Cisco Unified Communications Manager Version 6.0

Cisco® Unified Communications is a comprehensive IP communications system of voice, video, data, and mobility products and applications. It enables more effective, more secure, more personal communications that directly affect both sales and profitability. It brings people together by enabling a new way of communicating—where your business moves with you, security is everywhere, and information is always available...whenever and wherever it is needed. Cisco Unified Communications is part of an integrated solution that includes network infrastructure, security, mobility, network management products, lifecycle services, flexible deployment and outsourced management options, end-user and partner financing packages, and third-party communications applications.

Cisco Unified Communications Manager (formerly Cisco Unified CallManager) software is the call-processing component of the Cisco Unified Communications system. Cisco Unified Communications Manager extends enterprise telephony features and capabilities to packet telephony network devices such as IP phones, media processing devices, voice-over-IP (VoIP) gateways, and multimedia applications. Additional services such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems are made possible through Cisco Unified Communications Manager open telephony APIs. Cisco Unified Communications Manager is installed on the Cisco 7800 Series Media Convergence Servers (MCSs) platforms and selected third-party servers. It has a suite of integrated voice applications and utilities, including the Cisco Unified Communications Manager Attendant Console, an impromptu conferencing application, the Cisco Unified Communications Manager Bulk Administration Tool, the Cisco Unified Communications Manager Call Detail Record (CDR) Analysis and Reporting Tool, the Cisco Unified Communications Manager Real-Time Monitoring Tool, and the Cisco Unified Communications Manager Assistant application.

Features and Benefits

Cisco Unified Communications Manager 6.0 is an enterprise IP telephony call-processing solution that is scalable, distributable, and highly available. Multiple Cisco Unified Communications Manager servers are clustered and managed as a single entity on an IP network, a distinctive capability in the industry that yields scalability of 1 to 30,000 IP phones per cluster, load balancing, and call-processing service redundancy. Interlinking multiple clusters allows system capacity to reach 1 million users in a system of more than 100 sites. Clustering aggregates the power of multiple distributed Cisco Unified Communications Manager installations, enhancing the accessibility of the servers to phones, gateways, and applications, and triple call-processing server redundancy improves overall system availability.

Call admission control (CAC) helps ensure that voice quality of service (QoS) is maintained across constricted WAN links, and it automatically diverts calls to alternate public-switched-telephone-network (PSTN) routes when WAN bandwidth is not available. A Web interface to the configuration database allows remote device and system configuration. HTML-based online help is available for users and administrators.

Cisco Unified Communications Manager 6.0 builds upon the feature set available today with Cisco Unified Communications Manager 5.1(1) and Cisco Unified CallManager 4.2(3). The appliance model provides a platform for call processing with the software preloaded on a Cisco MCS platform; the software is optionally available as a DVD kit for customer-provided servers. The appliance comes with a single firmware image that includes the underlying operating system as well as the Cisco Unified Communications Manager application. The appliance is accessed through a GUI, and a command-line interface (CLI) has been added to facilitate diagnostics and basic system management such as the starting or stopping of services and rebooting of the appliance. No access to the underlying operating system is necessary. All system management activities, such as disk space monitoring, system monitoring, and upgrades, either are automated or are controlled through the GUI. Because onboard agents are no longer supported on the appliance in this version, all Cisco Unified Communications Manager management interfaces are enhanced to allow tight integration with third-party applications. The Simple Network Management Protocol (SNMP) interface has added an Overall Syslog performance MIB, the Serviceability interface has instrumented appliance-specific counters, and the Programming interface has added the capability to run insert, update, and delete database commands. To further enhance security, Cisco Security Agent for Cisco Unified Communications Manager comes preloaded on the appliance.

Cisco Unified Communications Manager 6.0 includes two main enhancements: the integration of the Cisco Unified Mobility (formerly Cisco MobilityManager) feature into Cisco Unified Communications Manager software, and the support of dual-mode devices. Cisco Unified Mobility was previously available as an application on a Cisco MCS. It provides functions that intelligently manage, filter, route, and place calls between a worker's Cisco Unified IP phone and a remote mobile phone. Integrating these functions into Cisco Unified Communications Manager software makes administration and functions a native part of the solution, providing the capability to manage calls from a wired Cisco Unified IP phone or a mobile device. Additionally, support for dual-mode devices benefits customers who have mobile users who need to move between campus wireless and external cellular network environments. These devices can manually pass calls from a cellular GSM network to an 802.11-based wireless LAN.

Session Initiation Protocol (SIP) support is available in Cisco Unified Communications Manager with support of line-side devices, including IETF RFC 3261–compliant devices available from Cisco and other manufacturers. Cisco SIP-compliant devices include the Cisco Unified IP Phone 7905G, 7912G, 7940G, and 7960G models. SIP is also available on the Cisco Unified IP Phone 7906G, 7911G, 7941G, 7941G-GE, 7961G, 7961G-GE, 7970G, and 7971G-GE models.

