Cisco Unified Messaging Gateway

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

Product Overview

The Cisco Unified Messaging Gateway provides a method of intelligently provisioning devices, routing messages and exchanging subscriber and directory information within a unified telephony and messaging network. In a centralized call control network (with Cisco Unified Communications Manager), it can automatically provision remote site telephony on branch Integrated Services Routers (ISR). It also acts as the central hub in a network of Cisco voice and unified messaging solutions (Cisco Unity®, Cisco Unity Connection, and Cisco Unity Express applications) and third-party gateways that interface with older voicemail systems. The Cisco Unified Messaging Gateway can:

- Centrally manage a network of branch telephony sites and automatically synchronize them with the central call control with Enhanced Survivable Remote Site Telephony (E-SRST)
- Centrally manage a network of survivable branch voice mail sites and automatically synchronize the messages with the central Cisco Unity Connection with Survivable Remote Site Voicemail (SRSV)
- Help the unified messaging network scale as required for Cisco branch-office customers and larger distributed enterprises
- Simplify configuration tasks
- Help you transparently integrate Cisco Unified Communications Solutions into your existing older installation and eventually replace the older voicemail system

The Cisco Unified Messaging Gateway integrates small- to large-scale unified messaging deployments that consist of:

- Between 5 and 1000 Cisco Unified Communications Manager Express systems deployed in survivable mode with a centralized Cisco Unified Communications Manager
- More than five Cisco Unity Express systems, and up to 1000 mixed Cisco Unity Express, Cisco Unity Connection, and Cisco Unity systems
- Mixed Cisco Unity Express, Cisco Unity Connection, Cisco Unity, and third-party (Avaya Interchange) voicemail systems (integration through Voice Profile for Internet Mail [VPIM])

The Cisco Unified Messaging Gateway delivers an end-to-end Cisco Unified Communications Solution that offers you excellent business benefits by taking full advantage of various products, including Cisco Unity Express, Cisco Unity Connection, Cisco Unity, Cisco Unified Communications Manager, and Cisco Unified Communications Manager Express applications. The addition of the Cisco Unified Messaging Gateway to these applications can enable your voice messaging network to scale up to 500,000 subscribers or 1,000 messaging systems per messaging gateway.

Table 1 summarizes the hardware features of the Cisco Unified Messaging Gateway.

Table 1. Hardware Features of Cisco Unified Messaging Gateway

Feature	Customer Benefit
Small footprint	The Cisco Unified Messaging Gateway is delivered on a network module that coexists on an integrated services router with a Cisco Unity Express Network Module or other modules on a Cisco integrated services router.
Flexible hardware requirements	You can use Cisco Unified Messaging Gateway Network Modules across the entire Cisco integrated services router portfolio where a network-module slot is available.
Efficient use of hardware resources, requiring no additional hardware support	The Cisco Unified Messaging Gateway Network Module includes a dedicated onboard microprocessor and integrated storage microprocessor. The network module is fully self-contained, with dedicated onboard processing, memory, and storage, enabling efficient voicemail system registration, directory exchange, and management.

Key Features and Benefits

The following tables list the features introduced with Cisco Unified Messaging Gateway.

Table 2. Cisco Unified Messaging Gateway Features (General)

