**Product Details of Cisco 881 Integrated Services Router**

**Description**

Cisco 881 Integrated Services Router is fixed-configuration router that provide collaborative business solutions for secure data communication to small businesses and enterprise teleworkers. The Cisco 881 offers concurrent broadband services over 3G1, Metro Ethernet, and multiple types of DSL and provides business continuity.

[**See All Product Specs**](http://computers.pricegrabber.com/wireless-networking/Cisco-881-4-PORT-SWITCH/m77318397.html)

**Strengths:** Handles everything i can throw at it (including PC and XBOX gaming) and it keeps begging for more.

**Weakness:** It can be a little tricky to configure at times but its worth it. It makes u dig for the commands and by the time u fine them u know exactly how to enter it and what exactly it does

I would recommend this bad boy to anyone in the market for a small/medium business router. And I would definitely recommend buying it from PROVANTAGE and only PROVANTAGE. They are the ONLY business so far to call me and confirm my order and shipping address when I had it sent to an address other than my billing address. And I've dealt with Amazon, Newegg, CompUSA, etc. A+ to Cisco for such an awesome product and A++ to PROVANTAGE for their awesome customer support! Finally a company that CARES about their customers!

100% of readers found this review helpful. Did you find it [helpful](http://reviews.pricegrabber.com/wireless-networking/m/77318397/) or [unhelpful](http://reviews.pricegrabber.com/wireless-networking/m/77318397/)?

# Secure Services and Mobility for Small Offices and Teleworker

The 10/100-Mbps fast Ethernet models of the Cisco 881 Integrated Services Routers combine Internet access, security and wireless services onto a single, secure device. This router offers broadband speeds and simplified management to small businesses, and enterprise small branch and teleworkers.

The Cisco 880 Series provides:

* Firewall
* Content filtering
* VPNs, and WLANs, at broadband speeds to small offices
* Easy deployment
* Centralized management features

Available options on the Cisco 881 Integrated Services Router include:

* [Survivable Remote Site Telephony](http://www.cisco.com/en/US/products/sw/voicesw/ps2169/index.html) for teleworker and small branch voice
* Built-in advanced security, including intrusion prevention, GET VPN, dynamic multipoint VPN (DMVPN) for up to 20 site-to-site VPN tunnels
* Cisco Configuration Professional for simplified management
* WAN connection with multiple access options
* Business continuity with primary and backup connections on the Cisco 880 router, including [third-generation wireless](http://www.cisco.com/en/US/prod/routers/ps380/3g_solns.html) and ISDN

# Secure Services and Mobility for Small Offices and Teleworker

The 10/100-Mbps fast Ethernet models of the Cisco 881 Integrated Services Routers combine Internet access, security and wireless services onto a single, secure device. This router offers broadband speeds and simplified management to small businesses, and enterprise small branch and teleworkers.

The Cisco 880 Series provides:

* Firewall
* Content filtering
* VPNs, and WLANs, at broadband speeds to small offices
* Easy deployment
* Centralized management features

Available options on the Cisco 881 Integrated Services Router include:

* [Survivable Remote Site Telephony](http://www.cisco.com/en/US/products/sw/voicesw/ps2169/index.html) for teleworker and small branch voice
* Built-in advanced security, including intrusion prevention, GET VPN, dynamic multipoint VPN (DMVPN) for up to 20 site-to-site VPN tunnels
* Cisco Configuration Professional for simplified management
* WAN connection with multiple access options
* Business continuity with primary and backup connections on the Cisco 880 router, including [third-generation wireless](http://www.cisco.com/en/US/prod/routers/ps380/3g_solns.html) and ISDN

[Write a Review on this Product](https://ssl.buy.com/AC/Account/RedirectMaster.aspx?what=review&sku=209301503&disptype=wr&loc=101)



**Great option for SOHO for Cisco Networks** 12/7/2010  
**M. Krygeris** from Somersworth, NH  

If you are comfortable with Cisco IOS, this is an excellent option. If you are a home user looking for a "super router", you might do better looking at a consumer grade router running DD-WRT. I loaded these with IOS 15.1(3)T and installed advanced IP services. This unit has the FULL range of options you expect from Cisco IOS 15.1 on an ISR. I was able to enable Cisco's new Performance Monitor architecture and track VOIP and tele-presence Jitter and TCP round trip time via Netflow using Scrutinizer Netflow Analyzer from Plixer. Also using the Flexible Netflow option, so I can trend by application and pin down p2p traffic. The Draft N wireless works well, but the configuration interface could be less complicated. The Java configuration application (launched from the internal http/https server) was a bit clunky when I tried it out, but I like to config via IOS command line anyway, so this is a non issue for me. All and all, I got some great routers at a great price. I am very happy with my purchase. This thing can do things that other devices just can't.