The SIP trunk interface is available and conforms to RFC 3261, allowing support of video calls over the SIP trunk and improving conferencing and application support experiences when used with the Cisco Unity® and Cisco Unified MeetingPlace® solutions.

Cisco Unified Communications Manager supports Resource Reservation Protocol (RSVP) agent capability. The RSVP agent on a Cisco router extends CAC capability beyond a hub-and-spoke topology within a cluster. Now a call can be routed directly between two locations without having to traverse the hub, allowing alternative network topologies and more efficient use of networks.

Cisco Unified Communications Manager 5.0 delivered Japanese, Korean, and Chinese (Traditional and Simplified) languages; Cisco Unified Communications Manager 5.1 supports Arabic; and now Cisco Unified Communications Manager 6.0 supports Hebrew.

The Cisco Unified IP Phone 7931G is supported in Cisco Unified Communications Manager 6.0. Initially introduced with Cisco Unified Communications Manager Express, this phone provides functions that are commonly needed in the commercial and retail environments. It provides 24 lighted line keys and four interactive soft keys that guide users through call features and functions. In addition, it provides hard hold, redial, and transfer keys to facilitate simple and rapid call handling.

SNMP is available to manage Cisco Unified Communications Manager, allowing managers to set and report traps on conditions that could affect service and send them to the remote monitoring systems.

Cisco Unified Communications Manager allows immediate diversion of an incoming call or an in-progress call to voicemail. In Cisco Unified Communications Manager 6.0, the feature has been enhanced to address transferred calls as well. Users now can forward calls that have been transferred to them either to their own voicemail or to the voicemail of the original transferring party.

Cisco Unified Communications Manager and Cisco Unified CallManager provides a choice of operating system: either a Windows-based server (Release 4) or the appliance model (Releases 5 and 6). The feature enhancements listed in this section pertain to the appliance model.

Specifications

Platforms

- Cisco 7800 Series MCS, including Cisco MCS 7815, MCS 7816, MCS 7825, MCS 7835, and MCS 7845
- Selected third-party servers; for details, visit http://www.cisco.com/go/swonly

Bundled Software

- Cisco Unified Communications Manager Version 6.0—Call-processing and call-control application
- Cisco Unified Communications Manager Version 6.0 configuration database—Contains system and device configuration information, including dial plan
- Cisco Unified Communications Manager administration software
- Cisco Unified Communications Manager CDR Analysis and Reporting Tool—Provides reports for calls based on CDRs that include calls on a user basis, calls through gateways, simplified call quality, and a CDR search mechanism; the Cisco Unified Communications Manager CDR Analysis and Reporting Tool also provides limited database administration—for example, deletion of records based on database size
- Cisco Unified Communications Manager Bulk Administration Tool (BAT)—Enhanced in this release—in addition to allowing administrators to perform bulk add, delete, and update operations for devices and users. This tool now provides export and import of Database information, including Calling Search Space, Device Pool, SRST and many others.
- Cisco Unified Communications Manager Attendant Console—Allows a receptionist to answer, transfer, and dispatch calls within an organization
- The attendant can install the attendant console, a client-server application, on a PC running Windows 2000 or Windows XP. The attendant console connects to the Cisco Telephony

Call Dispatcher (TCD) server for login services, line state, and directory services. Multiple attendant consoles can connect to a single Cisco TCD server.

- Cisco Unified Communications Manager Real-Time Monitoring Tool (RTMT)—A client tool that monitors real-time behavior of the components in a Cisco Unified Communications Manager cluster

Cisco Unified Communications Manager RTMT uses HTTP and TCP to monitor device status, system performance, device discovery, and computer-telephony-integration (CTI) applications. It also provides trace and log file management capabilities, including scheduling of downloads of all trace and log files, user-defined events in trace and log files, and real-time monitoring of trace and log files. Cisco Unified Communications Manager RTMT can send e-mail and page alerts when problems are detected. It connects directly to Cisco Unified Communications Manager by using HTTP to troubleshoot system problems.

- Cisco Conference Bridge—Provides software conference bridge resources for Cisco Unified Communications Manager
- Cisco Unified IP Phone Address Book Synchronizer—Allows users to synchronize Microsoft Outlook or Outlook Express address books with Cisco Personal Address Book

After installing and configuring Cisco Personal Address Book, users can access this feature from the Cisco Unified IP Phone Configuration Website.

- Cisco Unified Communications Manager Locale Installer—Provides user and network locales for Cisco Unified Communications Manager, adding support for languages other than English

The locales installer allows users to view translated text, receive country-specific phone tones, and receive Tool for Auto-Registered Phones Support (TAPS) prompts in a chosen language when working with supported interfaces. This application is downloaded from the Cisco Website as needed.