Feature	Customer Benefit
Web based Graphical User Interface (GUI)	The Cisco Unified Messaging Gateway features an intuitive Web GUI interface, which improves productivity for the system administrator. The GUI allows initial system provisioning, management and monitoring tools.
Accessible command-line interface (CLI)	The Cisco Unified Messaging Gateway provides familiar management features such as configuration, provisioning, and support through a CLI that is similar to the Cisco IOS® Software CLI, thereby reducing training time for network administrators and partners familiar with Cisco IOS Software.
Embedded operating system	The Cisco Unified Messaging Gateway employs an industry-standard operating system suited for embedded applications. It helps enable a disk subsystem not provided by native Cisco IOS Software. This approach translates into efficient operation while providing a robust, secure, and protected operating environment behind Cisco IOS Software.
Scalability	The Cisco Unified Messaging Gateway scales up to a 1000 branch nodes. A fully meshed system can support up to 20 messaging gateways (including both primary and secondary messaging gateways) with a total of up to 500,000 subscribers, allowing for flexible system design with Cisco Unified Messaging Gateways spread across a large network based on geography or other logical partitioning. Information is shared across the network with Cisco Unified Messaging Gateways acting as the intelligent message and information routing elements.
Backup and restore	The Cisco Unified Messaging Gateway has backup and restore capabilities, including the data from both local configuration and directory exchanges and updates across the messaging network. This ability allows for recovery in case of a catastrophic failure at a data center or site where the Cisco Unified Messaging Gateway is hosted.
System provisioning and management capability	The Cisco Unified Messaging Gateway supplies logging and tracing capabilities with which the administration user can: • Monitor a specific system module on certain activities • Log the tracing message to a remote FTP server • Log the events to a remote syslog server The Cisco Unified Messaging Gateway supports: • The ability to load and save configurations in the same manner as Cisco IOS Software routers and switches • Software upgrades from or to major releases • Licenses based on the number of nodes in the network • The Cisco Unified Messaging Gateway provides Cisco Unity Express with Cisco IOS Software-like startup and shutdown capabilities and supplies a trace facility for troubleshooting and provisioning
SNMP Support	The SNMP interface allows you to monitor and maintain the system by Cisco network management tools or other third-party management applications. The SNMP agent can also send SNMPv2c notifications for various events.

Table 3. Cisco Unified Messaging Gateway Features - Enhanced Survivable Remote Site Telephony (E-SRST)

Feature	Customer Benefit
Call Control Integrations	The Cisco Unified Messaging Gateway supports a centralized Cisco Unified Communications Manager (CUCM) with Cisco Unified Communications Manager Express (CUCME) at the branch sites running in Survivable Remote Site Telephony mode (CUCME-as-SRST).
Synchronization	The Cisco Unified Messaging Gateway synchronizes the configuration automatically from the central site to the branch site on a schedule without manual intervention. The synchronization can also be triggered on a ad-hoc basis manually. The adds/moves/changes of the branch sites are handled centrally on the Cisco Unified Messaging Gateway.
Device Layout	The look & feel of the phone devices are consistent regardless of the Communications Manager device they register to. These include the extension, soft-keys, button layouts, speed-dials and line labels. The consistent look and feel of the phones results in better experience through disruptions in service outages.
Call Control features	The Cisco Unified Messaging Gateway synchronizes the system behavior for the following features - • Call-forward no-answer, Call-forward all, Call-forward busy • Time of day routing • Calling route restrictions for both incoming and outgoing directions • Hunt-groups • Call pickup

Table 4. Cisco Unified Messaging Gateway Features - Survivable Remote Site Voicemail (SRSV)

