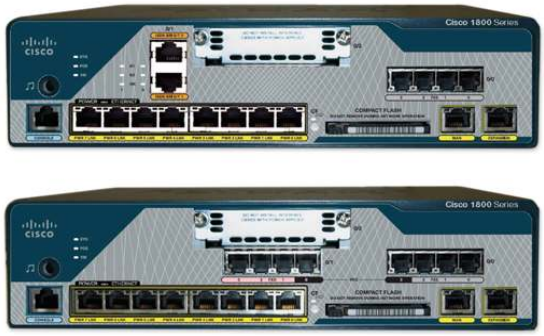
Cisco 1861 Integrated Services Router

Cisco® is introducing a new platform focused on unified communications to the Cisco 1800 Series Integrated Services Routers portfolio: the Cisco 1861. This new, affordable unified communications system makes anytime, anywhere secure access to information possible, thereby facilitating more effective and efficient ways of communicating with customers and employees.

The award-winning Cisco integrated services router is the ideal platform for delivering IP communications in enterprise branch offices, commercial offices, and small and medium-sized business (SMB) offices. Through the integration of voice gateway, call processing, voicemail, Automated-Attendant, conferencing, transcoding, and security capabilities, Cisco integrated services router platforms deliver a complete office unified communications solution (Figure 1).

Figure 1. Cisco 1861 Integrated Services Router



Product Overview

The Cisco 1861 Integrated Services Router, which is part of the Cisco 1800 Series Integrated Services Router portfolio, is a unified communications solution for SMBs and enterprise small branch offices that provides voice, data, voicemail, Automated-Attendant, video, and security capabilities while integrating with existing desktop applications such as calendar, e-mail, and customer relationship management (CRM) programs. This easy-to-manage platform takes full advantage of business-class, proven unified communications technologies and supports flexible deployment models based on your needs—a wide array of IP phones, public switched telephone network (PSTN) interfaces, and Internet connectivity.

Core components include the following:

- Integrated Cisco Unified Communications Manager Express or Cisco Unified Survivable Remote Site Telephony (SRST) for call processing
- Optional Cisco Unity® Express for voice messaging and Automated Attendant
- Integrated LAN switching with Power over Ethernet (PoE)—expandable through Cisco Catalyst® Switches
- Optional 802.11b/g integrated wireless LAN (WLAN) capability on some models or external access points

- Optional support for range of High-Speed WAN interface cards (HWICs)
- Optional security with firewall, VPN, Secure Sockets Layer (SSL), and intrusion prevention system (IPS) capabilities

Converged IP Communications

The Cisco 1861 Integrated Services Router can meet the IP communications needs of SMB and enterprise small branch offices while concurrently delivering an industry-leading level of security within a single communications system. The Cisco 1861 offers the Cisco Unified Communications Manager Express (CME) integrated as default through Cisco IOS® Software that provides call processing for Cisco IP phones. This solution is targeted at customers interested in deploying a converged IP telephony solution for up to 15 IP phones, and need an integrated WAN for data connectivity. Figure 2 illustrates the CME application for a standalone business using the Cisco 1861 Integrated Services Router. With the Cisco 1861, you can securely deploy data, voice, and IP telephony on a single platform for your small to medium-sized branch offices, helping them streamline their operations and lower their network costs.

As the enterprise extends its IP telephony deployments from central sites to remote offices, one of the critical factors in achieving a successful deployment is the ability to support backup call control at the remote branch office. Cisco Unified SRST provides a cost-effective solution for supporting redundant call control in the remote branch office. Figure 3 illustrates Cisco Unified SRST using the Cisco 1861 Integrated Services Router.

