# Introduction to Cisco Unity Express Voice Mail and Auto Attendant

The Cisco Unity Express voice mail and auto attendant applications work with Cisco CallManager to provide small- and medium-sized companies with the capability to:

- Create and maintain voice mailboxes for onsite telephone users. Release 1.1 supports up to 100 mailboxes; earlier releases support up to 50 mailboxes. The maximum number of mailboxes depends on the hardware module and license agreement purchased for Cisco Unity Express.
- Set up messages for callers to hear when they dial the company's telephone number, and prompts to guide the callers to specific extensions or employees.

This chapter describes the Cisco Unity Express application and contains the following sections:



## Feature Overview

Cisco Unity Express Release 1.1 offers the following features in addition to those in Release 1.0:

- Advanced integration module (AIM) card with an Intel Celeron 300 MHz processor, 256 MB RAM and 512 MB of compact flash memory, network connectivity through the PCI interface, and access to Cisco IOS software and the console using back-to-back Ethernet through the parallel interface. No external interfaces or cabling is required.
- Script editor to create custom scripts for handling incoming calls to the automated attendant (AA). Activating a custom script deactivates the default auto attendant script that ships with Cisco Unity Express. The default script cannot be modified. The network module (NM) and the AIM supports up to four customized auto attendants.

- Recording of alternate AA greetings and prompts that can be uploaded or downloaded as needed. These alternate greetings and prompts are in addition to the default greetings and prompts that ship with Cisco Unity Express. The NM supports up to 50 alternate prompts. The AIM supports up to 25 alternate prompts.
- Access from the telephone user interface (TUI) to a greeting management system (GMS) for recording alternate greetings and prompts. Users with administrative privileges have access to the GMS.

**Note** We highly recommend attaching an uninterruptible power supply (UPS) to the router housing the Cisco Unity Express module. Any reliable UPS unit provides continuous power to maintain the operation of the router and the Cisco Unity Express module. Consider the unit's capacity and run time because power consumption differs among Cisco platforms. Ideally, a UPS should include a signaling mechanism that directs the router to shut down Cisco Unity Express properly and then powers off the router.

Cisco Unity Express Release 1.0 features:

- Linux-based software installed on a module card that is installed in the Cisco IOS router. (See the "Supported Platforms" on page 33.) The software includes the operating system, application software, and ordered license information.
- Network module card with the Intel Low Power PIII 500 MHz processor, a 20 GB IDE hard drive, and access to Cisco IOS software using back-to-back Ethernet and console. No external interfaces or cabling is required.
- Four orderable license packages. A license must be ordered for each voice mail system. See Table 2 and Table 3 for the system capacities available with each license.
- Spare modules with factory installed software and license. Upgrades to larger capacity require purchase of a license and download of the license file.
- Upgrades or downgrades from one license size to another.
- Two administrative interfaces. (See the "Administration Interfaces" on page 31.)
- Bulk provisioning of multiple sites using automated, user-defined CLI scripts. Systems are administered individually.
- Systems accessible anywhere on the IP network. If the Cisco Unity Express installer uses TFTP; the site running the installer must be closely located to the TFTP server. All other functions use FTP, which allows the servers to be anywhere in the IP network.
- Manual backup and restore using an FTP server located anywhere in the customer network.
- System reports and log files for troubleshooting.

# Differences between the AIM and NM

Release 1.1 supports both the AIM and the NM. Cisco Unity Express features work the same way on both modules with the following exceptions:

- The AIM is a 4-port module that stores a maximum of 50 voice mailboxes and 8 hours of voice messages. The NM is an 8-port module that stores a maximum of 100 voice mailboxes and 100 hours of voice messages.

- A **trace** or **log** command issued on the NM automatically saves the data to the disk. On the AIM, the trace and log data are not saved to flash memory. A new Cisco Unity Express CLI command is available to save the data to the AIM flash memory.
- Cisco Unity Express tracks the use and wear activity of the AIM flash memory. This tracking is not necessary for the NM. The CLI command **show interface ide 0** and the GUI option **Reports > System** displays the flash memory wear data.