Feature	Customer Benefit
Messaging Integrations	The Cisco Unified Messaging Gateway bridges the connection between a centralized Cisco Unity Connection (CUC) server and Cisco Unity Express (CUE) at the remote sites.
Synchronization	Voice messages received during a WAN outage are captured by Cisco Unity Express at the branches and automatically synchronized with the central site, making the service disruption transparent to the end-users.
Redundancy	The Cisco Unified Messaging Gateway can be deployed in a primary-secondary active-standby failover model. The Cisco Unity Express nodes at the branch fail over to the backup Cisco Unified Messaging Gateway in case the primary is unavailable.
Automatic & Secure Provisioning	The Cisco Unified Messaging Gateway automatically configures the Cisco Unity Express nodes at the branch sites by studying the configuration on the Cisco Unified Communications Manager and Cisco Unity Connection. The user accounts and mailboxes are created during the initial and scheduled provisioning cycles. All of these communications are also encrypted for secure transmission over the WAN connection.
End-user features	The survivable feature set for the end user includes - • Voice mail upload to the Cisco Unity Connection • Synchronization of user greetings and spoken names • Message waiting indicator policy • Message notification for new voicemail messages • Distribution list addressing • Holidays and schedules • Notification devices
Auto-Attendant during failover	The Automated-Attendant application during failover mode matches default Cisco Unity Connection call-routing rules and plays recorded Automated-Attendant greetings with the inherited language setting from Cisco Unity Connection. During the Automated-Attendant operation in remote branch offices, menu digit mapping and local subscriber directory lookup is also retained. In addition to a basic call-flow support, the subscriber can transfer a call through a menu action or reach the site operator number that is configured on the Cisco Unified Messaging Gateway.
Centralized software upgrades	The Cisco Unified Messaging Gateway can host software upgrade images for the branch office Cisco Unity Express SRSV modules, and upgrade them as per a schedule or on a manual trigger by the administrator.

Table 5. Cisco Unified Messaging Gateway Features - Voice Profile for Internet Mail Networking (VPIM)

Feature	Customer Benefit
Ability to integrate Cisco Unity Express, Cisco Unity Connection, Cisco Unity, and third-party voice messaging systems (Avaya Interchange and Avaya Message Networking)	The Cisco Unified Messaging Gateway supports: • Cisco Unity Express-only deployment • Mixed Cisco Unity Express, Cisco Unity Connection, and Cisco Unity deployments • Mixed Cisco Unity Express, Cisco Unity Connection, Cisco Unity, and third-party Avaya Interchange and Message Networking deployments
Open messaging standards, including VPIM and Simple Mail Transport Protocol (SMTP)	The Cisco Unified Messaging Gateway supports VPIM networks with: • Cisco Unity Express Version 2.3 and later • Cisco Unity Connection 7.0 • Cisco Unity for Microsoft Exchange Version 4.2 and later • Avaya Interchange Version 5.4
Auto-registration for Cisco Unity Express Version 3.1 and later	The Cisco Unified Messaging Gateway allows simple, secure auto-registration with Cisco Unity Express Version 3.1 and later. Secure auto-registration is accomplished with username and password defined on the Cisco Unified Messaging Gateway. The gateway supports restricting, granting, or denying auto-registration to specific systems based on administrative needs. The Cisco Unified Messaging Gateway: • Supplies reports about: ◦ Auto-registration attempts ◦ Failures ◦ Successes • Can display by means of CLI show commands: ◦ Registered endpoints ◦ Endpoints provisioned for registration but not currently registered
Manual registration for Cisco Unity, Cisco Unity Connection, and third-party voicemail systems	The Cisco Unified Messaging Gateway supports manual registration by means of Cisco IOS Software-like CLI commands for: • Cisco Unity for Microsoft Exchange 4.2 and later • Cisco Unity Connection 7.0 and later • Third-party voicemail systems (Avaya Interchange Version 5.4) • Cisco Unity Express 2.3 and older
Centralized VPIM routing	The Cisco Unified Messaging Gateway simplifies message routing and management by implementing a star topology for each messaging gateway and its associated endpoints, thereby eliminating the need for fully meshed networks between those endpoints. Each Cisco Unified Messaging Gateway acts as a central hub for VPIM routing.
Automatic directory exchange and update	The Cisco Unified Messaging Gateway implements automatic directory exchange, rather than a static directory table. Cisco Unified Messaging Gateways can automatically retrieve directory information from Cisco Unity Express (Version 3.1 and later), as well as exchanging and updating directory information with the peer messaging gateways in the system.
Multiple messaging operations support	The Cisco Unified Messaging Gateway supports Cisco Unity Express (Version 3.1 and later) message sending, forwarding, replying, vCard exchange, dial by extension, and dial by name with spoken name enabled on Cisco Unity Express, providing the added advantage of getting spoken-name confirmation across a networked system deployment.
Support for multiple address schemes	The Cisco Unified Messaging Gateway supports the following address schemes: • Site ID + Extension • E164 address (10-digit dialing) • Any string length of digits as long as it is unique in the messaging network
System Distribution List (SDL) and System Broadcast Message (SBM) management	The Cisco Unified Messaging Gateway can manage (create, delete, permit, reject, or publish) SDLs and SBMs across multiple voicemail systems within a Cisco Unified Messaging network. Cisco Unity Express can still manage its own Private Distribution Lists (PDLs) and publish to them through Cisco Unified Messaging Gateways, allowing you to send a message to a preselected list of recipients across your organization.
Relay foreign hosts (Avaya Interchange with Cisco Unified Messaging Gateway)	The Cisco Unified Messaging Gateway allows Cisco voice and unified messaging solutions to relay with foreign hosts with the VPIM protocol.
Header manipulation and message translation	The Cisco Unified Messaging Gateway supports Simple Mail Transfer Protocol (SMTP) and message header manipulation to enable delivery of messages across different messaging systems (between Cisco Unity, Cisco Unity Connection, Cisco Unity Express, and Avaya Interchange applications).