**The Cisco**®**880 Series Integrated Services Routers combine Internet access, security, voice, and wireless services onto a single, secure device that is simple to use and manage for small businesses and enterprise small branch offices and teleworkers. The Cisco 880 Series delivers features including firewall, content filtering, VPNs, and wireless LANs (WLANs) at broadband speeds to small offices. Easy deployment and centralized management features enable enterprises or service providers to deploy the Cisco 880 Series in small branch offices or small businesses.**

Product Overview

Cisco 880 Series Integrated Services Routers are fixed-configuration routers that provide collaborative business solutions for secure voice and data communication to small businesses and enterprise teleworkers. They offer concurrent broadband services over third-generation (3G), Metro Ethernet, and multiple DSL technologies to provide business continuity. Wireless 802.11n and 3G offer LAN and WAN mobility. The routers provide the performance required for concurrent services, including firewall, intrusion prevention, content filtering, and encryption for VPNs; optional 802.11g/n for mobility; and quality-of-service (QoS) features for optimizing voice and video applications. In addition, the web-based Cisco Configuration Professional configuration tool simplifies setup and deployment. Centralized management capabilities give network managers visibility and control of the network configurations at the remote site.

Cisco 880 Series Integrated Services Routers offer:

• High performance for broadband access in small offices and small branch-office and teleworker sites

• Collaborative services with secure analog, digital voice, and data communication

• Business continuity and WAN diversity with redundant WAN links: Fast Ethernet, Multimode G.SHDSL(Ethernet in the First Mile [EFM] and ATM), Multimode DSL (very-high-data-rate DSL 2 [VDSL2] and asymmetric DSL 2 and 2+ [ADSL2 and ADSL2+, respectively]), 3G, and ISDN

• Voice-enabling features:

– Cisco Unified Communications Manager Express(5 user) which offers innovative key system and small private branch exchange (PBX) capabilities for small and medium business customers

– Survivable Remote Site Telephony (SRST) voice continuity for enterprise small branch-office and teleworker sites

– Cisco Unified Border Element (Cisco UBE) IP-IP voice gateway functions for connecting to Session Initiation Protocol (SIP) trunking services as a replacement for Primary Rate Interface (PRI) or foreign-exchange-office (FXO) voice connectivity to the service provider. **Note:** Cisco Unified Border Element support for the Cisco 880 Series has feature limitations as compared to the Cisco Integrated Services Routers Generation 2 (ISR G2 Routers). Go to <http://www.cisco.com/go/cube> for the full set of Cisco Unified Border Element features. Cisco Unified Border Element limitations on Cisco 880 Routers are listed later in this document.

• 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 effectively 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 Uniform Resource Locator (URL) blocking

• Four-port 10/100 Fast Ethernet managed switch with VLAN support; two ports support Power over Ethernet (PoE) for powering IP phones or external access points

• Secure 802.11g/n access-point option based on draft 802.11n standard with support for autonomous or Cisco Unified WLAN architectures

• CON/AUX port for console or external modem

• One USB 1.1 port for security eToken credentials, booting from USB, and loading configuration

• Easy setup, deployment, and remote-management capabilities through web-based tools and Cisco IOS® Software

Figure 1 shows a Cisco 881 Integrated Services Router.

**Figure 1.** **Cisco 881 Integrated Services Router with Integrated 802.11n Access Point**

The Cisco 880 Series is ideal for small branch offices and teleworkers who need to be connected to larger enterprise networks as well as small businesses for either voice or data applications. These routers help extend corporate networks to secure remote sites while giving users access to the same applications found in a corporate office. When users require WLAN access, visibility and control of network security are even more critical at the remote site. The Cisco 880 Series meets this need with a single device that combines integrated 802.11g/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). (Refer to the wireless solution overview and security data sheet for more information. The Cisco 880 Series models that include the integrated access point can use 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).