- Cisco Unified Communications Manager Java Telephony API (JTAPI)—This plug-in is installed on all computers hosting applications that interact with Cisco Unified Communications Manager with JTAPI; JTAPI reference documentation and sample code are included
- Cisco Unified Communications Manager Telephony Service Provider—Contains the Cisco Telephony API (TAPI) service provider (TSP) and the Cisco WAV drivers that allow TAPI applications to make and receive calls on the Cisco IP Telephony system
- Cisco Dialed Number Analyzer—Serviceability tool that analyzes the dialing plan for specific numbers
- Cisco Unified Communications Manager Assistant—Provides administration features along with administration Webpages for improved call handling

System Capabilities Summary

Items marked with an asterisk (*) are new or enhanced for Cisco Unified Communications Manager 6.0.

- Alternate automatic routing (AAR)
- Attenuation and gain adjustment per device (phone and gateway)
- *Audio message waiting indication

- Automated bandwidth selection

- Autoroute selection (ARS)

- AVVID XML Layer (AXL) Simple Object Access Protocol (SOAP) API with performance and real-time information

- Basic Rate Interface (BRI) endpoint support; registers BRI endpoints as Skinny Client Control Protocol (SCCP) devices

- CAC—Intercluster and intracluster

- Call coverage

  ◦ Forwarding based on internal and external calls

  ◦ Forwarding out of a coverage path

  ◦ Timer for maximum time in coverage path

  ◦ Time of day

- Call display restrictions

- Call preservation—redundancy and automated failover—on call-processing failure

- *Call recording

- *Codec support for automated bandwidth selection: G.711 (mu-law and a-law), G.722, G.722.1, G.723.1, G.728, G.729A/B, GSM-EFR, GSM-FR, iLBC, wideband audio (proprietary 16-bit resolution; 16-kHz sampled audio), and Advanced Audio CODEC (AAC) for use with Cisco TelePresence devices

- Digit analysis and call treatment (digit string insertion, deletion, stripping, dial access codes, and digit string translation)

- *Database resiliency to increase feature availability for the following:

  ◦ Extension mobility

  ◦ Call forward all

  ◦ Message waiting indication

  ◦ Privacy

  ◦ Device mobility

  ◦ Do not disturb (new with Version 6.0)

  ◦ End User and Application User Certificate Authority Proxy Function (CAPF) for CTI

  ◦ Monitoring

  ◦ Hunt groups

- *Device mobility changes the location-specific information when a device moves within the cluster

- Distributed call processing

  ◦ Deployment of devices and applications across an IP network

  ◦ Virtual clusters of up to eight Cisco Unified Communications Manager servers for scalability, redundancy, and load balancing

  ◦ Maximum of 7500 Cisco Unified IP phones per Cisco Unified Communications Manager server and 30,000 per server cluster (configuration dependent)

- Maximum of 100,000 busy-hour call completions (BHCCs) per Cisco Unified Communications Manager server and 250,000 per server cluster (configuration dependent)
- Intercluster scalability to more than 100 sites or clusters through H.323 gatekeeper
- Intracluster feature and management transparency
- Fax over IP—G.711 pass-through and Cisco Fax Relay
- Forced authorization codes and client matter codes (account codes)
- H.323 interface to selected devices
- H.323 FastStart (inbound and outbound)
- Hotline and private line automated ringdown (PLAR)
- Hunt groups—Broadcast, circular, longest idle, and linear, Login and Logout
- Interface to H.323 gatekeeper for scalability, CAC, and redundancy
- Divert calls to voicemail (iDivert)
- Language support for client-user interfaces (languages specified separately)
- Multilevel precedence and preemption (MLPP)
- Multilocation—Dial-plan partition
- Multiple ISDN Protocol support
- Multiple remote Cisco Unified Communications Manager platform administration and debug utilities
  - Prepackaged alerts, monitor views, and historical reports with RTMT
  - Real-time and historical application performance monitoring through operating system tools and SNMP
  - Monitored data collection service
  - Remote terminal service for off-net system monitoring and alerting
  - Real-time event monitoring and presentation to common syslog
  - Trace setting and collection utility
  - Browse to onboard device statistics
  - Clusterwide trace setting tool
  - Trace collection tool
- Multisite (cross-WAN) capability with intersite CAC
- Dial-plan partitioning
- Off-premises extension (OPX)
- Outbound call blocking
- Out-of-band dual-tone multifrequency (DTMF) signaling over IP
- *Programmable line keys
- PSTN failover on route nonavailability—AAR
- Q.SIG
  - Alerting name specified in ISO 13868 as part of the Connected Name Identification Presentation (SS-CONP) feature
  - Basic call