Feature	Customer Benefit
Redundancy	The Cisco Unified Messaging Gateway provides a self-healing network topology through the primary-secondary active-standby failover model. You can use Domain Name System (DNS) servers to identify the primary and secondary messaging gateways. Note: Avaya Interchange can communicate only with a single remote messaging gateway, and therefore no failover support can be provided for this application.
Non-delivery receipts (NDRs) and delayed-delivery receipts (DDRs)	The Cisco Unified Messaging Gateway can generate and deliver NDRs and DDRs with configurable timeouts, allowing networked systems to work better with information to the sender of the message in case a node is not reachable because of WAN failures.
Network Address Translation (NAT) support	The Cisco Unified Messaging Gateway supports message delivery through NAT. The NAT table can be configured on the messaging gateway to map internal and external IP addresses.
New prompts for Cisco Unity Express telephone user interface (TUI) and Cisco VoiceView Express	The Cisco Unified Messaging Gateway provides additional prompts on the Cisco Unity Express TUI and Cisco VoiceView Express applications with the option of Global Directory Lookup when the local Cisco Unity Express endpoint does not have the requisite information.
Spoken-name confirmation	The Cisco Unified Messaging Gateway provides spoken-name confirmation for all local and remote recipients. Because the confirmation includes the remote location information if applicable, it helps ensure that the message is sent to the correct location, and spoken-name confirmation helps ensure that the correct recipient has been selected when a user addresses a voicemail message.

Product Summary

The following Cisco routers support Cisco Unified Messaging Gateway:

- Cisco 3900 Series Integrated Services Routers (with NM-SM-ADPTR)
- Cisco 2900 Series Integrated Services Routers (with NM-SM-ADPTR)
- Cisco 3800 Series Integrated Services Routers
- Cisco 2800 Series Integrated Services Routers

Software Support

The Cisco Unified Messaging Gateway Network Modules (NME-UMG, NME-UMG-EC, SM-SRE-700-K9, and SM-SRE-900-K9) are supported beginning with Cisco IOS Software Release 12.2(24)T. The modules SM-SRE-710-K9 and SM-SRE-910-K9 are supported beginning with Cisco IOS Software Release 15.1(3)T. Cisco Unified Messaging Gateway supports Cisco Unity Express Release 3.1 and later, Cisco Unity Release 4.2 and later, and Cisco Unity Connection Release 7.0 and later.