Service providers and value-added resellers can take advantage of the Cisco 880 Series to provide a true business-class broadband service. Business customers are using broadband access to connect to the Internet or to connect offices together, and they require a platform that incorporates voice and security without sacrificing performance. The Cisco 881V and Cisco 887VA-V voice routers offer industry-leading voice gateway capability with the ability to layer of Cisco Unified Communications Manager Express or SRST as required. Many of these customers are connecting computers in offices through WLANs; having a single device for both WAN and WLAN access provides a new option for managed services. These customers also require a higher level of support to keep their networks operational. Services with these customers should be simple to set up, while allowing a level of remote management and troubleshooting to quickly address support inquiries. The Cisco 880 Series meets the requirements of small offices and managed services providers.

Figure 2 shows deployment scenarios.

Applications

The Cisco 880 Series is ideally suited for deployment in a small office or in a small office that is part of a large network, most often with a secure VPN connection. These types of offices can include the following:

• Small remote office: The Cisco 880 Series can connect users in a small remote office, such as an insurance, lawyer, or sales office. When connecting to the main office, VPN encryption and integrated security such as firewall and intrusion prevention protect the network at the perimeter. The Cisco 880 with the Cisco Unified Border Element Series can also support connection to SIP trunking voice-over-IP (VoIP) services provided by the service provider. Additionally, IT managers can centrally manage the remote site to quickly troubleshoot any network problems. For added reliability, customers can also use the integrated 3G or ISDN backup or connect through an external modem if the primary broadband link fails. Integrated secure unified WLAN connectivity simplifies the deployment and management devices at the remote site. Redundant WAN links offer business continuity, enabling nondisruptive business operation.

• Virtual office: The Cisco 880 Series is ideal for corporate teleworkers who have a mix of broadband connection types such as DSL, 3G, and Metro Ethernet. The Cisco 880 Voice gateway and SRST Series provides a secure virtual office with all the collaborative services such as data, voice, and fax services. SRST helps ensure voice services are operational in case of WAN link failure, and redundant WAN links help ensure business continuity. QoS features in the Cisco 880 Series allow for connection of an IP or analog phone to the router, giving voice traffic precedence over data applications. Integrated WLAN support in the Cisco 880 Series helps ensure that if wireless connectivity is used it is secure. (Refer to the Cisco Virtual Office Solution,<http://www.cisco.com/go/cvo>, for more information.)

• Remote call-center agent: Similar to teleworking applications, this solution extends the Cisco IP Contact Center solution for telephone call-center agents to remote sites. With a high-quality, secure connection through the Cisco 880 Series, call-center agents can be dispersed away from costly call-center facilities while maintaining secure and productive voice and data access in their homes. SRST and business-continuity solutions in the Cisco 880 Series provide reliability and continuous business operation. Alternatively, the remote call-center agent can be provided with SIP trunking service with service demarcation provided by Cisco Unified Border Element features and the central call center can forward calls to the remote call-center agent through the remote-office SIP trunk.

• Retail VPN: Retail stores migrating from dialup connections for point-of-sale transactions can use the Cisco 880 Series to take advantage of low-cost broadband access with the required security to comply with payment-card-industry (PCI) and other data security requirements. They can then add multiple devices and applications to the store network to take advantage of the increased bandwidth and also incorporate optional WLAN support to enable secure mobility and enhance productivity.

• Managed services: Service providers and value-added resellers can use the Cisco 880 Series as a platform to offer differentiated business-class security, voice, and WLAN services for small business customers. With built-in analog and digital voice ports and the ability to upgrade to a 5 user Cisco Unified Communications Manager Express IP PBX, service providers can now offer all the Unified communications benefits to small and medium businesses. The SIP trunking connectivity features of the Cisco 880 with Cisco Unified Border Element Series Router can provide the high-quality VoIP service needed through the service provider cloud.

Features and Benefits

Table 3 lists the features and benefits of the Cisco 880 Series Integrated Services Routers.

