

Cisco 1861 Integrated Services Routers

General Questions

Q. What is the Cisco® 1861?

A. The Cisco 1861, which is part of the Cisco 1800 Series Integrated Services Router portfolio, is a unified communications solution targeted at small and medium-sized businesses (SMBs) and enterprise small branch offices. This solution 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 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:

- Cisco Unified Communications Manager Express (CME) or Cisco Unified Survivable Remote Site Telephony (SRST) for call processing
- Cisco Unity® Express for voice messaging and Automated Attendant (optional)
- Integrated LAN switching with Power of Ethernet (PoE) support—expandable through Cisco Catalyst® switches
- Optional security with firewall, VPN, Secure Sockets Layer (SSL), and intrusion prevention system (IPS) capabilities

Q. How are the Cisco 1861 products packaged?

A. As shown in Table 1, the Cisco 1861 packaging was created for ease of ordering and communication. The Cisco 1861 is targeted at the 8-user market segment. From a packaging perspective, it is organized as follows:

- Cisco Unified SRST packaging for both foreign exchange office (FXO) and Basic Rate Interface (BRI) configurations
- Cisco Unified SRST packaging with integrated Cisco Unity Express for both FXO and BRI configurations
- Cisco Unified CME packaging with integrated Cisco Unity Express and phone licenses, for both FXO and BRI configurations

On the Cisco Unified SRST packaging, the SRST license can be interchanged for the Cisco Unified CME license. The default Cisco IOS® Software image for all part numbers is SP Services K9 on the Cisco IOS Release 12.4(22)T.

Table 1. Cisco 1861 Part Numbers

Part Number	Description
C1861-SRST-F/K9	Cisco 1861, 8-User SRST license, 4 PSTN trunks (FXO), 4 Analog ports (FXS), 8 PoE ports, 1 HWIC slot for WAN
C1861-SRST-B/K9	Cisco 1861, 8-User /SRST license, 2 BRI trunks (BRI), 4 Analog ports (FXS), 8 PoE ports, 1 HWIC slot for WAN

Part Number	Description
C1861-SRST-C-F/K9	Cisco 1861, 8-User SRST & CUE license, 4 PSTN trunks (FXO), 4 Analog ports (FXS), 8 PoE ports, 1 HWIC slot for WAN
C1861-SRST-C-B/K9	Cisco 1861, 8-User SRST & CUE license, 2 BRI trunks (BRI), 4 Analog ports (FXS), 8 PoE ports, 1 HWIC slot for WAN
C1861-UC-4FXO-K9	Cisco 1861, 8-user CME, CUE, Phone Licenses, 4 PSTN trunks (FXO), 4 Analog ports (FXS), 8 PoE ports, 1 HWIC slot for WAN
C1861-UC-2BRI-K9	Cisco 1861, 8-user CME, CUE, Phone Licenses, 2 BRI trunks (BRI), 4 Analog ports (FXS), 8 PoE ports, 1 HWIC slot for WAN
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

Q. Are there part numbers with just the Cisco 1861 base chassis or Cisco 1861 security bundles without the voice ports, Power over Ethernet (PoE) switch ports, or voice applications bundled in?

A. No. There are no part numbers with the Cisco 1861 base chassis or security bundles without the fixed voice and PoE switch ports. Because the Cisco 1861 focuses on enabling unified communications applications, the platform comes integrated with fixed voice ports, PoE switch ports, and voice licenses bundled in to enable SRST or Cisco Unified CME + Cisco Unity Express applications. However, you may upgrade the default SP Services IOS image to the Cisco IOS Software Advanced IP Services image to enable all the security features consistent with other integrated services routers.

Q. What are the field-upgradable hardware components for the Cisco 1861?

A. The only field-upgradable component is the high-speed WAN interface card (HWIC) slot that supports a range of WAN interface cards (WICs). Table 2 lists the supported WICs. The HWIC slot does not support legacy WIC, VWIC or VIC cards.

