



## **Cisco Unity Express 2.1/2.2 CLI Administrator Guide for Cisco CallManager**

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# Cisco Unity Express Feature Roadmap

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The *Cisco Unity Express CLI Administrator Guide for Cisco CallManager* describes the set of Cisco Unity Express (CUE) command-line interface (CLI) commands and tasks for installing, configuring, managing, and maintaining Cisco Unity Express applications, such as voice mail.

This guide parallels the graphical user interface (GUI) administration tasks described in the *Cisco Unity Express GUI Administrator Guide for Cisco CallManager*.

The focus of this guide is the Cisco Unity Express application. It does not provide information on installation of Cisco routers, Cisco network modules, or the Cisco CallManager server. For more information about those topics, see [“Additional References” on page 20](#).

This chapter contains the following sections:

- [Platforms and Cisco IOS Software Images, page 1](#)
- [Cisco Unity Express Feature List, page 2](#)

## Platforms and Cisco IOS Software Images

Cisco Unity Express applications use a set of commands that are similar in structure to Cisco IOS software commands. However, Cisco Unity Express commands do not affect the Cisco IOS configuration.

Cisco Unity Express hardware modules and platforms use the Cisco IOS command-line interface (CLI) commands for their operation.

See the [Release Notes for Cisco Unity Express Release 2.1.1](#) for detailed information about the Cisco Unity Express hardware and software platforms.



### Note

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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.

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# Cisco Unity Express Feature List

Table 1 lists Cisco Unity Express features by release. Features that are introduced in a particular release are available in that and subsequent releases.

**Table 1** Cisco Unity Express Features by Release

Release	Features Introduced in That Release <sup>1</sup>	Feature Description	Feature Documentation
2.2	CISCO-UNITY-EXPRESS-MIB	Monitor the health, conduct performance monitoring, data collection, and trap management for Cisco Unity Express voice mail and auto attendant applications.	<a href="#">Cisco Unity Express Release 2.2 System Monitoring Guide</a>
2.1	Additional languages support.	Danish, U.K. English, Latin American Spanish, Italian, and Brazilian Portuguese were added as choices for the default language of the telephone user interface (TUI) system prompts and greetings.	<a href="#">“Installing and Upgrading Cisco Unity Express Software” on page 43</a>
	Distribution lists.	Create public and private distribution lists of local and remote users for sending messages to more than one subscriber.	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Voice Mail &gt; Distribution Lists</b> option and the online help.</li> <li>From the CLI: See <a href="#">“Configuring Distribution Lists” on page 207</a>.</li> </ul>
	Broadcast messages.	Privileged subscribers can send messages to all users on the network.	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Configure &gt; Groups</b> option and the online help.</li> <li>From the CLI: See <a href="#">“Configuring Network Broadcast Messages” on page 201</a>.</li> </ul>
	Schedules for holidays and business hours.	Create schedules of holidays and business hours to automatically play alternate auto attendant greetings to callers.	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Voice Mail &gt; Holidays Settings</b> and <b>Voice Mail &gt; Business Hours Settings</b> options and the online help.</li> <li>From the CLI: See <a href="#">“Configuring Business Hours” on page 93</a> and <a href="#">“Configuring a Holiday List” on page 99</a>.</li> </ul>

Table 1 Cisco Unity Express Features by Release (continued)

Release	Features Introduced in That Release <sup>1</sup>	Feature Description	Feature Documentation
	Increased security for passwords and PINs.	Set minimum lengths and expiry times for passwords and personal identification numbers (PINs).	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Defaults &gt; User</b> option and the online help.</li> <li>From the CLI: See <a href="#">“Configuring Password and PIN Parameters”</a> on page 89.</li> </ul>
	Support for caller ID information in incoming messages.	Permit playing of caller identification information as part of the message envelope for new incoming voice mail messages.	<a href="#">“Configuring Caller ID for Incoming Messages”</a> on page 195.
	Addition of remote users to the local directory.	Add frequently called remote users to the local directory, which permits local users to address voice mail messages to remote users using dial-by-name and to receive spoken name verification of the remote user address.	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Configure &gt; Remote Users</b> option and the online help.</li> <li>From the CLI: See <a href="#">“Adding Remote Users to the Local Directory”</a> on page 187.</li> </ul>
	Support for vCard information from remote users.	Permit vCard information from remote users to update their directory entries.	<a href="#">“Configuring a Location with vCard Information”</a> on page 196 and <a href="#">“Configuring the LRU Cache”</a> on page 200.
	Simple auto attendant script.	Simple aa_simple.aef script is available for handling alternate, holiday, and business hours greetings.	<a href="#">“Configuring and Managing the Auto-Attendant Application”</a> on page 69
	Undelete voice messages.	Permits users to restore a voice mail message that was deleted during the current voice message retrieval session.	<a href="#">Cisco Unity Express Voice-Mail System User’s Guide</a>
	Restore to factory defaults.	Permits the administrator to reset the entire system to the factory default values.	<a href="#">Restoring Factory Default Values</a> , page 143.
	Increased port density.	Network modules with 512 MB of SDRAM now support 16 voice ports. Advanced integration modules (AIMs) running at 300 MHz now support 6 ports on new router platforms.	<a href="#">“Software Licenses and Factory-Set Limits”</a> on page 15
	Repurposing of general delivery mailboxes (GDMs)	GDMs may be repurposed as personal mailboxes, which expands the personal mailbox capacity of each license level.	<a href="#">“Creating and Modifying a Voice Mailbox”</a> on page 117

Table 1 Cisco Unity Express Features by Release (continued)

Release	Features Introduced in That Release <sup>1</sup>	Feature Description	Feature Documentation
2.0	Support for multiple languages	European French, German, European Spanish, and U.S. English are available in the telephone user interface (TUI) and auto-attendant prompts.	<a href="#">“Configuring the System Language” on page 89</a>
	Streamlined software upgrade process	Modified upgrade process to reduce installation time.	<a href="#">“Installing and Upgrading Cisco Unity Express Software” on page 43</a>
	Increased storage on the AIM	AIM flash storage capacity can be increased from 512 MB to 1 GB and with the 1GB flash can support 14 hours of voice mail message storage.	<a href="#">“Software Licenses and Factory-Set Limits” on page 15</a>
	Housing Cisco Unity Express and Cisco CallManager Express software on different routers	Cisco Unity Express software installed on a router communicates with Cisco CallManager Express installed on a different router.	—
	Networking across multiple sites	Voice Profile for Internet Mail version 2 (VPIMv2) support for voice mail messaging interoperability between Cisco Unity Express sites and between Cisco Unity Express and Cisco Unity with Non-Delivery Record (NDR) for networked messages and blind addressing.	<a href="#">“Networking Cisco Unity Express” on page 175</a>
	Support for Cisco CallManager Release 3.3(3), 3.3(4), and 4.0(1)	Capability of auto detecting the Cisco CallManager JTAPI version on a remote system for handling call control and user import functionality.	—
1.1.2	NTP server configuration support	New commands permit configuration of the NTP server.	<a href="#">“Configuring NTP Servers” on page 166</a>
1.1	Advanced integration module (AIM) card	AIM card has an Intel Celeron 300-MHz processor, 256 MB of 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.	<a href="#">Installing Advanced Integration Modules in Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers</a>

**Table 1** Cisco Unity Express Features by Release (continued)

Release	Features Introduced in That Release <sup>1</sup>	Feature Description	Feature Documentation
	Custom auto-attendant script creation using the Cisco Unity Express script editor	Script editor creates 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 support up to four customized auto attendants.	<a href="#">Cisco Unity Express Script Editor Guide</a>
	Alternate auto-attendant greetings and prompts	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.	<a href="#">“Recording an Auto-Attendant Greeting or Prompt File” on page 14</a>
	Access to a greeting management system from the telephone user interface (TUI)	Access from the TUI to a greeting management system (GMS) for recording alternate greetings and prompts. Users with administrative privileges have access to the GMS.	<a href="#">Cisco Unity Express Voice Mail System - Quick Start Guide</a>
<b>1.0</b>	Linux-based software	Linux-based software installed on a module card that is installed in the Cisco CallManager router. (See the <a href="#">“Cisco Unity Express Feature List” on page 2.</a> ) The software includes the operating system, application software, and ordered license information.	—
	Network module card	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.	<a href="#">Cisco Network Modules Hardware Installation Guide</a> , Chapter 22
	Orderable license packages	Four orderable license packages. A license must be ordered for each voice mail system. See <a href="#">Table 2 on page 15</a> and <a href="#">Table 4 on page 16</a> for the system capacities available with each license.	<a href="#">“Software Licenses and Factory-Set Limits” on page 15</a>

Table 1 Cisco Unity Express Features by Release (continued)

Release	Features Introduced in That Release <sup>1</sup>	Feature Description	Feature Documentation
	Spare modules	Spare modules with factory installed software and license. Upgrades to larger capacity require purchase of a license and download of the license file.	“Software Licenses and Factory-Set Limits” on page 15
	License upgrades and downgrades	Upgrades or downgrades from one license size to another.	“Software Licenses and Factory-Set Limits” on page 15
	Two administrative interfaces	Two administrative interfaces.	“Administration Interfaces” on page 17
	Integrated GUI with Cisco CallManager Express	An integrated administration GUI for both Cisco Unity Express and Cisco CME. The integrated interface permits configuration of some Cisco CME parameters, such as telephones and extensions.	<i>Cisco Unity Express GUI Administrator Guide for Cisco CallManager, Release 2.0</i>
	Bulk provisioning of multiple sites	Bulk provisioning of multiple sites using CLI scripts is not provided by Cisco Unity Express. Systems are administered individually.	<i>Cisco Unity Express Script Editor Guide</i>
	System access anywhere in the IP network	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	Manual backup and restore using an FTP server located anywhere in the customer network.	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Administration</b> menu and the online help.</li> <li>From the CLI: <i>Cisco Unity Express CLI Administrator Guide for Cisco CallManager, Release 2.0</i></li> </ul>
	System reports and log files for troubleshooting.	Reports are available from the Cisco Unity Express GUI screens. All troubleshooting reports and files are available using the Cisco Unity Express CLI commands.	<ul style="list-style-type: none"> <li>From the GUI: Use the <b>Reports</b> menu and the online help.</li> <li>From the CLI: <i>Cisco Unity Express CLI Administrator Guide for Cisco CallManager, Release 2.0</i></li> </ul>

1. Features that are introduced in a particular release are available in that and subsequent releases.









# 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. Releases 2.1 and 2.2 support up to 100 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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- [Differences Between Cisco Unity Express and Cisco CallManager, page 18](#)
- [Additional References, page 20](#)

# Prerequisites for Implementing Cisco Unity Express on Cisco CallManager

Before starting Cisco Unity Express configuration, the Cisco CallManager system must be installed. If you did not or are not performing the Cisco CallManager installation, please contact the installer or other support personnel to ensure that the following procedures are completed:

1. Install all Cisco CallManager and Cisco Unity Express hardware and verify functionality.
  - Attach the telephones so that they register with the Cisco CallManager server.
  - Verify that the Cisco Unity Express router is configured with Cisco IOS Release 12.3(4)T or a later release for the network module (NM) or with Cisco IOS Release 12.3(7)T or a later release for the advanced integration module (AIM).
  - For the NM, verify that the enable LED is lit.



## Caution

If you are installing an AIM-CUE in your Cisco 3745 router, you must install it in the AIM slot labeled AIM1. Installing this AIM in the AIM slot labeled AIM0 of Cisco 3745 routers can damage the AIM.



## 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 module 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. Install and verify Cisco CallManager software functionality.
  - a. You should be able to access the Cisco CallManager configuration web page.
  - b. Configure IP connectivity between the router and the Cisco Unity Express module. The module has an internal IP address and a default gateway configuration. The router has a service-engine interface with an IP address, which may be unnumbered.

One configuration method is to use the **ip unnumbered** command, which allows the Cisco Unity Express module to use a network subnet IP address associated with a specific router egress port, such as FastEthernet0/0. This method requires a static route to the service-engine interface. The router interface associated with the Cisco Unity Express interface must be in an "up" state at all times for communication between the router and module.

In the following example, 10.3.6.128 is the IP address of the Cisco Unity Express module and Service-Engine1/0 is the router slot hosting the Cisco Unity Express module.

```

interface FastEthernet0/0
  ip address 10.3.6.1 255.255.255.0
  .
  .
  .
interface Service-Engine1/0
  ip unnumbered FastEthernet0/0
  service-module ip address 10.3.6.128 255.255.255.0
  service-module ip default-gateway 10.3.6.1
  .
  .
  .
ip route 10.3.6.128 255.255.255.255 Service-Engine1/0

```

If your network uses a VLAN interface with an Etherswitch module, use the example above but replace both instances of “FastEthernet0/0” with “VLAN1.” On the Cisco CallManager, configure 16 CTI ports for a Cisco Unity Express system with a 512 MB NM. Configure 8 ports for a 256 MB NM.

- c. For the AIM running at 300 MHz, configure 6 CTI ports on Cisco CallManager. For the 150 MHz AIM, configure 4 CTI ports. Use the Cisco CallManager option **Device > Phones > Add new Phone**.

These ports will be assigned to the Cisco Unity Express applications (voice mail, auto attendant, and Administration via Telephone [AvT]) to terminate calls.



**Note** 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 Cisco CallManager can support.

- d. Configure at least two route points on Cisco CallManager using the **Device > CTI Route Point** option. The Cisco Unity Express voice-mail application uses one route point and the auto-attendant application uses the other route point. If you plan to use the Cisco Unity Express AvT, configure a third route point on Cisco CallManager.



**Note** Do not configure extra route points on Cisco CallManager. Doing so will impact the scalability of your Cisco CallManager and will limit the number of other devices Cisco CallManager can support.

- e. Create a Cisco CallManager JTAPI user using the **User > Add new user** option. Use the **Device Association** option to associate the CTI ports and route points with this JTAPI user. (The JTAPI user is not assigned a Cisco Unity Express voice mailbox. It is a placeholder for Cisco Unity Express to establish connection with Cisco CallManager.) Verify that the Enable CTI Application use box is checked for this JTAPI user.
- f. During the Cisco Unity Express software installation, create the Cisco Unity Express administrator user ID and password and specify the IP addresses for the DNS server and NTP server. This user ID and password is needed to log in to the initialization wizard.
- g. For efficient call processing, configure access lists on the Cisco Unity Express router to prioritize JTAPI traffic. For example:

```

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

```

where 10.3.6.128 is the IP address of the module containing Cisco Unity Express.

The output from a command should indicate that the marked packets number is increasing. For example:

```

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

```

3. The FTP server that communicates with Cisco Unity Express must support passive FTP requests. To configure this functionality on the FTP server, refer to the FTP server documentation.
4. (Optional) If no users were created in the Cisco CallManager interface, create a list of all users, groups, and their extensions. Having this list eases the task of configuring many users and extensions.
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 14](#) for more information.
6. (Optional) Customize the auto-attendant prompt sequence to meet your business requirements. See [“Configuring Auto-Attendant Scripts” on page 14](#) 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.

## Restrictions for Implementing Cisco Unity Express

The following restrictions apply to Cisco Unity Express 2.1/2.2.

### 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 Releases 2.1 and 2.2.

### 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 NTP server and cannot be set in the Cisco Unity Express software. Cisco Unity Express can be configured as a network transfer protocol (NTP) client. See “Configuring NTP Servers” on page 166 and your NTP server CLI for more information.
- Cisco Unity Express supports one language on the system at a time. See the *Release Notes for Cisco Unity Express Release 2.2* for a list of the available languages. 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 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 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

Cisco Unity Express does not support the following backup and restore capabilities:

- 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.

- Cisco Unity Express does not support managing and configuring using Simple Network Management Protocol (SNMP) except for hardware inventory.
- Cisco Unity Express does not support Cisco Networking Services (CNS) or Subnetwork Access Protocol (SNAP) autoprovisioning.
- Cisco Unity Express does not support CiscoWorks configmaker.

## 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 option **Voice Mail > Prompts > Upload** or Cisco Unity Express CLI **ccn copy** command to copy the file in to the Cisco Unity Express system. See the GUI online help (OLH) or [“Uploading the Auto-Attendant Greeting or Prompt File” on page 75](#) for the upload procedure.
- Use the AvT on the TUI to record the greeting or prompt. Dial the AvT telephone number and select the option to record a greeting. When finished recording, save the file. AvT automatically saves the file in Cisco Unity Express.

The AvT 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, 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 software 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. See [“Uploading the Auto-Attendant Script File” on page 77](#) or the GUI option **Voice Mail > Scripts** to upload the script file to the auto-attendant application.

## Differences Between the AIM and NM

Cisco Unity Express is supported on 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 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. Limits for the NM-CUE and NM-CUE-EC are shown in [Table 2](#) and [Table 3](#). Limits for the AIM-CUE are shown in [Table 4](#) and [Table 5](#).

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

Cisco Unity Express License/Software SKU	Total Mailbox Storage (Hours)	Default Mailbox Size (Minutes) <sup>1</sup>	Number of Concurrent VoiceMail and Auto Attendant Ports/Sessions	Number of Scripts	Number of Prompts
SCUE-LIC-12CCM SCUE-LIC-12CME	100	353	8 (NM-CUE) 16 (NM-CUE-EC)	8	50
SCUE-LIC-25CCM SCUE-LIC-25CME	100	171	8 (NM-CUE) 16 (NM-CUE-EC)	8	50
SCUE-LIC-50CCM SCUE-LIC-50CME	100	92	8 (NM-CUE) 16 (NM-CUE-EC)	8	50
SCUE-LIC-100CCM SCUE-LIC-100CME	100	50	8 (NM-CUE) 16 (NM-CUE-EC)	8	50

1. The default mailbox size calculation includes the allocation for the General Delivery Mailboxes (GDMs).

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

Cisco Unity Express License/Software SKU	Default Number of Personal Mailboxes	Default Number of General Delivery Mailboxes	Total Number of Mailboxes	Number of Groups	Number of Owners	Number of Members
SCUE-LIC-12CCM SCUE-LIC-12CME	12	5	17	20	400	880
SCUE-LIC-25CCM SCUE-LIC-25CME	25	10	35	20	400	1000
SCUE-LIC-50CCM SCUE-LIC-50CME	50	15	65	30	400	1000
SCUE-LIC-100CCM SCUE-LIC-100CME	100	20	100	40	400	1000

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

Cisco Unity Express License/Software SKU	Total Mailbox Storage (Hours) <sup>1</sup>	Default Mailbox Size (Minutes) <sup>2</sup>	Number of Concurrent VoiceMail and Auto Attendant Ports/Sessions	Number of Scripts	Number of Prompts
SCUE-LIC-12CCM SCUE-LIC-12CME	14	28	4 (Cisco 2600XM, Cisco 2691) 6 (Cisco 2800 series, Cisco 3700 series, Cisco 3800 series)	4	25
SCUE-LIC-25CCM SCUE-LIC-25CME	14	13	4 (Cisco 2600XM, Cisco 2691) 6 (Cisco 2800 series, Cisco 3700 series, Cisco 3800 series)	4	25
SCUE-LIC-50CCM SCUE-LIC-50CME	14	7	4 (Cisco 2600XM, Cisco 2691) 6 (Cisco 2800 series, Cisco 3700 series, Cisco 3800 series)	4	25

- The storage value shown is for the AIM-CUE with the 1 GB compact flash. The earlier AIM-CUE version with the 512 MB compact flash supports 4.5 hours (270 minutes) of mailbox storage. To use Cisco Unity Express 2.1, Cisco recommends that older AIM-CUE modules with 512 MB compact be replaced with the 1 GB compact flash AIM-CUE module.
- The default mailbox size calculation includes the allocation for the General Delivery Mailboxes (GDMs).

