



# Overview of Cisco Unity Express Voice Mail and Auto Attendant

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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 or remote telephone users. Release 2.0 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.
- Record and upload messages for callers to hear when they dial the company's telephone number and prompts to guide the callers to specific extensions or employees.

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# Prerequisites for Implementing Cisco Unity Express on Cisco CallManager

1. (Required) Install all Cisco CallManager and Cisco Unity Express hardware and verify functionality.
  - a.
  - b.
  - c.



## Caution



## Note

We highly recommend attaching an uninterruptible power supply (UPS) to the router that houses 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 IOS Release 12.3(4)T supports automatic switchover to the UPS device if the following configuration is added to the router:

```
line aux 0
 privilege level 15
 modem Dialin
 autocommand service-module service-engine slot/0 shutdown no-confirm
```

where *slot* is the Cisco Unity Express module's slot number.

2. (Required) Install and verify Cisco CallManager software functionality.
  - a. You should be able to access the Cisco CallManager configuration web page.
  - b. To configure the **ip unnumbered**

```
ip route 10.3.6.128 255.255.255.255 Service-Engine1/0
```

**Phone**

attendant, and greeting management system [GMS]) to terminate calls.



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Do not configure extra CTI ports on Cisco CallManager. Doing so will impact the scalability of your Cisco CallManager and will limit the number of other devices that Cisco CallManager can support.

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- d. Configure at least two route points on Cisco CallManager using the **Device > CTI Route Point**



**Note**

- e. Create a Cisco CallManager JTAPI user using the **User > Add new user Association** **Device**

f.

g.

```
class-map match-all jtapi
  match access-group 110
class-map match-all voice
  match access-group 100
```

```
policy-map jtapi
  class jtapi
    set dscp cs3
    bandwidth 20
  class voice
    set dscp af31
    priority 320
  class class-default
    fair-queue
```

```
interface Serial0/1
  ip address 192.168.10.0 255.255.255.0
  service-policy output jtapi
  clockrate 256000
  no cdp enable
```

```
access-list 100 permit udp host 10.3.6.128 any range 16383 32727
access-list 110 permit tcp host 10.3.6.128 any eq 2748
```

## show policy-map interface

```
Match: access-group 110
QoS Set
  dscp cs3
  Packets marked 334 <-----This number should increase.
```

3.

4.

groups, and their extensions. Having this list eases the task of adding many users and extensions in CCM.

5. (Optional) Create an alternate welcome message for the auto-attendant application. A default welcome message comes with auto attendant. You can create a different message in a .wav file and install it as part of the auto-attendant configuration. See [“Recording an Auto-Attendant Greeting or Prompt File” on page 10](#) for more information.
6. (Optional) Customize the auto-attendant prompt sequence to meet your business requirements. See [“Configuring Auto-Attendant Scripts” on page 10](#) for more information.
7. (Required) Record the IP address of the Cisco Unity Express module. Accessing the GUI to configure the system requires this IP address.

## Recording an Auto-Attendant Greeting or Prompt File

Two methods are available to create auto-attendant greeting and prompt files:

- Create a .wav file with the following format: G.711 u-law, 8 kHz, 8 bit, Mono. The file cannot be larger than 500 KB. After recording the greeting, use the GUI or Cisco Unity Express **ccn copy** command to copy the file in to the Cisco Unity Express system.
- Use the GMS on the TUI to record the greeting or prompt. Dial the GMS telephone number and select the option to record a greeting. When finished recording, save the file. GMS automatically saves the file in Cisco Unity Express.

The GMS prompt filename has the format `UserPrompt_DateTime.wav`, for example: `UserPrompt_11152003144055.wav`. You may want to use CLI commands or GUI options to download the file to a PC, rename the file with a meaningful name, and then upload the file back to Cisco Unity Express.

## Configuring Auto-Attendant Scripts

Cisco Unity Express provides a set of auto-attendant prompts and a process, called a script, for handling callers’ responses to the prompts. You can modify this script so that specific caller responses are handled in a different way. For example, callers can be directed to leave a voice message in a specific mailbox if they call after business hours.

Use the Microsoft Windows software-based script editor that comes with Cisco Unity Express to modify the script or create a new script. Refer to the [Cisco Unity Express Script Editor Guide](#) for guidelines and procedures.

The file cannot be larger than 1 MB.

After creating the script file, save the file on your PC. Use the CLI interface or the GUI option **Voice Mail > Scripts** to upload the script file to the auto-attendant application.