Table 2. Supported HWICs

Part Number	Description
T1/E1 WAN Interface Card	
HWIC-1T1/E1	T1/E1 HWIC w/ Intg. CSU/DSU (1861-only)
Serial WAN Interface Cards	
HWIC-1SER	1-Port Serial HWIC for 1861
HWIC-2SER	2-Port Serial HWIC for 1861
Wireless WAN Interface Cards	
HWIC-3G-CDMA-S	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz (Sprint SKU)
HWIC-3G-CDMA-V	3G WWAN HWIC-EVDO Rev A/Rel 0/1xRTT-800/1900MHz (Verizon SKU)
HWIC-3G-GSM	3GWWAN HWIC-HSDPA/UMTS/EDGE/GPRS-850/900/1800/1900/2100MHz (Global SKU)
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 ADSLoSDN HWIC, Annex B
HWIC-ADSL-B/ST	Dual-port HWIC with ADSL over POTS and ISDN BRI ports

Part Number	Description
HWIC-ADSLI-B/ST	Dual-port HWIC with ADSL over ISDN and ISDN BRI ports
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

Q. Is the HWIC-1T1/E1 module data only or can it support voice such as fractional PRI?

A. It is data only.

Q. Will HWIC-1T1/E1, HWIC-1SER and HWIC-2SER work in all ISR's?

A. No. These are supported on 1861 only.

Q. Which Cisco IOS Software images are supported on the Cisco 1861?

A. The default Cisco IOS Software image on the various Cisco 1861 products is SP Services K9. Table 3 lists the Cisco IOS Software images supported on the Cisco 1861.

Table 3. Cisco IOS Software Images Supported on Cisco 1861

Cisco 1861	Supported Images in Cisco IOS Software Release 12.4(22)T
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

Q. Which Cisco IOS Software releases does the Cisco 1861 support?

A. The Cisco 1861 supports Cisco IOS Software Release 12.4(22)T, which supports Cisco Unified CallManager Express 7.0 and Cisco Unity Express 2.3.

Q. Is the WAN Interface Card (WIC-1DSU-T1-V2) supported on the Cisco 1861?

A. No, it is not a supported card on the Cisco 1861. Instead, the WIC with an integrated channel service unit/data service unit (CSU/DSU) (HWIC-1T1/E1) provides comprehensive T1/E1 data WAN functions.

Q. Are the Serial WAN Interface Cards (WIC-1T and WIC-2T) cards supported on the Cisco 1861?

A. No, neither card is supported. Instead, the High Speed WAN Interface Cards (HWIC-1SER and HWIC-2SER, respectively) cards provide the same functions on the Cisco 1861.

Q. Does the Cisco 1861 have either an advanced integration module (AIM) slot or an enhanced network module (NME) slot?

A. No, the Cisco 1861 has neither an AIM slot nor an NME slot, so it cannot support any of the AIMS or NMEs supported on the Cisco 2800 and 3800 platforms.

Q. What is the form factor of the Cisco 1861?

A. The Cisco 1861 uses a desktop form factor with an external AC power supply. Its dimensions are 2.625 x 10.5 x 11.05 in. (H x W x D). It employs a low noise pulse modulated fan.

Q. Does the Cisco 1861 support wireless LAN (WLAN)?

A. Yes, WLAN can only be ordered as a factory option using C1861W SKUs in Table 1.

Q. How many Fast Ethernet ports are on the Cisco 1861?

A. The Cisco 1861 has 8 PoE switch ports, which are all Fast Ethernet ports. In addition, there are 2 Fast Ethernet ports onboard, one of which is connected directly to the CPU and so is a routed port, whereas the second is a switch uplink port connected to the onboard 8 PoE switch ports. This second Fast Ethernet port may be used as an expansion port to an external switch if more PoE switch ports are required.

Q. What features are supported on the Fast Ethernet switch ports?

A. The on-board Fast Ethernet switch ports share the same feature sets and restrictions as the HWIC-9ESW module.

Q. Does the Cisco 1861 have a console port?

A. Yes. The Cisco 1861 platform does come with a console or auxiliary port for the Cisco IOS command-line interface (CLI). The Cisco 1861 can autodetect modems and switch between the console and auxiliary port functions.

Q. Does 1861 support Analog Modem port?

A. No. An external modem port would have to be used.

Q. What is the Power Failover mode on the 1861?

A. When the 1861 loses power, there is still transmission of calls from the PSTN FXO to FXS ports due to the presence of an internal connector between the 2 ports. The first FXO port 0/1/0 is internally connected to the last foreign exchange station (FXS) port 0/0/3, allowing for calls to be placed and received.

Unified Communications

Q. What analog voice ports are available on the Cisco 1861?

A. The Cisco 1861 Routers come with 4 foreign exchange station (FXS) ports as default on all products. In addition, factory options are available to support 4 FXO and 2 BRI ports as separate products.