**Table 3.** **Features and Benefits of Cisco 880 Series Routers**

|  |  |
| --- | --- |
| **Feature** | **Benefit** |
| **Increased performance to run concurrent services** | • Cisco 880 Series Router performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services. |
| **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.  • Content filtering offers category-based URL classification and blocking, thus providing increased productivity and better use of company resources. |
| **WAN diversity** | • Multiple WAN links include Fast Ethernet, multimode VDSL2/ADSL2/2+, multimode G.SHDSL, 3G, and ISDN. |
| **Redundant WAN links** | • Redundant WAN links provide business continuity and WAN diversity with. |
| **Four-port 10-/100-Mbps managed switch** | • The Cisco 880 Series allows for connection of multiple devices in a small office, with the ability to designate a port as the network edge.  • An optional external PoE adapter powers IP phones and external access points to avoid individual power supplies or power injectors.  • VLANs allow for secure segmentation of network resources. |
| **CON/AUX port** | • A single dual-purpose port provides direct connection to a console or external modem for management or backup access points. |
| **Optional 802.11g/n access point** | • This broadband router offers a secure integrated access point in a single device.  • This integrated Wi-Fi access point offers IEEE 802.11n 2.0 standard support for mobile access to high-bandwidth data, voice, and video applications through the use of multiple-input, multiple-output (MIMO) technology that provides increased throughput, reliability, and predictability.  • The Cisco 880 Series supports both autonomous and unified modes. |
| **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. |
| **Voice Gateway (supported on 881V and 887VA-V voice models)** | • Provides voice gateway functionality with the ability to upgrade to a 5 user Cisco Unified Communications Manager Express or 5 user SRST) |
| **SRST (supported on SRST voice models)** | • SRST provides business continuity for voice when the WAN link fails by switching calls to the PSTN. |
| **Cisco Unified Border Element (supported on Cisco Unified Border Element voice models)** | • Support for SIP trunk connectivity, including demarcation and interworking, is based on a Cisco Unified Border Element feature license.  • Transcoding of media is **not** supported on the Cisco 880 Series Cisco Unified Border Element feature set. |
| **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 command-line interface (CLI). |
| **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 WLAN 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 |

Summary

Cisco 880 Series Integrated Services Routers combine increased network performance with advanced security to allow small-office customers to get the most from their broadband connections for both data and voice applications. With models supporting different broadband technologies such as DSL, 3G, and Metro Ethernet, the Cisco 880 Series can be deployed at any small-office location. Optional integrated 802.11g/n wireless capabilities provide true business-class WAN and WLAN access in a single solution. With the Cisco 880 Series, enterprise IT managers and service providers can take advantage of a solution that can be easily set up at the remote site and can be centrally managed to reduce ongoing operational costs.

Product Specifications

Cisco IOS Software Support

Table 4 lists the minimum Cisco IOS Software releases and the default Cisco IOS Software feature sets.

**Table 4.** **Cisco IOS Software Releases and Default Cisco IOS Software Feature Sets**

|  |  |  |  |
| --- | --- | --- | --- |
| **Models** | **Universal Image** | **Default Feature Set** | **First Cisco IOS Software Release** |
| **Cisco 881** | Data | Advanced Security | 12.4(20)T |
| **Cisco 881 SEC, Embedded 3G** | Data | Advanced IP | 12.4(20)T, 15.1(4)M |
| **Cisco 881V** | Voice | Advanced IP\* | 15.1(4)M |
| **Cisco 881 SRST** | Voice | Advanced IP\* | 12.4(20)T |
| **Cisco 886VA and 887VA** | Data | Advanced Security | 15.1(2)T |
| **Cisco 886VA and 887VA WLAN** | Data | Advanced Security | 15.1(3)T |
| **Cisco 886VA and 887VA Embedded 3G** | Data | Advanced Security | 15.1(4)M |
| **Cisco 886 and 887** | Data | Advanced Security | 12.4(22)YB3 |
| **Cisco 886 and 887 SEC, 3G** | Data | Advanced IP | 12.4(22)YB3 |
| **Cisco 887V** | Data | Advanced Security | 12.4(22)YB, 12.4(24)T |
| **Cisco 887V SEC, 3G** | Data | Advanced IP | 12.4(22)YB, 12.4(24)T |
| **Cisco 887V WLAN** | Data | Advanced Security | 15.0(1)M |
| **Cisco 887V 3G** | Data | Advanced IP | 15.0(1)M |
| **Cisco 887VA-V** | Voice | Advanced IP | 15.1(4)M |
| **Cisco 887VA-V-W** | Voice | Advanced IP | 15.1(4)M |
| **Cisco 888** | Data | Advanced Security | 12.4(20)T |
| **Cisco 888 SEC, 3G** | Data | Advanced IP | 12.4(20)T, 15.1(4)M |
| **Cisco 888 SRST** | Voice | Advanced IP\* | 12.4(20)T |
| **Cisco 888E** | Data | Advanced Security | 15.1(1)T |
| **Cisco 888E Embedded 3G** | Data | Advanced IP | 15.1(4)M |
| **Cisco 888EA** | Data | Advanced Security | 15.2(2)T |
| **Cisco 881, 886VA, 887VA, 888, 888E with Cisco Unified Border Element** | Voice | Advanced IP | 15.1(4)M |
| **Access-point software (ap801)** | - | - | 12.4(10b)JA3 |