License Support

The following Cisco Unified Messaging Gateway products are available:

- Six network modules with different capacities (as shown in Table 3); part numbers follow:
  - NME-UMG
  - NME-UMG-EC
  - SM-SRE-700-K9 (requires Cisco Unified Messaging Gateway Version 8.0.2)
  - SM-SRE-900-K9 (requires Cisco Unified Messaging Gateway Version 8.0.2)
  - SM-SRE-710-K9 (requires Cisco Unified Messaging Gateway Version 8.6.1)
  - SM-SRE-910-K9 (requires Cisco Unified Messaging Gateway Version 8.6.1)

- Four licenses based on the maximum number of endpoints supported; part numbers follow:
  - UMG-LIC-25
  - UMG-LIC-100
  - UMG-LIC-500
  - UMG-LIC-1000
- Two license upgrades; part numbers follow:
  - UMG-LIC-25=
  - UMG-LIC-100=

Table 6 lists the limit of subscribers and nodes for each version of the Cisco Unified Messaging Gateway.

Table 6. Product Limits

Product	Maximum Number of Cisco Unity Express Endpoints Supported per Module	Number of Subscribers on Cisco Unity Express Endpoints Supported per System of 20 Cisco Unified Messaging Gateways	Maximum Number of Branch-Office Voicemail Servers Supported per Module
Cisco Unified Messaging Gateway Network Module (NME-UMG)	250	125,000	250
Enhanced-capacity Cisco Unified Messaging Gateway Network Module (NME-UMG-EC)	1,000	500,000	1,000
Cisco Unified Messaging Gateway on Services Ready Engine (SM-SRE-700-K9 & SM-SRE-710-K9)	1,000	500,000	1,000
Cisco Unified Messaging Gateway on Services Ready Engine (SM-SRE-900-K9 & SM-SRE-910-K9)	1,000	500,000	1,000

Note: A system of 20 Cisco Unified Messaging Gateways comprises both primary and secondary messaging gateways; therefore, such a system supports 500,000 subscribers rather than 1,000,000.

Cisco Unified Messaging Gateway 8.0.2 is required for the modules with part numbers SM-SRE-700-K9 and SM-SRE-900-K9. Cisco Unified Messaging Gateway 8.6.1 is required for the modules with part numbers SM-SRE-710-K9 and SM-SRE-910-K9.

Physical Specifications

Table 7 gives specifications of the Cisco Unified Messaging Gateway.

Table 7. Specifications of Cisco Unified Messaging Gateway

Feature	Specification
Processor feature	5 Intel Celeron-M processors: 1 GHz with 512 KB of Layer 2 cache
Default memory (synchronous dynamic RAM [SDRAM]): Maximum SDRAM internal disk storage network interfaces	Cisco Unified Messaging Gateway Network Module (NME-UMG) with 1 GB of RAM and 80-GB hard disk Enhanced-capacity Cisco Unified Messaging Gateway Network Module (NME-UMG-EC) with 2 GB of RAM and 80-GB hard disk
Physical Specifications	
Dimensions (H x W x D)	5.25 x 3.35 x 0.75 in. (13.34 x 8.51 x 1.91 cm)
Weight	0.20 lb (0.09 kg) maximum

Feature	Specification
Operating humidity	5 to 90% noncondensing
Operating temperature	23 to 122°F (-5 to 50°C)
Nonoperating temperature	-40 to 158°F (-40 to 70°C)
Operating altitude	0 to 13,000 ft (0 to 3963m)
Safety	UL 60950, IEC 950, and EN60950
EMC	FCC Part 15 Class A; EN55022 Class A; AS/NZS 3548 Class A; CISPR22 Class A; VCCI Class A; EN55024; EN61000-3-2; and EN61000-3-3

For the physical specifications of Cisco Services Ready Engines (SM-SRE-700-K9, SM-SRE-900-K9, SM-SRE-710-K9 and SM-SRE-910-K9), view the data sheet at http://www.cisco.com/go/sre. (http://www.cisco.com/en/US/prod/collateral/modules/ps10598/data_sheet_c78-553913.html).

Cisco Unified Communications Services

Cisco Unified Communications Services allow 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 lifestyle approach to services can enhance your technology experience to accelerate true business advantage.

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