



# Overview of Cisco Unified Messaging Gateway 1.0

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## Introduction

Cisco Unified Messaging Gateway (Cisco UMG) delivers the end-to-end message networking functionality required by larger distributed enterprises seamlessly migrating to Cisco's IPT solution. The majority of larger distributed enterprises consist of various legacy voice messaging products that do not support open standards. The Cisco UMG solution fulfills a gateway function for these networks, providing a method of intelligently routing messages, exchanging subscriber and directory information, and providing interoperability within a messaging network. It acts as a central hub for distributed messaging deployments, specifically:

- Cisco Unity Express
- Cisco Unity 4.2 and later versions for Microsoft Exchange only
- Avaya Interchange 5.4

Cisco UMG enables the messaging network to scale as required for the largest of implementations and simplifies configuration of all the endpoints. In particular, it enables Cisco Unity Express 3.1 and later versions to autoregister with the system.

Cisco UMG is an application that resides on an enhanced network module (NME). The module plugs into a host Cisco router running Cisco IOS software.

The Cisco Unified Messaging Gateway enhanced network module (NME-Cisco UMG family of devices) is available in two models (see [Table 2 on page 6](#)). All models ship from the factory with the software preinstalled.

**Table 2** Cisco UMG Enhanced Network Modules Models and Capacities

| Model      | Number of Cisco Unity Express Endpoints Supported per Cisco UMG network module | Number of Subscribers on Cisco Unity Express Endpoints Supported per System of 20 Cisco UMGs |
|------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| NME-UMG    | 250 maximum                                                                    | 125,000 maximum                                                                              |
| NME-UMG-EC | 1000 maximum                                                                   | 500,000 maximum                                                                              |

A system of 20 Cisco UMGs comprises both primary and secondary messaging gateways, therefore such a system supports 500,000 subscribers rather than 1,000,000.

**Caution**

Do not combine the two types of network module into a single system. Because the messaging gateways must be synchronized, each one must accommodate the same size of data dump.

Guidelines and procedures for installing Cisco UMG are described in the [Cisco Unified Messaging Gateway 1.0 Installation Guide](#). The individual CLI commands are described in the [Cisco Unified Messaging Gateway 1.0 Command Reference](#).

## Functional Outline

A Cisco UMG system can consist of up to 20 fully meshed messaging gateways, all of the same type. NME-UMG supports up to 250 endpoints; a system composed of 20 NME-UMGs supports at least 12,500 subscribers. NME-UMG-EC supports up to 1000 endpoints; a system composed of 20 NME-UMG-ECs supports up to 500,000 subscribers.

Do not mix the two types of network module in one system. In a Cisco UMG system, you can have either all NME-UMGs or all NME-UMG-ECs.

If your endpoints are Cisco Unity Express 3.1 and later versions, you can set up your system so that your endpoints (nodes) autoregister with messaging gateways. If you have other types of endpoints, including Cisco Unity Express 3.0 or earlier versions, you must manually provision them from messaging gateways.

**Note**

Only endpoints running Cisco Unity Express 3.1 and later versions can autoregister; all other types of endpoints must be manually provisioned (see [“Manual Provisioning of Cisco Unity and Avaya Interchange Endpoints”](#) on page 7).

### Autoregistration

The purpose of autoregistration between Cisco UMG and Cisco Unity Express 3.1 and later versions is to facilitate scaling your messaging network while ensuring that messages can only be exchanged by trusted peers. Autoregistration is the means by which a messaging gateway can automatically “discover” legitimate endpoints. The messaging gateway authorizes such endpoints by validating shared secret information. Autoregistration also enables messaging gateways to learn about endpoint properties through directory exchange.

For a more detailed description of the autoregistration process, see [“Overview of the Autoregistration Process”](#) on page 91.

### Manual Provisioning of Cisco Unity and Avaya Interchange Endpoints

Endpoints running Cisco Unity Express 3.0 or earlier versions, Cisco Unity, and Avaya Interchange cannot autoregister, therefore they must be manually provisioned from Cisco UMG. This serves the same purpose as the registration described previously, ensuring that information is only exchanged between trusted peers. Also, because these endpoint types do not support automatic directory exchange, you must configure the directory information for them on the messaging gateway that manages them.

**Note**

Registered endpoints stay in the database. When an endpoint registers with Cisco UMG, it is assigned a guide number that it uses to identify itself to the messaging gateway on subsequent registrations. If an endpoint tries to register without that guide number or with a different messaging gateway, the registration is rejected as a duplicate location. If necessary, you can clear or delete the endpoint (see [“Deleting or Clearing Endpoints” on page 75](#)).

### Directory Exchange Between Endpoints And Messaging Gateways

After endpoints are registered with or provisioned to a messaging gateway, this message gateway will propagate the endpoints' information to the rest of the network of Cisco UMGs.

Endpoints can:

- Exchange messages with the messaging gateway with which they are registered
- Retrieve remote subscriber information from that messaging gateway

**Note**

Endpoints of the type Cisco Unity Express 3.0 or earlier versions cannot perform autoregistration and directory exchange with Cisco UMG. Neither can Cisco Unity or Avaya Interchange.