Q. Does the Cisco 1861 support Cisco Unified SRST and CME applications?

A. Yes, the Cisco 1861 supports both Cisco Unified SRST and CME applications and has been tested with Cisco Unified Communications Manager. The Cisco 1861 can be deployed in both centralized and decentralized voice deployments.

Q. What Cisco Unified CME, SRST, and Cisco Unity Express versions are supported on the Cisco 1861?

A. Cisco Unified CME and SRST 7.0 and Cisco Unity Express 2.3 are supported. In general, unified communications features support through Cisco Unified CME and Cisco Unity Express solutions will be consistent with the rest of the integrated services routers.

Q. Does the Cisco 1861 support the digital voice/WAN interface cards (VWICs)?

A. No, digital voice interface cards are not supported on the Cisco 1861 at FCS.

Q. What phones are supported on the Cisco 1861?

A. The Cisco 1861 runs Cisco Unified CME 7.0 and therefore supports all Cisco Unified IP phones, including Cisco IP Communicator and Cisco Unified IP Phone 7931, 7921, and 7985 models.

- Q. Will the Cisco 1861 support more than 8 users for voice applications?**
- A.** Yes, the Cisco 1861 can support up to 15 users for voice applications through software licensing. For a higher user count, customers should consider the Cisco 2801 and above platforms.
- Q. Does the number of users limit the number of data users?**
- A.** No. The number of users limits only the number of phone users.
- Q. Does the Cisco 1861 have digital signal processor (DSP) limitations?**
- A.** Yes. The appropriate level of fixed digital signal processors (DSPs) is packaged with each configuration. These DSPs are not upgradable in the field.
- Q. What size DSP module is in the router?**
- A.** PVDM2-32 module is installed in the router.
- Q. What is the message storage capacity of the CUE by system or mailbox in minutes?**
- A.** 14 hrs total; The default is approximately 13 minutes can be changed (up/down) to meet the end-customer needs.
- Q. Could a customer use the 5 GDMs as regular voicemail boxes? In short, can we get 13 regular voicemail boxes on the 1861?**
- A.** Yes—GDMs could be re-purposed and can be configured to provide individual mailbox level support.
- Q. Is MoH supported on Cisco 1861?**
- A.** This feature is fully supported with the new 1861. The 1861 supports the SRST ver 7.0 and so any feature that is tied to this release should be.
- Q. Is VXML supported on 1861?**
- A.** Yes. VXML subsystems are included in 1861 images.
- Q. What version of SRST is supported on 1861?**
- A.** SRST ver 7.0. More info on SRST:
- More info on SRST—Prod literature—datasheet, Q&A (CCO link)
<http://www.cisco.com/en/US/products/sw/voicesw/ps2169/index.html>
- Q. Is E911 supported with 1861?**
- A.** Yes. Support for Enhanced 911 (E-911) services was added to the SRST feature set since SRST Rel4.1, hence is supported on the 1861.
- Q. Is SIP Trunking supported on Cisco 1861?**
- A.** Yes. SIP Trunking is supported on Cisco 1861
- Q. Which IOS image is required to support SIP Trunking?**
- A.** All Cisco 1861 images support SIP Trunking
- Q. Is CUBE functionality supported on Cisco 1861?**
- A.** A subset of CUBE features are supported on Cisco 1861. Cisco 1861 does not have CUBE -ivs - images to support the full feature set.
- Q. What CUBE features are not supported on Cisco 1861?**
- A.** H.323 Trunks to Service Providers, H.323 to SIP Internetworking and Telepresence are examples of CUBE features that are not supported on the Cisco 1861.

Q. How do I order the CUBE license for Cisco 1861?

A. You can order the “FL-CUBE-4=” license as a spare SKU.

Q. Is there any capacity limitation for deploying CUBE on Cisco 1861 platform?

A. Yes, Cisco 1861 supports a max of 8 simultaneous calls in SIP trunking and a max of 4 transcoding sessions.

Security**Q. What security functions are available for the Cisco 1861 router?**

A. The Cisco 1861 router integrates hardware-based encryption onboard that can be enabled with an optional Cisco IOS Software security software image that not only enables the encryption (Digital Encryption Standard [DES], Triple DES [3DES], and Advanced Encryption Standard [AES]) but also provides Cisco IOS Firewall and Cisco IOS Intrusion Prevention System (IPS) support. Other standard security features supported include access control lists (ACLs); authentication, authorization, and accounting (AAA) features such as Password Authentication Protocol (PAP) and Challenge Handshake Authentication Protocol (CHAP); TACACS+, RADIUS, and token authentication; and Lock & Key. Further, Network Access Control (NAC) for antivirus defense can be enabled on the Cisco 1861 router.