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

Cisco Unity Express License/Software SKU	Default Number of Personal Mailboxes	Default Number of General Delivery Mailboxes	Total Number of Mailboxes	Number of Groups	Number of Owners	Number of Members
SCUE-LIC-12CCM SCUE-LIC-12CME	12	5	17	20	100	200
SCUE-LIC-25CCM SCUE-LIC-25CME	25	10	35	20	100	200
SCUE-LIC-50CCM SCUE-LIC-50CME	50	15	65	20	100	200

Cisco Unity Express supports a maximum of 8 SIP triggers and 8 JTAPI triggers for all applications combined. This applies to both the NM and the AIM.

## 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 the chapter “[Networking Cisco Unity Express](#)” on page 175.

## 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. See the *Cisco Unity Express 2.1/2.2 GUI Administrator Guide for Cisco CallManager* for the configuration procedures using the GUI menus and windows.

- 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. See “[Entering the Command Environment](#)” on page 31 for the instructions to enter the CLI environment.

The Cisco Unity Express CLI commands have a structure very similar to Cisco IOS CLI commands. However, the Cisco Unity Express CLI commands do not affect Cisco IOS configurations. After you have logged in to the Cisco Unity Express module, the command environment is no longer the Cisco IOS environment.

Error messages in Cisco Unity Express are not always the same as error messages in the Cisco IOS environment.

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 a later release. Cisco Unity Express does not support the Netscape browser. To access the CLI, Telnet to the router, then use the **service-module** command.

## Differences Between Cisco Unity Express and 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-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 2.1/2.2 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 2.1/2.2.

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.

## Interactions Between Cisco Unity Express and 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 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 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.

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.

## Differences Between Cisco Unity Express and 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 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 lowercase letters a to z, uppercase letters A to Z, digits 0 to 9, and the following symbols: - , . + = \_ ! @ # \$ ^ \* ( ) ? / ~ < > & %
- User IDs and passwords are case sensitive.

# Additional References

The following sections provide references related to Cisco Unity Express.

## Documents Related to Cisco Unity Express

Related Topic	Document Title
Cisco Unity Express administration	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Unity Express 2.1/2.2 CLI Administrator Guide for Cisco CallManager</a></li> <li>• <a href="#">Cisco Unity Express 2.1/2.2 GUI Administrator Guide for Cisco CallManager</a></li> <li>• <a href="#">Cisco Unity Express 2.1/2.2 CLI Administrator Guide for Cisco CallManager Express</a></li> <li>• <a href="#">Cisco Unity Express 2.1/2.2 GUI Administrator Guide for Cisco CallManager Express</a></li> <li>• <a href="#">Cisco Unity Express Command Reference</a></li> <li>• <a href="#">Cisco Unity Express AvT Administrator Guide</a></li> <li>• <a href="#">Release Notes for Cisco Unity Express 2.2</a></li> </ul>
Cisco Unity Express voice-mail scripts	<a href="#">Cisco Unity Express 2.2 Script Editor Guide</a>
Cisco Unity Express voice-mail end user information	<a href="#">Cisco Unity Express User Guides</a>
Cisco module hardware installation	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Network Modules Hardware Installation Guide</a>, Chapter 22</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> </ul>
Cisco Unity Express software copyrights and licenses	<a href="#">“Appendix A: Software Copyrights and Licenses” on page 71</a>
Technical Assistance Center support documentation for Cisco Unity Express	<a href="#">sTechnical Notes for Cisco Unity Express</a>

Related Topic	Document Title
Cisco CallManager	<p>Release 4.1(3)</p> <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Administration Guide, Release 4.1(3)</a></li> <li>• <a href="#">Cisco CallManager System Guide, Release 4.1(3)</a></li> <li>• <a href="#">Cisco CallManager Features and Services Guide, Release 4.1(3)</a></li> </ul> <p>Release 4.1(2)</p> <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Administration Guide, Release 4.1(2)</a></li> <li>• <a href="#">Cisco CallManager System Guide, Release 4.1(2)</a></li> <li>• <a href="#">Cisco CallManager Features and Services Guide, Release 4.1(2)</a></li> </ul> <p>Release 4.0(1):</p> <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> <p>Release 3.3(4)</p> <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Administration Guide, Release 3.3(4)</a></li> <li>• <a href="#">Cisco CallManager System Guide, Release 3.3(4)</a></li> <li>• <a href="#">Cisco CallManager Features and Services Guide, Release 3.3(4)</a></li> </ul> <p>Release 3.3(3):</p> <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>

Related Topic	Document Title
Cisco CallManager Express	Release 3.4: <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Express 3.4 Configuration Guide</a></li> <li>• <a href="#">Cisco CallManager Express 3.4 Command Reference</a></li> </ul> Release 3.3: <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Express 3.3 System Administrator Guide</a></li> <li>• <a href="#">Cisco CallManager Express 3.3 Command Reference</a></li> </ul> Release 3.2: <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Express 3.2 System Administrator Guide</a></li> <li>• <a href="#">Cisco CallManager Express 3.2 Command Reference</a></li> <li>• <a href="#">TAPI Developer Guide for Cisco CME/SRST</a></li> <li>• <a href="#">XML Developer Guide for Cisco CME/SRST</a></li> <li>• <a href="#">Integrating Cisco CallManager Express and Cisco Unity Express</a></li> </ul> Release 3.0: <ul style="list-style-type: none"> <li>• <a href="#">Cisco CallManager Express System Administrator Guide 3.0</a></li> <li>• <a href="#">Cisco CallManager Express Command Reference 3.0</a></li> <li>• <a href="#">Cisco SRST System Administrator's Guide Version 3.0</a></li> <li>• <a href="#">Integrating Cisco CallManager Express Versions 3.0 and 3.1 with Cisco Unity Express</a></li> </ul>
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 12.4T</a></li> <li>• <a href="#">Cisco IOS Voice Command Reference</a></li> </ul> <p><b>Note</b> For general voice configuration topics, refer to the <a href="#">Cisco IOS Voice Configuration Library, Release 12.4</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 <b>Technical Documentation &gt; Configuration 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-UNITY-EXPRESS-MIB</li> </ul>	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

## 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>





# Setting Up Cisco Unity Express Software

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Set up Cisco Unity Express software after all Cisco CallManager and Cisco Unity Express hardware and Cisco CallManager software installations are complete. This chapter contains the following installation information and procedures:

- [Prerequisites, page 25](#)
- [Configuring a New Cisco Unity Express Software Package, page 29](#)
  - [Activating IP Connectivity to Cisco Unity Express Software, page 29](#)
  - [EXEC and Configuration Modes, page 31](#)
  - [Entering the Command Environment, page 31](#)
  - [Exiting the Command Environment, page 32](#)

## Prerequisites

Before Cisco Unity Express configuration can be started, the Cisco CallManager system must be installed. If you did not or are not performing the Cisco CallManager installation, contact the installer or other support personnel to ensure that the following procedures are completed:

1. (Required) Install all Cisco CallManager and Cisco Unity Express hardware and verify functionality.
  - a. Attach the telephones so that they register with the Cisco CallManager server.
  - b. Verify that the Cisco CallManager server is configured with a Cisco IOS release that supports the Cisco Unity Express network module (NM) or advanced integration module (AIM). For information on the minimum Cisco IOS release required to support these modules, see the [Release Notes for Cisco Unity Express Release 2.2](#).
  - c. For the NM, verify that the enable LED is lit.



### 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. Configure IP connectivity between the router and the Cisco Unity Express module. The module has an internal IP address and a default gateway configuration. The router has a service-engine interface with an IP address, which may be unnumbered.

One configuration method is to use the **ip unnumbered** command, which allows the Cisco Unity Express module to use a network subnet IP address associated with a specific router egress port, such as FastEthernet0/0. This method requires a static route to the service-engine interface. The router interface associated with the Cisco Unity Express interface must be in an "up" state at all times for communication between the router and module.

In the following example, 10.3.6.128 is the IP address of the Cisco Unity Express module and Service-Engine1/0 is the router slot hosting the Cisco Unity Express module.

```
interface FastEthernet0/0
 ip address 10.3.6.1 255.255.255.0
.
.
.
interface Service-Engine1/0
 ip unnumbered FastEthernet0/0
 service-module ip address 10.3.6.128 255.255.255.0
 service-module ip default-gateway 10.3.6.1
.
.
.
ip route 10.3.6.128 255.255.255.255 Service-Engine1/0
```

If your network uses a VLAN interface with an Etherswitch module, use the example above but replace both instances of "FastEthernet0/0" with "VLAN1." On the Cisco CallManager, configure 16 CTI ports for a Cisco Unity Express system with a 512 MB NM. Configure 8 ports for a 256 MB NM.

- c. For the NM, configure eight CTI ports on Cisco CallManager. For the AIM, configure four CTI ports on Cisco CallManager. Use the Cisco CallManager option **Device > Phones > Add new Phone**. These ports will be assigned to the Cisco Unity Express applications (voice mail, auto attendant, and Administration via Telephone [AvT]) to terminate calls.



**Note**

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 Cisco CallManager can support.

- d. Configure at least two route points on Cisco CallManager using the **Device > CTI Route Point** option. The Cisco Unity Express voice-mail application uses one route point, and the auto-attendant application uses the other route point. If you plan to use the Cisco Unity Express AvT, configure a third route point on Cisco CallManager.



**Note** Do not configure extra route points 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.

- e. Create a Cisco CallManager JTAPI user using the **User > Add new user** option. Use the **Device Association** option to associate the CTI ports and route points with this JTAPI user. (The JTAPI user is not assigned a Cisco Unity Express voice mailbox. It is a placeholder for Cisco Unity Express to establish a connection with Cisco CallManager.) Verify that the Enable CTI Application use box is checked for this JTAPI user.
- f. During the Cisco Unity Express software installation, create the Cisco Unity Express administrator user ID and password and specify the IP addresses for the DNS server and NTP server. This user ID and password is needed to log in to the initialization wizard.
- g. For efficient call processing, configure access lists on the Cisco Unity Express router to prioritize JTAPI traffic. For example:

```
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
```

where 10.3.6.128 is the IP address of the module that contains Cisco Unity Express.

The output from the **show policy-map interface** command should indicate that the marked packets number is increasing. For example:

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

3. (Required) The FTP server that communicates with Cisco Unity Express must support passive FTP requests. To configure this functionality on the FTP server, refer to the FTP server documentation.

4. (Optional) If no users were created in the Cisco CallManager interface, create a list of all users, groups, and their extensions. Having this list eases the task of configuring many users and extensions.
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 75](#) for more information.
6. (Optional) Customize the auto-attendant prompt sequence to meet your business requirements. See [“Configuring Auto-Attendant Scripts” on page 76](#) 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.

# Configuring a New Cisco Unity Express Software Package

When you order Cisco Unity Express, Cisco Unity Express software and the purchased license are installed on the module at the factory. Spare modules also ship with the software and license installed.

The following procedures are required to configure a new installation of Cisco Unity Express.

1. Configure the IP addressing between the module and the router. See [“Activating IP Connectivity to Cisco Unity Express Software” on page 29](#).
2. Begin configuring the Cisco Unity Express software. See the section [“Configuration Tasks” on page 35](#).

## Activating IP Connectivity to Cisco Unity Express Software

After installing the Cisco Unity Express module, activate the IP communication link between Cisco CallManager and the Cisco Unity Express application.

### Prerequisites

The following information is required for activating the software:

- Slot and unit numbers of the Cisco Unity Express module on the Cisco IOS router that hosts Cisco Unity Express.
- IP address and subnet mask of the Cisco IOS router that hosts Cisco Unity Express or the unnumbered interface type and number.
- IP address of the Cisco Unity Express module. This IP address must be on the same subnet as the Cisco IOS router that hosts Cisco Unity Express.
- IP address of the default gateway of the Cisco Unity Express router. This IP address must be the same IP address as the Cisco IOS router that hosts Cisco Unity Express.

### SUMMARY STEPS

1. **interface** **Service-Engine** *slot/unit*
2. **ip address** *router-ip-addr subnet-mask*  
or  
**ip unnumbered** *type number*
3. **service-module ip address** *cue-side-ip-addr subnet-mask*
4. **service-module ip default-gateway** *gw-ip-addr*
5. **exit**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>interface</b> <b>Service-Engine</b> <i>slot/unit</i>  <b>Example:</b> Router(config)# interface Service-Engine 2/0	Enters interface configuration mode.
Step 2	<b>ip address</b> <i>router-ip-addr subnet-mask</i>  <b>ip unnumbered</b> <i>type number</i>  <b>Example:</b> Router(config-if)# ip address 172.16.231.195 255.255.0.0  or  <b>Example:</b> Router(config-if)# ip unnumbered FastEthernet 0/0	Specifies the IP address and subnet mask of the Cisco IOS router hosting Cisco Unity Express.  Specifies the interface <i>type</i> and <i>number</i> for the Cisco IOS router hosting Cisco Unity Express.
Step 3	<b>service-module ip address</b> <i>cue-side-ip-addr subnet-mask</i>  <b>Example:</b> Router(config-if)# service-module ip address 172.16.231.190 255.255.0.0	Specifies the IP address of the Cisco Unity Express module interface. This IP address must be on the same subnet as the Cisco IOS router that hosts Cisco Unity Express.
Step 4	<b>service-module ip default-gateway</b> <i>gw-ip-addr</i>  <b>Example:</b> Router(config-if)# service-module ip default-gateway 172.16.231.195	Specifies the IP address the Cisco IOS router that hosts Cisco Unity Express.
Step 5	<b>exit</b>  <b>Example:</b> Router(config-if)# exit	Exits interface configuration mode.

## Examples

The following example illustrates the IP connectivity activation procedure:

```
Router(config)# interface Service-Engine 1/0
Router(config-if)# ip address 10.0.0.9 255.0.0.0
Router(config-if)# service-module ip address 10.0.0.10 255.0.0.0
Router(config-if)# service-module ip default-gateway 10.0.100.10
Router(config-if)# exit
```



## What to Do Next

After configuring the connectivity to the Cisco Unity Express module, enter the Cisco Unity Express command environment and start configuring the applications. See [“Entering the Command Environment” on page 31](#).

## EXEC and Configuration Modes

The Cisco Unity Express command modes, EXEC and configuration, operate similarly to the EXEC and configuration modes for Cisco IOS CLI commands, however, Cisco Unity Express EXEC mode permits some parameters to be configured or modified, which are not allowed in Cisco IOS EXEC mode. This Cisco Unity Express capability saves the configured parameters to flash memory so that the system has some minimum information available if a catastrophic failure, such as a disk crash, occurs. The description for each command in this guide indicates the command mode.

## Entering the Command Environment

After the Cisco Unity Express software is installed and active, use this procedure to enter the command environment.

### Prerequisites

For a new Cisco Unity Express software installation, see [“Prerequisites” on page 25](#) and [“Activating IP Connectivity to Cisco Unity Express Software” on page 29](#) before beginning this procedure.

The following information is required to enter the command environment:

- IP address of the router that contains the Cisco Unity Express module
- Username and password to log in to the router
- Slot number of the module

### SUMMARY STEPS

1. Open a Telnet session.
2. `telnet ip-address`
3. Enter the user ID and password of the router.
4. `service-module service-engine slot/port session`
5. `enable`

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	Open a Telnet session.	Use a DOS window, a secure shell, or a software emulation tool such as Reflection.
<b>Step 2</b>	<code>telnet ip-address</code>  <b>Example:</b> C:\>telnet 172.16.231.195	Specifies the IP address of the Cisco CallManager router.
<b>Step 3</b>	Username: Password:	Enter your user ID and password for the router.
<b>Step 4</b>	<code>service-module service-engine slot/port session</code>  <b>Example:</b> Router# service-module service-engine 1/0 session	Enters the Cisco Unity Express command environment using the module located in <i>slot</i> and <i>port</i> . The prompt changes to “se” with the IP address of the Cisco Unity Express module.  If the message “Trying ip-address slot/port ... Connection refused by remote host appears, enter the command <code>service-module service-engine slot/port session clear</code> and try Step 4 again.
<b>Step 5</b>	<code>enable</code>  <b>Example:</b> se-10-0-0-0# enable	Enters Cisco Unity Express EXEC mode. You are ready to begin the configuration tasks.

**What to Do Next**

Review the section [“Configuration Tasks” on page 35](#).

**Exiting the Command Environment**

When you need to leave the Cisco Unity Express command environment and return to the router command environment, follow the steps below.

**SUMMARY STEPS**

1. Return to the Cisco Unity Express EXEC mode.
2. Press the **CTRL-SHIFT-6** keys simultaneously, followed by a lowercase **x**.

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><b>exit</b></p> <p><b>Example:</b>  se-10-0-0-0(config)# exit  se-10-0-0-0#</p>	Use the <b>exit</b> command from configuration mode to return to EXEC mode.
Step 2	<p><b>CTRL-SHIFT-6 x</b></p> <p><b>Example:</b>  se-10-0-0-0# CTRL-SHIFT-6 x  Router#</p>	<p>Press the <b>CTRL-SHIFT-6</b> keys simultaneously, followed by a lowercase <b>x</b>.</p> <p><b>Note</b> In Cisco IOS Release 12.3(11)T or above, use the <b>EXIT</b> command instead.</p>





## Configuration Tasks

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After completing the prerequisite activities, begin the configuration tasks. This chapter lists the recommended tasks for configuring Cisco Unity Express and contains the following sections:

- [Configuring the System Using the CLI Commands, page 35](#)
- [Configuring the System Using the GUI and the Initialization Wizard, page 35](#)
- [Initial Tasks, page 36](#)
- [Ongoing Tasks, page 41](#)
- [As-Needed Tasks, page 42](#)

### Configuring the System Using the CLI Commands

If you will configure one or more Cisco Unity Express systems exclusively using CLI scripts, enter the command environment as described in [“Entering the Command Environment” on page 31](#). Proceed with the scripts, using the sections in this chapter as a guideline for configuring the system components. When entering the GUI for the first time and the initialization wizard appears, choose the skip option to avoid reconfiguring the system.

### Configuring the System Using the GUI and the Initialization Wizard

The Cisco Unity Express GUI provides the initialization wizard software tool to configure the basic system parameters and import any users configured with the Cisco CallManager interface.

If you log in to the GUI web interface after installation, the initialization wizard is the first screen to appear. You cannot activate it again except by reinstalling Cisco Unity Express software. All the parameters configured through the initialization wizard are available through GUI screens and CLI commands. Refer to the [Cisco Unity Express 2.1/2.2 GUI Administrator Guide for Cisco CallManager](#) for more information about the initialization wizard.

# Initial Tasks

Table 6 lists the sequence of initial configuration tasks, the section describing each procedure, and additional information needed for each task.