Figure 2. Cisco Unified Communications Manager Express Using Cisco 1861

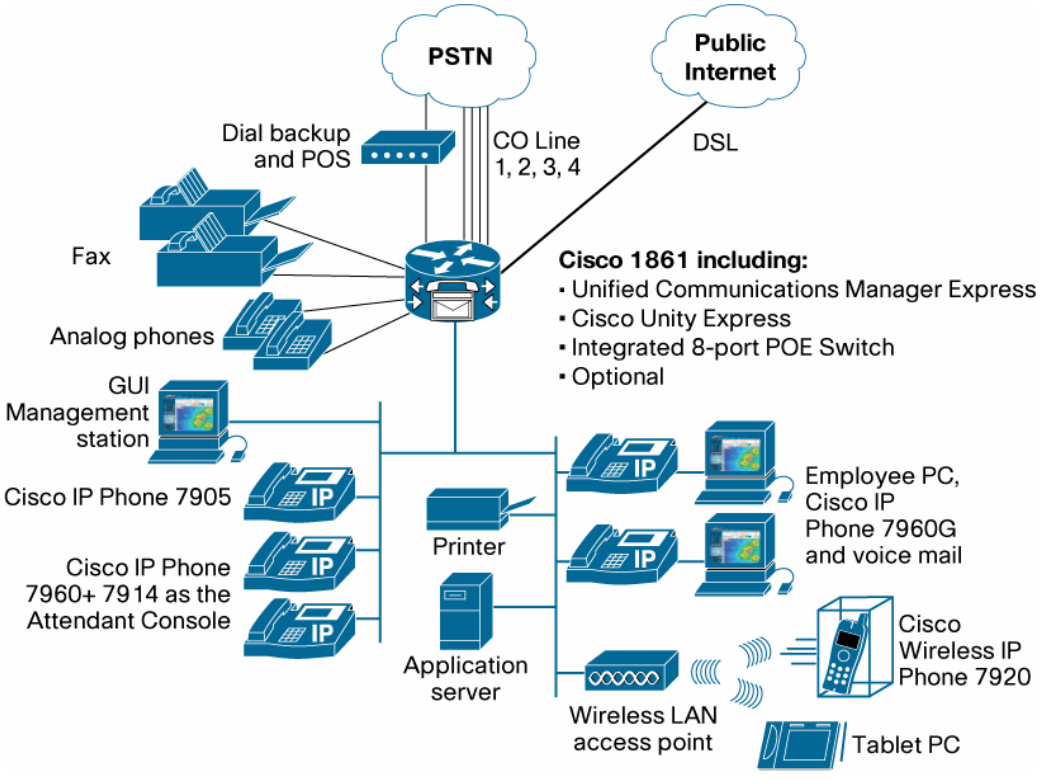
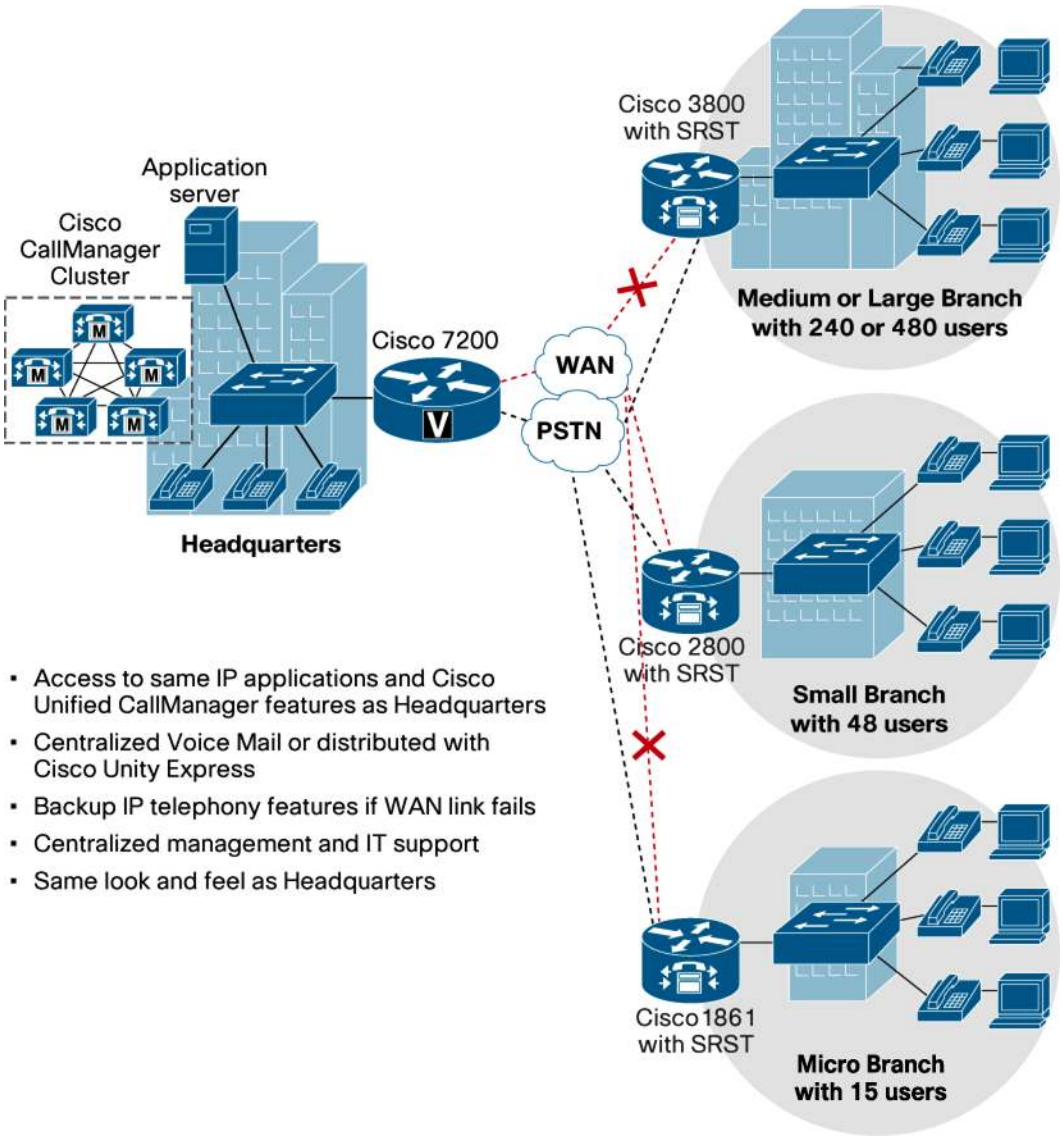


Figure 3. Cisco Unified SRST Using Cisco 1861



Cisco Unity Express

The optional embedded Cisco Unity Express helps enable voicemail, desktop messaging, and Automated-Attendant services for increased customer service and rich employee communications experience.