\* Cisco 881V, 887VA-V, 881 SRST and 888 SRST run the Cisco 880 voice universal image, which shares the same data and security features as the Advanced IP feature sets of Cisco 880 data models.

Tables 5 and 6 list software features of the Cisco 880 Series.

**Table 5.** **Cisco IOS Software Features on Cisco 880 Series: Advanced Security Feature 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)  • 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) |
| **ATM features (ADSL and G.SHDSL ATM models only)** | • ATM Variable Bit Rate real-time (VBR-rt)  • ATM Unspecified Bit Rate (UBR), Constant Bit Rate (CBR), and Variable Bit Rate non-realtime (VBR-nrt)  • ATM operations, administration, and maintenance (OA&M) support for F5 Continuity Check; segment and end-to-end loopback; and Integrated Local Management Interface (ILMI) support  • TX ring adjustment  • Virtual-circuit (VC) bundling  • Per-VC queuing  • Per-VC traffic shaping  • 10 ATM virtual circuits on the 886, 887, and 888 models  • 4 ATM virtual circuits on the 886VA and 887VA models  • RFCs 1483 and 2684  • Point-to-Point Protocol over ATM (PPPoA)  • PPP over Ethernet (PPPoE) |
| **Switch features** | • Auto Media Device In/Media Device Cross-Over (medium dependent interface (MDI)/MDI crossover (MDX)  • Eight 802.1Q VLANs  • MAC filtering  • Two-port 802.3af and Cisco compliant PoE  • Switched Port Analyzer (SPAN)  • Storm Control  • Smartports |
| **Security features** | Secure connectivity:  • SSL VPN for secure remote access  • Hardware-accelerated DES, 3DES, AES 128, AES 192, and AES 256  • Public-key-infrastructure (PKI) support  • 20 IPsec tunnels  • Cisco Easy VPN Client and Server  • NAT transparency  Zone-based policy firewall:  • Stateful inspection transparent firewall  • Advanced application inspection and control  • Secure HTTP (HTTPS), FTP, and Telnet authentication proxy  • Dynamic and static port security |
| **QoS features** | • Low-Latency Queuing (LLQ)  • Weighted Fair Queuing (WFQ)  • Class-Based WFQ (CBWFQ)  • Class-Based Traffic Shaping (CBTS) (on Fast Ethernet WAN ports and DSL ports in Packet Transport Mode [PTM] only)  • Class-Based Traffic Policing (CBTP)  • Policy-Based Routing (PBR)  • Class-Based QoS MIB  • Class of service (CoS)-to-differentiated services code point (DSCP) mapping |
| **Management features** | • Cisco Configuration Professional  • Cisco Configuration Express  • Cisco Configuration Engine support  • Cisco AutoInstall  • IP service-level agreement (SLA)  • Cisco IOS Embedded Event Manager (EEM)  • CiscoWorks  • Cisco Security Manager  • Telnet, Simple Network Management Protocol Version 3 (SNMPv3), Secure Shell (SSH) Protocol, CLI, and HTTP management  • RADIUS and TACACS+  • Out-of-band management with ISDN S/T port or external modem through virtual auxiliary port  • Cisco WCS for management of unified access points in models supporting WLAN |
| **High-availability features** | • Virtual Router Redundancy Protocol (VRRP) (RFC 2338)  • Hot Standby Router Protocol (HSRP)  • Multigroup HSRP (MHSRP)  • Dial backup with external modem through virtual auxiliary port  • Dial backup with ISDN S/T port (select DSL models only)  • 3G backup (3G models only) |
| **Number of recommended users** | 20 |