- ID services

- General function procedures

- Callback—ISO/IEC 13870: 2nd ed., 2001–2007 (completion of calls to busy subscriber [CCBS] and call completion on no reply [CCNR])

- Call diversion, including SS-CFB (busy), SS-CFNR (no answer), and SS-CFU (unconditional); service ISO/IEC 13872 and ISO/IEC 13873, first edition 1995—Call diversion by forward switching and by rerouting

- Call transfer by join

- H.323 Annex M.1 (Q.SIG over H.323)—ITU recommendation for Annex M.1

- Identification restriction: Calling Name Identification Restriction (CNIR), Connected Line Identification Restriction (COLR), and Connected Name Identification Restriction (CONR)

- Loop prevention, diversion counter and reason, loop detection, diverted to number, diverting number, original called name and number, original diversion reason, and redirecting name

- Message waiting indicator (MWI)

- Path replacement ISO/IEC 13863 2nd ed. (1998) and ISO/IEC 13974 2nd ed. (1999)

- Station through trunk (Media Gateway Control Protocol [MGCP] gateways)

  - JTAPI and TAPI applications available with automated failover and automatic update

  - Triple Cisco Unified Communications Manager redundancy per device (phones, gateway, and applications) with automated failover and recovery

  - Trunk groups

  - MGCP BRI support (ETSI BRI basic-net3 user side only)

- Security

  - *Secure conferencing is available to all members of the conference.

  - Configurable operation modes—Nonsecure or secure modes can be configured.

  - Device authentication—New model phones have an embedded X.509v3 certificate; a CAPF is used to install a locally significant certificate in the phones.

  - Data integrity—The Transport Layer Security (TLS) cipher NULL-SHA is supported; messages are appended with the SHA1 hash of the message to help ensure that they are not altered on the wire and can be trusted.

  - Cisco Unified Communications Manager offers secure HTTP support for Cisco Unified Communications Manager Admin, Cisco Unified Communications Manager Serviceability, Cisco Unified Communications Manager User, Cisco Unified Communications Manager RTMT, Cisco Unified Communications Manager Trace Analysis, Cisco Unified Communications Manager Service, Cisco Unified Communications Manager Trace Collection Tool, and Cisco Unified Communications Manager CDR Analysis and Reporting Tool.

  - Privacy—Signaling and media are encrypted, including Cisco Unified IP Phone 7906G, 7911G, 7921G, 7940G, 7941G, 7941G-GE, 7960G, 7961G, 7961G-GE, 7970G, and 7971G models; Cisco Unified Survivable Remote Site Telephony (SRST); and Media Gateway Control Protocol (MGCP) gateways.

  - Secure Sockets Layer (SSL) for directory—Supported applications include Cisco Unified Communications Manager BAT, Cisco Unified Communications Manager CDR Analysis

and Reporting Tool, Cisco Unified Communications Manager Admin User Pages, Cisco Unified Communications Manager Assistant Admin Pages, Cisco Unified Communications Manager User Pages, Cisco Unified IP Phone Options Pages, Cisco Conference Connection, Cisco CTI Manager, Cisco Communications Manager Extension Mobility, and Cisco IP Manager Assistant.

- A universal serial bus (USB) eToken containing a Cisco rooted X.509v3 certificate is used to generate a Certificate Trust List (CTL) file for the phones and configure the security mode of the cluster.
- Phone security—Trivial File Transfer Protocol (TFTP) files (configuration and firmware loads) are signed with the self-signed certificate of the TFTP server; the Cisco Unified Communications Manager system administrator can disable HTTP and Telnet on IP phones.

- SIP trunk (RFC 3261) and line side (RFC 3261-based devices)
- Cisco SRST
- Shared resource and application management and configuration
  - Transcoder resource
  - Conference bridge resource
  - Topological association of shared resource devices (conference bridge, music-on-hold sources, and transcoders)
  - Media termination point (MTP)—Support for SIP trunk and RFC 2833
  - Annunciator
- Silence suppression and voice activity detection
- *Silent monitoring
- Simplified North American Numbering Plan (NANP) and non-NANP support
- T.38 fax support (H.323, *MGCP, and SIP)
- Third-party applications support
  - Broadcast paging—Through foreign exchange station (FXS)
  - Simplified Message Desk Interface (SMDI) for MWI
  - Hook-flash feature support on selected FXS gateways
  - TSP 2.1 interface
  - JTAPI 2.0 service provider interface
  - Billing and call statistics
  - Configuration database API (Cisco AXL)
- Time-of-day, day-of-week, and day-of-year routing and restrictions
- Toll restriction—Dial-plan partition
- Toll-fraud prevention
  - Prevent trunk-to-trunk transfer
  - Drop conference call when originator hangs up
  - Require forced authorization codes
- Unified device and system configuration
- Unified dial plan

- Video codecs: H.261, H.263, H.264, and Cisco Wideband Video Codec (Cisco Unified Video Advantage)
- Video telephony (SCCP, H.323, and SIP)

Summary of User Features

Asterisks (*) in this list indicate SIP support for Cisco Unified Communications Manager 6.0.

