



# Cisco Unified Communications Manager Express 8.6

Cisco® Unified Communications Solutions unify voice, video, data, and mobile applications on fixed and mobile networks, enabling easy collaboration every time from any workspace.

Cisco Unified Communications Manager Express (Unified CME) provides call processing to Cisco Unified IP Phones for small or branch-office environments. It enables the large portfolio of Cisco Integrated Services Routers (ISRs) to deliver unified communications features that business users commonly use to meet the voice and video communications requirements of the small or medium-sized office. Cisco Unified Communications Manager Express allows you to deploy a cost-effective, highly reliable communications system using a single device with Cisco IOS® Software.

Cisco Unified Communications Solutions deliver a media-rich collaboration experience across businesses, government agencies, and institutional workspaces. These applications use the network as the platform to enhance comparative advantage by accelerating decision time and reducing transaction time. The security, resilience, and scalability of the network enable users in any workspace to easily connect anywhere, anytime, and anyplace, using any media, device, or operating system. Cisco Unified Communications is part of a comprehensive solution that includes network infrastructure, security, wireless, management applications, lifecycle services, flexible deployment and outsourced management options, and third-party applications.

You can now scale unified communications to a small or medium-sized site with a system that is very simple to deploy, administer, and maintain. Cisco Unified Communications Manager Express is ideal if you are looking for an integrated, reliable, feature-rich telephony system for up to 450 users.

## Key Features and Benefits

Unified communications is currently undergoing tremendous growth, accelerated by access to value-added features and applications only unified communications can provide. Additionally, the cost benefits of converging data, voice, and video onto a single network are adding to the rapid acceptance of this technology.

Cisco Unified Communications Manager Express is available for the enterprise branch office using Cisco Integrated Services Routers.

Cisco Unified Communications Manager Express enhances the advantages of convergence by offering the following benefits:

- Cost-effective operations through a single, integrated voice and data platform for all branch-office needs: Highly reliable routers, including the Cisco 1800, 2800, 2900, 3800, and 3900 Series Integrated Services Routers, provide robust quality of service (QoS), network security, encryption, firewall, and network modules that deliver content networking and enhanced VPN services to address branch- and small-office business needs. The system delivers integrated IP telephony, gateway, voicemail, and Automated-Attendant functions, allowing you to deploy one device to address all your business needs, thereby

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simplifying management, maintenance, and operations and delivering a lower total cost of ownership (TCO).

- Sophisticated key system and private-branch-exchange (PBX) capabilities: Small offices have different workflows and require specialized features to support their work practices. Cisco Unified Communications Manager Express delivers a robust set of telephony features for the small office and delivers innovative value-added multimedia capabilities through XML and Java midlets. These capabilities, which traditional systems cannot deliver, enhance the productivity of the end user and the business.
- Application integration: The Cisco Unified Communications Express Services Interface application programming interface (API) facilitates development of computer telephony integration (CTI) between Cisco Unified Communications Manager Express and third-party applications to enable call monitoring, call control, and call provisioning with any Cisco Unified CME Skinny Client Control Protocol (SCCP) endpoint. As a result, Cisco Unified CME can now be integrated with a variety of value-added unified communications service applications, in either co-located or service provider-hosted deployment scenarios, to support the critical unified communications services that are part of the end user's business process.
- Contact-center capabilities: From basic call queuing to sophisticated contact centers for small to medium-sized companies, branch-office locations, or departments, you can deploy agent-assisted or self-service applications to reduce business costs and improve customer response by providing sophisticated and basic automatic call distributor (BACD), interactive voice response (IVR), CTI, and agent and desktop services.
- Interoperability with Cisco Unified Communications Manager: You can deploy Cisco Unified Communications Manager at larger sites and Cisco Unified Communications Manager Express at branch-office locations where local call processing is required without a dependency on the WAN. Using H.323 or Session Initiation Protocol (SIP) trunking, you can route calls over the WAN with calling-party name and number information, plus compressed voice for better WAN bandwidth usage.
- Cisco Unified CallConnectors for desktop CTI: You can simplify communications and facilitate collaboration between users and customers with the easy-to-use interface of the Cisco Unified CallConnector suite. These products extend customer information with call control to the Microsoft Windows desktop, providing integration with popular customer-relationship-management (CRM) products or Microsoft Windows for more effective communications.
- Investment protection and ease of upgrade to centralized call-processing systems: With a simple software configuration change on the router, you can convert an ISR system with Cisco Unified Communications Manager Express to a highly available Cisco Unified Survivable Remote Site Telephony (SRST) gateway in a centralized Cisco Unified Communications Manager deployment architecture. This flexibility helps ensure full investment protection for successful businesses that might outgrow the system capacity.
- 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 Cisco Unified Communications Manager Express.