**Table 6.** **Cisco IOS Software Features on Cisco 880 Series: WLAN Features (Available with Wireless Option)**

|  |  |
| --- | --- |
| **Feature** | **Description** |
| **WLAN hardware** | • IEEE 802.11n draft 2.0 standards-based access point with 802.11 b/g compatibility  • Automatic rate selection for 802.11g/n  • Captive omnidirectional 2-dBi gain dipole antennas  • 2 x 3 MIMO radio operation  • Removable antennas on Cisco 881W models  • 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)  • Temporal Key Integrity Protocol/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  • Pre-shared keys (PSKs) (WPA-small office or home office [WPA-SOHO]) |
| **Certifications** | Logo |
| **Service set identifiers (SSIDs)** | 16 |
| **Wireless VLANs** | 8 |
| **Encrypted wireless VLANs** | 8 |
| **Multiple broadcast service set identifiers (MBSSIDs)** | 16 |

**Cisco IOS Software Advanced IP Services Feature Set (Optional Software Upgrade)**

The Advanced IP Services software image has all the features of the Advanced Security software image with the addition of the features listed in Tables 7 through 10.

**Table 7.** **Cisco IOS Software Features on Cisco 880 Series: Advanced IP Services Feature Set (Optional Software Upgrade)**

|  |  |
| --- | --- |
| **Feature** | **Description** |
| **IP and IP services features** | • IPv4 and IPv6 Multicast  • Open Shortest Path First (OSPF)  • Border Gateway Protocol (BGP)  • Enhanced Interior Gateway Routing Protocol (EIGRP)  • Virtual Route Forwarding (VRF) Lite  • Next Hop Resolution Protocol (NHRP)  • Layer 2 Tunneling Protocol Version 3 (L2TPv3)  • Bidirectional Forwarding Detection (BFD)  • Web Cache Communication Protocol (WCCP) |
| **Switch features** | • Internet Group Management Protocol Version 3 (IGMPv3) snooping  • 802.1x |
| **Security features** | Secure connectivity:  • DMVPN  • Tunnel-less Group Encrypted Transport VPN  • IPsec stateful failover  • VRF-aware IPsec  • IPsec over IPv6  • Adaptive control technology  • SIP application layer gateway  Cisco IOS Firewall:  • Firewall stateful failover  • VRF-aware firewall  Content Filtering:  • Subscription-based content filtering with Trend Micro  • Support for Websense and SmartFilter  • Cisco IOS Software black and white lists  Integrated threat control:  • IPS  • Control Plane Policing  • Flexible Packet Matching  • Network foundation protection |
| **QoS features** | • 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  • Hierarchical QoS (HQoS) |
| **Metro Ethernet features** | • Ethernet Operations, Administration, and Maintenance (Ethernet OAM)  • Ethernet Local Management Interface (Ethernet LMI)  • Hierarchical QoS (HQoS) |
| **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 |
| **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 |