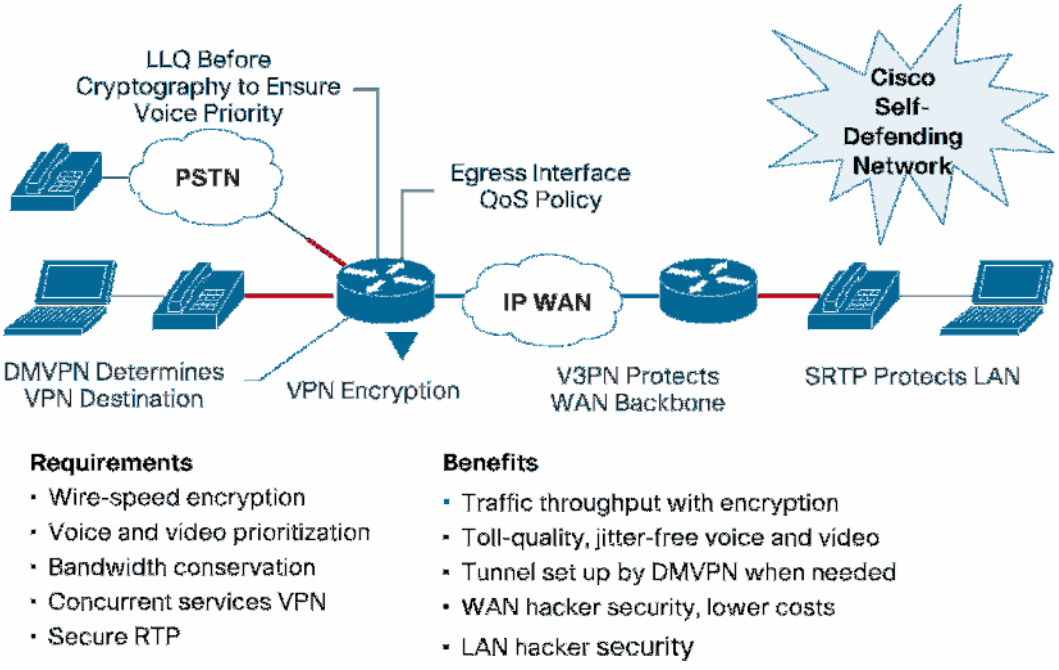
Cisco Unified CallConnectors for Desktop Applications

The Cisco 1861 Integrated Services Router integrates with common Windows desktop applications to give small business owners access to productivity gains once available only to large businesses. With Cisco Unified CallConnectors, you can integrate your Cisco Unified IP phones with common applications, including Microsoft Outlook, Internet Explorer, Microsoft Dynamics CRM, or Salesforce.com CRM.

Secure Network Connectivity for Data, Voice, and Video

Security has become a fundamental element of any network. Routers play an important role in any network defense strategy because security needs to be embedded throughout the network. The Cisco 1861 Integrated Services Router features advanced, integrated, end-to-end security for the delivery of converged services and applications. With the optional Cisco IOS Software Advanced IP Services feature set, the Cisco 1861 provides a robust array of common security features such as a Cisco IOS Software Firewall, intrusion prevention, IPSec VPN, SSL VPN, advanced application inspection and control, Secure Shell (SSH) Protocol Version 2.0, and Simple Network Management Protocol Version 3 (SNMPv3) in one secure solution set. Additionally, by integrating security functions directly into the router itself, Cisco can provide unique intelligent security solutions other security devices cannot, such as Network Admissions Control (NAC) for antivirus defense; Voice and Video Enabled VPN (V3PN) for quality of service (QoS) enforcement when combining voice, video, and VPN; and Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport (GET) VPN, and Easy VPN for enabling more scalable and manageable VPN networks. As Figure 4 demonstrates, a Cisco 1861 uniquely helps customers deliver concurrent, mission-critical data, voice, and video applications with integrated, end-to-end security at wire-speed performance.

Figure 4. Secure Integrated IP Telephony Using Integrated Services Routers



LAN Switching

The Cisco 1861 Integrated Services Router has an integrated, managed Ethernet switch that provides 8 ports of 10/100 PoE. Additionally, the system capacity can be expanded by connecting the recommended Cisco Catalyst portfolio of switches.

Wireless LAN Services

The Cisco 1861 Integrated Services Router supports an optional integrated WLAN access point for secure WLAN connectivity. Deploying these access points enables your business to add WLAN

telephony as well as wireless access to data applications. Wireless services allow greater mobility for employees, partners, and customers, resulting in increased productivity.

Platform Features and Benefits

The Cisco 1861 Integrated Services Router is an all-in-one unified communications solution that integrates voice, data, video, wireless, and security into one platform. It brings unified communications to SMBs and enterprise small branch offices by providing a simplified, affordable solution that is easy to configure, deploy, and manage. By combining call control, messaging, and security into one device, the Cisco 1861 eliminates the added costs of multiple servers and provides a solution that is easy to set up and manage at a lower price point.

Table 1 summarizes the features and benefits of the Cisco 1861 Integrated Services Router.