Cisco Unified Communications Manager Express allows a Cisco Integrated Services Router to provide rich call processing for IP phones, analog phones and faxes. All the necessary configurations and support files for IP phones are stored internally on the appliance, providing a single-platform solution. In addition, the solution offers a robust set of public-switched-telephone-network (PSTN) interfaces, integrated voicemail and Automated Attendant, and a full phone portfolio.

Cisco IOS Software offers industry-leading voice features designed for IP-based telephony systems, such as H.323 and SIP signaling, advanced QoS, and ISR interworking with an H.323 gatekeeper or SIP proxy server - all available for use with Cisco Unified Communications Manager Express deployments. In addition, devices with integrated functions such as channel service unit/data service unit (CSU/DSU) and Network Termination 1 (NT1) are available with digital PSTN interface cards to provide flexible and robust voice services.

## IP Phone Support

Using Cisco Unified Communications Manager Express, a maximum of 450 IP phones can be supported across a choice of platforms. IP phone operation is similar to that for Cisco Unified Communications Manager, allowing for ease of user training if you migrate to a Cisco Unified Communications Manager as you outgrow the Cisco Unified Communications Manager Express Solution. Table 1 lists the maximum numbers of phones supported on each platform with Cisco Unified Communications Manager Express 8.5.

**Table 1.** IP Phone Support per Platform

Platform	Maximum Number of Phones
Cisco 1861 Integrated Services Router	15
Cisco IAD2430 Integrated Access Device	25
Cisco 3270 Rugged Integrated Services Router	48
Cisco 2801 Integrated Services Router	25
Cisco 2811 Integrated Services Router	35
Cisco 2821 Integrated Services Router	50
Cisco 2851 Integrated Services Router	100
Cisco 3825 Integrated Services Router	175
Cisco 3845 Integrated Services Router	250
Cisco 2901 Integrated Services Router	35
Cisco 2911 Integrated Services Router	50
Cisco 2921 Integrated Services Router	100
Cisco 2951 Integrated Services Router	150
Cisco 3925 Integrated Services Router	250
Cisco 3945 Integrated Services Router	350
Cisco 3925E Integrated Services Router	400
Cisco 3945E Integrated Services Router	450

Cisco Unified Communications Manager Express supports the Cisco Unified IP Phone models listed in Table 2.

**Table 2.** Supported Cisco Unified IP Phone Models

Executive	Manager	Business	Basic
Cisco Unified IP Phone 7975G	Cisco Unified IP Phone 7965G	Cisco Unified IP Phone 7945G	Cisco Unified IP Phone 7911G
Cisco Unified IP Phone 7971G-GE	Cisco Unified IP Phone 7962G	Cisco Unified IP Phone 7942G	Cisco Unified IP Phone 7906G
Cisco Unified IP Phone 7970G	Cisco Unified IP Phone 7961G-GE	Cisco Unified IP Phone 7941G-GE	Cisco Unified Phone 3911
Cisco Unified IP Phone 9971	Cisco Unified IP Phone 7961G	Cisco Unified IP Phone 7941G	Cisco Unified IP Phone 6901
	Cisco Unified IP Phone 7960G	Cisco Unified IP Phone 7940G	Cisco Unified IP Phone 6911
	Cisco Unified IP Phone 9951	Cisco Unified IP Phone 8961	Cisco Unified IP Phone 6921
			Cisco Unified IP Phone 6941
			Cisco Unified IP Phone 6961