- *Abbreviated dial
- *Answer and answer release
- *Autoanswer and intercom
- *Barge
- *Callback busy, no reply to station
- *Call connection
- *Call coverage
- *Call forward—All (off net and on net), busy, no answer, no bandwidth, and not registered
- *Call hold and retrieve
- Call join
- *Call park and pickup
- *Call pickup group—universal
- *Call pickup notification (audible or visual)
- *Call status per line (state, duration, and number)
- *Call waiting and retrieve (with configurable audible alerting)
- *Calling line identification (CLID) and calling party name identification (CNID)
- Calling line identification restriction (CLIR) call by call
- *Conference barge
- *Conference chaining
- *Conference list and drop any party (impromptu conference)
- *Dialed-number display
- *Direct inward dial (DID) and direct outward dial (DOD)
- *Directed call park with busy lamp field (BLF)
- *Directory dial from phone—Corporate and personal
- *Directories—Missed, placed, and received calls list stored on selected IP phones
- *Distinctive ring for on- and off-net status, per-line appearance, and per phone
- *Do not disturb
- *Drop last conference party (impromptu conferences)
- *Extension mobility support
- *Hands-free, full-duplex speakerphone
- *HTML help access from phone
- *Hold reversion
- *Immediate divert to voicemail
- *Intercom with whisper

- *Last-number redial (on and off net)
- *Log in and log out of hunt groups
- Malicious-call ID and trace
- Manager-assistant service (Cisco Unified Communications Manager Assistant application) proxy line support
  - Manager features—Immediate divert or transfer, do not disturb, divert all calls, call intercept, call filtering on CLID, intercom, and speed dials
  - Assistant features—Intercom, immediate divert or transfer, divert all calls, and manager call handling through assistant console application
- Manager-assistant service (Cisco Unified Communications Manager Assistant application) shared-line support
  - Manager features—Immediate divert or transfer, do not disturb, intercom, speed dials, barge, direct transfer, and join
  - Assistant features—Handle calls for managers; view manager status and calls; create speed dials for frequently used numbers; search for people in directory; handle calls on their own lines; immediate divert or transfer, intercom, barge, privacy, multiple calls per line, direct transfer, and join; send DTMF digits from console; and MWI status of manager phone
- Manager-assistant service (Cisco Unified Communications Manager Assistant application) system capabilities—Multiple managers per assistant (up to 33 lines) and redundant service
- Manager-assistant service now available on a Cisco Unified IP Phone with Cisco Unified Communications Manager 6.0
- *MWI (visual and audio)
- *Multiparty conference—Impromptu with add-on meet-me features
- *Multiple calls per line appearance
- *Multiple line appearances per phone
- *Music on hold
- *Mute capability from speakerphone and handset
- *On-hook dialing
- Operator attendant—Cisco Unified Communications Manager Attendant Console: call queuing, broadcast hunting, and shared line support
- *Original calling party information on transfer from voicemail
- *Privacy
- *Real-time QoS statistics through HTTP browser to phone
- *Recent dial list—Calls to phone, calls from phone, autodial, and edit dial
- *Service URL—single-button access to IP phone service
- *Single directory number and multiple phones—Bridged line appearances
- *Speed dial—Multiple speed dials per phone
- *Station volume controls (audio and ringer)
- *Transfer—Blind, consultative, and direct transfer of two parties on a line
- *User-configured speed dial and call forward through Web access

- *Video (SCCP, H.323, and SIP)
- *Web services access from phone
- *Web dialer—Click to dial
- *Wideband audio codec support—Proprietary 16-bit resolution, 16-kHz sampling rate codec

Cisco Unified Mobility

The Cisco Unified Mobility service helps mobile workers direct their inbound business calls to their IP phone number and initiate outbound business calls as if they were at their Cisco Unified IP phone—all from the mobile phone (or other remote phone destination). They can answer incoming calls on the desk phone or mobile phone, pick up calls between the desk phone and mobile phone without losing the connection, and originate enterprise calls from a mobile or other remote phone. Cisco Unified Mobility is included in Cisco Unified Communications Manager 6.0 and provides the following features:

- Simultaneous desktop ringing
- Desktop pickup
- Mobile call pickup
- Security and privacy for Cisco Unified Mobility calls
- Cisco Mobile Voice Access
- Single enterprise voice mailbox
- Allowed and blocked call filters
- Caller identification
- System administrator-controllable user profile access
- Remote on and off control
- Voice-based access with user identification and personal identification number protection
- Call tracing