**Table 6** Configuration Task Sequence

Task and Procedure Location	Additional Information Needed
1. <a href="#">Configuring JTAPI Parameters, page 64</a>	<ul style="list-style-type: none"> <li>• JTAPI user ID, password, and credentials.</li> <li>• CTI ports.</li> <li>• Cisco CallManager server hostname or IP address.</li> </ul>
2. <a href="#">Configuring the System Language, page 89</a>	Cisco Unity Express supports the installation of one language selected at the time of purchase. This choice is the default for system prompts.
3. <a href="#">Configuring the Voice-Mail Application, page 66</a>	<ul style="list-style-type: none"> <li>• Maximum number of users who can access voice mail simultaneously. This number is limited by the number of ports purchased with Cisco Unity Express. Check your license agreement and see “<a href="#">Software Licenses and Factory-Set Limits</a>” on page 15 for this maximum number.</li> <li>• Telephone number to access the voice mail system.</li> </ul>
4. <a href="#">Configuring and Managing the Auto-Attendant Application, page 69</a>	<ul style="list-style-type: none"> <li>• To use your own welcome greeting, create a .wav file that contains the prerecorded welcome greeting. This file must be uploaded to the Cisco Unity Express module so that it can be located and saved in the auto-attendant script. Alternatively, you can use the Administration via Telephone (AvT) application to record the welcome greeting. See “<a href="#">Recording an Auto-Attendant Greeting or Prompt File</a>” on page 75 for guidelines on recording a greeting.</li> <li>• Number of times the auto attendant will replay instructions to a caller before the call is disconnected. This count begins when the caller moves past the main menu and starts to hear instructions for a submenu. The main menu will play five times and then, if the caller makes no choice or incorrect choices, will transfer to the operator.</li> <li>• Extension number of the operator. Auto attendant dials this extension when the caller presses the zero (“0”) button.</li> <li>• Telephone number that the caller must dial to reach the auto attendant. In many cases, this number is your company telephone number.</li> <li>• Maximum number of callers that auto attendant can handle simultaneously. This number is limited by the number of ports purchased with Cisco Unity Express. Check your license agreement and see “<a href="#">Software Licenses and Factory-Set Limits</a>” on page 15 for this maximum number.</li> </ul>
5. <a href="#">Configuring the Administration via Telephone Application, page 69</a>	<ul style="list-style-type: none"> <li>• Telephone number for accessing the Administration via Telephone (AvT).</li> </ul>
6. <a href="#">Configuring Auto-Attendant Prompts, page 74</a>	<ul style="list-style-type: none"> <li>• Prerecorded prompt files in .wav format. Use the AvT to record the prompts.</li> <li>• Prompt filenames.</li> </ul>

Table 6 Configuration Task Sequence (continued)

Task and Procedure Location	Additional Information Needed
7. <a href="#">Configuring Auto-Attendant Scripts, page 76</a>	<ul style="list-style-type: none"> <li>• Preconfigured script files. Use the Cisco Unity Express script editor to create the files. Refer to the <a href="#">Cisco Unity Express Script Editor Guide</a> for more information.</li> <li>• Script filenames.</li> </ul>
8. <a href="#">Configuring JTAPI Triggers for the Applications, page 78</a>	<ul style="list-style-type: none"> <li>• Telephone number that invokes the application. This number must be different for voice mail, auto attendant, and greeting management system.</li> <li>• Maximum number of callers, or sessions, that the application can handle simultaneously. The total for all applications must not exceed the maximum number of ports for the system. (See <a href="#">“Software Licenses and Factory-Set Limits” on page 15</a> for the maximum number of ports.) The applications need not have the same maximum number; for example, voice mail might need three sessions while auto attendant needs five sessions.</li> </ul>
9. <a href="#">Configuring System-Wide Mailbox Default Values, page 86</a>	<ul style="list-style-type: none"> <li>• Capacity—The total amount of storage time in hours allowed for all mailboxes in the system. The factory default is the maximum allowed storage for your system.</li> <li>• Expiration date—The number of days for which a message is saved in the mailbox before the voice mail system deletes it. The factory default value is 30 days.</li> <li>• Language—The language used for voice mail prompts. See the <a href="#">Release Notes for Cisco Unity Express Release 2.2</a> for a list of the available languages.</li> <li>• Mailbox size—The maximum number of seconds of storage for voice messages in a mailbox. The factory default value is determined by dividing the maximum storage capacity by the maximum number of mailboxes (personal plus general delivery).</li> <li>• Message length—The maximum number of seconds for any one stored message in a mailbox. The factory default is 60 seconds.</li> <li>• Recording time—The maximum amount of time for a user’s recorded mailbox greeting.</li> <li>• Operator extension—The extension of the voice mail operator.</li> </ul>

Table 6 Configuration Task Sequence (continued)

Task and Procedure Location	Additional Information Needed
<p>10. <a href="#">Adding and Modifying a User, page 106</a></p>	<ul style="list-style-type: none"> <li>• Username—The user ID. The username must be at least 3 and no more than 32 characters in length. Users IDs must start with a letter. Do not use spaces in the username.</li> <li>• (Optional) Full name—First and last name of the user. Enter this name in quotation marks (“ ”).</li> <li>• (Optional) Group—Name of a group in which this user is a member. If the group does not exist, this procedure will create it.</li> </ul> <p>If you create a user or group with the CLI, you must provide a password and PIN.</p> <ul style="list-style-type: none"> <li>• Password—Temporary password for this user. The password must be at least 3 and no more than 32 characters in length. Spaces are not allowed. When the user logs in to the GUI for the first time, the application requires the user to change the password. In Release 1.0, the user’s password does not expire.</li> <li>• PIN—Personal identification number. The PIN must be at least 3 and no more than 16 digits in length. When the user logs in to the voice mail system for the first time, the application requires the user to change the PIN. In Release 1.0, the PIN does not expire.</li> </ul> <p>If you create a user or group with the GUI, you must decide the policy for handling passwords and PINs.</p> <p><b>Tip</b> You must determine the level of security for your voice mail system. Requiring a new user to have a password to access the GUI and a PIN to access a voice mailbox helps discourage unauthorized personnel from gaining entry to the system or to another user’s mailbox. However, not assigning a password and PIN makes it easier for a user to enter the system or mailbox the first time.</p> <p>Decide whether Cisco Unity Express should generate a random password and a random PIN for each new user or if the password and PIN should be blank.</p> <p>Regardless of the method you use for creating a user, each new user and each user copied from Cisco CallManager is required to change the password and the PIN when logging in to the voice mail system for the first time.</p>



Table 6 Configuration Task Sequence (continued)

Task and Procedure Location	Additional Information Needed
11. <a href="#">Adding and Modifying a Group, page 112</a>	<p>EXEC mode:</p> <ul style="list-style-type: none"> <li>• Name of the group.</li> <li>• (Optional) Description of the group.</li> <li>• (Optional) Full name of the group.</li> </ul> <p>Configuration mode:</p> <ul style="list-style-type: none"> <li>• Name of the group.</li> <li>• (Optional) One or more member user IDs.</li> <li>• (Optional) User ID of the owner.</li> <li>• (Optional) Extension or telephone number of the group.</li> <li>• (Optional) Full E.164 telephone number of the group.</li> </ul> <p>The group need not have a mailbox associated with it.</p> <p><b>Note</b> If a user must access a general delivery mailbox (GDM), the user must have a personal mailbox assigned first.</p>

Table 6 Configuration Task Sequence (continued)

Task and Procedure Location	Additional Information Needed
<p>12. <a href="#">Creating and Modifying a Voice Mailbox</a>, page 117</p>	<ul style="list-style-type: none"> <li>• The default mailbox size. The mailbox size represents the total number of seconds from all messages stored in a user's voice mailbox. Cisco Unity Express calculates a default value based on the maximum number of mailboxes and the maximum storage space on the system. Optionally, you can change the size value for individual users.</li> <li>• The default message storage time. The message storage time is the number of days that the system will save old messages. As a message approaches this storage time, the system alerts the user to resave or delete the message. If the user takes no action when the maximum storage time is reached, the message is deleted from the system.</li> <li>• The default message length. The message length represents the maximum number of seconds for any message stored in a voice mailbox. Callers who try to leave a longer message will be cut off when the maximum time is reached. Cisco Unity Express calculates a default value based on the default storage space for a mailbox. You can change the length value for individual users.</li> <li>• Telephone numbers for the voice mail system, auto attendant, and operator extension.</li> </ul> <p><b>Note</b> The voice mail telephone number and the voice mail operator's telephone number should not be the same. If they are, a user who tries to call the operator while in the voice mail system will be directed back to the voice mail system. Also, an outside caller who presses the button for the operator will be connected to the voice mail system.</p> <ul style="list-style-type: none"> <li>• Whether the mailbox uses the standard greeting or an alternate greeting.</li> </ul>

**Table 6** Configuration Task Sequence (continued)

Task and Procedure Location	Additional Information Needed
<p>13. (Optional) <a href="#">Configuring Network Locations</a>, page 177</p>	<ul style="list-style-type: none"> <li>• Network location ID number—Unique ID number for each location used by the voice mail sender to send a remote message. The maximum length of the number is 7 digits. Releases 2.1 and 2.2 support a maximum of 500 locations.</li> <li>• (Optional) Location name—Descriptive name of the network location.</li> <li>• (Optional) Abbreviated location name—Abbreviated description of the network location.</li> <li>• E-mail domain name—E-mail domain name or IP address for the local Cisco Unity Express system that is attached to the local voice mail originator’s extension when sending a VPIM message. The local system’s e-mail domain name must be configured to receive remote voice mail messages.</li> <li>• voice mail system telephone number prefix—Phone number prefix that is added to a local voice mail originator’s extension to create a VPIM address. A prefix is required only if an e-mail domain services multiple locations, and extensions between the locations are not unique. The maximum length of the prefix is 15 digits.</li> <li>• Length of the voice mail system extensions.</li> <li>• VPIM encoding scheme—Encoding scheme options for translating voice mail messages at the local Cisco Unity Express system are dynamic, G.711ulaw, or G.726.</li> <li>• (Optional) voice mail spoken name capability—Enabling this functionality permits receipt of a voice mail originator’s spoken name, which is played at the beginning of the received voice mail message.</li> </ul>

## Ongoing Tasks

Perform the tasks listed in [Table 7](#) on a regular basis.

**Table 7** Ongoing Tasks

Task	Documentation Reference
Back up and restore system data.	<a href="#">“Backing Up Files”</a> on page 135 and <a href="#">“Restoring Files”</a> on page 138
Monitor system status.	<a href="#">“Troubleshooting Guidelines”</a> on page 145

# As-Needed Tasks

Perform the tasks listed in [Table 8](#) on an as-needed basis.

**Table 8** *As-Needed Configuration Tasks*

<b>Task</b>	<b>Documentation Reference</b>
Add, display, modify, and delete voice mailboxes.	<a href="#">“Creating and Modifying a Voice Mailbox” on page 117</a>
Unlock a voice mailbox.	<a href="#">“Unlocking a Voice Mailbox” on page 123</a>
Add, display, modify, and delete users.	<a href="#">“Adding and Modifying a User” on page 106</a>
Add, display, modify, and delete groups.	<a href="#">“Adding and Modifying a Group” on page 112</a>
Change a user’s voice-mail password.	<a href="#">“Adding and Modifying a User” on page 106</a>
Change the voice mailbox size or storage time.	<a href="#">“Configuring System-Wide Mailbox Default Values” on page 86</a>
Modify the auto-attendant application properties.	<a href="#">“Configuring and Managing the Auto-Attendant Application” on page 69</a>
Add, modify, and delete the auto-attendant prompts.	<a href="#">“Configuring Auto-Attendant Prompts” on page 74</a>
Add, modify, and delete the auto-attendant scripts.	<a href="#">“Configuring Auto-Attendant Scripts” on page 76</a>
Troubleshoot software problems.	<a href="#">“Troubleshooting Guidelines” on page 145</a>
Add, display, modify, and delete Cisco CallManager servers, web user, and JTAPI user.	<a href="#">“Configuring JTAPI Parameters” on page 64</a>
Add, display, modify, and delete CTI ports.	<a href="#">“Prerequisites for Implementing Cisco Unity Express on Cisco CallManager” on page 10</a>



# Installing and Upgrading Cisco Unity Express Software

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This chapter describes the procedures to upgrade the license size or software release for existing Cisco Unity Express systems and contains the following sections:

- [Software Upgrade Overview, page 43](#)
- [Upgrading to a New License, page 44](#)
- [Installing a New Software Image, page 47](#)
- [Upgrading the Previous Software Image, page 53](#)
- [Installing a Software Image Using Boot Helper, page 57](#)

## Software Upgrade Overview

Several processes are available for upgrading Cisco Unity Express software. Choosing a process depends on the type of upgrade required.

- **Upgrade installation**—Upgrade using the online installer with the **software install upgrade** command. This process is available for upgrading from the previous software release to the current one, such as upgrading from 2.1.3 to 2.2.

Using this process, the system remains operational while the new software files are downloaded in the background. Only an FTP server is required. See [“Upgrading the Previous Software Image” on page 53](#) for more details.

- **Clean installation**—Upgrade using the online installer with the **software install clean** command. This installation process is available for upgrading licenses and for upgrading software releases later than 2.0 to the current one.

Using this process, the system remains operational while the new software files are downloaded in the background. For a new license, you must back up and restore configuration files; for a new software image, you must back up and restore both configuration and data files. Only an FTP server is required. See [“Upgrading to a New License” on page 44](#) or [“Installing a New Software Image” on page 47](#) for more details.

- **Clean installation with the boot helper**—Upgrade using the boot helper with the **software install clean** command. This clean installation process is available for upgrading licenses, upgrading software releases prior to 2.0.1 to the current release, and when the other upgrade processes are unsuccessful.

Using this process, the system must be offline while the new software files are downloaded. This installation erases and repartitions the disk before loading the new files on the disk. You must back up and restore your configuration and data files. Both an FTP and a TFTP server are required. See [“Installing a Software Image Using Boot Helper” on page 57](#).

For a complete list of releases and the upgrade processes available for them, see the software upgrade process matrix in the [Release Notes for Cisco Unity Express Release 2.2](#).

## Upgrading to a New License

Use this procedure to increase the number of supported mailboxes.



### Note

If your system is already configured, you cannot change the license type from Cisco CallManager to Cisco CallManager Express. To make that change, you must reinstall and reconfigure the system. The data cannot be restored.

However, you can change the license type prior to running the Initialization Wizard.



### Note

If you are changing to a smaller mailbox license, verify that the system meets the new license limit before downloading the new license. For example, if you are downgrading from a 50 mailbox license to a 12 mailbox license, ensure that your system does not have more than 12 configured mailboxes. If you have more than 12 mailboxes, delete the extra mailboxes before downgrading the license.

This procedure uses a *clean* installation, which uses the software installer in the application. The clean installation permits the system to remain operational while the new software files are downloaded in the background. You must back up and restore your configuration files. Only an FTP server is required.

## Sequence of Tasks

Upgrading to a new license requires the following sequence of activities:

1. Order the license SKU from the Configurator. Choose a package from the following list:
  - 12-mailbox package: SCUE-LIC-12CCM=
  - 25-mailbox package: SCUE-LIC-25CCM=
  - 50-mailbox package: SCUE-LIC-50CCM=
  - 100-mailbox package: SCUE-LIC-100CCM=
2. Download the license files from Cisco.com. See [“Downloading the License Files” on page 45](#).
3. Save the current configuration.
4. Install the new license file. See [“Installing a New Software License File” on page 45](#).
5. Run the Initialization Wizard.
6. Reboot the system.

## Downloading the License Files

After ordering the appropriate license SKU, download the corresponding license file and installer file.

### Prerequisites

- Have available the IP address or name of the FTP server that will store the Cisco Unity Express applications. Verify that the FTP server is accessible.

### SUMMARY STEPS

1. Go to the Cisco Unity Express page on the Cisco Software Center website.
2. Download the appropriate license file from the following list.
3. Copy the file to the FTP server.

### DETAILED STEPS

- 
- Step 1** Go to the Cisco Unity Express page on the Cisco Software Center website at: <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
- Step 2** Download the appropriate license file from the following list:
- cue-vm-license\_12mbx\_ccm\_2.2.x.pkg
  - cue-vm-license\_25mbx\_ccm\_2.2.x.pkg
  - cue-vm-license\_50mbx\_ccm\_2.2.x.pkg
  - cue-vm-license\_100mbx\_ccm\_2.2.x.pkg
- Step 3** Copy the file to the FTP server.
- 

### What to Do Next

Save the current configuration. After that is complete, install the new license file.

## Installing a New Software License File

This section describes the procedure for installing a new software license using the online installer.



**Note** Installing a Release 1.X license file on a Release 2.X system is not supported.



**Note** You can also install a new language using the boot helper, but you have to do a complete installation. See the “[Installing a Software Image Using Boot Helper](#)” section on page 57.

## Prerequisites

The following information is required to install the software license file using the online installer:

- FTP server user ID
- FTP server password
- License package name (See “[Software Licenses and Factory-Set Limits](#)” on page 4 for the list of license packages.)

## SUMMARY STEPS

1. Save your current configuration.
2. Enter the **software install** command to install the new license software.
3. Enter **y** to continue the installation.
4. Reload the module for the license to take affect.

## DETAILED STEPS

---

**Step 1** Save the running configuration to the startup configuration using the **write** command:

```
se-172-16-0-0# write
```

**Step 2** Enter the **software install** command to install the new software:

```
se-172-16-0-0# software install clean url
ftp://ftp-server-ip-address/path/cue-vm-license_25mbx_ccm_2.2.1.pkg url username username
password password
```

or, to install the software when the FTP server has been configured:

```
se-172-16-0-0# software install clean cue-vm-license_25mbx_ccm_2.2.1.pkg
```




---

**Note** To set the FTP server, see the **software download server** command in the [Cisco Unity Express Command Reference](#).

---

**Step 3** Enter **y** to continue the installation:

```
WARNING:: This command will install the necessary software to
WARNING:: complete a clean install. It is recommended that a backup be done
WARNING:: before installing software.
```

```
Would you like to continue? [n] y
```

**Step 4** Reload the module for the license to take affect. You may continue with another install or upgrade before you reload the module.

```
se-172-16-0-0# reload
```

---

## What to Do Next

- Enter the **show software license** command to verify the software license type.





**Note** If you have not yet reloaded the system with the new license, the old license information appears.

```
se-172-16-0-0# show software license

Core:
- Application mode: CCM
- Total usable system ports: 8

Voicemail/Auto Attendant:
- Max system mailbox capacity time: 6000
- Default # of general delivery mailboxes: 20
- Default # of personal mailboxes: 100

- Max # of configurable mailboxes: 120

Languages:
- Max installed languages: unlimited
- Max enabled languages: 2
se-172-16-0-0#
```

## Installing a New Software Image

This section describes the procedures for installing a new release of Cisco Unity Express software using the software installer in the application. Use this section if you are upgrading from a software version between 2.0.1 and 2.1.2.



**Note** This procedure is available to systems with a network module (NM) or 1 GB AIM. If your system has a 512 MB AIM, use the section [“Installing a Software Image Using Boot Helper” on page 57](#).

This installation, referred to as a *clean* installation, erases and repartitions the disk before loading the new files on the disk. You need to restore your configuration and data with a clean installation. Only an FTP server is required.



**Note** If you are going back to Cisco Unity Express release 2.0.1 or earlier, you must reinstall the license file for that release after completing the clean installation.

The software files are downloaded in the background while Cisco Unity Express continues to operate. Anytime after the download is finished, you can perform the upgrade.

This section includes the following subsections:

- [Prerequisites, page 48](#)
- [Sequence of Tasks, page 48](#)
- [Downloading and Installing a New Software Image, page 48](#)
- [What to Do Next, page 52](#)

## Prerequisites

- Cisco Unity Express 2.0.1 or a later release is currently installed. If your system has an earlier release installed, follow the procedure in [“Installing a Software Image Using Boot Helper” on page 57](#).
- Ensure that the FTP server is configured and active.
- The following information is required:
  - FTP server IP address
  - FTP server user ID
  - FTP server password
  - Software package name
  - If you are installing a language, see the [Release Notes for Cisco Unity Express, Release 2.2](#) for a list of available languages.
- Ensure that you can ping the Cisco Unity Express network module from the FTP server.
- If Cisco Unity Express is configured to use DNS, hostnames can be used to identify the FTP server. If Cisco Unity Express is not configured to use a DNS, use the IP address of the FTP server.

