 x 264 mm) (without rubber feet; excludes antennas)</li> <li>• Weight: 5.5 lb (2.5 kg) maximum</li> </ul>
<b>External power supply</b>	<p>Product power specifications:</p> <ul style="list-style-type: none"> <li>• AC input voltage: Universal 100 to 240 VAC</li> <li>• Frequency: 50 to 60 Hz</li> <li>• Maximum output power: 60W</li> <li>• Output voltages: 12 VDC</li> <li>• Optional internal PoE with external adapter:</li> <li>• Maximum output power: 80W</li> <li>• External output voltage: 48 VDC</li> </ul>
<b>Approvals and compliance</b>	<ul style="list-style-type: none"> <li>• Emission <ul style="list-style-type: none"> <li>• 47 CFR Part 15: 2006 <ul style="list-style-type: none"> <li>◦ CISPR22: 2005</li> <li>◦ EN300386: V1.3.3 : 2005</li> <li>◦ EN55022: 2006</li> <li>◦ EN61000-3-2: 2000 [Inc amd 1 &amp; 2]</li> <li>◦ EN61000-3-3: 1995 [+ amd 1: 2001]</li> <li>◦ ICES-003 Issue 4 : 2004</li> <li>◦ KN 22: 2005</li> <li>◦ VCCI: V-3/2006.04</li> </ul> </li> </ul> </li> <li>• Immunity <ul style="list-style-type: none"> <li>• CISPR24: 1997 [+ amd 1 &amp; 2] <ul style="list-style-type: none"> <li>◦ EN300386: V1.3.3 : 2005</li> <li>◦ EN50082-1: 1992</li> <li>◦ EN50082-1: 1997</li> <li>◦ EN55024: 1998 [+ amd 1 &amp; 2]</li> <li>◦ EN61000-6-1: 2001</li> </ul> </li> </ul> </li> </ul>
<b>Certifications</b>	
<b>Environmental operating range</b>	<ul style="list-style-type: none"> <li>• Nonoperating temperature: –4 to 149F (–20 to 65°C)</li> <li>• Non operating humidity: 5 to 95% relative humidity (noncondensing)</li> <li>• Non operating altitude: 0 to 15,000 ft (0 to 4570m)</li> <li>• Operating temperature: 32 to 104F (0 to 40°C)</li> <li>• Operating humidity: 10 to 85% relative humidity (noncondensing)</li> <li>• Operating altitude: 0 to 10,000 ft (0 to 3000m)</li> </ul>

## 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/890>. 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
<b>Integrated Services Routers</b>	
<b>CISCO891-K9</b>	Cisco 891 Gigabit Ethernet Security Router
<b>CISCO891W-AGN-A-K9</b>	Cisco 891W Gigabit Ethernet Security Router w/ 802.11n FCC Compliant
<b>CISCO891W-AGN-N-K9</b>	Cisco 891W Gigabit Ethernet Security Router w/ 802.11n Australia Compliant
<b>CISCO892-K9</b>	Cisco 892 Gigabit Ethernet Security Router
<b>CISCO892W-AGN-E-K9</b>	Cisco 892W Gigabit Ethernet Security Router w/ 802.11n ETSI Comp
<b>Memory Options</b>	
<b>MEM8XX-512U768D</b>	512 MB DRAM upgrade to 768 MB for Cisco 890 Series routers
<b>Router Software</b>	
<b>C890-universalk9-mz</b>	Universal image for Cisco 890 Series routers
<b>Access Point Software</b>	
<b>ap801-k9w7-tar</b>	Autonomous software image for ap801
<b>ap801-rcvk9w8-tar</b>	Lightweight Access Point Protocol (LWAPP) recovery image for ap801
<b>Power over Ethernet Options</b>	
<b>800-IL-PM-4</b>	4-port 802.3af capable internal power module for Cisco 890 Series routers
<b>Security Services</b>	
<b>SL-CNFIL-890-1Y</b>	One year subscription to Content Filtering for Cisco 890 Series routers
<b>SL-CNFIL-8xx-TRI</b>	30-day free trial license for Cisco 890 Series routers
<b>SSL</b>	
<b>FL-WEBVPN-25-K9</b>	Feature license SSL VPN for up to 25 users (incremental)

For more information regarding Cisco 890 Series routers and options, contact your Cisco representative or visit: <http://www.cisco.com/go/890>.

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
<b>Router Software</b>				
<b>Cisco 890 Series</b>	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
<b>Access Point Software</b>				
<b>ap801</b>	Cisco 891 and 892 models	ap801-k9w7-tar ap801-rcvk9w8-tar (LWAPP recovery software)	--	12.4(10b)JA3

## Cisco Services

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Cisco SMARTnet<sup>®</sup> 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 Router, visit <http://www.cisco.com/go/890> or contact your local 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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