Summary of Administrative Features

- Application discovery and registration to SNMP manager
- AXL SOAP API with performance and real-time information
- Cisco Unified Communications Manager BAT (including new import and export capabilities)
- CDRs
- Cisco Unified Communications Manager CDR Analysis and Reporting Tool
- Call forward reason code delivery
- Centralized, replicated configuration database and distributed Web-based management viewers
- Configurable and default ringer WAV files per phone
- Configurable call forward display
- Database automated change notification
- Date and time display format configurable per phone
- Debug information to common syslog file
- Device addition through wizards

- Device-downloadable feature upgrades—Phones, hardware transcoder resource, hardware conference bridge resource, and VoIP gateway resource

- Device groups and pools for large-system management

- Device mapping tool—IP address to MAC address

- Dynamic Host Configuration Protocol (DHCP) block IP assignment—Phones and gateways

- Dialed Number Analyzer (DNA)

- Dialed-number translation table (inbound and outbound translation)

- Dialed-number identification service (DNIS)

- Enhanced 911 service

- H.323-compliant interface to H.323 clients, gateways, and gatekeepers

- JTAPI 2.0 computer telephony interface

- Lightweight Directory Access Protocol (LDAP) Version 3 directory interface to selected vendors' LDAP directories: Active Directory and Netscape Directory Server

- MGCP signaling and control to selected Cisco VoIP gateways

- Native supplementary services support to Cisco H.323 gateways

- Paperless phone DNIS—Display-directed button labels on phones

- Performance-monitoring SNMP statistics from applications to SNMP manager or to operating system performance monitor

- QoS statistics recorded per call

- Redirected DNIS (RDNIS) inbound and outbound (to H.323 devices)

- Select specified line appearance to ring

- Select specified phone to ring

- Single CDR per cluster

- Single-point system and device configuration

- Sortable component inventory list by device, user, or line

- System event reporting to common syslog or operating system event viewer

- TAPI 2.1 CTI

- Time zone configurable per phone

- Cisco Unity software user integration

- TAPS

- Extensible Markup Language (XML) API for IP phones (Cisco Unified IP Phone 7940G and 7960G models)

- Zero-cost automated phone moves

- Zero-cost phone adds

- Data migration assistant

- Log partition monitor

- Disaster recovery framework

- Cisco Security Agent for Cisco Unified Communications Manager

- IP Security (IPsec) and certificate management

- CDR delivery manager

- Command-line interface

- Enhanced remote access through serial, console, and Secure Shell (SSH) Protocol

- Scheduled provisioning with Cisco Unified Communications Manager BAT

- Scheduled trace collection

- User-defined events

- Real-time trace monitoring

- Enhanced upgrade process to minimize service downtime

- Enhanced installation process to minimize install time

- Installation answer file for no-touch installation

- Syslog to SNMP trap MIB

- Enhanced AXL SOAP API to modify the database

SIP Trunk and Endpoint Support

SIP trunk and endpoint support provides enhancements to support SIP and host SIP phones, improving interoperability and opening ways to develop innovative applications. Cisco Unified Communications Manager supports coexistence of SCCP and SIP phones, allowing migration to SIP while protecting investments in existing devices. Cisco Unified Communications Manager includes the following major SIP functions:

- Native support of SIP devices

- CTI for Internet service provider (ISP) phones

- Presence information for SIP devices, including support for PUBLISH

- Fault, configuration, accounting, performance, and security (FCAPS) enhancements to support SIP

- SIP trunk enhancements for external applications, such as conferencing and presence

- Third-party SIP devices supporting RFC 3261

- SIP line-side RFCs: RFCs 3261, 3262, 3264, 3265, 3311, 3515, and 3842

- SIP trunk RFC support: RFCs 2833, 2976, 3261, 3262, 3264, 3265, 3311, 3515, 3842, 3856, and 3891

Licensing

Application and phone software licenses are enforced. The system manages the maximum number of devices that can be provisioned.

- Each device (Cisco Unified IP Phones, third-party devices, and video devices) provisioned in the system corresponds to a number of device license units (DLUs), depending on its capabilities; the total number of units is managed in Cisco Unified Communications Manager to determine capacity.

- DLUs must be purchased to cover the number of devices connected to Cisco Unified Communications Manager.

- Third-party SIP devices require DLUs for operation with Cisco Unified Communications Manager.

Localization

The following user locales (languages) are supported: French, German, Italian, Spanish, Danish, Portuguese, Swedish, Norwegian, Dutch, Russian, Greek, Hungarian, Polish, Simplified Chinese, Traditional Chinese, Korean, Japanese, Brazilian Portuguese, Catalan, Croatian, Bulgarian, Slovak, Czechoslovakian, Slovenian, Romanian, Serbian, Arabic, and Hebrew.