**Table 8.** **Cisco IOS Software Features on Cisco 880V Series: Advanced IP Services Feature Set**

|  |  |
| --- | --- |
| **Feature** | **Description** |
| **Cisco Voice Gateway** | 4 FXS ports and 2 Basic Rate Interface (BRI) port for PBX connectivity. 1 FXO port is available on the Cisco881V SKU |
| **Cisco UCME/SRST version** | Ability to upgrade to 5 user license of CME/SRST - version 8.6 and later are supported |
| **Call-control signaling** | H.323 Versions 1, 2, 3, and 4, Media Gateway Control Protocol (MGCP) 0.1 and 1.0, Skinny Client Control Protocol (SCCP), and SIP call-control protocols are supported. |
| **ITU standard voice codecs** | G.711, G.729, G.729a/b, G.723.1, G.726, and G.728, which are standards-based compression technologies allowing transmission of voice across IP, are supported. The G.711 standard employs 64-kbps pulse code modulation (PCM) using either mu-law or a-law. Other codecs employ lower bit rates. |
| **Cisco Unified Communications Manager support** | For SRST features for IP phones, refer to the SRST data sheet at:<http://www.cisco.com/en/US/products/sw/voicesw/ps2169/products_data_sheets_list.html>.  Cisco Unified Communications Manager support for analog and digital ports come with Releases 7.1(5), 8.5(1), and 8.6(2) |
| **Telephony interface signaling support** | Cisco 880 V supports the following signaling protocols:  • FXS loop-start and ground-start signaling  • FXO  • Inbound signaling (such as dual-tone multifrequency [DTMF] and multifrequency support)  • BRI QSIG |
| **Voice features** | • Echo cancellation: This feature cancels echo on tail circuits up to 64 msec (configurable tail length).  • Silence suppression and voice activity detection (VAD): Bandwidth is used only when someone is speaking. During silent periods of a phone call, bandwidth is available for data traffic.  • Comfort-noise generation: This feature reassures the phone user that the connection is being maintained, even when no voice packets are being transmitted.  • Caller ID support: Per-port caller ID (with per-call unblocking) is configurable over analog FXS.  • Dial-plan mapping: This feature simplifies configuration and management through automatic mapping of dialed phone numbers to IP addresses. |
| **Voice port-specific features** | • FXS: FXS provides battery polarity reversal detection and initiation for disconnect supervision and far-end answer supervision.  • ISDN BRI network side and phantom power: The BRI port provides the ability to connect a private branch exchange (PBX) or private automatic branch exchange (PABX) configured as user side directly to the router. It also provides phantom power to accommodate equipment that requires it.  • LED indicators show voice-processing resources and port status. |
| **Fax and modem** | • Fax and modem pass-through allows fax and modem traffic to pass through a voice port.  • Fax Relay provides a more robust protocol for fax transmission over packet networks. It also supports the T.37 and T.38 fax protocols. |
| **High-performance flexible digital-signal-processor (DSP) architecture** | • Channel capacity: Cisco 880 V supports up to four voice channels.  • Flexible DSP architecture: There is no need to specify codec complexity at configuration. An appropriate codec is dynamically selected when a call is established, while allocating DSP resources optimally.  • Feature upgrades: The DSP architecture allows for addition of new features through simple code updates. |

**Table 9.** **Cisco IOS Software Features on Cisco 880 SRST Series: Advanced IP Services Feature Set**

|  |  |
| --- | --- |
| **Feature** | **Description** |
| **Cisco SRST version** | SRST 7.0 and later are supported. |
| **Call-control signaling** | H.323 Versions 1, 2, 3, and 4, Media Gateway Control Protocol (MGCP) 0.1 and 1.0, Skinny Client Control Protocol (SCCP), and SIP call-control protocols are supported. |
| **ITU standard voice codecs** | G.711, G.729, G.729a/b, G.723.1, G.726, and G.728, which are standards-based compression technologies allowing transmission of voice across IP, are supported. The G.711 standard employs 64-kbps pulse code modulation (PCM) using either mu-law or a-law. Other codecs employ lower bit rates. |
| **Cisco Unified Communications Manager support** | For SRST features for IP phones, refer to the SRST data sheet at:<http://www.cisco.com/en/US/products/sw/voicesw/ps2169/products_data_sheets_list.html>.  Cisco Unified Communications Manager support for analog and digital ports comes with Releases 6.1(3), 7.0(2), and 7.1(3). |
| **Telephony interface signaling support** | Cisco 880 SRST supports the following signaling protocols:  • FXS loop-start and ground-start signaling  • FXO  • Inbound signaling (such as dual-tone multifrequency [DTMF] and multifrequency support)  • BRI QSIG |
| **Voice features** | • Echo cancellation: This feature cancels echo on tail circuits up to 64 msec (configurable tail length).  • Silence suppression and voice activity detection (VAD): Bandwidth is used only when someone is speaking. During silent periods of a phone call, bandwidth is available for data traffic.  • Comfort-noise generation: This feature reassures the phone user that the connection is being maintained, even when no voice packets are being transmitted.  • Caller ID support: Per-port caller ID (with per-call unblocking) is configurable over analog FXS.  • Dial-plan mapping: This feature simplifies configuration and management through automatic mapping of dialed phone numbers to IP addresses. |
| **Voice port-specific features** | • FXS: FXS provides battery polarity reversal detection and initiation for disconnect supervision and far-end answer supervision.  • ISDN BRI network side and phantom power: The BRI port provides the ability to connect a private branch exchange (PBX) or private automatic branch exchange (PABX) configured as user side directly to the router. It also provides phantom power to accommodate equipment that requires it.  • LED indicators show voice-processing resources and port status. |
| **Fax and modem** | • Fax and modem pass-through allows fax and modem traffic to pass through a voice port.  • Fax Relay provides a more robust protocol for fax transmission over packet networks. It also supports the T.37 and T.38 fax protocols. |
| **High-performance flexible digital-signal-processor (DSP) architecture** | • Channel capacity: Cisco 880 SRST supports up to four voice channels.  • Flexible DSP architecture: There is no need to specify codec complexity at configuration. An appropriate codec is dynamically selected when a call is established, while allocating DSP resources optimally.  • Feature upgrades: The DSP architecture allows for addition of new features through simple code updates. |