Executive	Manager	Business	Basic
<b>Multibutton</b>	<b>Mobility</b>	<b>Conference Stations</b>	<b>Video Telephony</b>
Cisco Unified IP Phone 7931G	Cisco Unified Wireless IP Phone 7920	Cisco Unified IP Conference Station 7936	Cisco Unified Video Advantage
Cisco Unified IP Phone Expansion Module 7914, 7915, and 7916 modules (56 buttons maximum)	Cisco Unified Wireless IP Phone 7921G and 7925G models	Cisco Unified IP Conference Station 7937	Cisco Unified IP Phone 7985G personal desktop videophone
	Cisco IP Communicator Softphone for Windows		

These intelligent Cisco Unified IP Phones (Figure 1) support the following enhancements:

- Display-based features with easy-to-use soft keys
- Customer choice of using SCCP or SIP for commonly deployed IP phones
- Language localization and feature customization along with support for XML-based applications
- Support for IEEE 802.3af or Cisco Prestandard Power over Ethernet from a Cisco Catalyst® switch, or Cisco EtherSwitch® network module or high-speed WAN interface card available on the Cisco 1800, 2800, 2900, 3800, and 3900 Series Integrated Services Routers

**Figure 1.** Cisco Unified IP Phone Family



## Product Features

Cisco Unified Communications Manager Express provides a sophisticated set of key system and PBX telephony features designed for businesses and branch offices of all sizes. It also provides several industry-unique features that are not available with most other traditional telephony solutions. Table 3 summarizes the features available with Cisco Unified Communications Manager Express Version 8.5. Consult the Feature Navigator at <http://www.cisco.com> for the latest Cisco IOS Software version.

**Table 3.** Cisco Unified Communications Manager Express 8.5 Features

Feature	Description
<b>Phone features</b>	<ul style="list-style-type: none"> <li>• Maximum 450 phones per system</li> <li>• Up to 34 line appearances per phone</li> <li>• Attendant console functions using Cisco Unified IP Phone Expansion Module 7915 and 7916 modules</li> <li>• Fast transfer: Blind or consult</li> <li>• Busy Lamp Field (BLF)</li> <li>• Silent ringing options</li> <li>• Distinctive ring per line</li> <li>• Automatic line selection for outbound calls</li> <li>• Call forward on busy, no answer, and all (internal or external)</li> <li>• Call-forward-all restriction control</li> <li>• Do not disturb (DND)</li> <li>• Feature ring with DND set</li> <li>• IP phone display of DND state</li> <li>• Dial-plan pattern load on SIP phones</li> <li>• Diversion of calls directly to voicemail</li> <li>• Customization of soft keys</li> <li>• Enable and disable call-waiting notification per line</li> <li>• Call waiting with overlay directory number</li> <li>• Call-waiting ring</li> <li>• Dual or eight call line appearances per button</li> <li>• After-hours toll-bar override</li> <li>• Auto answer with headset</li> <li>• European date formats</li> <li>• Hook flash pass-through across analog PSTN trunks</li> <li>• Idle URL: Periodically push messages or graphics on IP phones</li> <li>• Last-number redial</li> <li>• Live record to Cisco Unity<sup>®</sup> Express mailbox</li> <li>• Local name directory lookup</li> <li>• On-hook dialing</li> <li>• Station speed dial with configuration changes from IP phone</li> <li>• System speed dial for 10,000 numbers</li> <li>• Silent and feature ring options</li> <li>• SIP-based line-side subscribe, providing basic presence of phone status</li> <li>• Transfer to voicemail soft key</li> <li>• Call barge with privacy on shared lines</li> <li>• Access features using soft keys or feature access codes</li> <li>• Remote teleworker IP phone support</li> <li>• Dynamic hunt-group join or leave</li> <li>• Support for analog phones using Cisco ATA 186 Analog Telephone Adaptor or Cisco VG224 Analog Voice Gateway in SCCP mode</li> <li>• Support for fax machines on foreign-exchange-station (FXS) ports or ATA using H.323, SCCP, or SIP</li> <li>• Support for Cisco VG202 and VG204 Analog Voice Gateways</li> <li>• XML application services on Cisco Unified IP display phones</li> <li>• Station-to-station video with voice using Cisco Unified Video Advantage or Cisco Unified IP Phone 7985G endpoints</li> <li>• Extension mobility within the single site</li> <li>• Wideband audio (G.722) and Internet low bit rate codec (iLBC)</li> <li>• Single number reach for mobility in Cisco IOS Software</li> <li>• Whisper intercom</li> <li>• Shared line on SIP phones with privacy and barge-in capabilities</li> <li>• Customizable phone telephony user interface (TUI) with button layout control</li> <li>• Improved security with customizable services and directories page</li> <li>• Programmable line keys (PLK) on Cisco IP Phone TUI</li> <li>• My Phone Apps support for BLF speed-dial configuration</li> </ul>