Table 1. Platform Features and Benefits

Feature	Benefits
Solution Packaging	• Both foreign exchange office (FXO) and Basic Rate Interface (BRI) fixed configurations are offered for both Cisco Unified CME + Cisco Unity Express and Cisco Unified SRST applications. • Each configuration is equipped with the appropriate number of feature licenses for call processing and voicemail, simplifying the product structure. • The appropriate number of fixed digital signal processors (DSPs) is packaged with each configuration.
CME/SRST Upgrade Licenses	• Provides flexibility and investment protection by allowing the optional upgrade of the default 8-user CME/SRST license to 15 users. Refer to Table 8 for list of license Upgrade SKUs. Cisco IOS Release 12.4(22)T or later is required for upgrade from 8-to-15 users
Modularity	• A high-speed WIC (HWIC) slot is available for data WAN integration through a select list of HWICs. Refer to Table 9 for a list of supported HWICs. • The default Cisco IOS Software image SP Services K9 can be upgraded to optional advanced images. Refer to Table 7 for a list of software images supported.
Ethernet Connectivity with QoS	• Ethernet connectivity is provided for IP phones or wireless access points by PoE ports that provide connectivity speeds for up to 100BASE-T Ethernet technology without the need for additional power modules. Most Cisco Unified IP phones include a 10/100 switch with QoS to provide PC desktop connectivity to the network. • Optimized QoS is provided for IP phone and desktop configurations. The QoS level helps ensure that voice over IP (VoIP) traffic takes precedence. • Voice and data traffic travels in preconfigured VLANs • Port security is provided to limit unauthorized access to the network.
Power Failover	• A power failover feature is provided on the base configuration, giving access to the public switched telephone network (PSTN) lines in case of a power outage. When power is lost, FXO PSTN trunk is directly connected to foreign exchange station (FXS) analog port, allowing for calls to be placed and received.
Recorded Announcements for Callers: Music on Hold (MOH)	• The process for providing customized MOH announcements is simplified with a dedicated MOH port, allowing small-business owners to play recorded announcements to their callers by simply plugging the audio source into the provided 3.5-mm mini-jack. • Customers can also use wave files stored on flash memory. • MOH is an audio stream that is played to PSTN and VoIP G.711 or G.729 callers who are placed on hold by the phone user. This audio reassures the callers that they are still connected to the called party.

Cisco Unified Communications Features

IP telephony is currently undergoing tremendous growth, accelerated by access to value-added features and applications that only IP telephony can provide to the end user. Additionally, the cost benefits of converging data, voice, and video on a single network are adding to the rapid acceptance of this technology. Because it is integrated into a single system, the Cisco 1861 Integrated Services Router for SMBs and enterprise small branch offices enhances the advantages of convergence by offering the following unique benefits:

- **Cost-effective operations through a single, integrated voice-and-data platform for all SMB and enterprise branch office needs:** This highly reliable platform provides robust

QoS and the right level of security, encryption, and firewall to deliver enhanced VPN services to meet small-business needs. The system delivers integrated IP telephony, voicemail, and Automated-Attendant functions, allowing you to deploy one device to address all your business needs—thereby simplifying management, maintenance, and operations and delivering a lower total cost of ownership (TCO).

- **Sophisticated key system and private branch exchange (PBX) capabilities:** SMBs and enterprise branch offices have different workflows and require specialized features to support their work practices. The Cisco 1861 delivers a robust set of telephony features for the small office and delivers unique, value-added capabilities through the Extensible Markup Language (XML). These capabilities, which cannot be delivered by traditional systems, enhance the productivity of the end user and the business.
- **Remote maintenance and troubleshooting:** You can use the industry-standard Cisco IOS Software command-line interface (CLI) or user-friendly GUI to configure and administer the Cisco 1861 Integrated Services Router system.

The Cisco 1861 Integrated Services Router appliance in the first phase offers the feature set available with Cisco Unified Communications Manager Express 7.0 and Cisco Unity Express 3.0. Table 2 summarizes the unified communications features.

Table 2. IP Telephony Support: Features and Benefits

Feature	Benefit
IP Phone Support	Onboard PoE switch ports can be used to power Cisco IP phones.
PVDM Support	Onboard support analog and digital voice, conferencing, transcoding, and secure Real-Time Transport Protocol (RTP) applications. This feature is not upgradable.
Integrated Call Processing	Cisco Unified Communications Manager Express (CME v7.0) is embedded in Cisco IOS Software at first customer shipment (FCS) and provides call processing for Cisco IP phones. Cisco CME delivers telephony features similar to those that are commonly used by business users to meet the requirements of the small to medium-sized offices. For additional information about Cisco Unified Communications Manager Express features, please visit http://www.cisco.com/go/ccme.
Integrated Voicemail and Automated Attendant	An integrated voicemail and Automated-Attendant solution using Cisco Unity Express v3.0 is available optionally as a factory option. Up to 8 mailboxes and 5 general delivery mailboxes are available with the Cisco Unity Express option. For additional information about Cisco Unity Express features, please visit http://www.cisco.com/go/cue.
PSTN Interfaces Support	Onboard voice ports integrated into the system by default include interfaces for PSTN; PBX; and key system connections, including FXS, FXO, and BRI.
Cisco Unified SRST	Branch offices can take advantage of centralized call control while cost-effectively providing local branch backup using SRST redundancy for unified communications. For additional information about Cisco Unified SRST features, please visit http://www.cisco.com/go/srst.

Security and Firewall: Features and Benefits

Security is a fundamental element of any network, and Cisco products play an important role in embedding security at the customer's access edge. The optional Cisco IOS Software security features for the Cisco 1861 Integrated Services Router are activated with hardware-based encryption on the motherboard and provide a robust array of features such as Cisco IOS Firewall, IP Security (IPsec) VPNs (Digital Encryption Standard [DES], Triple DES [3DES], and Advanced Encryption Standard [AES]), SSL Web VPN, SSHv2.0, and SNMP in one solution set. Table 3 summarizes the enhanced security functions available through the optional security image.