**Table 10.** **Cisco IOS Software Features on Cisco 880 Series with Cisco Unified Border Element: Advanced IP Services Feature Set**

|  |  |
| --- | --- |
| **Feature** | **Description** |
| **Cisco Unified Border Element version** | Cisco Unified Border Element 7.0 and later are supported. |
| **Call-control signaling** | H.323 Versions 1, 2, 3, and 4, MGCP 0.1 and 1.0, SCCP, and SIP call-control protocols are supported. |
| **ITU standard voice codecs** | G.711, G.729, G.729a/b, G.723.1, G.726, and G.728, which are standards-based compression technologies that allow transmission of voice across IP, are supported. The G.711 standard employs 64-kbps pulse code modulation (PCM) using either mu-law or a-law. Other codecs employ lower bit rates. |
| **Cisco Unified Communications Manager support** | For SRST features for IP phones, refer to the SRST data sheet at:<http://www.cisco.com/en/US/products/sw/voicesw/ps2169/products_data_sheets_list.html>.  Cisco Unified Communications Manager support for analog and digital ports comes with Releases 6.1(3), 7.0(2), and 7.1(3). |
| **Telephony interface signaling support** | Cisco 880 SRST supports the following PSTN trunk signaling protocols:  • FXS loop-start and ground-start signaling  • FXO  • Inbound signaling (such as dual-tone multifrequency [DTMF] and multifrequency support)  • BRI QSIG  Cisco 880 Cisco Unified Border Element supports the following VoIP trunk signaling protocols:  • Up to 15 SIP-to-SIP sessions. (no H.323 support)  **Note:** The Cisco 880 with Cisco Unified Border Element does **not** include DSP feature support such as transcoding or transrating.  **Note:** The Cisco 880 with Cisco Unified Border Element does **not** support concurrent operation of SRST or Cisco Unified Communications Manager Express. |
| **Voice features** | • Echo cancellation: This feature cancels echo on tail circuits up to 64 msec (configurable tail length).  • Silence suppression and VAD: Bandwidth is used only when someone is speaking. During silent periods of a phone call, bandwidth is available for data traffic.  • Comfort-noise generation: This feature reassures the phone user that the connection is being maintained, even when no voice packets are being transmitted.  • Caller ID support: Per-port caller ID (with per-call unblocking) is configurable over analog FXS.  • Dial-plan mapping: This feature simplifies configuration and management through automatic mapping of dialed phone numbers to IP addresses. |
| **Voice port-specific features** | • FXS: FXS provides battery polarity reversal detection and initiation for disconnect supervision and far-end answer supervision.  • ISDN BRI network side and phantom power: The BRI port provides the ability to connect a PBX or PABX configured as user side directly to the router. It also provides phantom power to accommodate equipment that requires it.  • LED indicators show voice-processing resources and port status. |