Q. Does the Cisco 1861 router function with Cisco Easy VPN remote client-server mode?

A. Yes. The term Easy VPN server denotes any headend model that supports the Cisco Unity voice messaging system workgroup specification for VPN server. The term Easy VPN client denotes any customer premises equipment (CPE) that receives IP Security (IPsec) configuration from an Easy VPN server. The Cisco 1861 router can serve as both an Easy VPN server and an Easy VPN client. The Cisco 1861 router can push IPsec configurations to an Easy VPN client and can receive IPsec configurations from another Easy VPN server.

Q. What is the maximum number of SSL VPN sessions that are supported on the Cisco 1861?

A. The Cisco 1861 supports up to 25 users when using software-based SSL encryption.

Q. Does the Cisco 1861 support teleworker configuration?

A. Yes, the Cisco 1861 supports teleworker configuration. It supports Easy VPN server and uses the Cisco 871 as the Easy VPN remote. Easy VPN server supports Cisco VPN client and Microsoft VPN client.

Q. Is NAT supported in base image for 1841?

A. The default image SP Svcs will have both voice and NAT.

Q. How many IPSec peers can the 1861 router support?

A. We support up to max of 30 IPSec Sessions in 1861

Platform Comparisons**Q. What are the primary differences between the Cisco Unified Communications 500 Series for Small Business and the Cisco 1861 and 2801 Integrated Services Routers?**

A. Table 4 highlights the primary differences:

Table 4. Differences Between Cisco Unified Communications 500 Series and Cisco 1861 and 2801

Feature or Function	Cisco Unified Communications 500 Series	Cisco 1861	Cisco 2801

Feature or Function	Cisco Unified Communications 500 Series	Cisco 1861	Cisco 2801
Target Market	Unified communications solution for small businesses; part of the Cisco Smart Business Communications System	Integrated services router with focus on unified communications solution with integrated WAN and security for SMB and enterprise small branch offices	Integrated services router with support for data, security, voice, and video communications for SMB and enterprise branch offices
Fixed Ports or Modular Slots	Fixed PoE switch and voice ports; expandable slot for specific voice cards	Fixed PoE switch and voice ports; expandable slot for specific HWICs for WAN	4 modular data and voice slots
Form Factor and Dimensions (H x W x D)	<ul style="list-style-type: none"> Desktop 2.625 x 10.5 x 11.05 in. 	<ul style="list-style-type: none"> Desktop Rack-mount 2.625 x 10.5 x 11.05 in. 	<ul style="list-style-type: none"> Rack-mount 1.72 x 17.5 x 16.5 in.
WAN Support	Needs an external router	Specific list of HWICs supported	Comprehensive list of HWICs supported
LAN Support	Fixed: 1 Fast Ethernet (routed port), 8 PoE, and 1 switch uplink port	Fixed: 1 Fast Ethernet (routed port), 8 PoE, and 1 switch uplink port	Fixed: 2 Fast Ethernet, expandable through HWIC slots
USB Ports	None	None	1
Internal AIM Slots	None	None	Yes
PVDM Slots	Fixed	Fixed	2 internal PVDM slots
Default Memory	128-MB flash memory and 256-MB DRAM	128-MB flash memory and 256-MB DRAM	64-MB flash memory and 128-MB DRAM
Maximum Memory	128-MB flash memory and 256-MB DRAM	128-MB flash memory and 256-MB DRAM	128-MB flash memory and 384-MB DRAM
Power Supply	External AC	External AC	Internal AC
Product Packaging	Unified communications focused	Unified communications focused	Data, security, voice gateway, and unified communications
Cisco IOS Software Image Support	Fixed image	Default SP Services image, upgradable to higher-end images	Default image depends on product; comprehensive list of Cisco IOS Software images supported
Cisco Unified CME (Number of Users)	8 to 48	Up to 15	24
Cisco Unified SRST Support	No	Yes	Yes
Advanced Security Features (SSL VPN, IPS, NAC, Group Encrypted Transport [GET] VPN, etc.)	No	Yes	Yes
Dynamic Routing (Routing Information Protocol [RIP], Border Gateway Protocol [BGP], Open Shortest Path First [OSPF], Enhanced IGRP [EIGRP], etc.)	No	Yes	Yes
Enterprise Features (IBM, Systems Network Architecture [SNA], etc.)	No	Yes	Yes
WLAN Support	Yes	Yes	Yes