Table 3. Secure Networking: Feature and Benefits

Feature	Benefit
Cisco IOS Software Firewall	Sophisticated security and policy enforcement provides features such as stateful, application-based filtering (context-based access control), per-user authentication and authorization, real-time alerts, transparent firewall, and IPv6 firewall.
SSL	SSL provides security for Web transactions by handling authentication, data encryption, and digital signatures.
Onboard VPN Encryption Acceleration	The Cisco 1861 supports IPsec DES; 3DES; and AES 128, 192, and 256 cryptology by using an optional security image.
Network Admission Control (NAC)	A Cisco Self-Defending Network initiative, NAC seeks to dramatically improve the ability of networks to identify, prevent, and adapt to threats by allowing network access only to compliant and trusted endpoint devices.
Multiprotocol Label Switching (MPLS) VPN Support	The Cisco 1861 supports specific provider edge functions plus a mechanism to extend customers' MPLS VPN networks out to the customer edge with a Virtual Route Forwarding (VRF) firewall and VRF IPsec. For details about the MPLS VPN support on the different integrated services routers, please check the feature navigator tool at: http://www.cisco.com.
IPS	Flexible and high-performance support is offered through Cisco IOS Software. IPS offers the ability to load and enable selected intrusion detection system (IDS) signatures in the same manner as Cisco IDS Sensor Software.
Advanced Application Inspection and Control	Cisco IOS Firewall includes HTTP and several e-mail inspection engines that can be used to detect misuse of port 80 and e-mail connectivity.
Cisco Easy VPN Remote and Server Support	The Cisco 1861 eases administration and management of point-to-point VPNs by actively pushing new security policies from a single headend to remote sites.
DMVPN	DMVPN is a Cisco IOS Software solution for building IPsec + Generic routing encapsulation (GRE) VPNs in an easy and scalable manner.
GET VPN	GET VPN is a Cisco IOS Software solution that simplifies securing large Layer 2 or MPLS networks requiring partial or full-mesh connectivity by providing tunnel-less VPN connectivity.
URL Filtering	URL filtering is available externally with a PC server running the URL filtering software.
Standard 802.1x Support on Integrated Switching	Standard 802.1x applications require valid access credentials that make unauthorized access to protected information resources and deployment of unsecured wireless access points more difficult.
Network Address Translation (NAT)	NAT simplifies and reduces costs associated with global IP address allocation and management. Only a single registered IP address is required to support all users on an entire LAN infrastructure.

Wireless Support: Features and Benefits

The Cisco 1861 Integrated Services Router supports an optional integrated WLAN access point for highly secure WLAN connectivity. The minimum Cisco IOS® Software release for the support of Wireless LAN is the 12.4(22)T release.

Table 4. Wireless Features and Benefits

Feature	Benefit
WLAN connectivity	The 802.11b/g integrated access point can be used to provide integrated WLAN connectivity to mobile clients—voice and data—resulting in mobility and enhanced productivity for users. The integrated 802.11b/g access point in the Cisco 1861 supports up to 54-Mbps connections. Wireless IP phones allow users to be mobile and more productive.
Enhanced security	Enhanced security is provided with support for Wi-Fi Protected Access (WPA and WPA2), including authentication with 802.1x and Cisco LEAP, Protected Extensible Authentication Protocol (PEAP), dynamic Wired Equivalent Privacy (WEP), or static WEP. WLAN VLANs and 802.1q/e are also supported; the 802.1e features prioritize voice and video traffic with queuing. Employee and guest WLAN access is through separate VLANs.

Cost of Ownership and Ease of Use: Features and Benefits

The Cisco 1861 continues the heritage of offering versatility, integration, and power to branch offices. The platform offers many enhancements to help enable the support of multiple services in the branch office, as shown in Table 5.

Table 5. Cost of Ownership and Ease of Use: Feature and Benefits

Feature	Benefit
Integrated Channel Service Unit/Data Service Unit (CSU/DSU), Add/Drop Multiplexers, Firewall, Modem, Compression, and Encryption	These features consolidate typical communications equipment found in branch office wiring closets into a single, compact unit, providing better manageability because it saves space.
Cisco IOS IP Service-Level Agreements (IP SLAs)	With Cisco IOS IP SLAs, you can verify service guarantees, increase network reliability by validating network performance, proactively identify network problems, and increase return on investment (ROI) by easing the deployment of new IP services.
Cisco IOS Software Warm Reboot	This feature reduces system boot time and decreases downtime caused by Cisco IOS Software reboots.
CiscoWorks Support	This feature offers advanced management and configuration capabilities through a Web-based GUI.
Cisco AutoInstall	This feature configures remote routers automatically across a WAN connection to save the cost of sending technical staff to the remote site.
Cisco IOS Embedded Event Manager (EEM)	This feature enables automation of many network management tasks and directs the operation of Cisco IOS Software to increase availability, collect information, and notify external systems or personnel about critical events.

IOS Release Support

The minimum IOS Release for the support of the Cisco 1861 is 12.4(11)XW. T-train support for the Cisco 1861 commenced with 12.4(20)T. In order to leverage the CME/SRST user license upgrade from 8-to-15 users, the minimum IOS release required is the 12.4(22)T. The minimum Cisco IOS® Software release for the support of the optional Wireless LAN is the 12.4(22)T release.

Summary

The Cisco 1861 Integrated Services Router, which is part of the Cisco 1800 Series, is an all-in-one, affordable unified communications platform targeted at SMBs and enterprise small branch offices with up to 8 employees. It takes advantage of industry-leading, business-class, proven unified communications technologies (voice, data, video, and security) integrated into one platform and facilitates integration with commonly used desktop applications such as Microsoft Outlook and Outlook Express, IBM Lotus Notes, and CRM software. Functions include Automated Attendant and voicemail, PSTN and Internet connectivity, and analog phone and fax machine support. A wide array of IP phones are supported by PoE ports. The Cisco 1861 Integrated Services Router solution also provides the capability to network the office for voice, video, and data networking and allows business owners and employees to be securely connected to the office while they are traveling or working from their home offices.