## Software Licenses and Factory-set Limits

Factory-set system limits are determined by the ordered license as show in Table 2 and Table 3:

*Table 2 System Capacities for Mailboxes, Storage Hours, and Ports on the NM*

| Cisco Unity Express License/Software SKU | Number of Personal Mailboxes | Number of General Delivery Mailboxes | Total Mailbox Storage Hours | Default Mailbox Size Minutes | No. of Ports | Number of Scripts | Number of Prompts |
|---|---|---|---|---|---|---|---|
| SCUE-12CCM.1.1.1 | 12 | 5 | 100 | 353 | 4 | 8 | 50 |
| SCUE-25CCM.1.1.1 | 25 | 10 | 100 | 171 | 4 | 8 | 50 |
| SCUE-50CCM.1.1.1 | 50 | 15 | 100 | 92 | 8 | 8 | 50 |
| SCUE-100CCM.1.1.1 | 100 | 20 | 100 | 50 | 8 | 8 | 50 |

*Table 3 System Capacities for Mailboxes, Storage Hours, and Ports on the AIM*

| Cisco Unity Express License/Software SKU | Number of Personal Mailboxes | Number of General Delivery Mailboxes | Total Mailbox Storage Hours | Default Mailbox Size Minutes | No. of Ports | Number of Scripts | Number of Prompts |
|---|---|---|---|---|---|---|---|
| SCUE-12CCM.1.1.1 | 12 | 5 | 8 | 28 | 4 | 4 | 25 |
| SCUE-25CCM.1.1.1 | 25 | 10 | 8 | 13 | 4 | 4 | 25 |
| SCUE-50CCM.1.1.1 | 50 | 15 | 8 | 7 | 8 | 4 | 25 |

# Administration Interfaces

Cisco Unity Express offers two administration interfaces:

- Graphical user interface (GUI)—This user-friendly, web-based interface permits administration of all voice mail and auto attendant functions.

  The GUI is targeted for administrators familiar with web-based applications and who have little or no experience with Cisco IOS command structure.
- Command-line interface (CLI)—This text-based interface has the same administration and configuration capabilities as the GUI. Installation, upgrade, and troubleshooting functions are available only through the CLI commands. The administrator accesses this interface through a Telnet session to the router.

The CLI is targeted for installers, resellers, support personnel, and others familiar with Cisco IOS command structure and routers. For them, accessing the system using the CLI may be easier than using the GUI, especially for troubleshooting, scripting, and bulk provisioning of many sites. Refer to the *Cisco Unity Express CLI Administrator Guide for Cisco CallManager* for more information about CLI configuration.

The GUI and CLI are accessible from a PC or server anywhere in the IP network. To access the GUI, use Microsoft Internet Explorer Version 6.0 or later. Cisco Unity Express does not support the Netscape browser. To access the CLI, Telnet to the router, then use a **session** command.

# How Cisco Unity Express Differs from Cisco Unity

Cisco Unity Express is not the same application as Cisco Unity, although both of them are in the Cisco family of voice messaging products, and the differences are:

- Cisco Unity is a Microsoft Windows software-based application and uses the Microsoft Windows operating system's messaging infrastructure. Cisco Unity Express is a Linux-based application.
- Cisco Unity is usually deployed in a central location that can be networked with multiple sites. Cisco Unity Express Release 1.1 can be deployed in standalone locations that serve the local users.

  However, a Cisco Unity Express system can be administered from any location that has IP connectivity with the router housing the Cisco Unity Express application. If several sites in a network use Cisco Unity Express, they can be administered individually from a single PC or server. The administrator opens a browser on a PC or server to the GUI at each site or opens a Telnet session to the CLI at each site.
- Cisco Unity supports 100 or more mailboxes and Cisco Unity Express supports 100 or fewer mailboxes.
- Cisco Unity has a larger set of features than does Cisco Unity Express Release 1.1.

Cisco Unity Express uses Cisco Unity Release 3.1 voice mail prompt recordings and prompt flow, which provides the end user with the same voice mail look-and-feel.

# How Cisco Unity Express Works with Cisco CallManager

Cisco CallManager is the software that controls the telephony functions. Cisco CallManager accepts incoming and outgoing calls to your network and decides where an incoming or outgoing call should be sent. Cisco Unity Express accepts calls sent from Cisco CallManager over Java Telephony Application Programming Interface (JTAPI) and can accept H.323 and Media Gateway Control Protocol (MGCP) calls if Cisco CallManager routes them over the JTAPI interface.

Cisco Unity Express is an application that enhances Cisco CallManager by providing the voice messaging and automated attendant capabilities. The Cisco Unity Express module contains the voice mail and auto attendant software.