## Restrictions for Implementing Cisco Unity Express

The following restrictions apply to Cisco Unity Express Release 2.0.

### Networking

- Cisco Unity Express supports voice-mail networking only with other Cisco Unity Express and Cisco Unity voice-mail systems. Networking support for other voice-mail systems is not available in Release 2.0.

### System Functionality

- For the NM, only one person with administrator privileges and four people with user privileges 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 are determined by the Network Time Protocol (NTP) server and cannot be set in the Cisco Unity Express software. Cisco Unity Express can be configured as an NTP client. See [“Configuring NTP Servers” on page 138](#) and your NTP server CLI for more information.
- Cisco Unity Express supports one language on the system at a time. The language selections are English, European French, German, and European Spanish. This language controls the telephone user interface (TUI) prompts and auto-attendant system prompts and greetings. The administrative interfaces (GUI and CLI) are available only in U.S. English. Cisco CallManager Express 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 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 must only be installed in slot 1 of the Cisco 3745 router chassis, installing it in slot 0 may damage the AIM module.
- 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

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#### Backup and Restore

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#### Other Restrictions

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## Information About Cisco Unity Express

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## Differences Between the AIM-CUE and the NM-CUE

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trace log

show interface ide 0

Reports > System

## Software Licenses and Factory-Set Limits

**Table 2** System Capacities for Mailboxes, Storage Hours, Ports, Scripts, and Prompts on the NM-CUE

Cisco Unity Express License/Software SKU	Total Mailbox Storage (Hours)	Default Mailbox Size (Minutes)	Number of Ports	Number of Automated Attendant Scripts	Number of Automated Attendant Prompts
		92	8	8	50
SCUE-LIC-100CCM	100	50	8	8	50

**Table 3** Maximum Number of Mailboxes, Groups, Owners, and Members on the NM-CUE

		General Delivery Mailboxes	Number of Groups <sup>1</sup>	Number of Owners <sup>1</sup>	Number of Members <sup>1</sup>
SCUE-LIC-12CCM	12	5	20	400	880
SCUE-LIC-25CCM	25	10	20	400	1000
SCUE-LIC-50CCM	50	15	30	400	1000
SCUE-LIC-100CCM	100	20	40	400	1000

1. per CUE system

**Table 4** *System Capacities for Mailboxes, Storage Hours, Ports, Scripts, and Prompts on the AIM-CUE*


**Table 5** *Maximum Number of Mailboxes, Groups, Owners, and Members on the AIM-CUE*


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 who are familiar with web-based applications and who have little or no experience with Cisco IOS command structure. Refer to the [Cisco Unity Express GUI Administrator Guide for Cisco CallManager](#)

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## **Differences Between Cisco Unity Express and Cisco Unity**

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## **Interactions Between Cisco Unity Express and Cisco CallManager**

## Differences Between Cisco Unity Express and Cisco CallManager

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- Cisco Unity Express allows only uppercase letters A to Z, lowercase letters a to z, digits 0 to 9, underscore (\_), dot (.), and dash (-) in user IDs. User IDs must start with a letter. Any Cisco CallManager user IDs that contain other characters cannot be copied into the Cisco Unity Express database.
- Spaces are not allowed in passwords. Acceptable password characters are uppercase letters A to Z, lowercase letters a to z, digits 0 to 9, and the following symbols: - , . + = \_ ! @ # \$ ^ \* ( ) ? / ~ < > & %
- User IDs and passwords are case sensitive.

## Networking Cisco Unity Express with Other Voice-Mail Systems

Cisco Unity Express supports the capability to network Cisco Unity Express with a voice-mail system located at a different site. Users can send and receive messages from subscribers on remotely located, compatible voice-mail systems configured on Cisco CallManager or Cisco CallManager Express call control platforms. Supported configurations include:

- Cisco Unity Express to Cisco Unity Express
- Cisco Unity to Cisco Unity Express
- Cisco Unity Express to Cisco Unity

For more information about configuring the networking capability, see [“Networking Cisco Unity Express” on page 147](#).

# Additional References

The following sections provide references related to Cisco Unity Express.