Feature	Description
	<ul style="list-style-type: none"> <li>• Normalized +E.164 support for Cisco Unified IP Phones (SCCP)</li> <li>• Support for Cisco Mobile 8.1 iPhone and iPod touch soft-phone client</li> <li>• Secure Sockets Layer (SSL) VPN client support for Cisco IOS Datagram Transport Layer Security (DTLS) VPN for SCCP phones</li> <li>• Localization support for Cisco Unified IP Phone 7920 and 6900 models with SCCP</li> <li>• Video and camera support for Cisco Unified IP Phone 8961, 9951, and 9971 models</li> <li>• Extension Mobility support for SIP endpoints</li> </ul>
<b>Trunk features</b>	<ul style="list-style-type: none"> <li>• Analog foreign-exchange-office (FXO) Loop and Ground Start</li> <li>• Ear and mouth (E&amp;M)</li> <li>• Basic Rate Interface (BRI) and Primary Rate Interface (PRI) support (NI2, 4ESS, 5ESS, EuroISDN, DMS100, and DMS250) and several other switch types currently supported in Cisco IOS Software</li> <li>• Caller ID name and number</li> <li>• Automatic number identification (ANI)</li> <li>• Digital trunk support (T1/E1)</li> <li>• Direct inward dialing (DID)</li> <li>• Direct outward dialing (DOD)</li> <li>• E1 R2 support</li> <li>• Dedicated trunk mapping to phone button</li> <li>• H.323 trunks with H.450 support</li> <li>• H450.12 automatic detection of H.450 support for remote H.323 endpoints</li> <li>• H.323-to-H.323 hairpin call routing for non-H.450-compliant H.323 endpoints</li> <li>• SIP trunks and RFC 2833 support</li> <li>• Transcoding with G.711, G.729a, and iLBC</li> <li>• Call forwarding busy, no answer, and all</li> <li>• Calling line identification presentation (CLIP) and calling name identification presentation (CNIP)</li> <li>• Connected line identification presentation (COLP) and connected name identification presentation (CONP)</li> <li>• Message-waiting indicator (MWI) and message center support</li> <li>• MWI pass-through QSIG-to-time-division multiplexing (TDM) voicemail</li> <li>• Overlap sending support on ISDN PRI and BRI trunks</li> </ul>
<b>System features</b>	<ul style="list-style-type: none"> <li>• Account codes and call-detail-record (CDR) field entry</li> <li>• Call-back busy subscriber and camp-on</li> <li>• Per-phone call-coverage rules</li> <li>• Call hold and retrieve</li> <li>• Call park: Personal and directed</li> <li>• Call transfer and park recall</li> <li>• Call park assign to extension</li> <li>• Call pickup directed</li> <li>• Call pickup local group</li> <li>• Call pickup explicit group</li> <li>• Call transfer: Consultative and blind</li> <li>• Call waiting</li> <li>• Cancel Call waiting soft key</li> <li>• Call park and pickup on both SCCP and SIP phones</li> <li>• CTI with Microsoft CRM and Outlook using Cisco IOS Software Telephony Services Provider (TSP)</li> <li>• E911 with two emergency location numbers per zone; unlimited zones per site</li> <li>• Eight-party impromptu conferencing</li> <li>• Directory services using XML</li> <li>• Hunt groups: Sequential, circular, parallel (blast), and longest idle</li> <li>• Hunt-group dynamic log in and log out</li> <li>• Hunt-groups statistics: Daily and hourly</li> <li>• Intercom</li> <li>• Ad-hoc conferencing (8 parties)</li> <li>• Meet-me conferencing (32 parties)</li> <li>• Five music-on-hold (MoH) streams (internal)</li> <li>• Night service bell or call forwarding</li> <li>• Overlay extensions for enhanced call coverage</li> </ul>