## Sequence of Tasks

Installing a new software image entails the following sequence of tasks:

1. Backing up your data and configuration files. See [“Backing Up Files” on page 135](#).
2. Downloading and installing the software image files. See [Downloading and Installing a New Software Image, page 48](#).
3. Restoring the data and configuration files. See [“Restoring Files” on page 138](#).

---

**Note** If you are going back to Cisco Unity Express release 2.0.1 or earlier, you must reinstall the license file for that release. See [“Upgrading to a New License” on page 44](#).

---

4. Rebooting the system.

## Downloading and Installing a New Software Image

Use this procedure to install a new software Cisco Unity Express software image.

---

**Note**

If you have not already done so, back up your data and configuration files before starting the installation. See [“Backing Up Files” on page 135](#).

---

### SUMMARY STEPS

1. Go to the Cisco Unity Express page on the Cisco Software Center website at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
2. Download the Cisco Unity Express software files.

3. Copy the software files to the FTP server.
4. (Optional) Enter the **software download clean** command to download the new software from the FTP server.



**Note** Although the software download command is optional, it is useful for staging the installation. The command stores the software files on the hard disk, which can save time during any subsequent installation or upgrade.

5. (Required for Step 4.) Enter **y** to continue the installation.
6. Select the language version from the language selection menu.
7. Enter **x** when finished with the language selection menu.
8. (Optional) Enter the **software download status** command to check the download status.
9. Enter the **software install clean** command to install the new software.  
The system automatically reloads after the installation is complete.
10. Enter **y** to begin the initial configuration.
11. Enter **y** to restore the configuration saved in flash memory or **n** to use your backup to restore your configuration.
12. Enter the Cisco Unity Express administrator ID. This is the username to log in to the Cisco Unity Express GUI.

## DETAILED STEPS

- 
- Step 1** Go to the Cisco Unity Express page on the Cisco Software Center website at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
- Step 2** Download the Cisco Unity Express software files.
- cue-vm.2.2.x.pkg (main package files)
  - cue-vm-full.2.2.x.prt1 (voice-mail application)
  - cue-vm-lang-pack.2.2.x.pkg (language package file)
  - cue-vm-*language*-pack.2.2.x.prt1 (language prompts)
- where *language* is one of several available languages. See the [Release Notes for Cisco Unity Express Release 2.2](#) for a list of supported languages.
- Step 3** Copy the software files to the FTP server.
- Step 4** (Optional) Enter the **software download clean** command to download the new software from the FTP server:
- ```
se-172-16-0-0# software download clean url ftp://ftp-server-ip-address/cue-vm.2.2.1.pkg
username username password password
```
- or, if the FTP server has been configured:
- ```
se-172-16-0-0# software download clean pkg cue-package.pkg
```



**Note** If the FTP server has been set in configuration mode, you do not need to use the FTP parameters. To set the FTP server, see the **software download server** command in the *Cisco Unity Express Command Reference*

**Step 5** (Required for Step 4.) Enter **y** to continue the download:

```
WARNING:: This command will download the necessary software to
WARNING:: complete a clean install. It is recommended that a backup be done
WARNING:: before installing software.
```

```
Would you like to continue? [n] y
```

**Step 6** Select the language version from the language selection menu:

Language Selection Menu:

Num.	Selected	Installed	Language Name
1			PTB CUE Voicemail Brazilian Portuguese (2.1.3)
2			ENG CUE Voicemail British English (2.1.3)
3			DAN CUE Voicemail Danish (2.1.3)
4			FRA CUE Voicemail European French (2.1.3)
5			ESP CUE Voicemail European Spanish (2.1.3)
6			DEU CUE Voicemail German (2.1.3)
7			ITA CUE Voicemail Italian (2.1.3)
8			ESO CUE Voicemail Latin American Spanish (2.1.3)
9			ENG CUE Voicemail US English (2.1.3)

Available commands are:

```
# - enter the number for the language to select one
r # - remove the language for given #s
i # - more information about the language for given #
x - Done with language selection
```

```
>9
```

**Step 7** Your choice will appear as a “\*” in the language selection menu. Use the menu to add, remove, or get information about languages. Enter **x** when finished.

Language Selection Menu:

Num.	Selected	Installed	Language Name
1			PTB CUE Voicemail Brazilian Portuguese (2.1.3)
2			ENG CUE Voicemail British English (2.1.3)
3			DAN CUE Voicemail Danish (2.1.3)
4			FRA CUE Voicemail European French (2.1.3)
5			ESP CUE Voicemail European Spanish (2.1.3)
6			DEU CUE Voicemail German (2.1.3)
7			ITA CUE Voicemail Italian (2.1.3)
8			ESO CUE Voicemail Latin American Spanish (2.1.3)
9	*		ENG CUE Voicemail US English (2.1.3)

Available commands are:

```
# - enter the number for the language to select one
r # - remove the language for given #
i # - more information about the language for given #
x - Done with language selection
```

```
>x
```

At this point the new software will load from the FTP server and the system will restart.



**Note** When you download the software, there are no other prompts for user input. The software package is downloaded from the FTP server to the Cisco Unity Express network module.

**Step 8** (Optional) Enter the **software download status** command to check the download status:

```
se-172-16-0-0# software download status
Download request in progress.
downloading file : cue-vm.2.2.prt1
bytes downloaded : 18612224
se-172-16-0-0#
```

```
se-172-16-0-0# software download status
Download request completed successfully.
se-172-16-0-0#
```

**Step 9** Enter the **software install clean** command to install the new software:



**Caution** This step cleans the disk. All configuration and voice messages will be lost after this step. For future upgrades and installations, verify that a backup has been done. If it has not, abort at this step and do a backup first.

```
se-172-16-0-0# software install clean url ftp://ftp-server-ip-address/cue-vm.2.2.1.pkg
username username password password
```

or, to install the software when the FTP server has been configured:

```
se-172-16-0-0# software install clean cue-package.pkg
```



**Note** To set the FTP server, see the **software download server** command in the [Cisco Unity Express Command Reference](#)

**Step 10** Enter **y** to begin the initial configuration:

```
IMPORTANT::
IMPORTANT:: Welcome to Cisco Systems Service Engine
IMPORTANT:: post installation configuration tool.
IMPORTANT::
IMPORTANT:: This is a one time process which will guide
IMPORTANT:: you through initial setup of your Service Engine.
IMPORTANT:: Once run, this process will have configured
IMPORTANT:: the system for your location.
IMPORTANT::
IMPORTANT:: If you do not wish to continue, the system will be halted
IMPORTANT:: so it can be safely removed from the router.
IMPORTANT::
```

```
Do you wish to start configuration now (y,n)? y
```

**Step 11** Enter the appropriate response **y** or **n**. See the output below to determine your configuration needs.



**Note** If this is a new install or the Flash has been erased, this output will not be displayed.

```
IMPORTANT::
IMPORTANT:: A Cisco Unity Express configuration has been found in flash.
IMPORTANT:: You can choose to restore this configuration into the
IMPORTANT:: current image.
```

```

IMPORTANT::
IMPORTANT:: A stored configuration contains some of the data from a
IMPORTANT:: previous installation, but not as much as a backup. For
IMPORTANT:: example: voice messages, user passwords, user PINs, and
IMPORTANT:: auto attendant scripts are included in a backup, but are
IMPORTANT:: not saved with the configuration.
IMPORTANT::
IMPORTANT:: If you are recovering from a disaster and do not have a
IMPORTANT:: backup, you can restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you are going to restore a backup from a previous
IMPORTANT:: installation, you should not restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you choose not to restore the saved configuration, it
IMPORTANT:: will be erased from flash.
IMPORTANT::

Would you like to restore the saved configuration? (y,n)

```

**Step 12** Enter the Cisco Unity Express administrator ID. This is the username to log in to the Cisco Unity Express GUI.

```

IMPORTANT::
IMPORTANT:: Administrator Account Creation
IMPORTANT::
IMPORTANT:: Create an administrator account. With this account,
IMPORTANT:: you can log in to the Cisco Unity Express GUI and
IMPORTANT:: run the initialization wizard.
IMPORTANT::

Enter administrator user ID:
  (user ID): Admin
Enter password for admin:
  (password): *****
Confirm password for admin by reentering it:
  (password): *****

SYSTEM ONLINE
se-172-16-0-0>

```

## What to Do Next

1. Restore the data and configuration files. See [“Restoring Files” on page 138](#).



**Note** If you do not have any backup files for your system and cannot do a restore of the data, run the Initialization Wizard as described in the [Cisco Unity Express 2.1/2.2 GUI Administrator Guide for Cisco CallManager](#).

2. If you installed a Cisco Unity Express release 2.0.1 or earlier, reinstall the license file for that release. See [“Upgrading to a New License” on page 44](#).
3. Reboot the system.
4. Enter the Cisco Unity Express command environment. See [“Entering the Command Environment” on page 31](#).

# Upgrading the Previous Software Image

This section describes the procedures for upgrading the previous release of Cisco Unity Express software to the newest release using the software installer in the application.

An *upgrade* installation replaces only those files on the disk necessary to create the new software image. Your existing configuration and voicemail will not be erased.



---

**Note** When upgrading the Cisco Unity Express software, you are not prompted for a language. The language will stay as configured.

---

With this procedure, you download the software files in the background while Cisco Unity Express continues to operate. Anytime after the download is finished, you can perform the upgrade. Only an FTP server is required.

This section includes the following subsections:

- [Prerequisites, page 53](#)
- [Sequence of Tasks, page 53](#)
- [Downloading and Installing an Upgrade Image, page 54](#)
- [What to Do Next, page 56](#)

## Prerequisites

- Cisco Unity Express 2.0.1 is currently installed.
- Ensure that the FTP server is configured and active.
- The following information is required:
  - FTP server IP address
  - FTP server user ID
  - FTP server password
  - Software package name
- Ensure that you can ping the Cisco Unity Express network module from the FTP server.
- If Cisco Unity Express is configured to use DNS, hostnames can be used to identify the FTP server. If Cisco Unity Express is not configured to use a DNS, use the IP address of the FTP server.

## Sequence of Tasks

Upgrading to a new software image entails the following sequence of tasks:

1. (Recommended) Backing up your data and configuration files. See [“Backing Up Files” on page 135](#).
2. Downloading and installing the software image files. See [“Downloading and Installing an Upgrade Image” on page 54](#)
3. (Optional) Restoring the data and configuration files. See [“Restoring Files” on page 138](#).
4. Rebooting the system.

## Downloading and Installing an Upgrade Image

Use this procedure to upgrade an existing Cisco Unity Express release.

### Note

If you have not already done so, back up your data and configuration files before starting the upgrade. See “Backing Up Files” on page 135.

### SUMMARY STEPS

1. Go to the Cisco Unity Express page on the Cisco Software Center website at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
2. Download the Cisco Unity Express software files.
3. Copy the other software files to the FTP server.
4. (Optional) Enter the **software download upgrade** command to download the new software.

### Note

Although the **software download** command is optional, it is useful for staging the installation. The command stores the software files on the hard disk, which can save time during any subsequent installation or upgrade.

5. (Required for Step 4.) Enter **y** to continue the download.
6. (Optional) Enter the **software download status** command to verify the download.
7. Enter the **software install upgrade** command to install the new software.
8. Enter **y** to install the upgrade or **n** to stop the installation procedure.  
The system automatically reloads after the upgrade is complete.
9. Enter the **show software versions** command to verify the upgrade.

### DETAILED STEPS

**Step 1** Go to the Cisco Unity Express page on the Cisco Software Center website at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

**Step 2** Download the Cisco Unity Express software files.

- cue-vm.2.2.x.pkg (main package files)
- cue-vm-full.2.2.x.pt1 (voice-mail application)
- cue-vm-lang-pack.2.2.x.pkg (language package file)
- cue-vm-language-pack.2.2.x.pt1 (language prompts)

where *language* is one of several available languages. See the [Release Notes for Cisco Unity Express Release 2.2](#) for a list of supported languages.

- cue-vm-upgrade.2.1.3\_2.2.1.pt1

### Note

If you are upgrading from Cisco Unity Express 2.1.2 to Cisco Unity Express 2.1.3, download the additional file cue-vm-language-upg-lang-pack.2.1.x.pt1, where *language* is one of the supported languages.



**Step 3** Copy the software files to the FTP server.

**Step 4** (Optional) Enter the **software download upgrade** command to download the software from the FTP server:

```
se-172-16-0-0# software download upgrade url ftp://ftp-server-ip-address/cue-package.pkg
```



**Note** This example uses the default anonymous FTP user.

or, if the FTP server has been configured:

```
se-172-16-0-0# software download upgrade pkg cue-package.pkg
```



**Note** If the FTP server has been set in configuration mode, you do not need to use the FTP parameters.

**Step 5** (Required for Step 4.) Enter **y** to begin the download:

```
WARNING:: This command will download the necessary software to
WARNING:: complete an upgrade. It is recommended that a backup be done
WARNING:: before installing software.
```

```
Would you like to continue? [n] y
Downloading cue-vm.2.2.pkg
Bytes downloaded : 63648
```

```
Validating package signature ... done
Validating installed manifests .....complete.
```



**Note** When you download the software, there are no other prompts for user input. The software package is downloaded from the FTP server to the Cisco Unity Express network module.

At this point the new software will load from the FTP server and the system will restart.

**Step 6** (Optional) Enter the **software download status** command to check the download status:

```
se-172-16-0-0# software download status
Download request in progress.
downloading file : cue-vm.2.2 prt1
bytes downloaded : 18612224
se-172-16-0-0#
```

```
se-172-16-0-0# software download status
Download request completed successfully.
se-172-16-0-0#
```

**Step 7** Enter the **software install upgrade** command to install the new software:

```
se-172-16-0-0# software install upgrade url ftp://ftp-server-ip-address/cue-package.pkg
```



**Note** This example uses the default anonymous FTP user.

```
se-172-16-0-0# software install upgrade pkg cue-package.pkg
```



**Note** In this example, the files were previously downloaded using the **software download** command or the FTP server has been configured.

**Step 8** Enter **y** to begin the upgrade:

```
WARNING:: This command will install the necessary software to
WARNING:: complete an upgrade. It is recommended that a backup be done
WARNING:: before installing software.
```

```
Would you like to continue? [n] y
```



**Caution** An upgrade does not replace everything on the disk, just the files necessary to make the upgrade. It is recommended that you do a backup before any software installation.



**Note** When upgrading the Cisco Unity Express software, you are not prompted for a language. The language will stay as configured.

The system reloads after the upgrade is complete.

**Step 9** Use the **show software versions** command to verify an upgrade. The following shows the versions after an upgrade.

```
se-172-16-0-0# show software versions
```

```
Installed Packages:
- Bootloader (Primary)  2.1.2
- Global  2.2.0
- GPL Infrastructure  2.1.2
- Voice Mail  2.1.2
- Bootloader (Secondary)  2.1.2
- Installer  2.1.1
- Core  2.1.2
- Auto Attendant  2.1.2
```

```
Installed Languages:
- US English  2.1.0
se-172-16-0-0#
```

## What to Do Next

Reboot the system.

# Installing a Software Image Using Boot Helper

This section describes the procedures for installing a new release of Cisco Unity Express software using the boot helper.

**Note**

The boot helper is intended for emergency use or "first time" installations, such as going from 1.1(2) to 2.1. The helper supports only installations of licenses and full images. The helper mode does not support upgrades or language-only installations.

Using this *clean* installation process, the system must be offline while you download the new software files. The clean installation erases and repartitions the disk before loading the new files on the disk. You must back up and restore your configuration and data files. Both FTP and TFTP servers are required.

## Prerequisites

- Ensure that the TFTP and FTP servers are configured and active. If the TFTP and FTP servers reside on the same computer, ensure that the TFTP and FTP programs are activated.
- Ensure that you can ping the Cisco Unity Express module from the TFTP and FTP servers.
- If you are installing a language, see the [Release Notes for Cisco Unity Express, Release 2.2](#) for a list of available languages.

## Sequence of Tasks

Installing a new software image entails the following sequence of tasks:

1. Downloading the software image files. See [“Downloading the Software Files” on page 57](#).
2. Backing up your data and configuration files. See [“Backing Up Files” on page 135](#).
3. Entering configuration parameter values. See [“Entering Configuration Parameter Values” on page 58](#).
4. Installing the software files. See [“Installing the Software Image Files” on page 59](#).
5. Restoring the data and configuration files. See [“Restoring Files” on page 138](#).
6. Rebooting the system.

## Downloading the Software Files

Downloading the Cisco Unity Express software files is the first software installation task. Review the prerequisites listed above to ensure that all servers and modules are active and available.

### SUMMARY STEPS

1. Go to the Cisco Unity Express page on the Cisco Software Center website.
2. Download the Cisco Unity Express software files.
3. Copy the cue-installer.2.2.x file to the TFTP server.
4. Copy the other software files to the FTP server.

## DETAILED STEPS

- 
- Step 1** Go to the Cisco Unity Express page on the Cisco Software Center website at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
- Step 2** Download the Cisco Unity Express software files.
- cue-installer.2.2.x (Helper installer)
  - cue-vm-installer.2.2.x.prt1 (installer payload file)
  - cue-vm.2.2.x.pkg (main software package file)
  - cue-vm-full.2.2.x.prt1 (voice-mail application)
  - cue-vm-lang-pack.2.2.x.pkg (language package file)
  - cue-vm-*language*-pack.2.2.x.prt1 (language prompts)
- where *language* is one of several available languages. See the [Release Notes for Cisco Unity Express Release 2.2](#) for a list of supported languages.
- Step 3** Copy the cue-installer.2.2.x file to the TFTP server.
- Step 4** Copy the other software files to the FTP server.
- 

## What to Do Next

- Back up your data and configuration files. See “[Backing Up Files](#)” on page 135.
- After backing up the files, configure several parameter values. See “[Entering Configuration Parameter Values](#)” on page 58.

## Entering Configuration Parameter Values

You must configure several parameters in the Cisco Unity Express server to be able to download the Cisco Unity Express software files.

### SUMMARY STEPS

1. **reload**
2. Type “\*\*\*” to go into the boot loader mode.
3. **config**
4. Enter the values for the following parameters:
  - Network module’s IP address
  - Subnet mask
  - TFTP server address
  - Gateway router address
  - Ethernet interface is internal
  - Default helper image is cue-installer.2.2.x
  - Default boot setting

- Default bootloader
5. Boot the NM with the boot helper.

## DETAILED STEPS

- 
- Step 1** Type **reload** to restart the system.
  - Step 2** Type “\*\*\*” to go into the boot loader mode.
  - Step 3** Type **config** to go into configuration mode.
  - Step 4** Enter the values for the following parameters:
    - Network module’s IP address
    - Subnet mask
    - TFTP server address
    - Gateway router address
    - Ethernet interface: **internal**
    - Default helper image: **cue-installer.2.2.1**
    - Default boot: **disk**
    - Default bootloader: press **Enter**



---

**Note** Cisco recommends that you use the primary bootloader as the default when upgrading.

---

- Step 5** Type **boot helper** to begin the installation. This will load the installer
- 

## What to Do Next

Install the software files. See [“Installing the Software Image Files” on page 59](#).

## Installing the Software Image Files

After downloading the software files and backing up your data, you are ready to install the software image files.

## Prerequisites

Installing the software image files requires the following information:

- TFTP server IP address
- FTP server IP address
- FTP server user ID
- FTP server password
- Software package name

**Note**


---

Back up current system configurations and data before installing new software.