Localization for Japanese, Korean, Traditional and Simplified Chinese, Arabic, and Hebrew are available with the Cisco Unified IP Phone 7906G, 7911G, 7941G, 7941G-GE, 7961G, 7961G-GE, 7970G, and 7971G models.

Localization for Japanese, Korean, Traditional and Simplified Chinese are available with the Cisco Unified IP Phone 7921G.

The following network locales (tones and cadences) are supported: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Colombia, Cyprus, Czech Republic, Denmark, Egypt, Finland, France, Germany, Ghana, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Kenya, Korea Republic, Lebanon, Luxembourg, Malaysia, Mexico, Nepal, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Russian Federation, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, United States, Venezuela and Zimbabwe.

Ordering Information

Software Upgrades

Cisco Unified Communications Manager 6.0 installation CDs can be ordered for existing systems.

Customers with a Cisco Software Application Support plus Upgrades (SASU) contract running Cisco Unified CallManager 3.2 or 3.3; Cisco Unified CallManager 4.0, 4.1, or 4.2; or Cisco Unified Communications Manager 5.0 or 5.1 and who want to upgrade to Cisco Unified Communications Manager 6.0 can order upgrades using the Product Upgrade Tool located at http://www.cisco.com/upgrade.

Customers with a Cisco Unified Communications Software Subscription running Cisco Unified Communications Manager 5.0 or 5.1 and who want to upgrade to Cisco Unified Communications Manager 6.0 can order upgrades using the Product Upgrade Tool located at http://www.cisco.com/upgrade.

Customers with no upgrade maintenance contract or upgrades from a previous version of Cisco Unified Communications Manager can order one of the part numbers in Table 1 & 2.

Table 1. Product Numbers to Upgrade from CM 5 to CM 6.0

Product Number	Description
CM6.0-K9-SUP=	SW Upgrade CM 5.1 to 6.0 for Cisco SMARTnet®
CM6.0-K9-UPG=	SW Upgrade CM 5.1 to 6.0 for SASU
CM6.0-U-K9-7815SE=	SW Upgrade CM 5.1 to CM 6.0 - 7815SE
CM6.0-U-K9-7815=	SW Upgrade CM 5.1 to CM 6.0 - 7815
CM6.0-U-K9-7825SE=	SW Upgrade CM 5.1 to CM 6.0 - MMIPC bundles only
CM6.0-U-K9-7825=	SW Upgrade CM 5.1 to CM 6.0 - 7825
CM6.0-U-K9-7835=	SW Upgrade CM 5.1 to CM 6.0 - 7835
CM6.0-U-K9-7845=	SW Upgrade CM 5.1 to CM 6.0 - 7845

CM6.0-U-K9-DL320=	SW Upgrade CM 5.1 to CM 6.0 - DL320
CM6.0-U-K9-DL380=	SW Upgrade CM 5.1 to CM 6.0 - DL380 1CPU
CM6.0-U-K9-DL380D=	SW Upgrade CM 5.1 to CM 6.0 - DL380 2CPU
CM6.0-U-K9-X306=	SW Upgrade CM 5.1 to CM 6.0 - X306
CM6.0-U-K9-X346=	SW Upgrade CM 5.1 to CM 6.0 - X346 1CPU
CM6.0-U-K9-X346D=	SW Upgrade CM 5.1 to CM 6.0 - X346 2CPU
CM6.0-U-K9-X3650=	SW Upgrade CM 5.1 to CM 6.0 - X3650 1CPU
CM6.0-U-K9-X3650D=	SW Upgrade CM 5.1 to CM 6.0 - X3650 2CPU

Table 2.   Product Numbers to Upgrade from Cisco Unified CallManager 4.1 and 4.2 to Cisco Unified Communications Manager 6.0

Product Number	Description
CM6.0U4-K9-SUP=	SW Upgrade CM 4.1/4.2 to 6.0 for Cisco SMARTnet[®]
CM6.0U4-K9-UPG=	SW Upgrade CM 4.1/4.2 to 6.0 for SASU or UCSS
CM6.0U4-K9-7815SE=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7815SE
CM6.0U4-K9-7825SE=	SW Upgrade CM 4.1/4.2 to CM 6.0 - MMIPC bundles only
CM6.0U4-K9-7815=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7815
CM6.0U4-K9-7825=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7825
CM6.0U4-K9-7835=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7835
CM6.0U4-K9-7845=	SW Upgrade CM 4.1/4.2 to CM 6.0 - 7845
CM6.0U4-K9-DL320=	SW Upgrade CM 4.1/4.2 to CM 6.0 - DL320
CM6.0U4-K9-DL380=	SW Upgrade CM 4.1/4.2 to CM 6.0 - DL380 1CPU
CM6.0U4-K9-DL380D=	SW Upgrade CM 4.1/4.2 to CM 6.0 - DL380 2CPU
CM6.0U4-K9-X206=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X206
CM6.0U4-K9-X306=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X306
CM6.0U4-K9-X346=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X346 1CPU
CM6.0U4-K9-X3650=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X3650 1CPU
CM6.0U4-K9-X346D=	SW Upgrade CM 4.1/4.2 to CM 6.0 - X346 2CPU

New Installations

For new Cisco Unified Communications Manager installations, Cisco Unified Communications Manager software and server hardware must be ordered. Table 2 lists these part numbers.