Feature	Description
	<ul style="list-style-type: none"> <li>• Called-name display for overlay extensions</li> <li>• Paging: Internal through IP phones or to external system</li> <li>• Per-call caller ID blocking</li> <li>• Secondary dial tone</li> <li>• Standards-based network call transfer and call forwarding using H.450</li> <li>• Additional system speed-dial option through XML service</li> <li>• Time-of-day and day-of-week call blocking</li> <li>• Customizable called-name display</li> <li>• Support of SRST fallback service phone autoregistration</li> <li>• Basic automatic call distributor (B-ACD) (three queues) with Automated Attendant and call statistics</li> <li>• Display of number of calls in queue on IP phone</li> <li>• Agent log in and log out of B-ACD hunt group</li> <li>• Integration with Cisco Unified Contact Center Express 5.0 for advanced call-center features with support for up to 50 agents, agent supervisors, call recording, silent monitoring, and reporting features</li> <li>• Secure Real-Time Transport Protocol (SRTP) providing media encryption for calls on the IP network</li> <li>• Secure voice IP phone certificate authentication and provisioning plus secure device signaling using Transport Layer Security (TLS)</li> <li>• Video over SIP trunk with H.264 codec support</li> <li>• Multilevel Precedence and Preemption (MLPP) support over PRI trunks</li> <li>• Enhanced MLPP with support for supplementary services, including three-way conference, call park, and call pickup</li> <li>• BLF monitoring of conference directory numbers and call-park slots</li> <li>• Cisco Unified Communications Manager Express and Cisco Unity Express username and password synchronization</li> <li>• Support for IPv6 on SCCP and SIP IP phones</li> <li>• Enhanced security with Logical Partition Class of Restriction for Closed User Group (CUG)</li> <li>• Optional unlock of meet-me conference bridge</li> <li>• New IP Trusted Authentication List for enhanced security</li> <li>• Forced Authorization Code (FAC) for improved call screening and accounting</li> <li>• SSL VPN support for Cisco Unified IP Phones</li> <li>• SSL VPN support for Cisco Adaptive Security Appliance (ASA)</li> <li>• Fixed mobile convergence (FMC) with media flow around on SIP trunks</li> <li>• Support for Call Forward Unregistered</li> <li>• Clear directory entries for calls</li> <li>• Localization support for Cisco Unified IP Phone 7920 and 6900 models with SCCP</li> <li>• Video and camera support for Cisco Unified IP Phone 8961, 9951, and 9971 models</li> <li>• Increased translation rule from 15 to 100</li> <li>• Bulk registration support for SIP phones</li> <li>• Debug ephone messages enhancement</li> <li>• Support for 7926 wireless phone</li> </ul>
<b>Voicemail features</b>	<ul style="list-style-type: none"> <li>• Integrated voicemail and Automated-Attendant solution with Cisco Unity Express</li> <li>• Integration with Cisco Unity Voicemail and Cisco Unity unified messaging, or third-party voicemail integration (H.323, SIP, or dual tone multifrequency [DTMF])</li> </ul>
<b>International localization</b>	<ul style="list-style-type: none"> <li>• Per-phone localization for up to five local languages per system, including English, Bulgarian, Chinese Mandarin and Cantonese, Croatian, Czech, Danish, Dutch, European Spanish, Finnish, French, German, Greek, Hungarian, Italian, Japanese Kanji and Katakana, Korean, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovakian, Slovenian, Swedish, Turkish, Latvian, Lithuanian, Estonian, and Hebrew</li> </ul>
<b>Management features</b>	<ul style="list-style-type: none"> <li>• Automatic assignment of extensions to phones for easy phone additions</li> <li>• Extension assigner, allowing for deployment of new phones using voice prompts</li> <li>• Single web-based GUI for moves, adds, and changes for system and integrated voicemail with three levels of GUI administration: System administrator, customer administrator, and user</li> <li>• Centralized network management deployments using Cisco CNS Configuration Engine</li> <li>• Telephony-service setup and configuration using HTML Quick Configuration Tool</li> <li>• Simple Network Management Protocol (SNMP) support with Cisco Unified Operations Manager or third-party management consoles</li> </ul>