---

**SUMMARY STEPS**

Starting from NM EXEC mode:

1. Select the first choice, Install Software, from the install menu.
2. Enter the package name, FTP server address, username, and password.
3. Select the language version from the language selection menu.
4. Enter x when finished with the language selection menu.
5. Enter y to begin the initial configuration in the post installation configuration menu.
6. Enter y to restore the configuration saved in flash memory or n to use your backup to restore your configuration.
7. Enter the Cisco Unity Express administrator ID. This is the username to log in to the Cisco Unity Express GUI.

**DETAILED STEPS**


---

**Step 1** Select the first choice, Install Software, from the install menu:

```
Welcome to Cisco Systems Service Engine Helper Software
Please select from the following
1      Install software
2      Reload module
(Type '?' at any time for help)
Choice: 1
```

**Step 2** Enter the package name, FTP server address, username, and password:

```
Package name: cue-vm.2.2.1.pkg
Server url: ftp://10.33.162.120/
Username: cue
Password: *****
Software installation will clear disk contents
Continue [y/n]? y
```

---

**Caution** This step cleans the disk. All configuration and voice messages will be lost after this step. For future upgrades and installations, verify that a backup has been done. If it has not, abort at this step and do a backup first.

---

**Step 3** Select the language version from the language selection menu:

```
Language Selection Menu:

Num.      Selected  Installed  Language Name
-----
1          1          PTB CUE Voicemail Brazilian Portuguese (2.1.3)
2          1          ENG CUE Voicemail British English (2.1.3)
3          1          DAN CUE Voicemail Danish (2.1.3)
4          1          FRA CUE Voicemail European French (2.1.3)
5          1          ESP CUE Voicemail European Spanish (2.1.3)
6          1          DEU CUE Voicemail German (2.1.3)
7          1          ITA CUE Voicemail Italian (2.1.3)
```

```

8          ESO CUE Voicemail Latin American Spanish (2.1.3)
9          ENG CUE Voicemail US English (2.1.3)

```

Available commands are:

```

# - enter the number for the language to select one
r # - remove the language for given #
i # - more information about the language for given #
x - Done with language selection

```

>9

**Step 4** Your choice will appear as a "\*" in the language selection menu. Use the menu to add, remove, or get information about languages. Enter **x** when finished.

Language Selection Menu:

```

Num.      Selected  Installed  Language Name
-----
1          1          PTB CUE Voicemail Brazilian Portuguese (2.1.3)
2          1          ENG CUE Voicemail British English (2.1.3)
3          1          DAN CUE Voicemail Danish (2.1.3)
4          1          FRA CUE Voicemail European French (2.1.3)
5          1          ESP CUE Voicemail European Spanish (2.1.3)
6          1          DEU CUE Voicemail German (2.1.3)
7          1          ITA CUE Voicemail Italian (2.1.3)
8          1          ESO CUE Voicemail Latin American Spanish (2.1.3)
9          *          ENG CUE Voicemail US English (2.1.3)

```

Available commands are:

```

# - enter the number for the language to select one
r # - remove the language for given #
i # - more information about the language for given #
x - Done with language selection

```

>x

The system installs the software. After the installation is complete, the system reloads.

**Step 5** Enter **y** to begin the initial configuration:

```

IMPORTANT::
IMPORTANT::   Welcome to Cisco Systems Service Engine
IMPORTANT::   post installation configuration tool.
IMPORTANT::
IMPORTANT:: This is a one time process which will guide
IMPORTANT:: you through initial setup of your Service Engine.
IMPORTANT:: Once run, this process will have configured
IMPORTANT:: the system for your location.
IMPORTANT::
IMPORTANT:: If you do not wish to continue, the system will be halted
IMPORTANT:: so it can be safely removed from the router.
IMPORTANT::

```

Do you wish to start configuration now (y,n)? **y**

**Step 6** Enter the appropriate response **y** or **n**. See the output below to determine your configuration needs.

```

IMPORTANT::
IMPORTANT:: A Cisco Unity Express configuration has been found in flash.
IMPORTANT:: You can choose to restore this configuration into the
IMPORTANT:: current image.
IMPORTANT::
IMPORTANT:: A stored configuration contains some of the data from a
IMPORTANT:: previous installation, but not as much as a backup. For

```

```

IMPORTANT:: example: voice messages, user passwords, user PINs, and
IMPORTANT:: auto attendant scripts are included in a backup, but are
IMPORTANT:: not saved with the configuration.
IMPORTANT::
IMPORTANT:: If you are recovering from a disaster and do not have a
IMPORTANT:: backup, you can restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you are going to restore a backup from a previous
IMPORTANT:: installation, you should not restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you choose not to restore the saved configuration, it
IMPORTANT:: will be erased from flash.
IMPORTANT::

```

```

Would you like to restore the saved configuration? (y,n)

```

**Step 7** Enter the Cisco Unity Express administrator ID. This is the username to log in to the Cisco Unity Express GUI.

```

IMPORTANT:: Administrator Account Creation
IMPORTANT::
IMPORTANT:: Create an administrator account. With this account,
IMPORTANT:: you can log in to the Cisco Unity Express GUI and
IMPORTANT:: run the initialization wizard.
IMPORTANT::

```

```

Enter administrator user ID:
  (user ID): Admin
Enter password for admin:
  (password): *****
Confirm password for admin by reentering it:
  (password): *****

```

```

se-172-16-0-0#

```

---

## What to Do Next

1. Restore the data and configuration files. See [“Restoring Files” on page 138](#).
2. Reboot the system.





## Configuring System Components

---

Command-line interface (CLI) commands are available to configure Cisco Unity Express system components. Some commands are entered in EXEC mode and others in configuration mode.

This chapter describes how to configure the following basic Cisco Unity Express components:

- JTAPI parameters that Cisco Unity Express needs to communicate with Cisco CallManager.
- voice-mail, auto-attendant, and prompt management system applications that ship with Cisco Unity Express.

Additional procedures for configuring optional or advanced system components, such as servers and custom auto-attendant scripts, are described in the section [“Advanced Configuration” on page 151](#).

All the procedures in this chapter can be implemented using either CLI commands or the graphical user interface (GUI) options. Use the CLI procedures for bulk provisioning, scripting, upgrading, and troubleshooting systems.

This chapter contains the following procedures for configuring Cisco Unity Express system components:

- [Configuring JTAPI Parameters, page 64](#)
- [Configuring the Voice-Mail Application, page 66](#)
- [Configuring the Administration via Telephone Application, page 69](#)
- [Configuring and Managing the Auto-Attendant Application, page 69](#)
- [Configuring Auto-Attendant Scripts, page 76](#)
- [Configuring JTAPI Triggers for the Applications, page 78](#)
- [Deleting a JTAPI Application Trigger, page 81](#)
- [Deleting an Application, page 83](#)
- [Configuring System-Wide Mailbox Default Values, page 86](#)
- [Checking AIM Flash Memory Wear Activity, page 88](#)
- [Configuring the System Language, page 89](#)
- [Configuring Password and PIN Parameters, page 89](#)
- [Configuring Business Hours, page 93](#)
- [Configuring a Holiday List, page 99](#)

# Configuring JTAPI Parameters

Use this procedure to configure the parameters that Cisco Unity Express needs to communicate with Cisco CallManager.

## Prerequisites

The following information is required to configure the JTAPI parameters:

- IP address or hostname for the primary, secondary, and tertiary Cisco CallManager servers
- JTAPI user ID and password from Cisco CallManager. The password is case sensitive. These values must match the JTAPI user ID and password that were configured on Cisco CallManager.
- List of CTI ports

## SUMMARY STEPS

1. **config t**
2. **ccn subsystem jtapi**
3. **ccm-manager address** {*primary-server-ip-address* | *primary-server-hostname*}  
{*secondary-server-ip-address* | *secondary-server-hostname*}  
{*tertiary-server-ip-address* | *tertiary-server-hostname*}
4. **ccm-manager username** *jtapi-user-id* **password** *jtapi-user-password*
5. **ctiport** *cti-port-number*
6. **end**
7. **exit**
8. **show ccn subsystem jtapi**
9. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>config t</pre> <p><b>Example:</b>  <pre>se-10-0-0-0# config t se-10-0-0-0(config)#</pre></p>	Enters configuration mode.
Step 2	<pre>ccn subsystem jtapi</pre> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# ccn subsystem jtapi se-10-0-0-0(config-jtapi)#</pre></p>	Enters JTAPI configuration mode.
Step 3	<pre>ccm-manager address {primary-server-ip-address   primary-server-hostname} {secondary-server-ip-address   secondary-server-hostname} {tertiary-server-ip-address   tertiary-server-hostname}</pre> <p><b>Example:</b>  <pre>se-10-0-0-0(config-jtapi)# ccm-manager address 10.100.10.120 se-10-0-0-0(config-jtapi)# ccm-manager address 10.100.10.120 10.120.10.120 10.130.10.120</pre></p>	Specifies up to three Cisco CallManager servers. The server IP addresses or hostnames can be entered on one command line or on separate command lines. If entered on separate lines, the servers are assigned in order as primary, secondary, and tertiary servers.
Step 4	<pre>ccm-manager username jtapi-user-id password jtapi-user-password</pre> <p><b>Example:</b>  <pre>se-10-0-0-0(config-jtapi)# ccm-manager username jtapiuser password myjtapi</pre></p>	Specifies the JTAPI user ID and password. The password is case sensitive. These values must match the JTAPI user ID and password that were configured on Cisco CallManager.
Step 5	<pre>ctiport cti-port1 cti-port2 cti-port3 cti-port4...</pre> <p><b>Example:</b>  <pre>se-10-0-0-0(config-jtapi)# ctiport 7008 se-10-0-0-0(config-jtapi)# ctiport 7009 se-10-0-0-0(config-jtapi)# ctiport 7010 se-10-0-0-0(config-jtapi)# ctiport 7011  se-10-0-0-0(config-jtapi)# ctiport 6001 6002 6003 6004 6005 6006 6007 6008</pre></p>	<p>Specifies the JTAPI CTI ports that are configured on Cisco CallManager and that are associated with the Cisco CallManager JTAPI user.</p> <p>Repeat the command to enter more than one port number or enter the ports on one line. For AIM, specify four ports. For NM, specify eight ports.</p>
Step 6	<pre>end</pre> <p><b>Example:</b>  <pre>se-10-0-0-0(config-jtapi)# end se-10-0-0-0(config)#</pre></p>	Exits JTAPI configuration mode.
Step 7	<pre>exit</pre> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# exit se-10-0-0-0#</pre></p>	Exits configuration mode.

	Command or Action	Purpose
Step 8	<code>show ccn subsystem jtapi</code>	Displays configured JTAPI parameters.
	<b>Example:</b> se-10-0-0-0# show ccn subsystem jtapi	
Step 9	<code>copy running-config startup-config</code>	Copies the configuration changes to the startup configuration.
	<b>Example:</b> se-10-0-0-0# copy running-config startup-config	<b>Note</b> Reload the system to activate the changes specified with these CLI commands.

## Examples

The following example illustrates the `show ccn subsystem jtapi` output:

```
se-10-0-0-0# show ccn subsystem jtapi

Cisco CallManager:                10.100.10.120
CCM Username:                    jtapiuser
CCM Password:                     *****
Call Control Group 1 CTI ports:   7008,7009,7010,7011

se-10-0-0-0#
```

## Configuring the Voice-Mail Application

After the Cisco Unity Express software is installed on the system, the voice-mail application that ships with Cisco Unity Express must be configured using the procedures described in this section. The application is enabled by default.

To configure the voice-mail access and operator telephone numbers, see [“Configuring JTAPI Triggers for the Applications” on page 78](#).

The commands are used in both EXEC and configuration modes.

## Sharing Ports Among Applications and Triggers

One of the parameters that you may configure for the voice-mail and auto-attendant applications is the maximum number of callers who can concurrently access the application at any given time. This parameter, **maxsessions**, is limited by the number of ports on the Cisco Unity Express module. (See [“Software Licenses and Factory-Set Limits” on page 15](#) for the number of ports on your module.) The ports are configured with the **ctiport** command (see [“Configuring JTAPI Parameters” section on page 64](#).)

Consider your expected call traffic when assigning the number of ports to an application. One application may need more available ports than another, but each application should have at least one port available for incoming calls.

Suppose, for example, that your module has four ports and you assign four to the voice-mail application **maxsessions** and four to the auto-attendant **maxsessions**. If four callers access voice mail simultaneously, no ports will be available for auto-attendant callers. Only when zero, one, two, or three callers access voice mail simultaneously will at least one port be available for auto attendant.

Suppose, instead, that you assign three to the voice-mail maxsessions and three to the auto-attendant maxsessions. At no time will one application use up all the ports. If voice mail has three active calls, one caller can access auto attendant. A second call to auto attendant will not go through at that moment.

Similarly, you must assign the maxsessions parameter to each application trigger, which is the telephone number that activates the application's script. The value of the trigger's maxsessions must not exceed the application's maxsessions value.

## Prerequisites

The following information is required to configure the default voice-mail application:

- Application name
- Maximum number of users who can access voice mail simultaneously

### SUMMARY STEPS

1. **config t**
2. **ccn application** *full-name*
3. **description** "*text*"
4. **maxsessions** *number*
5. **end**
6. **exit**
7. **show ccn scripts**
8. **show ccn application**
9. **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>ccn application</b> <i>full-name</i>  <b>Example:</b> se-10-0-0-0(config)# ccn application voicemail	Specifies the application to configure and enters application configuration mode. Use the full name of the application for the <i>full-name</i> argument.
Step 3	<b>description</b> " <i>text</i> "  <b>Example:</b> se-10-0-0-0(config-application)# description "Voice Mail"	(Optional) Enters a description of the application. Use double quotes around the text.

	Command or Action	Purpose
Step 4	<b>maxsessions</b> <i>number</i>  <b>Example:</b> se-10-0-0-0(config-application)# maxsessions 8	Specifies the number of users who can access this application simultaneously. See the “ <a href="#">Sharing Ports Among Applications and Triggers</a> ” section on page 66 for guidelines on assigning this value.
Step 5	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-application)# end se-10-0-0-0(config)#	Exits application configuration mode.
Step 6	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.
Step 7	<b>show ccn scripts</b>  <b>Example:</b> se-10-0-0-0# show ccn scripts	Displays the configured script names and their descriptions.
Step 8	<b>show ccn application</b>  <b>Example:</b> se-10-0-0-0# show ccn application	Displays details about each configured application.
Step 9	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The following example illustrates the **show ccn scripts** output:

```
se-10-0-0-0# show ccn scripts
```

```
Name: setmwi.aef
Create Date: Tue Apr 20 20:22:27 PDT 1993
Last Modified Date: Tue Apr 20 20:22:27 PDT 1993
Length in Bytes: 21990
```

```
Name: voicebrowser.aef
Create Date: Tue Apr 20 20:22:39 PDT 1993
Last Modified Date: Tue Apr 20 20:22:39 PDT 1993
Length in Bytes: 13409
```

```
Name: aa.aef
Create Date: Tue Apr 20 20:22:47 PDT 1993
Last Modified Date: Tue Apr 20 20:22:47 PDT 1993
Length in Bytes: 56227
```

The following example illustrates the **show ccn application** output:

```
se-10-0-0-0# show ccn application

Name:                voicemail
Description:         Voice Mail
Script:              voicebrowser.aef
ID number:           1
Enabled:             yes
Maximum number of sessions: 8
logoutUri:           http://localhost/voicemail/vxmlscripts/m bxLogout.jsp
uri:                 http://localhost/voicemail/vxmlscripts/login.vxml

se-10-0-0-0#
```

## Configuring the Administration via Telephone Application

The Administration via Telephone (AvT) application is a telephony-based interface that allows Cisco Unity Express administrators to record new audio prompts or delete existing custom audio prompts without using a PC or sound-editing software. These prompts can then be used in various Cisco Unity Express Automated Attendant (AA) scripts, such as the Welcome prompt in the default auto-attendant. The Emergency Alternate Greeting (EAG) is an option within the AvT that allows users to record, modify, and enable or disable a special prompt to be played prior to the regular prompt, notifying callers of some temporary event or message.

The Cisco Unity Express module installation automatically configures the AvT application. This application permits recording and administration of auto-attendant prompts using the telephone user interface (TUI).

Only users with administrative (superuser) privileges or prompt management (ManagePrompt) privileges have access to the AvT. (See [“Adding and Modifying a Group” on page 112](#) for information about assigning privileges.) When a caller dials the AvT number, the AvT authenticates the caller by requesting the caller’s extension and PIN. The AvT disconnects the caller if the caller does not have administrative authority.

To configure the AvT access telephone number, see [“Configuring JTAPI Triggers for the Applications” on page 78](#).

## Configuring and Managing the Auto-Attendant Application

After the Cisco Unity Express software is installed on the system, the auto-attendant application that ships with Cisco Unity Express must be configured using the procedures described in this section.

### Default Welcome Prompt

The only component of the default auto-attendant which resides in the user directory is an audio prompt file called **AAWelcome.wav**. This is the default welcome prompt. All other audio prompt files used by the auto-attendant reside in the system directory and cannot be downloaded, copied, or uploaded by users.

To customize the default welcome prompt, see [“Customizing the Default Auto-Attendant Welcome Prompt” on page 75](#).

## Default Auto-Attendant Script **aa.aef**

The default auto-attendant script provided with Cisco Unity Express is named **aa.aef**. This file resides in the system directory, and cannot be downloaded, copied, or uploaded by users. This default auto-attendant application is also known as the “system script”, or “system AA”. This default script supports basic functions such as dial-by-extension, dial-by-spelling username, and call operator functions. If additional functionality is required, then you must create a customized auto-attendant script.

Starting with Release 2.1, the **aa.aef** script supports holiday lists and business-hours schedules. When a call reaches the auto attendant, the system checks if the current day is a holiday. If it is, the system plays a holiday prompt called **AAHolidayPrompt.wav**, which states “We are closed today. Please call back later.” The script then executes the next operation in the script.

If the current day is not a holiday, the system checks if the business is open or not. If the business is open, the system plays the **AABusinessOpen.wav** prompt, which is an empty file. If the business is closed, the system plays the **AABusinessClosed.wav** prompt, which states “We are currently closed. Please call back later.”

Following are the parameters that may be configured for the **aa.aef** script:

- **welcomePrompt**—default: **AAWelcome.wav**
- **operExtn**—default: **none**
- **holidayPrompt**—default: **AAHolidayPrompt.wav**
- **businessOpenPrompt**—default: **AABusinessOpen.wav**
- **businessClosedPrompt**—default: **AABusinessClosed.wav**
- **businessSchedule**—default: **SystemSchedule**

To modify any of these prompts, see [“Configuring Auto-Attendant Prompts” on page 74](#).

To create customized script files, see [“Creating an Auto-Attendant Script File” on page 76](#).

To create a business-hours schedule, see [“Configuring Business Hours” on page 93](#).

To create a holiday list, see [“Configuring a Holiday List” on page 99](#).

## Simple Auto-Attendant Script **aa\_simple.aef**

Starting with Release 2.1, another simple script **aa\_simple.aef** is available for the auto-attendant application. This script is another system script that can be associated with an auto-attendant application and cannot be deleted or downloaded.

This script makes the same checks for an alternate greeting, holiday hours, and business schedule as does the **aa.aef** script.

After determining the initial greeting to play to the customer, the **aa\_simple.aef** script plays a prompt (**AASPlayExtensions.wav**) with the message “For operator, press 0.” This prompt is a configurable parameter. Use the GUI options or CLI commands to replace the prompt with your message file that has the names and extensions of the people who can be reached with the auto-attendant application. For example, the prompt may play “For Al, press 10. For Bob, press 20. For the operator, press 0.”