Cisco CallManager has a database that contains such elements as the telephone hardware identifications, extension numbers associated with the telephones, users on the system, logins, routing destinations, call handling features, and other system-wide parameters.

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The Cisco Unity Express database contains information about the voice mailboxes, auto attendant prompts, and voice messages. As you go through the initialization and configuration procedures, be sure to save your data so that both databases have current information.

The Cisco Unity Express GUI software allows you to configure the voice mail and auto attendant parameters and to specify some of the Cisco CallManager parameters, such as servers, JTAPI user, and computer telephony integration (CTI) ports. The GUI accepts up to three Cisco CallManager servers: a primary server and two backup servers in the event the primary server is not available.

If the WAN link goes down between Cisco CallManager and Cisco Unity Express, Cisco Unity Express will not be able to accept calls from Cisco CallManager. However, the session initiation protocol (SIP) subsystem on the Cisco Unity Express module can accept calls from the Cisco Survivable Remote Site Telephony (SRST) engine in the router containing the Cisco Unity Express module. Voice mail and auto attendant applications will function properly. Message waiting indicator (MWI) lights will not be updated. Once the WAN link becomes active, Cisco Unity Express will detect it and register back with the Cisco CallManager server.

# How Cisco Unity Express Differs from Cisco CallManager

Although Cisco Unity Express works closely with Cisco CallManager, Cisco Unity Express and Cisco CallManager define users and administrators differently:

- Cisco CallManager requires a web administrator to configure Cisco CallManager parameters and other system components. Cisco CallManager users and administrators are stored in the Cisco CallManager database. Cisco CallManager does not treat the web administrator as a telephone user.

  Cisco Unity Express permits configured Cisco CallManager users to be copied to the Cisco Unity Express database. The Cisco CallManager administrator ID cannot be copied to the Cisco Unity Express database and, therefore, cannot be assigned as the administrator ID for Cisco Unity Express.
- Cisco Unity Express allows only upper-case letters A to Z, lower-case letters a to z, digits 0 to 9, underscore (_), dot (.), and dash (-) in user IDs. Any Cisco CallManager user IDs containing other characters cannot be copied into the Cisco Unity Express database.
- Spaces are not allowed in passwords. Acceptable password characters are lowercase letters a through z, uppercase letters A through Z, digits 0 through 9, and the following symbols: - , . + = _ ! @ # $ ^ * ( ) ? / ~ < > & %
- User IDs and passwords are case sensitive.

# Supported Platforms

### Hardware Platforms

- Cisco 2600XM series routers
- Cisco 2691 router
- Cisco 3700 series routers
- Cisco Unity Express network module
- Cisco Unity Express advanced integration module

### Software Platforms

- Open Source Linux Version 2.4.18

- Cisco IOS Release 12.2(15)ZJ1 or a later release for the network module.
- Cisco IOS Release 12.3(7)T or a later release for the advanced integration module
- (GUI only) Microsoft Internet Explorer Version 6.0 or later.
- (GUI only) Microsoft JScript 5.6.*x* or later
- Cisco CallManager 3.3(3) or later
- (Optional) Cisco Survivable Remote Site Telephony Version 3.0

# Restrictions

The following restrictions apply to Cisco Unity Express Release 1.1.

### Cisco CallManager Functionality

- Cisco Unity Express does not support calls coming in from Cisco CallManager on the H.323 or MGCP interfaces. Cisco Unity Express will accept H.323 or MGCP calls if they are routed over the JTAPI interface.
- If the WAN link goes does, MWI lights will not be updated while calls come in through the SRST engine. When the link comes back up, a system-wide MWI refresh occurs.

### System Functionality

- For the NM, only one administrator and four users may log in to the GUI simultaneously. For the AIM, only one administrator and two users may log in to the GUI simultaneously.
- Date and time cannot be set in the Cisco Unity Express software. Cisco Unity Express can be configured as a Network Transfer Protocol (NTP) client. Refer to your NTP server CLI for more information.
- Cisco Unity Express does not support language customization. Only one language is available, U.S. English. This language controls the telephone user interface (TUI) system prompts and greetings. The administrative interfaces (GUI and CLI) are available only in U.S. English.
  Cisco CallManager Express 3.0 controls the telephone displays, which may be available in multiple languages, and are independent of the Cisco Unity Express supported languages.