Product Specifications

Table 6 gives specifications of the Cisco 1861.

Table 6. Chassis Specifications for the Cisco 1861 Integrated Services Router

Feature	Specification
Configuration	Default of 8-user Cisco Unified CME or SRST configuration, Optional license based upgrade to 15 users

Feature	Specification
Packaging type	Desktop or wall-mount (Rack-mount: optional)
Product Architecture	
DRAM	• Cisco IOS Software: 256 MB • Voice messaging: 512 MB
Compact Flash memory	• Cisco IOS Software: 128 MB • Voice messaging: 1 GB; Compact Flash
Onboard Ethernet ports	• 1 10/100 Fast Ethernet • 8 10-/100-Mbps LAN • 1 10/100 Ethernet expansion port
WAN slot	1 HWIC slot to support select Cisco HWICs
Music on Hold	Single 3.5-mm audio port or wave file stored in flash memory
Integrated encryption	Cryptography accelerator as standard integrated hardware that can be enabled with optional Cisco IOS Software support for 3DES and AES encryption
Integrated inline PoE ports	Base unit includes 8 built-in 10/100 PoE ports (802.3AF or Cisco prestandard); Cisco Catalyst switch recommended for additional ports
FXS ports	4 built-in FXS ports.(not expandable)
PSTN interfaces (FXO or BRI)	4 built-in FXO ports or 2 built-in BRI ports (not expandable)
Console port	1: Up to 115.2 kbps
Voicemail ports	6 ports for voicemail and Automated Attendant
Deployment Options	Desktop; wall-mount, and rack-mount (rack-mount requires an optional rack-mount kit Part Number: ACS-1861-RM-19=)
Power Requirements	
Power supply	External
AC input voltage	100 to 240 VAC
AC input frequency	50 to 60 Hz
AC input current	4 to 2A (100 to 240V)
AC input surge current	50 to 100A (100 to 240V)
Maximum inline power distribution	80W
Power dissipation: AC without IP phone support	• 80W • 90W (including external AC adapter)
Power dissipation: AC with IP phone support for IP phones	• 175W • 180W (including external AC adapter)
Environmental Specifications	
Operating temperature	32 to 104°F (0 to 40°C)
Operating humidity	10 to 85% noncondensing operating; 5 to 95 noncondensing, nonoperating
Nonoperating temperature	4 to 149°F (–20 to 65°C)
Operation altitude	• 104°F (40°C) at sea level • 87.8°F (31°C) at 6,000 ft (1800m) • 77°F (25°C) at 10,000 ft (3000m) • Note: De-rate 34.7°F (1.5°C) per 1,000 ft
Dimensions (H x W x D)	• 2.625 x 10.5 x 11.05 in. • (6.67 x 26.67 x 28.07 cm)
Power supply dimensions (H x W x D)	• 1.7 x 4 x 7.5 in. • (4.3 x 10.16 x 19.05 cm)
Rack height	1.5 rack unit (RU)
Weight (fully configured)	8 lb (3.63 kg)
Power supply	3 lb (1.36 kg)

Feature	Specification
Noise level (minimum and maximum)	Normal operating temperature: • <78°F (25.6°C): 34 dBA • –>78°F (25.6°C) through <104°F (40°C): 37 dBA • –>104°F (40°C): 42 dBA
Regulatory Compliance	
Safety	• IEC 60950-1 • AS/NZS 60950.1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • UL 60950-1
Immunity	• EN 55024 • EN 300-386 • EN 61000-6-2 • EN 50082-1 • EN 55024 (CISPR 24)
EMC	• FCC Part 15, ICES-003 • EN55022, CISPR 22 • AS/NZS • CNS13438 • VCCI V-3 • EN 55024 • EN 300-386 • EN 61000-3-2 • EN 61000-3-3 • EN 50082-1 • EN 55024 (CISPR 24) • EN 61000-4-2 • EN 61000-4-3 • EN 61000-4-4 • EN 61000-4-5 • EN 61000-4-6 • EN 61000-4-8 • EN 61000-4-11 • EN 61000-6-2

Feature	Specification
TELCOM	• FXS ◦ TIA-968-A3 ◦ CS-03 Part I ◦ ACIF S002 ◦ ACIF S003 ◦ ANZ PTC200 • ISDN BRI S/T (voice only) ◦ TIA-968-A3 ◦ CS-03 Part VI ◦ TBR3 ◦ ACIF S031 ◦ ANZ PTC200 ◦ MPMHAPT Japan Digital • FXO ◦ TIA-968-A3 ◦ CS-03 Part I ◦ TBR21 ◦ MPMHAPT Japan Analog ◦ ACIF S002 ◦ ACIF S003 ◦ ACIF S004 ◦ ANZ PTC200 • Music on Hold interface ◦ ACIF S038 ◦ ACIF S004 ◦ TIA-464C

WLAN Specifications

Table 7 lists the WLAN specifications of the Cisco 1861.