Feature	Description
<b>APIs for development and integration</b>	<ul style="list-style-type: none"> <li>• Client integration: You can connect Cisco Unified CME with Microsoft CRM and Salesforce.com using Telephony Application Programming Interface (TAPI) Windows driver based on Cisco IOS Software TSP.</li> <li>• Server integration: You can connect Cisco Unified CME with third-party applications using the Cisco Unified Communications Express Services Interface API. This API enables protocol interaction between Cisco Unified CME and third-party applications to perform CTI functions, including call monitoring, call control, and call provisioning with any SCCP device registered with the Cisco Unified CME. It includes two elements: embedded CTI protocol support within Cisco Unified CME and Java Function Library (referred to as the "UC Express Services SDK") that co-resides on an external server with the third-party application. This API can support either co-located or service provider-hosted application deployment scenarios. For more information, please refer to: <a href="http://developer.cisco.com/web/ucxapi/home">http://developer.cisco.com/web/ucxapi/home</a>.</li> </ul>

## Summary

Cisco Unified Communications Manager Express delivers telephony features you need to meet the requirements of your small or branch office. Cisco Integrated Services Routers offer high reliability and advanced applications, including unified communications, VPN, firewall, encryption, dial access, Ethernet switching with Power over Ethernet, and content networking within a single all-in-one platform that is easy to deploy and maintain, resulting in a lower total cost of ownership.

As your business expands, you can easily migrate Cisco Unified Communications Manager Express to a Cisco Unified Communications Manager large-scale IP telephony solution. All hardware and software used by this solution is fully compatible with Cisco Unified Communications Manager and Cisco Unified SRST, giving you robust investment protection.

## Cisco Unified Communications Services

Cisco Unified Communications Services allows you to accelerate cost savings and productivity gains associated with deploying a secure, resilient Cisco Unified Communications Solution. Delivered by Cisco and our certified partners, our portfolio of services is based on proven methodologies for unifying voice, video, data, and mobile applications on fixed and mobile networks. Our unique lifecycle approach to services enhances your technology experience to accelerate true business advantage.

## For More Information

Partners looking for ordering information should refer to the Cisco Unified Communications Manager Express ordering guide available on the partner site: <http://www.cisco.com/go/partner>.

For more information about Cisco Unified Communications Manager Express, visit <http://www.cisco.com/go/ccme>.

If you have questions, send an email message to [access-ccme-cue@cisco.com](mailto:access-ccme-cue@cisco.com).



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