The caller can enter an extension without pressing the pound key (#). After the caller enters the extension, the script attempts to transfer to that extension. The script does not attempt to validate the extension before the transfer.



The script has another parameter (`extensionLength`) that specifies the length of the extension used by the Cisco Unity Express system. This parameter must be configured correctly for the script to be able to do a successful transfer.

Following are the parameters that may be configured for the `aa_simple.aef` script:

- `welcomePrompt`—default: `AAWelcome.wav`
- `holidayPrompt`—default: `AAHolidayPrompt.wav`
- `businessOpenPrompt`—default: `AABusinessOpen.wav`
- `businessClosedPrompt`—default: `AABusinessClosed.wav`
- `playExtensionsPrompt`—default: `AASPlayExtensions.wav`
- `extensionLength`—default: 1
- `businessSchedule`—default: `SystemSchedule`

To modify any of these prompts, see [“Configuring Auto-Attendant Prompts” on page 74](#).

To create customized script files, see [“Creating an Auto-Attendant Script File” on page 76](#).

To create a business-hours schedule, see [“Configuring Business Hours” on page 93](#).

To create a holiday list, see [“Configuring a Holiday List” on page 99](#).

## Other Auto-Attendant Parameters

To configure the auto-attendant access telephone number, see [“Configuring JTAPI Triggers for the Applications” on page 78](#).

The commands are used in both EXEC and configuration modes.

See [“Configuring Application Parameters” on page 154](#) for procedures to configure user-defined parameters.

## Prerequisites

The following information is required to configure auto attendant:

- To use your own welcome prompt, create a `.wav` file containing the prerecorded welcome prompt. This file must be uploaded to the Cisco Unity Express module so that it can be located and saved in the auto-attendant script. Alternatively, you can use the Administration via Telephone (AvT) to record the welcome prompt. See [“Recording an Auto-Attendant Greeting or Prompt File” on page 75](#) for guidelines on recording a prompt. See [“Uploading the Auto-Attendant Greeting or Prompt File” on page 75](#) for the procedure to upload the prompt to Cisco Unity Express.
- Application name.
- Number of times the auto attendant will replay instructions to a caller before the call is disconnected. This count begins when the caller moves past the main menu and starts to hear instructions for a submenu. The main menu will play five times and then, if the caller makes no choice or incorrect choices, will transfer to the operator.
- Extension number of the operator. Auto attendant dials this extension when the caller presses the zero (“0”) button.
- The customized WAV filename if you change the default auto attendant welcome prompt.

- Telephone number that the caller must dial to reach the auto attendant. In many cases, this number is your company telephone number.
- Maximum number of callers that can access auto attendant simultaneously. See the [“Sharing Ports Among Applications and Triggers”](#) section on page 66 for guidelines on assigning this value.

## SUMMARY STEPS

1. **config t**
2. **ccn application** *full-name*
3. **description** “*text*”
4. **maxsessions** *number*
5. **parameter** “*name*” “*value*”
6. **enabled**
7. **end**
8. **exit**
9. **show ccn scripts**
10. **show ccn application**
11. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>ccn application</b> <i>fullname</i>  <b>Example:</b> se-10-0-0-0(config)# ccn application AutoAttendant	Specifies the application to configure and enters application configuration mode. Use the full name of the application for the <i>full-name</i> argument.
Step 3	<b>description</b> “ <i>text</i> ”  <b>Example:</b> se-10-0-0-0(config-application)# description “Auto Attendant”	(Optional) Enters a description of the application. Use double quotes around the text.
Step 4	<b>maxsessions</b> <i>number</i>  <b>Example:</b> se-10-0-0-0(config-application)# maxsessions 8	Specifies the number of users who can access this application simultaneously. See the <a href="#">“Sharing Ports Among Applications and Triggers”</a> section on page 66 for guidelines on assigning this value.

	Command or Action	Purpose
Step 5	<p><b>parameter</b> <i>"name"</i> <i>"value"</i></p> <p><b>Example:</b>  se-10-0-0-0(config-application)# <b>parameter</b> <b>"operExtn"</b>  <b>"1000"</b>  se-10-0-0-0(config-application)# <b>parameter</b> <b>"MaxRetry"</b>  <b>"3"</b>  se-10-0-0-0(config-application)# <b>parameter</b>  <b>"WelcomePrompt"</b> <b>"ciscowelcome.wav"</b></p>	<p>Specifies parameters for the application. Each parameter must have a name and a value, which is written within double quotes. The parameters below are case-sensitive. For more information about configuring application parameters, see the <a href="#">"Configuring Application Parameters" section on page 154</a>.</p> <p>For the auto attendant application, the parameters are:</p> <ul style="list-style-type: none"> <li>• <b>"operExtn"</b>—Extension that the system dials when a caller presses "0" to reach the auto attendant operator. This is also the extension where the call will be transferred to if there is no user input (timeout).</li> <li>• <b>"MaxRetry"</b>—Maximum number of times a user can incorrectly choose a submenu option before the application disconnects the call. The default is 3.</li> <li>• <b>"WelcomePrompt"</b>—The WAV filename containing the customized AA welcome prompt that is uploaded to the Cisco Unity Express module. For more information, see <a href="#">"Customizing the Default Auto-Attendant Welcome Prompt" section on page 75</a>.</li> </ul> <p>Note that entering this parameter does not upload the WAV file to the Cisco Unity Express module. See the <a href="#">"Uploading the Auto-Attendant Greeting or Prompt File" section on page 75</a>.</p>
Step 6	<p><b>enabled</b></p> <p><b>Example:</b>  se-10-0-0-0(config-application)# <b>enabled</b></p>	<p>Allows the application to be accessible to the system.</p>
Step 7	<p><b>end</b></p>	<p>Exits application configuration mode.</p>
Step 8	<p><b>exit</b></p>	<p>Exits configuration mode.</p>
Step 9	<p><b>show ccn scripts</b></p> <p><b>Example:</b>  se-10-0-0-0# <b>show ccn scripts</b></p>	<p>Displays the configured script names and their descriptions.</p>
Step 10	<p><b>show ccn application</b></p> <p><b>Example:</b>  se-10-0-0-0# <b>show ccn application</b></p>	<p>Displays details about each configured application.</p>
Step 11	<p><b>copy running-config startup-config</b></p>	<p>Copies the configuration changes to the startup configuration.</p>

## Examples

The following example illustrates the **show ccn scripts** output:

```
se-10-0-0-0# show ccn scripts

Name:                setmwi.aef
Create Date:         Tue Apr 20 20:22:27 PDT 1993
Last Modified Date: Tue Apr 20 20:22:27 PDT 1993
Length in Bytes:    21990

Name:                voicebrowser.aef
Create Date:         Tue Apr 20 20:22:39 PDT 1993
Last Modified Date: Tue Apr 20 20:22:39 PDT 1993
Length in Bytes:    13409

Name:                aa.aef
Create Date:         Tue Apr 20 20:22:47 PDT 1993
Last Modified Date: Tue Apr 20 20:22:47 PDT 1993
Length in Bytes:    56227

Name:                promptmgmt.aef
Create Date:         Tue Apr 20 20:22:59 PDT 1993
Last Modified Date: Tue Apr 20 20:22:59 PDT 1993
Length in Bytes:    80781
se-10-0-0-0#
```

The following example illustrates the **show ccn application** output:

```
se-10-0-0-0# show ccn application

Name:                AutoAttendant
Description:         Auto Attendant
Script:              aa.aef
ID number:           2
Enabled:             yes
Maximum number of sessions: 8
MaxRetry:            3
operExtn:            1000
welcomePrompt:      AAWelcome.wav
se-10-0-0-0#
```

## Configuring Auto-Attendant Prompts

Cisco Unity Express supports customized greeting and prompt files. The NM supports up to 50 prompts; the AIM supports up to 25 prompts.

Customizing prompts requires the following procedures:

- [Recording an Auto-Attendant Greeting or Prompt File, page 75](#)
- [Customizing the Default Auto-Attendant Welcome Prompt, page 75](#)
- [Uploading the Auto-Attendant Greeting or Prompt File, page 75](#)
- (Optional) [Downloading an Auto-Attendant Greeting or Prompt File, page 76](#)
- (Optional) [Deleting an Auto-Attendant Greeting or Prompt File, page 76](#)

## 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 1 MB, which corresponds to a greeting length of approximately 120 seconds. After recording the greeting, use the GUI or Cisco Unity Express CLI **ccn copy** command to copy the file in to the Cisco Unity Express system. See the next section, “[Uploading the Auto-Attendant Greeting or Prompt File](#),” for the upload procedure.
- Use the AvT on the TUI to record the greeting or prompt. Dial the AvT telephone number and select the option to record a greeting. When finished recording, save the file. AvT automatically saves the file in Cisco Unity Express.

The AvT 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, then upload the file back to Cisco Unity Express.

Cisco recommends using the AvT on the TUI to record greetings and prompts because the AvT provides higher sound quality compared to .wav files recorded using other methods.

## Customizing the Default Auto-Attendant Welcome Prompt

The default AA greeting included with the system lasts two seconds and plays the prompt “Welcome to the AutoAttendant” You can record a custom welcome prompt specifically for your system to welcome callers. The default WAV filename is **AAwelcome.wav**. While the default welcome prompt in the WAV file lasts two seconds long, you can record a new welcome prompt up to 120 seconds long. The welcome prompt WAV file can be up to 1 MB in G.711 U-law format.

If you create a customized welcome prompt, use a different WAV filename and upload the new WAV file to the Cisco Unity Express module. Do not overwrite the default **AAwelcome.wav** filename. For information about uploading the welcome prompt WAV file, see the “[Uploading the Auto-Attendant Greeting or Prompt File](#)” section on page 75.



### Note

The WAV file for the welcome prompt is not interruptible, meaning that the longer the recorded welcome prompt is, the longer callers must wait before being able to enter digits to reach other extensions. Cisco recommends you record a short welcome prompt so that callers can access the voicemail system quickly.

Following this welcome prompt, the default script plays the menu announcement listing the menu options for callers. These are not customizable prompts within the default auto-attendant provided with the system. Note that if a caller uses the dial-by-extension option, the system will attempt to transfer to any extension, including extensions not defined using Cisco Unity Express. To prevent callers from transferring to extensions not defined using Cisco Unity Express, configure class of restrictions (COR) on the dial-peer, or develop a custom script to prevent the option.

## Uploading the Auto-Attendant Greeting or Prompt File

After recording the .wav greeting or prompt file, upload the file using the **ccn copy url** command in Cisco Unity Express EXEC mode:

```
ccn copy url source-ip-address prompt prompt-filename
```

**Example:**

```
se-10-0-0-0# ccn copy url ftp://10.100.10.123/AAprompt1.wav prompt AAPrompt1.wav
se-10-0-0-0# ccn copy url http://www.server.com/AAgreeting.wav prompt AAgreeting.wav
```

This command is equivalent to using the GUI option **Voice Mail > Prompts** and selecting **Upload**.

An error message appears if you try to upload more than the maximum number of prompts allowed on your Cisco Unity Express module.

## Downloading an Auto-Attendant Greeting or Prompt File

Greetings and prompts can be copied from the auto attendant and stored to another server or PC.

To copy a greeting or prompt file, use the **ccn copy prompt** command in Cisco Unity Express EXEC mode:

```
ccn copy prompt prompt-file-name url destination-ip-address
```

**Example:**

```
se-10-0-0-0# ccn copy prompt AAPrompt2.wav url ftp://10.100.10.123/AAprompt2.wav
```

## Deleting an Auto-Attendant Greeting or Prompt File

To delete an auto-attendant greeting or prompt file from Cisco Unity Express, use the **ccn delete** command in Cisco Unity Express EXEC mode:

```
ccn delete prompt prompt-filename
```

**Example:**

```
se-10-0-0-0# ccn delete prompt AAgreeting.wav
```

# Configuring Auto-Attendant Scripts

Cisco Unity Express supports customized script files. The NM supports up to eight scripts; the AIM supports up to four scripts.

Customizing scripts involves the following procedures:

- [Creating an Auto-Attendant Script File, page 76](#)
- [Uploading the Auto-Attendant Script File, page 77](#)
- (Optional) [Downloading an Auto-Attendant Script File, page 77](#)
- (Optional) [Deleting an Auto-Attendant Script File, page 77](#)

## Creating an Auto-Attendant Script File

The auto-attendant script file is created using the script editor program. Refer to the [Cisco Unity Express Script Editor Guide](#) for guidelines and procedures for creating a script file.

The file cannot be larger than 256 KB.

After creating the script, use the GUI or Cisco Unity Express **ccn copy** command to copy the file to the Cisco Unity Express system. See the next section, “[Uploading the Auto-Attendant Script File](#),” for the upload procedure.

## Uploading the Auto-Attendant Script File

After recording the .wav greeting or prompt file, upload the file using the **ccn copy url** command in Cisco Unity Express EXEC mode:

```
ccn copy url source-ip-address script script-filename
```

**Example:**

```
se-10-0-0-0# ccn copy url ftp://10.100.10.123/AVTscript.aef script AVTscript.aef  
se-10-0-0-0# ccn copy url http://www.server.com/AVTscript.aef script AVTscript.aef
```

This command is equivalent to using the GUI option **Voice Mail > Scripts** and selecting **Upload**.

An error message appears if you try to upload more than the maximum number of scripts allowed on your Cisco Unity Express module.

## Downloading an Auto-Attendant Script File

Scripts can be copied from the auto attendant and stored on another server or PC.

To copy a script file, use the **ccn copy script** command in Cisco Unity Express EXEC mode:

```
ccn copy script prompt-file-name url destination-ip-address
```

**Example:**

```
se-10-0-0-0# ccn copy script AVTscript.aef url ftp://10.100.10.123/AVTscript.aef
```

## Deleting an Auto-Attendant Script File

To delete an auto-attendant script file from Cisco Unity Express, use the **ccn delete** command in Cisco Unity Express EXEC mode:

```
ccn delete script script-filename
```

**Example:**

```
se-10-0-0-0# ccn delete script AVTscript.aef  
Are you sure you want to delete this script? (y/n)
```

# Configuring JTAPI Triggers for the Applications

After the voice-mail, auto attendant and AvT applications are configured, Cisco Unity Express must be configured to start the voice-mail, auto attendant, and AvT applications when a specific signal, or trigger, is invoked. The trigger is a telephone number. When a caller dials a specified telephone number, Cisco Unity Express starts the voice-mail, auto-attendant, or AvT application.

Cisco Unity Express supports a maximum of 8 SIP triggers and 8 JTAPI triggers for all applications combined. This applies to both the NM and the AIM. See the section [“Advanced Configuration” on page 151](#) for procedures to configure multiple triggers for an application.

## Prerequisites

The following information is required to configure the JTAPI triggers:

- Telephone number that invokes the application. The number must not be the same for both voice mail and auto attendant.
- Number of seconds the system must wait for a caller response before it times out and drops the call.
- Language to use for the prompts.
- Maximum number of callers that can access the trigger simultaneously. See the [“Sharing Ports Among Applications and Triggers” section on page 66](#) for guidelines on assigning this value.

## SUMMARY STEPS

Starting from EXEC mode:

1. **config t**
2. **ccn trigger jtapi phonenumber *number***
3. **application *string***
4. **enabled**
5. **maxsessions *number***
6. **end**
7. **exit**
8. **show ccn trigger**
9. **copy running-config startup-config**

**Note**

---

Reload the system to activate the changes specified with these CLI commands.

---



## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>ccn trigger jtapi phonenumber number</b>  <b>Example:</b> se-10-0-0-0(config)# ccn trigger jtapi phonenumber 6700	Specifies the telephone number that acts as the trigger to start the application on Cisco Unity Express and enters trigger configuration mode. The <i>number</i> value must match a JTAPI route point configured on Cisco CallManager.
Step 3	<b>application string</b>  <b>Example:</b> se-10-0-0-0(config-trigger)# application voicemail se-10-0-0-0(config-trigger)# application autoattendant se-10-0-0-0(config-trigger)# application promptmanagement	Specifies the name of the application to start when the trigger is entered.
Step 4	<b>enabled</b>  <b>Example:</b> se-10-0-0-0(config-trigger)# enabled	Enables the trigger.
Step 5	<b>maxsessions number</b>  <b>Example:</b> se-10-0-0-0(config-trigger)# maxsessions 3	Specifies the maximum number of callers that the application can handle simultaneously. See the <a href="#">“Sharing Ports Among Applications and Triggers”</a> section on page 66 for guidelines on assigning this value.
Step 6	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-trigger)# end	Exits trigger configuration mode.
Step 7	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 8	<b>show ccn trigger</b>  <b>Example:</b> se-10-0-0-0# show ccn trigger	Displays the parameter values for all configured triggers.
Step 9	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration change to the startup configuration.

**Note**


---

Reload the system to activate the changes specified with these CLI commands.

---

## Examples

The following sample configuration sets two triggers, one for the voice-mail application and one for the auto-attendant application:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# ccn trigger jtapi phonenumbers 6500
se-10-0-0-0(config-trigger)# application voicemail
se-10-0-0-0(config-trigger)# maxsessions 4
se-10-0-0-0(config-trigger)# enabled
se-10-0-0-0(config-trigger)# end
se-10-0-0-0(config)#
se-10-0-0-0(config)# ccn trigger jtapi phonenumbers 6700
se-10-0-0-0(config-trigger)# application autoattendant
se-10-0-0-0(config-trigger)# maxsessions 8
se-10-0-0-0(config-trigger)# enabled
se-10-0-0-0(config-trigger)# end
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

The output for the **show ccn trigger** command will look similar to the following:

```
se-10-0-0-0# show ccn trigger

Name:                6500
Type:                JTAPI
Application:         voicemail
Locale:             en_US
Idle Timeout:       600
Enabled:            yes
Maximum number of sessions: 4

Name:                6700
Type:                JTAPI
Application:         autoattendant
Locale:             en_US
Idle Timeout:       600
Enabled:            yes
Maximum number of sessions: 8
se-10-0-0-0#
```

# Deleting a JTAPI Application Trigger

Use this procedure to delete a JTAPI application trigger. Deleting the trigger does not delete the application, although the application needs at least one trigger in order to be invoked by the system.

## Prerequisites

The trigger number is required to delete a trigger.

### SUMMARY STEPS

1. `show ccn trigger`
2. `config t`
3. `no ccn trigger jtapi phonenumber number`
4. `exit`
5. `show ccn trigger`
6. `copy running-config startup-config`

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><code>show ccn trigger</code></p> <p><b>Example:</b> se-10-0-0-0# show ccn trigger</p>	Displays the currently configured triggers. Look for the telephone number that you want to delete. Verify that this telephone number is associated with the correct application.
Step 2	<p><code>config t</code></p> <p><b>Example:</b> se-10-0-0-0# config t</p>	Enters configuration mode.
Step 3	<p><code>no ccn trigger jtapi phonenumber number</code></p> <p><b>Example:</b> se-10-0-0-0(config)# no ccn trigger jtapi phonenumber 5000</p>	Deletes the trigger number.
Step 4	<p><code>exit</code></p> <p><b>Example:</b> se-10-0-0-0(config)# exit</p>	Exits configuration mode.