Table 7. WLAN Specifications

Feature	Description
WLAN hardware	• 802.11b/g • Automatic rate selection for 802.11b/g • RP-TNC connectors for field-replaceable external antennas (antenna options for extended coverage) • Antenna diversity • Indoor range: 1 Mbps at 320 ft (97.54m) • Wireless Ethernet Compatibility Alliance (WECA) interoperability • Default antenna gain: 2.2 dBi
WLAN software	• Options to maximize throughput or maximize range • Software-configurable transmit power • Wireless Multimedia (WMM) certification • Service Set Identifier (SSID) globalization
WLAN security	• 802.1X • 802.11e • WPA and AES (WPA2) • EAP authentication: Cisco LEAP, PEAP, and Extensible • Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) • Static and dynamic 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 • Preshared keys (PSKs) • Workgroup Bridge Association

Feature	Description
SSIDs and Service Set Identification List (SSIDL)	16
Wireless VLANs	16
Encrypted wireless VLANs	8
Multiple Basic SSIDs (MBSSIDs)	8

Ordering Information

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

For more information about the Cisco integrated services routers, visit http://www.cisco.com/go/isr. Table 8 lists the Cisco 1861 part numbers, and Table 9 lists the Cisco IOS Software images.

Table 8. Ordering Information

Part Number	Description
C1861-SRST-F/K9	1861, 8-user SRST or CME, 4FXS, 4FXO, 8xPOE, SP Svcs, HWIC slot
C1861-SRST-B/K9	1861, 8-user SRST or CME, 4FXS, 2BRI, 8xPOE, SP Svcs, HWIC slot
C1861-SRST-C-F/K9	1861, 8-user SRST or CME, CUE, 4FXS, 4FXO, 8xPOE, SP Svcs, HWIC slot
C1861-SRST-C-B/K9	1861, 8-user SRST or CME, CUE, 4FXS, 2BRI, 8xPOE, SP Svcs, HWIC slot
C1861-UC-4FXO-K9	1861, 8-user CME, CUE, Ph. Lic, 4FXS, 4FXO, 8xPOE, HWIC slot
C1861-UC-2BRI-K9	1861, 8-user CME, CUE, Ph. Lic, 4FXS, 2BRI, 8xPOE, HWIC slot
C1861-2B-VSEC/K9	1861, 8-user CME, CUE, Ph Lic, 4FXS, 2BRI, 8xPOE, HWIC slot, Adv IP
C1861-4F-VSEC/K9	1861, 8-user CME, CUE, Ph Lic, 4FXS, 4FXO, 8xPOE, HWIC slot, Adv IP
C1861W-SRST-F/K9	1861, WLAN, 8-user SRST/CME, 4FXS, 4FXO, 8xPOE, SP Svcs, HWIC slot
C1861W-SRST-B/K9	1861, WLAN, 8-user SRST/CME, 4FXS, 2BRI, 8xPOE, SP Svcs, HWIC slot
C1861W-SRST-C-F/K9	1861, WLAN, 8-usrSRST/CME, CUE, 4FXS, 4FXO, 8xPOE, SP Svcs, HWICslot
C1861W-SRST-C-B/K9	1861, WLAN, 8-usrSRST/CME, CUE, 4FXS, 2BRI, 8xPOE, SP Svcs, HWICslot
C1861W-UC-4FXO-K9	1861, WLAN, 8-user CME, CUE, Ph. Lic, 4FXS, 4FXO, 8xPOE, HWIC slot
C1861W-UC-2BRI-K9	1861, WLAN, 8-user CME, CUE, Ph. Lic, 4FXS, 2BRI, 8xPOE, HWIC slot

Table 9. Cisco IOS Software Images for Cisco 1861 Router in Cisco IOS Software 12.4(22)T or Higher Releases

Cisco 1861	Supported Images in Cisco IOS Software Release 12.4(11)XW
Default image:c1861-spservicesk9-mz	SP Services K9
c1861-ipvoice	IP VOICE
c1861-entservicesk9-mz	ENTERPRISE SERVICES K9
c1861-advipservicesk9-mz	ADVANCED IP SERVICES K9
c1861-adventerprisek9-mz	ADVANCED ENTERPRISE SERVICES K9

CME/SRST User License Upgrades

The Cisco 1861 Integrated Services Router has previously been offered as an 8-user Unified Communications solution. License-based upgrades are now orderable and enable customers to upgrade the 8-user version of the Cisco 1861 Integrated Services Router to 15 users. The minimum Cisco IOS® Software release for the support of these license upgrades is the 12.4(22)T release. Existing customers can download the required Cisco IOS Software release from Cisco.com.

Table 10. Upgrade Options for the Cisco 1861 Integrated Services Router

Software License SKU	Description
SL1861-SRST-15U=	1861 CME/SRST feature license upgrade from 8 to 15 users
SL1861-SRST-C-15U=	1861 CME/SRST + CUE feature license upgrade from 8 to 15 users
SL1861-UC-15U=	1861 CME/SRST + CUE + phone license upgrade feature license upgrade from 8 to 15 users
L-1861-SRST-15U=	1861 CME/SRST e-Pak license upgrade from 8 to 15 users
L-1861-SRST-C-15U=	1861 CME/SRST + CUE ePak license upgrade from 8 to 15 users
L-1861-UC-15U=	1861 CME/SRST + CUE + phone e-Pak license upgrade feature license upgrade from 8 to 15 users

Note: Both Spare (in Table 10) and System SKUs are productized.

Modular Support

Table 11 lists HWICs supported in the HWIC slot, and Table 12 lists WAN and voice interface cards (VICs) not supported in the HWIC slot.