Q. What are the primary differences among the Cisco 1841, 1861, and 2801?

A. Table 5 highlights the primary differences.

Table 5. Differences Among Cisco 1841, 1861, and 2801 Routers

Feature or Function	Cisco 1841	Cisco 1861	Cisco 2801
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Target Market	Integrated services router with focus on secure data communication solutions for SMB and enterprise small branch offices	EIGRP with focus on unified communications solution with integrated WAN and security for SMB and enterprise small branch offices	EIGRP with support for data, security, voice, and video communications for SMB and enterprise branch offices
Fixed Ports and Modular Slots	2 modular data WAN slots	Fixed PoE switch and voice ports; expandable slot for specific HWICs for WAN	4 modular data and voice slots
Form Factor and Dimensions (H x W x D)	<ul style="list-style-type: none"> • Desktop • 1.72 x 13.5 x 10.8 in. 	<ul style="list-style-type: none"> • Desktop • Rack-mount • 2.625 x 10.5 x 11.05 in. 	<ul style="list-style-type: none"> • Rack-mount • 1.72 x 17.5 x 16.5 in.
WAN Support	Comprehensive list of WICs and HWICs supported	Specific list of HWICs supported	Comprehensive list of WICs and HWICs supported
LAN Support	Fixed: 1 Fast Ethernet (routed port), 8 PoE, and 1 switch uplink port	Fixed: 1 Fast Ethernet (routed port), 8 PoE, and 1 switch uplink port	Fixed: 2 Fast Ethernet, expandable through HWIC slots
USB Ports	1	None	1
Internal AIM Slots	Yes	None	Yes
Voice Support	No	Yes	Yes
PVDM Slots	–	Fixed: One	2 internal PVDM slots
Default Memory	32-MB flash memory and 128-MB DRAM	128-MB flash memory and 256-MB DRAM	64-MB flash memory and 128-MB DRAM
Maximum Memory	128-MB flash memory and 384-MB DRAM	128-MB flash memory and 256-MB DRAM	128-MB flash memory and 384-MB DRAM
Power Supply	Internal AC	External AC	Internal AC
Product Packaging	Data and security	Unified communications focused	Data, security, voice gateway, and unified communications
Cisco IOS Software Image Support	Default image depends on product; comprehensive list of Cisco IOS Software images supported	Default SP Services image, upgradable to higher-end images	Default image depends on product; comprehensive list of Cisco IOS Software images supported
Advanced Security Features (SSL VPN, IPS, NAC, GET VPN, etc.)	Yes	Yes	Yes
Dynamic Routing (RIP, BGP, OSPF, EIGRP, etc.)	Yes	Yes	Yes
Enterprise Features (IBM, SNA, etc.)	Yes	Yes	Yes
WLAN Support	Yes	Yes	Yes

Network Management

Q. How is the Cisco 1861 managed?

A. Like all Cisco routers, the Cisco 1861 can be managed with Simple Network Management Protocol (SNMP), with a Telnet session, and through a directly connected terminal or PC running terminal emulator software.

Q. Does the Cisco 1861 support CiscoView and CiscoWorks?

A. Yes, the Cisco 1861 supports CiscoWorks Resource Manager Essentials and CiscoView, both of which are part of the CiscoWorks Family.

Q. Does the Cisco Router and Security Device Manager (SDM) support the Cisco 1861?

A. No, Cisco SDM is not supported on the Cisco 1861.

Q. Is there a device management tool for Cisco 1861?

- A.** Cisco Configuration Professional, an intuitive GUI based tool, can be used to configure routing, security and voice functionality for 1861. For more information, please visit <http://www.cisco.com/go/ciscoccp>

Other**Q. What kind of powering option does the Cisco 1861 have?**

- A.** The Cisco 1861 uses an external power supply to reduce the amount that an internal power supply can potentially generate. As a result, the Cisco 1861 can use a much quieter fan for desktop deployment.

Q. Is the Cisco 1861 supported by Cisco SMARTnet® support?

- A.** Yes, the Cisco 1861 is supported by Cisco SMARTnet® support.



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