## Related Cisco Unity Express Documents

Related Topic	Document Title
Cisco Unity Express administration	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Unity Express CLI Administrator Guide for Cisco CallManager, Release 2.0</a> (this document)</li> <li>• <a href="#">Cisco Unity Express GUI Administrator Guide for Cisco CallManager, Release 2.0</a></li> <li>• <a href="#">Cisco Unity Express CLI Administrator Guide for Cisco CallManager Express, Release 2.0</a></li> <li>• <a href="#">Cisco Unity Express GUI Administrator Guide for Cisco CallManager Express, Release 2.0</a></li> </ul>
Cisco Unity Express voice-mail scripts	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Unity Express Script Editor Guid</a></li> </ul>
Cisco Unity Express commands	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Unity Express Command Reference</a></li> </ul>
Cisco Unity Express voice-mail end user information	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Unity Express Voice Mail System - Quick Start Guide</a></li> </ul>
Cisco module hardware installation	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Network Modules Hardware Installation Guide</a></li> <li>• <a href="#">Installing Advanced Integration Modules in Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers</a></li> <li>• <a href="#">Advanced Integration Module Quick Start Guide</a></li> <li>• <a href="#">Replacing Compact Flash Memory on Cisco AIM-CUE Advanced Integration Modules</a></li> <li>• <a href="#">AIM-CUE Slot Restriction on Cisco 3745 Routers</a></li> <li>• <a href="#">Installing Network Modules in Cisco 2800 Series Routers</a></li> <li>• <a href="#">Installing Network Modules in Cisco 3800 Series Routers</a></li> <li>• <a href="#">Installing the AIM-CUE CompactFlash Memory Card</a></li> </ul>
Technical Assistance Center support documentation for Cisco Unity Express	<ul style="list-style-type: none"> <li>• <a href="#">Technical Notes for Cisco Unity Express</a></li> </ul>
Cisco CallManager 3.3(3)	<ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Administration Guide, Release 3.3(3)</a></li> <li>• <a href="#">Cisco CallManager System Guide, Release 3.3(3)</a></li> <li>• <a href="#">Cisco CallManager Features and Services Guide, Release 3.3(3)</a></li> </ul>
Cisco CallManager 4.0(1)	<ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Administration Guide, Release 4.0(1)</a></li> <li>• <a href="#">Cisco CallManager System Guide, Release 4.0(1)</a></li> <li>• <a href="#">Cisco CallManager Features and Services Guide, Release 4.0(1)</a></li> </ul>

Related Topic	Document Title
Cisco Unity	<ul style="list-style-type: none"> <li>• <a href="#">Networking in Cisco Unity Guide</a></li> </ul>
Cisco hardware platforms	<ul style="list-style-type: none"> <li>• <a href="#">Cisco 2600 Series Hardware Installation Guide</a></li> <li>• <a href="#">Cisco 2600 series hardware configuration notes</a></li> <li>• <a href="#">Voice features on Cisco 2600 series routers</a></li> <li>• <a href="#">Cisco 2800 Series Hardware Installation</a></li> <li>• <a href="#">Cisco 3700 Series Hardware Installation Guide</a></li> <li>• <a href="#">Cisco 3700 series hardware configuration notes</a></li> <li>• <a href="#">Software Configuration Guide</a></li> <li>• <a href="#">Cisco 3800 Series Hardware Installation</a></li> </ul>

## Related Cisco IOS Documents

Related Topic	Document Title
Cisco IOS configuration	<ul style="list-style-type: none"> <li>• <a href="#">Cisco IOS Debug Command Reference, Release 12.3T</a></li> <li>• <a href="#">Cisco IOS Voice Command Reference, Release 12.3T</a></li> </ul> <p><b>Note</b> For general voice configuration topics, refer to the <a href="#">Cisco IOS Voice Configuration Library, Release 12.3</a>.</p>
Cisco IOS configuration examples	<p>Cisco Systems Technologies website at <a href="http://cisco.com/en/US/tech/index.html">http://cisco.com/en/US/tech/index.html</a></p> <p><b>Note</b> From the website, choose a technology category and subsequent hierarchy of subcategories, and then click</p> <p><b>Examples.</b></p>
Cisco IOS voice troubleshooting information	<a href="#">Cisco IOS Voice Troubleshooting and Monitoring Guide</a>
Cisco IP telephony	<a href="#">IP Telephony Solution Reference Network Design Guide</a>

## MIBs

MIBs	MIBs Link
<ul style="list-style-type: none"> <li>• CISCO-CUE-MIB</li> </ul>	<p>To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:</p> <p><a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a></p>

## 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>
2821	<i>Simple Mail Transfer Protocol</i>

## Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	<a href="http://www.cisco.com/public/support/tac/home.shtml">http://www.cisco.com/public/support/tac/home.shtml</a>