Table 11. HWICs Supported in the HWIC Slot

Part Number	Description
T1/E1 WAN Interface Card	
HWIC-1T1/E1	1-Port T1/E1 with Integrated CSU/DSU HWIC for only 1861
Serial WAN Interface Cards	
HWIC-1SER	1-Port Serial HWIC for only 1861
HWIC-2SER	2-Port Serial HWIC for only 1861
Wireless WAN Interface Cards	
HWIC-3G-CDMA-S	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz
HWIC-3G-CDMA-V	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz
HWIC-3G-GSM	3GWWAN HWIC-HSDPA/UMTS/EDGE/GPRS-850/900/1800/1900/2100MHz
DSL WAN Interface Cards	
HWIC-2SHDSL	G.shdsl HWIC with Annex F & G support
HWIC-4SHDSL	G.shdsl HWIC with IMA support
HWIC-1ADSL	1-port ADSLoPOTS HWIC, Annex A
HWIC-1ADSLI	1-port ADSLoISDN HWIC, Annex B
HWIC-1ADSL-M	1-port ADSL HWIC w/Annex M
HWIC-ADSL-B/ST	Dual-port HWIC with ADSL over POTS and ISDN BRI ports (12.4(20)T, 12.4(22)T and later)
HWIC-ADSLI-B/ST	Dual-port HWIC with ADSL over ISDN and ISDN BRI ports.(12.4(20)T, 12.4(22)T and later)
Cable WAN Interface Cards	
HWIC-CABLE-D-2	1-Port DOCSIS 2.0 Cable HWIC
HWIC-CABLE-E/J-2	1-Port Euro/J-DOCSIS 2.0 Cable HWIC
Cisco Ethernet Routed-Port Cards	
HWIC-1GE-SFP	1-SFP slot GigE HWIC
HWIC-2FE	2-port 10/100 Routed-Port HWIC
HWIC-1FE	1-port 10/100 Routed-Port HWIC

Table 12. WICs and VICs Not Supported in HWIC Slot

Part Number	Description
CSU/DSU WICs	
WIC-1DSU-T1-V2	1-port T1/Fractional-T1 CSU/DSU WIC

Part Number	Description
WIC-1DSU-56K4	1-port 4-wire 56-/64-kbps CSU/DSU WIC
Serial WAN Interface Cards	
WIC-1T	1-Port Serial WIC
WIC-2T	2-Port Serial WIC
WIC-2A/S	2-Port Serial Asynchronous or Synchronous WIC
HWIC-4A/S	4-Port Async/Sync Serial HWIC
HWIC-8A	8-port Async HWIC
HWIC-8A/S-232	8-port Async/Sync HWIC EIA-232
Wireless Access Point HWICs	
HWIC-AP-AG-A	AP HWIC, 2 radios (2.4/5Ghz Radios 802.11 a/b/g) Americas
HWIC-AP-AG-E	AP HWIC, 2 radios (2.4/5Ghz Radios 802.11 a/b/g) Europe
HWIC-AP-AG-J	AP HWIC, 2 radios (2.4/5Ghz Radios for 802.11 a/b/g) Japan
HWIC-AP-G-A	AP HWIC, w 2.4 Ghz Radio for 802.11 b/g Americas
HWIC-AP-G-E	AP HWIC w 2.4 Ghz Radio for 802.11 b/g Europe
HWIC-AP-G-J	AP HWIC w 2.4 Ghz Radio for 802.11 b/g Japan
DSL WAN Interface Cards	
WIC-1ADSL	1-port asymmetric DSL (ADSL) over basic-telephone-service WIC
WIC-1ADSL-DG	1-port ADSL over basic telephone service with dying-gasp WIC
WIC-1ADSL-I-DG	1-port ADSL over ISDN with dying-gasp WIC
WIC-1SHDSL-V3	1-port G.shdsl WIC with 4-wire support
Cisco EtherSwitch® HWICs	
HWIC-4ESW	4-port 10/100 BaseT Ethernet switch HWIC
ISDN BRI WICs	
WIC-1B-S/T-V3	1-port ISDN BRI with S/T interface
WIC-1B-U-V2	1-port ISDN Basic Rate Interface (BRI) with integrated NT1 (U interface)
Analog Modem WICs	
WIC-1AM-V2	1-port analog modem WIC (updated version)
WIC-2AM-V2	2-port analog modem WIC (updated version)
Voice Interface Cards	
VIC3-2FXS/DID	2-port VIC-FXS/DID
VIC-4FXS/DID	4-port VIC-FXS/DID
VIC3-4FXS/DID	4-port VIC-FXS/DID
VIC2-2FXO	2-port VIC-FXO (universal)
VIC2-4FXO	4-port VIC-FXO (universal)
VIC2-2BRI-NT/TE	2-port VIC card-BRI (NT and TE)
T1, E1, G.703 VWICs	
VWIC-1MFT-T1	1-port RJ-48 multiflex trunk-T1
VWIC-2MFT-T1	2-port RJ-48 multiflex trunk-T1
VWIC-2MFT-T1-DI	2-port RJ-48 multiflex trunk-T1 with drop and insert
VWIC-1MFT-E1	1-port RJ-48 multiflex trunk-E1
VWIC-1MFT-G703	1-port RJ-48 multiflex trunk-G.703
VWIC-2MFT-E1	2-port RJ-48 multiflex trunk-E1
VWIC-2MFT-E1-DI	2-port RJ-48 multiflex trunk-E1 with drop and insert
VWIC-2MFT-G703	2-port RJ-48 multiflex trunk-G.703
VWIC2-1MFT-T1/E1	1-port 2nd generation multiflex trunk-T1/E1

Part Number	Description
VWIC2-2MFT-T1/E1	2-port 2nd generation multiflex trunk-T1/E1
VWIC2-1MFT-G703	1-port 2nd generation multiflex trunk-G.703
VWIC2-2MFT-G703	2-port 2nd generation multiflex trunk-G703

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