### Remote Lookup Function

Subscribers can use the remote lookup function to search for a subscriber. The subscriber thus has the ability to:

- Decide whether the remote mailbox exists on an autoregistered endpoint running Cisco Unity Express 3.1 and later versions (this directory exchange facility is not yet supported for other types of endpoint)
- Search the global directory, for example, when the message sender does not know the recipient's number.

**Note**

In the global directory, the subscriber will not find search results already delivered by the local directory. This feature serves to prevent the global search results from being flooded by results already obtained.

- Retrieve the spoken name of the remote subscriber. By default, the spoken name is carried in all directory exchange messages.

**Note**

This feature can be turned off in cases where network bandwidth, performance, and database storage might be problematic.

# Managing a Network of Cisco UMGs

Each messaging gateway is configured to recognize its peers. After endpoints are registered with or provisioned to a messaging gateway, this messaging gateway will propagate the endpoints' information to the rest of the network of Cisco UMGs.

Cisco UMG uses the primary/secondary model to provide failover support. Each Cisco Unity Express endpoint identifies primary and secondary messaging gateway through its local configuration and autoregisters with both messaging gateways. For Cisco Unity, a DNS server is required for failover support, meaning that the messaging gateway domain name will be mapped to two IP addresses on DNS: primary messaging gateway and secondary messaging gateway. Avaya Interchange does not support such failover provisions.

In the case of a firewall, a firewall pin hole must be opened to allow TCP connections between two different nodes (such as between an endpoint and Cisco UMG or between messaging gateways, and so on).

## Administration Interfaces

Cisco UMG has a single administration interface, the command-line interface (CLI). This is a text-based interface accessed through a Telnet session to the router hosting Cisco UMG. Those familiar with Cisco IOS command structure and routers will see similarities.

The Cisco UMG commands are structured much like the Cisco IOS CLI commands. However, the Cisco UMG CLI commands do not affect Cisco IOS configurations. After you log in to Cisco UMG, the command environment is no longer the Cisco IOS environment.

See “[Entering and Exiting the Command Environment](#)” on page 15 for the instructions to enter the Cisco UMG CLI environment.

The CLI is accessible from a PC or server anywhere in the IP network.

## Additional References

The following sections provide references related to Cisco Unified Messaging Gateway.

### Documents Related to Cisco Unified Messaging Gateway

| Related Topic                                                       | Document Title                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cisco UMG 1.0 Installation                                          | <a href="#">Cisco Unified Messaging Gateway 1.0 Installation Guide</a>                                                                                                                                                                                   |
| Cisco UMG 1.0 Command Reference                                     | <a href="#">Cisco Unified Messaging Gateway 1.0 Command Reference Guide</a>                                                                                                                                                                              |
| Late-breaking information about Cisco Unified Messaging Gateway 1.0 | <a href="#">Cisco Unified Messaging Gateway 1.0 Release Notes</a>                                                                                                                                                                                        |
| Cisco network modules hardware installation                         | <a href="#">Cisco Network Modules Hardware Installation Guide</a>                                                                                                                                                                                        |
| Cisco Unity Express                                                 | Cisco Unity Express: complete documentation set at <a href="http://www.cisco.com/en/US/products/sw/voicesw/ps5520/tsd_products_support_series_home.html">http://www.cisco.com/en/US/products/sw/voicesw/ps5520/tsd_products_support_series_home.html</a> |

| Related Topic            | Document Title                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cisco Unity              | Cisco Unity: complete documentation set at <a href="http://www.cisco.com/en/US/products/sw/voicesw/ps2237/tsd_products_support_series_home.html">http://www.cisco.com/en/US/products/sw/voicesw/ps2237/tsd_products_support_series_home.html</a>                                                                                                                                                          |
| Cisco hardware platforms | <ul style="list-style-type: none"> <li>• <a href="#">Cisco 2800 Series Hardware Installation Guide</a></li> <li>• <a href="#">Cisco 2800 Series Hardware Configuration Notes</a></li> <li>• <a href="#">Voice Features on Cisco 2800 Series Routers</a></li> <li>• <a href="#">Cisco 3800 Series Hardware Installation</a></li> <li>• <a href="#">Cisco 3800 Series Software Configuration</a></li> </ul> |

## RFCs

| RFCs | Title                                                                                         |
|------|-----------------------------------------------------------------------------------------------|
| 1869 | <i>SMTP Service Extensions</i>                                                                |
| 1893 | <i>Enhanced Mail System Status Codes</i>                                                      |
| 2045 | <i>Multipurpose Internet Mail Extensions Part One: Format of Internet Message Bodies, RFC</i> |
| 2421 | <i>Voice Profile for Internet Mail - Version 2</i>                                            |
| 2426 | <i>vCard MIME Directory Profile</i>                                                           |
| 2617 | <i>HTTP Authentication: Basic and Digest Access Authentication</i>                            |
| 2821 | <i>Simple Mail Transfer Protocol</i>                                                          |
| 2833 | <i>RTP Payloads for DTMF Digits, Telephony Tones and Telephony Signals</i>                    |
| 3261 | <i>SIP: Session Initiation Protocol</i>                                                       |
| 3501 | <i>Internet Message Access Protocol - Version 4rev1</i>                                       |

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

## Technical Assistance

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Link                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com username and password.</p> | <p><a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a></p> |