### Voice Mail Application

- Cisco Unity Express does not support voice mail networking between different sites. Voice mail is local; users can leave a message with, forward a message to, and reply to a message from other local users.
- Cisco Unity Express does not support broadcast messaging.
- Cisco Unity Express does not support distribution lists.
- Cisco Unity Express supports two greetings per user, one standard greeting and one alternate greeting. The greetings' time is included in the user's allotted mailbox storage space.

### Hardware Limitations

- Only one Cisco Unity Express module per router chassis is permitted, regardless of the number of module slots in the chassis.
- The AIM cannot be installed in slot 0 of the Cisco 3745 router chassis.

- The NM's front panel Fast Ethernet 0 port is not used by the Cisco Unity Express applications and is disabled. The Fast Ethernet 1 port connects the Cisco Unity Express network module to the router and is the only active Fast Ethernet port on the network module.
- The hard disk on the NM cannot be replaced. If the network module's hard disk crashes, the network module must be replaced.
- Online insertion and removal (OIR) of the Cisco Unity Express NM is available only on the Cisco 3745 router. The replacement module must be the same type as the original module. OIR is not available for the AIM.

**Caution** If the network module or AIM flash memory card must be replaced, manually shut down the Cisco Unity Express application before removing the module from the chassis to prevent file corruption and data loss.

#### Backup and Restore

- Scheduled backup and restore operations. The backup and restore procedures begin when you enter the appropriate command.
- Centralized message storage arrangement. The Cisco Unity Express backup files cannot be used or integrated with other message stores.
- Selective backup and restore. Only full backup and restore functions are available. Individual voice mail messages or other specific data cannot be stored or retrieved.

#### Other Restrictions

- Cisco Unity Express is an embedded system and provides no access to the Linux system. Users cannot add other Linux-based applications to the Cisco Unity Express module.
- Releases 1.1 and 1.0 do not support managing and configuring using Simple Network Management Protocol (SNMP) except for hardware inventory.
- Releases 1.1 and 1.0 do not support Cisco Networking Services (CNS) or Subnetwork Access Protocol. (SNAP) autoprovisioning.
- Releases 1.1 and 1.0 do not support CiscoWorks configmaker.

# Additional References

The following documents have information that may help you in administering the Cisco Unity Express applications.

| Related Topic | Document Title |
|---|---|
| Cisco Unity Express documents | • *Cisco Unity Express GUI Administrator Guide for Cisco CallManager, Release 1.1* (this document)<br>• *Cisco Unity Express CLI Administrator Guide for Cisco CallManager, Release 1.1*<br>• *Cisco Unity Express Script Editor Installation and Configuration Guide, Release 1.*<br>• *Cisco Unity Express CLI Administrator Guide for Cisco CallManager Express, Release 1.1*<br>• *Cisco Unity Express GUI Administrator Guide for Cisco CallManager Express, Release 1.1*<br>• *Cisco Unity Express Voice Mail System - Quick Start Guide, Release 1.1*<br>• *Cisco Unity Express Product Description, Release 1.1* |
| Cisco module hardware installation | • *Cisco Network Modules Hardware Installation Guide,* Chapter 22<br>• *Installing Advanced Integration Modules in Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers*<br>• *Advanced Integration Module Quick Start Guide*<br>• *Replacing Compact Flash Memory on Cisco AIM-CUE Advanced Integration Modules*<br>• *AIM-CUE Slot Restriction on Cisco 3745 Routers* |
| Cisco Unity Express software copyrights and licenses | • "Software Copyrights and Licenses" on page xii |
| Cisco CallManager 3.3(3) | • *Cisco CallManager Administration Guide, Release 3.3(3)*<br>• *Cisco CallManager System Guide, Release 3.3(3)*<br>• *Cisco CallManager Features and Services Guide, Release 3.3(3)* |

| Related Topic | Document Title |
|---|---|
| Cisco IOS configuration | • *Cisco IOS Voice Command Reference, Release 12.3T*<br><br>**Note** For general voice configuration topics, refer to the *Cisco IOS Voice Configuration Library, Release 12.3*. |
| Cisco hardware platforms | • *Cisco 2600 Series Hardware Installation Guide*<br>• *Cisco 2600 series hardware configuration notes*<br>• *Voice features on Cisco 2600 series routers*<br>• *Cisco 3700 Series Hardware Installation Guide*<br>• *Cisco 3700 series hardware configuration notes*<br>• *Software Configuration Guide* |