Table 3.   New Cisco Unified Communications Manager Part Numbers

Part Number	Description
Cisco Unified Communications Manager Hardware SKUs	
MCS7816I3-K9-CMB1	Unified CM 6.0 7816-I3 Appliance, 0 Seats
MCS7816H3-K9-CMB1	Unified CM 6.0 7816-H3 Appliance, 0 Seats
MCS7825H3-K9-CMB1	Unified CM 6.0 7825-H3 Appliance, 0 Seats
MCS7825I3-K9-CMB1	Unified CM 6.0 7825-I3 Appliance, 0 Seats
MCS7835H2-K9-CMB1	Unified CM 6.0 7835-H2 Appliance, 0 Seats
MCS7835I2-K9-CMB1	Unified CM 6.0 7835-I2 Appliance, 0 Seats
MCS7845H2-K9-CMB1	Unified CM 6.0 7845-H2 Appliance, 0 Seats
MCS7845I2-K9-CMB1	Unified CM 6.0 7845-I2 Appliance, 0 Seats
Cisco Unified Communications Manager License SKUs	
LIC-CM6.0-7816=	License CM 6.0 7815 Appliance, 500 seats
LIC-CM6.0-7825=	License CM 6.0 7825 Appliance, 1,000 seats

LIC-CM6.0-7835=	License CM 6.0 7835 Appliance, 2,500 seats
LIC-CM6.0-7845=	License CM 6.0 7845 Appliance, 5,000 seat
LIC-CM6.X-2500=	License CM Additional 2500 Users

Customers planning an upgrade to Cisco Unified Communications Manager Version 6.0 should see the upgrade program for supported servers at http://www.cisco.com/go/swonly.

Hard disk capacity of 72 GB or greater is required.

Device Licenses

Device licenses are required for all devices provisioned in Cisco Unified Communications Manager Versions 5 and 6. Table 3 lists the part numbers for the device licenses for Cisco and for third-party devices.

Table 4. Device Licenses for Cisco Devices

Part Number	Description
LIC-CM-DL-10=	Unified CM Device License - 10 units
LIC-CM-DL-100=	Unified CM Device License - 100 units
LIC-CM-DL-500=	Unified CM Device License - 500 units
LIC-CM-DL-1000=	Unified CM Device License - 1,000 units
LIC-CM-DL-5000=	Unified CM Device License - 5,000 units
LIC-CM-DL-10000=	Unified CM Device License - 10,000 units
LIC-CM-DL-25000=	Unified CM Device License - 25,000 units
LIC-CM-DL-50000=	Unified CM Device License - 50,000 units
LIC-CM-DL-100000=	Unified CM Device License - 100,000 units
LIC-CM-DL-500000=	Unified CM Device License - 500,000 units
LIC-CM-DL-1000000=	Unified CM Device License - 1,000,000 units
LIC-3PTY-DL-10=	Unified CM 3rd Party Device License - 10 units
LIC-3PTY-DL-100=	Unified CM 3rd Party Device License - 100 units
LIC-3PTY-DL-500=	Unified CM 3rd Party Device License - 500 units
LIC-3PTY-DL-1000=	Unified CM 3rd Party Device License - 1,000 units
LIC-3PTY-DL-5000=	Unified CM 3rd Party Device License - 5,000 units
LIC-3PTY-DL-10000=	Unified CM 3rd Party Device License - 10,000 units
LIC-3PTY-DL-25000=	Unified CM 3rd Party Device License - 25,000 units
LIC-3PTY-DL-50000=	Unified CM 3rd Party Device License - 50,000 units
LIC-3PTY-DL-100K=	Unified CM 3rd Party Device License - 100,000 units
LIC-3PTY-DL-1M=	Unified CM 3rd Party Device License—1,000,000 units

Cisco Unified Communications Services and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners offer a broad portfolio of end-to-end services to support the Cisco Unified Communications system. These services are based on proven methodologies for deploying, operating, and optimizing IP communications solutions. Initial planning and design services, for example, can help you meet aggressive deployment schedules and minimize network disruption during implementation. Operate services reduce the risk of communications downtime with expert technical support, and optimize services enhance solution performance for operational excellence. Cisco and its partners offer a system-level service

and support approach that can help you create and maintain a resilient, converged network that meets your business needs.