	Command or Action	Purpose
Step 5	<b>show ccn trigger</b>  <b>Example:</b> se-10-0-0-0# show ccn trigger	Displays the configured triggers.
Step 6	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The output for **show ccn trigger** might look similar to the following:

```
se-10-0-0-0# show ccn trigger

Name:                6500
Type:                JTAPI
Application:         voicemail
Locale:              en_US
Idle Timeout:        600
Enabled:             yes
Maximum number of sessions: 4

Name:                6700
Type:                JTAPI
Application:         autoattendant
Locale:              en_US
Idle Timeout:        600
Enabled:             yes
Maximum number of sessions: 8
se-10-0-0-0#
```

The following configuration removes a trigger from the voice-mail application:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no ccn trigger jtapi phonenumber 6500
se-10-0-0-0(config)# exit
```

Now the output for **show ccn trigger** might look similar to the following:

```
se-10-0-0-0# show ccn trigger

Name:                6700
Type:                JTAPI
Application:         autoattendant
Locale:              en_US
Idle Timeout:        600
Enabled:             yes
Maximum number of sessions: 8
se-10-0-0-0#
```

# Deleting an Application

If you configure an application that you do not want to keep, use this procedure to delete the application and any triggers associated with that application. If you do not delete the triggers, the application will be invoked when one of the triggers is called.

After you delete the application and triggers, the script associated with the application remains installed on your server but is not used by Cisco Unity Express. To make this application usable, reconfigure it.

The default voice-mail, auto-attendant, and greeting-management-system applications that shipped with Cisco Unity Express cannot be deleted.

## Prerequisites

The following information is required to delete an application:

- Application name
- All trigger numbers associated with the application

### SUMMARY STEPS

1. **show ccn application**
2. **show ccn trigger**
3. **config t**
4. **no ccn trigger jtapi phonenumber *number***
5. **no ccn application *name***
6. **exit**
7. **show ccn application**
8. **show ccn trigger**
9. **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>show ccn application</b>  <b>Example:</b> se-10-0-0-0# show ccn application	Displays the currently configured applications. Look for the name of the application that you want to delete.
Step 2	<b>show ccn trigger</b>  <b>Example:</b> se-10-0-0-0# show ccn trigger	Displays the currently configured triggers. Look for the telephone numbers associated with the application that you want to delete.
Step 3	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.

## ■ Deleting an Application

	Command or Action	Purpose
Step 4	<b>no ccn trigger jtapi phonenumber number</b>  <b>Example:</b> se-10-0-0-0(config)# no ccn trigger jtapi phonenumber 6700	Deletes a trigger associated with this application. Repeat this command for each trigger associated with the application.
Step 5	<b>no ccn application name</b>  <b>Example:</b> se-10-0-0-0(config)# no ccn application myapplication	Deletes the application called <i>name</i> .
Step 6	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 7	<b>show ccn application</b>  <b>Example:</b> se-10-0-0-0# show ccn application	Displays the currently configured applications. Confirm that the deleted application is not displayed.
Step 8	<b>show ccn trigger</b>  <b>Example:</b> se-10-0-0-0# show ccn trigger	Displays the triggers for each configured application.
Step 9	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The following is sample output from the **show ccn application** and **show ccn trigger** commands:

```
se-10-0-0-0# show ccn application
```

```
Name: voicemail
Description: voicemail
Script: voicebrowser.aef
ID number: 1
Enabled: yes
Maximum number of sessions: 8
logoutUri: http://localhost/voicemail/vxmlscripts/m
bxLogout.jsp
uri: http://localhost/voicemail/vxmlscripts/1
ogin.vxml
```

```
Name: autoattendant
Description: autoattendant
Script: aa.aef
ID number: 2
Enabled: yes
Maximum number of sessions: 8
MaxRetry: 3
operExtn: 0
```

```
welcomePrompt:                AAWelcome.wav

Name:                          myapplication
Description:                   My AA application
Script:                        mysript.aef
ID number:                     3
Enabled:                       yes
Maximum number of sessions:    8
MaxRetry:                      3
operExtn:                     0
welcomePrompt:                NewAAWelcome.wav
se-10-0-0-0#
```

```
se-10-0-0-0# show ccn trigger
```

```
Name:                          6700
Type:                          JTAPI
Application:                   voicemail
Locale:                        systemDefault
Idle Timeout:                 5000
Enabled:                       yes
Maximum number of sessions:    4
```

```
Name:                          6500
Type:                          JTAPI
Application:                   autoattendant
Locale:                        systemDefault
Idle Timeout:                 5000
Enabled:                       yes
Maximum number of sessions:    8
```

```
Name:                          7200
Type:                          JTAPI
Application:                   myapplication
Locale:
Idle Timeout:                 5000
Enabled:                       yes
Maximum number of sessions:    8
se-10-0-0-0#
```

The following configuration deletes the myapplication application and its trigger:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no ccn trigger jtapi phonenumber 7200
se-10-0-0-0(config)# no ccn application myapplication
se-10-0-0-0(config)# exit
```

Now the output for the **show** commands looks similar to the following:

```
se-10-0-0-0# show ccn application
```

```
Name:                          voicemail
Description:                   voicemail
Script:                        voicebrowser.aef
ID number:                     1
Enabled:                       yes
Maximum number of sessions:    8
logoutUri:                    http://localhost/voicemail/vxmlscripts/m
bxLogout.jsp
uri:                          http://localhost/voicemail/vxmlscripts/1
ogin.vxml

Name:                          autoattendant
Description:                   autoattendant
```

```

Script: aa.aef
ID number: 2
Enabled: yes
Maximum number of sessions: 8
MaxRetry: 3
operExtn: 0
welcomePrompt: AAWelcome.wav
se-10-0-0-0#

se-10-0-0-0# show ccn trigger

Name: 6700
Type: JTAPI
Application: voicemail
Locale: systemDefault
Idle Timeout: 5000
Enabled: yes
Maximum number of sessions: 4

Name: 6500
Type: JTAPI
Application: autoattendant
Locale: systemDefault
Idle Timeout: 5000
Enabled: yes
Maximum number of sessions: 8
se-10-0-0-0#

```

## Configuring System-Wide Mailbox Default Values

The following system-wide parameters are configurable for all new voice mailboxes. These values are assigned automatically to a new voice mailbox. Several of these values have factory default values. See [“Software Licenses and Factory-Set Limits” on page 15](#) for the maximum values for your system.

- Capacity—The total amount of storage time in hours allowed for all mailboxes in the system. The factory default is the maximum allowed storage for your system.
- Expiration date—The number of days a message is saved in the mailbox. When the user logs in to the voice mailbox, the user hears a message listing all the expired messages. The user can save, skip, or delete each message. The factory default value is 30 days.
- Language—The language used for voice-mail prompts. The default value is determined by the language package installed, and cannot be changed using the CLI commands.
- Mailbox size—The maximum number of seconds of storage for voice messages in a mailbox. The factory default value is determined by dividing the maximum storage capacity by the maximum number of mailboxes (personal plus general delivery).
- Message length—The maximum number of seconds for any one stored message in a mailbox. The factory default is 60 seconds.
- Recording time—The maximum amount of time for a user’s recorded mailbox greeting. The default is 900 seconds.
- Operator extension—The extension of the voice-mail operator.



**Caution**

The voice-mail telephone number and the voice-mail operator's telephone number should not be the same. If they are, a user who tries to call the operator while in the voice-mail system will be directed back to the voice-mail system. Also, an outside caller who presses the button for the operator will be connected to the voice-mail system.

See [“Creating and Modifying a Voice Mailbox” on page 117](#) for the procedure to configure different values for mailbox size, message length, and expiration date for a specific mailbox.

**SUMMARY STEPS**

1. **config t**
2. **voicemail capacity time** *minutes*
3. **voicemail defaults** {**expiration** *days* | **language** | **mailboxsize** *mailboxsize-seconds* | **messagesize** *messagesize-seconds*}
4. **voicemail operator telephone** *tel-number*
5. **voicemail recording time** *seconds*
6. **exit**
7. **copy running-config startup-config**

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
<b>Step 2</b>	<b>voicemail capacity time</b> <i>minutes</i>  <b>Example:</b> se-10-0-0-0(config)# voicemail capacity time 3000	Sets the time value as the system-wide maximum storage space in minutes allowed for all configured mailboxes.

	Command or Action	Purpose
Step 3	<p><b>voicemail default</b> {<b>expiration</b> <i>days</i>   <b>language</b> <i>xx_YY</i>   <b>mailboxsize</b> <i>mailboxsize-seconds</i>   <b>messagesize</b> <i>messagesize-seconds</i>}</p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# voicemail default expiration 30 se-10-0-0-0(config)# voicemail default mailboxsize 300 se-10-0-0-0(config)# voicemail default messagesize 120</pre></p>	<p>Assigns default values for new individual or general delivery mailboxes. Later these values can be configured to other values for specific mailboxes.</p> <ul style="list-style-type: none"> <li>• <b>expiration</b> <i>days</i>—Sets the number of days for which a message can be stored in a mailbox before the voice-mail system deletes it.</li> <li>• <b>language</b>—Specifies the default language used for voice-mail prompts on the local Cisco Unity Express system. Cisco Unity Express supports one language installed on the system at a time. The value for this command is determined by the installed language package and cannot be changed. See the <a href="#">Release Notes for Cisco Unity Express Release 2.2</a> for a list of available languages.</li> <li>• <b>mailboxsize</b> <i>mailboxsize-seconds</i>—Sets the maximum number of seconds for storing messages in a mailbox.</li> <li>• <b>messagesize</b> <i>messagesize-seconds</i>—Sets the maximum number of seconds for a caller's message stored in a mailbox.</li> </ul>
Step 4	<p><b>voicemail operator telephone</b> <i>tel-number</i></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# voicemail operator telephone 9000</pre></p>	<p>Assigns the <i>tel-number</i> value as the voice-mail operator's extension. A mailbox owner dials this extension while in the voice-mail system to reach the voice-mail operator. Do not assign this extension to a group. This extension need not be the same as the auto-attendant operator extension.</p>
Step 5	<p><b>voicemail recording time</b> <i>second</i></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# voicemail recording time 10</pre></p>	<p>Assigns the time value in seconds as the maximum recording time for any greeting or message in the voice-mail system.</p>
Step 6	<p><b>exit</b></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# exit</pre></p>	<p>Exits configuration mode.</p>
Step 7	<p><b>copy running-config startup-config</b></p> <p><b>Example:</b>  <pre>se-10-0-0-0# copy running-config startup-config</pre></p>	<p>Copies the configuration changes to the startup configuration.</p>

## Checking AIM Flash Memory Wear Activity

Cisco Unity Express tracks the use and wear of the AIM flash memory as log and trace data are saved to the module. To display this data, use the **show interface ide 0** command in Cisco Unity Express EXEC mode.

### show interface ide 0

The following is sample output:

```
se-10-0-0-0# show interface ide 0

IDE hd0 is up, line protocol is up
  3496 reads, 46828544 bytes
  0 read errors
  9409 write, 137857024 bytes
  0 write errors
  0.099333333333333333% worn
```

To check the log and trace files on the flash memory, use the **log trace** command in Cisco Unity Express EXEC mode.

### log trace

Logging and tracing to flash memory is turned off by default. Executing the **log trace** command starts the log and trace functions immediately.

The command displays the atrace.log and messages.log files. Each file has a fixed length of 10 MB, and tracing or logging stops automatically when the file reaches this length. New files overwrite the old files.

## Configuring the System Language

The TUI prompts and system messages are available in several languages. See the [Release Notes for Cisco Unity Express Release 2.2](#) for a list of available languages.

CLI commands and GUI screens are available only in U.S. English.

During the ordering process, one of the languages was purchased as the system language. This choice is the default system language and cannot be changed. Future Cisco Unity Express releases will support multiple languages resident concurrently on the system.

## Configuring Password and PIN Parameters

Cisco Unity Express supports the configuration of the password and personal identification number (PIN) parameters described in the following sections:

- [Configuring Password and PIN Length and Expiry Time, page 89](#)
- [Setting the Password and PIN to the System Default Values, page 91](#)
- [Displaying Password and PIN System Settings, page 92](#)

## Configuring Password and PIN Length and Expiry Time

Cisco Unity Express supports configuring the following two attributes of password and PIN:

- Minimum password and PIN length

To support enhanced security procedures, Cisco Unity Express has made the password and PIN length configurable. The administrator can configure the length to a value greater than or equal to 3 alphanumeric characters. This is a system-wide value, so that all users must have passwords and PINs of at least that many characters. Use the GUI **Defaults > User** option or the procedure described below to configure this length.

The password length does not have to equal the PIN length.

The default length is 3 alphanumeric characters. The maximum password length is 32 alphanumeric characters. The maximum PIN length is 16 alphanumeric characters.

- Minimum password and PIN expiry time

Cisco Unity Express permits the administrator to configure the password and PIN expiry time on a system-wide basis. The expiry time is the time, in days, for which the password and PIN are valid. When this time is reached, the user must enter a new password or PIN.

If this option is not configured, passwords and PINs do not expire.

Use the GUI **Defaults > User** option or the procedure described below to configure this time.

The password expiry time does not have to equal the PIN expiry time.

The minimum time is 3 days. The maximum time is 365 days.

## Prerequisites

The following information is required to configure the password and PIN lengths and expiry times:

- Password length and expiry time
- PIN length and expiry time

## SUMMARY STEPS

- **config t**
- **security password length min** *password-length*
- **security pin length min** *pin-length*
- **security password expiry days** *password-days*
- **security pin expiry days** *pin-days*
- **exit**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
Step 2	<b>security password length min</b> <i>password-length</i>  <b>Example:</b> se-10-0-0-0(config)# security password length min 5	Specifies the length of all users' passwords. The default minimum value is 3; the maximum value is 32.

	Command or Action	Purpose
Step 3	<code>security pin length min pin-length</code>  <b>Example:</b> <code>se-10-0-0-0(config)# security pin length min 4</code>	Specifies the minimum length of all users' PINs. The default value is 3; the maximum value is 16.
Step 4	<code>security password expiry days password-days</code>  <b>Example:</b> <code>se-10-0-0-0(config)# security password expiry days 60</code>	Specifies the maximum number of days for which users' passwords are valid. Valid values range from 3 to 365.  If this value is not configured, the passwords will not expire.
Step 5	<code>security pin expiry days pin-days</code>  <b>Example:</b> <code>se-10-0-0-0(config)# security pin expiry days 45</code>	Specifies the maximum number of days for which user's PINs are valid. Valid values range from 3 to 365.  If this value is not configured, the PINs will not expire.
Step 6	<code>exit</code>  <b>Example:</b> <code>se-10-0-0-0(config)# exit</code> <code>se-10-0-0-0#</code>	Exits configuration mode.

## Examples

The following example sets the password length to 6 characters, the PIN length to 5 characters, the password expiry time to 60 days, and the PIN expiry time to 45 days.

```
se-10-0-0-0# config t
se-10-0-0-0(config)# security password length min 6
se-10-0-0-0(config)# security pin length min 5
se-10-0-0-0(config)# security password expiry days 60
se-10-0-0-0(config)# security pin expiry days 45
se-10-0-0-0(config)# exit
```

## Setting the Password and PIN to the System Default Values

Several commands are available to reset the password and PIN values to the system defaults.

### Resetting the Password Length

The following Cisco Unity Express configuration mode command resets the password length for all users to the system default value, which is 3 characters:

```
no security password length min
```

The following example resets the password length:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no security password length min
se-10-0-0-0(config)# end
```

## Resetting the PIN Length

The following Cisco Unity Express configuration mode command resets the PIN length for all users to the system default value, which is 3 characters:

**no security pin length min**

The following example resets the PIN length:

```
se-10-0-0-0# config t
se-10-0-0-0# no security pin length min
se-10-0-0-0(config)# end
```

## Resetting the Password Expiry Time

The following Cisco Unity Express configuration mode command resets the password expiry time for all users to the system default value, in which case the passwords will not expire:

**no security password expiry days**

The following example resets the password expiry time:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no security password expiry days
se-10-0-0-0(config)# end
```

## Resetting the PIN Expiry Time

The following Cisco Unity Express configuration mode command resets the PIN expiry time for all users to the system default value, in which case the PINs will not expire:

**no security pin expiry days**

The following example resets the PIN expiry time:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no security pin expiry days
se-10-0-0-0(config)# end
```

## Displaying Password and PIN System Settings

Use the following Cisco Unity Express EXEC mode command to display the password and PIN settings:

**show security detail**

The command output may look similar to the following:

```
se-10-0-0-0# show security detail

Password Expires:      true
Password Age:         60 days
Password Length (min): 5
Password Length (max): 32
PIN Expires:          true
PIN Age:              45 days
PIN Length (min):     4
PIN Length (max):     16
```

The following example shows the values when password expiration and the PIN length are reset to the system default values:

```
se-10-0-0-0# show security detail
```

```
Password Expires:          false
Password Length (min):    3
Password Length (max):   32
PIN Expires:              false
PIN Age:                  45 days
PIN Length (min):         3
PIN Length (max):        16
```

## Configuring Business Hours

Cisco Unity Express permits configuration of business hours that cause the auto attendant (AA) to play a customizable greeting to callers during off-hours. The following sections describe the configuration process:

- [Configuring a Business-Hours Schedule, page 93](#)
- [Displaying Business-Hours Schedules, page 96](#)
- [Modifying Business Schedules, page 97](#)
- [Deleting a Business Schedule, page 99](#)

## Configuring a Business-Hours Schedule

The system administrator can configure a business-hours schedule with the following properties:

- Cisco Unity Express 2.1/2.2 supports up to four business schedules.
- Each 24-hour day is divided into half-hour time slots. Specify the time slots when the company is open or closed.
- The system default is “open” for 24 hours each day.
- To configure a business-hours schedule, use the graphical user interface (GUI) **Voice Mail > Business Hours Settings** option or the command-line interface (CLI) commands described in this section.
- Use the GUI to copy one business schedule to another schedule, which can then be modified.

The Cisco Unity Express system ships with one default schedule called “SystemSchedule.” This schedule treats the business as open 24 hours per day, 7 days per week. Use the GUI **Voice Mail > Business Hours Settings** option or CLI commands to modify or delete this schedule. If you have created multiple schedules, use the GUI or CLI commands to associate the desired schedule with the AA. (You do not have to reboot the system to have the new schedule take effect.)

When a caller reaches the AA, the AA plays the welcome prompt and checks if the current day is a holiday. If it is a holiday, the AA plays the holiday greeting to the caller and does not check the business-hours schedule.

If the current day is not a holiday, the system checks if the business is open. If so, the business open prompt plays. In the canned AA, this prompt (AABusinessOpen.wav) is empty. If the business is closed, the system plays the business closed prompt. In the canned AA, this prompt (AABusinessClosed.wav) says “We are currently closed. Please call back later.”

You can customize these two prompts by recording more meaningful messages. The prompts must be .wav files with the format G.711 u-law, 8 kHz, 8 bit, Mono. Use the GUI **Voice Mail > Prompts** option or the CLI commands to upload the customer prompts. Alternatively, you can record these prompts using the Administration Via Telephone (AvT) system. After uploading or recording these custom prompts, use the GUI **Voice Mail > Auto Attendants** option or the CLI commands to associate the new prompts with the AA. The new prompts take effect as soon as they are configured; the system does not need to be restarted.

## Prerequisites

The following information is required to configure a business-hours schedule:

- Schedule name

The maximum length of the name is 31 alphanumeric characters, including uppercase letters A through Z, lowercase letters a through z, digits 0 through 9, underscore (\_), and dash (-). The first character of the name must be a letter.

If a schedule with this name does not exist, the system will create it. If the schedule already exists, any changes will modify the schedule. If the maximum number of schedules exists and you request another one, the system displays an error message.

- Day of the week
- Starting and ending clock times when the business is open and when the business is closed

Use the 24-hour clock format for the hours. Valid minute values are 00 to 30.

For a new schedule, specify the closed hours; the remaining hours are open because a newly created schedule has 24 hours open each day by default.

## SUMMARY STEPS

1. **config t**
2. **calendar biz-schedule** *schedule-name*
3. **closed day** *day-of-week* **from** *hh:mm* **to** *hh:mm*
4. **open day** *day-of-week* **from** *hh:mm* **to** *hh:mm*
5. **end**
6. **exit**



## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
Step 2	<b>calendar biz-schedule</b> <i>schedule-name</i>  <b>Example:</b> se-10-0-0-0(config)# calendar biz-schedule normal_hours	Specifies the name for the business-hours schedule and enters business configuration mode. The name must be one word.  If a schedule with this name does not exist, the system creates it. If the schedule already exists, any changes modify the schedule. If the maximum number of schedules exists, the system displays an error message.
Step 3	<b>closed day</b> <i>day-of-week</i> <b>from</b> <i>hh:mm</i> <b>to</b> <i>hh:mm</i>  <b>Example:</b> se-10-0-0-0(config-business)# closed day 2 from 00:00 to 08:30 se-10-0-0-0(config-business)# closed day 2 from 17:30 to 24:00	Enter the day of the week and the times when the business is closed for that day. Valid values for <i>day-of-week</i> are 1 to 7, where 1 represents Sunday, 2 is Monday, 3 is Tuesday, 4 is Wednesday, 5 is Thursday, 6 is Friday, and 7 is Saturday. Use the 24-hour clock format for <i>hh</i> . Valid <i>mm</i> values are 00 to 30.
Step 4	<b>open day</b> <i>day-of-week</i> <b>from</b> <i>hh:mm</i> <b>to</b> <i>hh:mm</i>  <b>Example:</b> se-10-0-0-0(config-business)# open day 2 from 08:30 to 17:30	Enter the day of the week and the times when the business is open for that day. Valid values for <i>day-of-week</i> are 1 to 7, where 1 represents Sunday. Use the 24-hour clock format for <i>hh</i> . Valid <i>mm</i> values are 00 to 30.
Step 5	Repeat Steps 3 and 4 for each day of the week that needs business hours scheduled.	—
Step 6	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-business)# end se-10-0-0-0(config)#	Exits business configuration mode.
Step 7	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.

## Examples

The following example configures a new business schedule:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# calendar biz-schedule normal
Adding new schedule
se-10-0-0-0(config-business)# closed day 1 from 00:00 to 24:00
se-10-0-0-0(config-business)# closed day 2 from 00:00 to 08:30
se-10-0-0-0(config-business)# closed day 2 from 17:30 to 24:00
se-10-0-0-0(config-business)# closed day 3 from 00:00 to 08:30
se-10-0-0-0(config-business)# closed day 3 from 17:30 to 24:00
se-10-0-0-0(config-business)# closed day 4 from 00:00 to 08:30
se-10-0-0-0(config-business)# closed day 4 from 17:30 to 24:00
se-10-0-0-0(config-business)# closed day 5 from 00:00 to 08:30
se-10-0-0-0(config-business)# closed day 5 from 20:00 to 24:00
se-10-0-0-0(config-business)# closed day 6 from 00:00 to 08:30
se-10-0-0-0(config-business)# closed day 6 from 18:00 to 24:00
se-10-0-0-0(config-business)# closed day 7 from 00:00 to 09:00
se-10-0-0-0(config-business)# closed day 7 from 13:00 to 24:00
se-10-0-0-0(config-business)# end
se-10-0-0-0(config)# exit
```

## Displaying Business-Hours Schedules

Several CLI commands are available in the Cisco Unity Express EXEC mode for displaying the business-hours schedules.

### Displaying a Specific Schedule

The following command displays a specific business schedule:

```
show calendar biz-schedule schedule-name
```

where *schedule-name* is the name of the schedule. This command displays each day of the week and the open hours. The output for this command may appear similar to the following.

```
se-10-0-0-0# show calendar biz-schedule normal

*****
Schedule: normal
Day          Open Hours
-----
Sunday       None
Monday       08:30 to 17:30
Tuesday      08:30 to 17:30
Wednesday    08:30 to 17:30
Thursday     08:30 to 20:00
Friday       08:30 to 18:00
Saturday     09:00 to 13:00
```

### Displaying All Businesses Schedules

The following command displays all the configured business schedules in the system:

```
show calendar biz-schedule all
```

This command displays the open hours for each day of the week for each schedule. The output for this command may appear similar to the following:

```
se-10-0-0-0# show calendar biz-schedule all
```

```
*****
Schedule: systemschedule
Day          Open Hours
-----
Sunday       Open all day
Monday       Open all day
Tuesday      Open all day
Wednesday    Open all day
Thursday     Open all day
Friday       Open all day
Saturday     Open all day

*****
Schedule: normal
Day          Open Hours
-----
Sunday       None
Monday       08:30 to 17:30
Tuesday      08:30 to 17:30
Wednesday    08:30 to 17:30
Thursday     08:30 to 20:00
Friday       08:30 to 18:00
Saturday     09:00 to 13:00

*****
Schedule: holiday-season
Day          Open Hours
-----
Sunday       09:00 to 15:00
Monday       08:30 to 17:30
Tuesday      08:30 to 17:30
Wednesday    08:30 to 17:30
Thursday     08:00 to 21:00
Friday       08:00 to 21:00
Saturday     08:00 to 21:30
```

## Modifying Business Schedules

The following configuration mode command modifies an existing business schedule:

```
calendar biz-schedule schedule-name
```

where *schedule-name* is the name of the business schedule to modify. If a schedule with the specified business name does not exist, the system creates it.

The following example modifies the existing “normal” business schedule:

```
se-10-0-0-0(config)# calendar biz-schedule normal
Modifying existing schedule
se-10-0-0-0(config-business)# open day 1 from 09:00 to 12:00
se-10-0-0-0(config-business)# end
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

## Changing the Status of Open or Closed Hours

To modify an existing schedule, specify the open and closed hours for each day as needed.

### Changing an Open Slot to a Closed Slot

Use either of the following configuration mode commands to change an open slot to a closed slot:

```
no open day day-of-week from hh:mm to hh:mm
```

```
closed day day-of-week from hh:mm to hh:mm
```

where *day-of-week* is the numeric day of the week (1 equals Sunday), *hh* are hours in the 24-hour clock format, and *mm* are minutes, either 00 or 30.

For example, if Monday is open from 09:00 to 17:00, then **no open day 2 from 09:00 to 10:00** or **closed day 2 from 09:00 to 10:00** closes Monday 9:00 a.m. to 10:00 a.m.

### Changing a Closed Slot to an Open Slot

Use either of the following commands to change a closed slot to an open slot:

```
no closed day day-of-week from hh:mm to hh:mm
```

```
open day day-of-week from hh:mm to hh:mm
```

where *day-of-week* is the numeric day of the week (1 equals Sunday), *hh* are hours in the 24-hour clock format, and *mm* are minutes, either 00 or 30.

For example, if Monday is closed from 00:00 to 10:00, then **no closed day 2 from 09:00 to 10:00** or **open day 2 from 09:00 to 10:00** opens the Monday time slot 9:00 a.m. to 10:00 a.m.

## Examples

The following output shows the “normal” business schedule:

```
se-10-0-0-0# show calendar biz-schedule normal
```

```
*****
Schedule: normal
Day          Open Hours
-----
Sunday       None
Monday       08:30 to 17:30
Tuesday      08:30 to 17:30
Wednesday    08:30 to 17:30
Thursday     08:30 to 20:00
Friday       08:30 to 18:00
Saturday     09:00 to 13:00
```

The following commands modify the “normal” business hours by closing Monday hours from 8:30 to 9:30 and opening Saturday hours from 1:00 p.m. to 2:00 p.m.:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# calendar biz-schedule normal
se-10-0-0-0(config-business)# no open day 2 from 08:30 to 09:30
se-10-0-0-0(config-business)# no closed day 7 from 13:00 to 14:00
se-10-0-0-0(config-business)# end
se-10-0-0-0(config)# exit
```

The following output shows the changed schedule:

```
se-10-0-0-0# show calendar biz-schedule normal
```

```
*****
Schedule: normal
Day          Open Hours
-----
Sunday       None
Monday       09:30 to 17:30
Tuesday      08:30 to 17:30
Wednesday    08:30 to 17:30
Thursday     08:30 to 20:00
Friday       08:30 to 18:00
Saturday     09:00 to 14:00
```

## Deleting a Business Schedule

The following configuration mode command deletes a specified business schedule:

```
no calendar biz-schedule schedule-name
```

where *schedule-name* is the name of the business schedule to delete.

The following example deletes the “normal” business schedule:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no calendar biz-schedule normal
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

## Configuring a Holiday List

Cisco Unity Express permits configuration of a holiday list that causes the auto attendant (AA) to play a customizable greeting to callers when the company is closed for a holiday. The following sections describe the configuration process:

- [Configuring a Holiday List, page 99](#)
- [Displaying the Holiday List, page 100](#)
- [Deleting Holidays from the List, page 102](#)

## Configuring a Holiday List

The system administrator can configure a company’s holiday list with the following properties:

- Cisco Unity Express 2.1/2.2 supports up to three holiday lists: the previous year, the current year, and the next year. If a year has no configured entries, the system treats that year as having no holidays.

For example, if the current year is 2005 and you have not configured entries for 2004 (the previous year), the system treats 2004 as having zero (0) holidays. You may configure holidays for 2005 and 2006 (the next year) but not for 2007.

- The list can contain a maximum of 26 holidays per year.
- No default holiday list is available in the system.

- The administrator can delete entries from a previous year list but cannot add or modify that list in any other way.
- The system automatically deletes the previous year list at the beginning of the new calendar year. For example, the system will delete the 2004 holiday list on January 1, 2006.
- To configure the holiday list for the current year and next year, use the graphical user interface (GUI) **Voice Mail > Holiday Settings** option or the command-line interface (CLI) commands described in this section.
- To copy holidays from one year to the next, use the GUI option **Copy all to next year** under **Voice Mail > Holiday Settings**.

When a caller reaches the AA, the AA plays the welcome prompt and checks if the current day is a holiday. If it is a holiday, the AA plays the holiday prompt to the caller. In the canned AA script provided with the Cisco Unity Express package, this prompt (AAHolidayPrompt.wav) is “We are closed today. Please call back later.”

You can customize this prompt by recording a more meaningful message, such as “We are closed today for a holiday. If this is an emergency, please call 1-222-555-0150 for assistance. Otherwise, please call back later.”

The prompt must be a .wav file with the format G.711 u-law, 8 kHz, 8 bit, Mono. Use the GUI **Voice Mail > Prompts** option or CLI commands to upload the custom prompt. Alternatively, you can record the prompt using the Administration Via Telephone (AvT) system. After uploading or recording the custom prompt, use the GUI **Voice Mail > Auto Attendant** option or the CLI commands to associate the new prompt with the AA. The new prompt takes effect as soon as it is configured; the system does not need to be restarted.

## Procedure

Use the following command in Cisco Unity Express configuration mode to configure a holiday list:

```
calendar holiday date yyyy mm dd [description holiday-description]
```

where *yyyy* is the 4-digit year, *mm* is the 2-digit month, *dd* is the 2-digit day, and *holiday-description* is an optional description of the holiday. If the description is more than one word, enclose the text in double quotes (“ ”).

The valid values for *yyyy* are the current year or the next year. An error message appears if the year or date is out of range.

### Example:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# calendar holiday date 2005 05 30 description "Memorial Day"
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

## Displaying the Holiday List

Several CLI commands are available in the Cisco Unity Express EXEC mode for displaying the holiday list.

## Displaying All Holiday Lists

The following command displays all the holiday lists configured on the system:

**show calendar holiday**

This command displays the date and description for all holidays for all years. The output for this command may appear similar to the following:

```
se-10-0-0-0# show calendar holiday

*****
                Year: 2004
*****
September 04    Labor Day
November  25    Thanksgiving

*****
                Year: 2005
*****
July        04    July 4th
September  05    Labor Day
November   24    Thanksgiving
December   25    Christmas
```

## Displaying Holiday Lists for a Specific Year

The following command displays the holidays configured for a specific year:

**show calendar holiday year yyyy**

where *yyyy* is the 4-digit year. This command displays the date and description for all holidays configured for the specified year. If no holidays are configured for that year, the message “No holidays found for the specified year” appears. The output for this command may appear similar to the following:

```
se-10-0-0-0-0# show calendar holiday year 2005

*****
                Year: 2005
*****
July        04    July 4th
September  05    Labor Day
November   24    Thanksgiving
December   25    Christmas
```

## Displaying Holiday Lists for a Specific Month

The following command displays the holidays configured for a specific month in a specified year:

**show calendar holiday year yyyy month mm**

where *yyyy* is the 4-digit year and *mm* is the 2-digit month. This command displays the date and description for all holidays configured for the specified month in the specified year. If no holidays are configured for that month, the message “No holidays found for the specified month” appears. The output for this command may appear similar to the following:

```
se-10-0-0-0# show calendar holiday year 2005 month 12

*****
                Year: 2005
*****
December 25    Christmas
```

## Deleting Holidays from the List

Several CLI commands are available in the Cisco Unity Express EXEC mode for deleting holidays from the list.

### Deleting a Specific Holiday from the Holiday List

The following command deletes a specific holiday:



**Caution**

Use this command with caution, as this operation is irreversible. Do not press the “Enter” key after the year; doing so deletes the holiday list for the entire year.

```
no calendar holiday date yyyy mm dd
```

where *yyyy* is the 4-digit year, *mm* is the 2-digit month, and *dd* is the 2-digit day.

**Example:**

```
se-10-0-0-0# no calendar holiday date 2004 11 25
```

### Deleting Holidays from a Specific Month



**Caution**

Use this command with caution, as this operation is irreversible and may cause loss of holiday configuration for the entire month.

The following command deletes the holidays configured for a specific month in a specified year:

```
no calendar holiday year yyyy month mm
```

where *yyyy* is the 4-digit year and *mm* is the 2-digit month.

**Example:**

```
se-10-0-0-0# no calendar holiday year 2004 month 09
```

### Deleting Holidays for a Specific Year



**Caution**

Use this command with caution, as this operation is irreversible and may cause loss of holiday configuration for the entire year.



The following command deletes all the holidays configured for a specific year:

```
no calendar holiday year yyyy
```

where yyyy is the 4-digit year.

**Example:**

```
se-10-0-0-0# no calendar holiday year 2004
```





## Configuring Users, Groups, and Mailboxes

---

All configuration and administration functions for Cisco Unity Express are available through the graphical user interface (GUI). However, you may find that using the command-line interface (CLI) is more efficient than using the GUI. For example, you may want to create a script to configure a large number of users or mailboxes for a specific system. In this case, the CLI may be more useful.

This chapter describes the commands that emulate the following tasks available on the GUI and contains the following sections:

- [Prerequisites, page 105](#)
- [Adding and Modifying a User, page 106](#)
- [Adding and Modifying a Group, page 112](#)
- [Creating and Modifying a Voice Mailbox, page 117](#)
- [Unlocking a Voice Mailbox, page 123](#)
- [Refreshing Message Waiting Indicators, page 124](#)

### Prerequisites

Verify that the telephones and extensions connected to the Cisco CallManager server are configured. If you have not completed the configuration, refer to the [Cisco CallManager Administration Guide, Release 3.3\(3\)](#).

## Adding and Modifying a User

Users configured with the Cisco CallManager GUI may be imported to the Cisco Unity Express database. Users configured with the Cisco Unity Express GUI or CLI are not copied to the Cisco CallManager database. If a user needs to be in the Cisco CallManager database but is configured in Cisco Unity Express, go back to Cisco CallManager later and configure the user there.

The procedure described in this section allows you to create a new user in the system. Use the same commands to modify an existing user's properties.




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**Note** To associate a telephone number with a user, you must configure the telephone before using this procedure. If you have not configured the telephone, refer to the Cisco CallManager documentation or the Cisco Unity Express GUI for the procedures.

---

## Privilege Levels for Users

The Cisco Unity Express software recognizes several privileges for users:

- **Superuser**—An administrator, also called a *superuser*, has the capability, or privilege, of accessing all the configuration and maintenance functions, including the Administration via Telephone (AvT).
- **ManagePrompts**—The prompt management user has access to the AvT but not to any other administrative functions.
- **Broadcast**—The broadcast privilege permits the user to send broadcast messages across the network.
- **ManagePublicList**—The ManagePublicList privilege permits the user to create and modify public distribution lists.
- **ViewPrivateList**—The ViewPrivateList privilege allows the user to view another user's private distribution lists. The user can not modify or delete the private lists.

These privilege levels are assigned to a group, and any member of the group is granted the privilege rights. The software initialization process created an Administrator group from the imported users designated as administrators. Other groups can be created with these privileges. Assign users to an existing group using the CLI commands or the GUI option **Configuration > Users**.

To display the current list of privileges, use the **show privileges** command in Cisco Unity Express EXEC mode.

## Users and Mailboxes

Cisco Unity Express supports twice as many users as mailboxes. Some users, such as system administrators, may not be assigned a voice mailbox. The maximum number of mailboxes is determined by the license of the module. See [“Software Licenses and Factory-Set Limits” on page 15](#) for the maximum number of mailboxes permitted for your module.

## Prerequisites

The following information is required for adding or modifying a user:

- Username—The user ID. The username must be at least 3 and no more than 32 characters in length. Cisco Unity Express allows only letters, numbers, and the characters underscore (\_), dot (.), and dash (-) in user IDs. User IDs must start with a letter. Do not use spaces in the username.
- (Optional) Full name—First and last name of the user. Enter this name in quotation marks (“ ”).
- (Optional) Group—Name of an existing group in which this user is a member.
- Password—Temporary password for this user. The password must be at least 3 and no more than 32 characters in length. Spaces are not allowed. When the user logs in to the GUI for the first time, the application requires the user to change the password. The user’s password does not expire.
- PIN—Personal identification number. The PIN must be at least 3 and no more than 16 digits in length. When the user logs in to the voice-mail system for the first time, the application requires the user to change the PIN. The PIN does not expire.

## SUMMARY STEPS

EXEC Mode:

1. **username** *name* [**create** | **delete** | **fullname** [**first** *first-name* | **last** *last-name* | **display** *full-name*] | **group** *group-name* | **language** | **password** “*password*” | **pin** *number*]
2. **show users**  
or  
**show user detail** *username name*
3. **copy running-config startup-config**

Configuration Mode:

1. **config t**
2. **username** *name* [**create** | **onenumber** *phone-number* | **onenumberE164** *full-number*]
3. **exit**
4. **show users**  
or  
**show user detail** *username name*
5. **copy running-config startup-config**

## DETAILED STEPS

## EXEC mode:

Command or Action	Purpose
<p><b>Step 1</b></p> <pre>username <i>name</i> [<b>create</b>   <b>delete</b>   <b>fullname</b> [<b>first</b> <i>first-name</i>   <b>last</b> <i>last-name</i>   <b>display</b> <i>full-name</i>]   <b>group</b> <i>group-name</i>   <b>language</b>   <b>password</b> "<i>password</i>"   <b>pin</b> <i>number</i>]</pre> <p><b>Example:</b></p> <pre>se-10-0-0-0# username user1 create se-10-0-0-0# username user2 fullname display "User 2" se-10-0-0-0# username user2 group sales se-10-0-0-0# username user2 password "green" se-10-0-0-0# username user2 pin 4444 se-10-0-0-0# username user2 delete</pre>	<p>Creates the user with user ID <i>name</i> value. The optional parameters configure more information for the user:</p> <ul style="list-style-type: none"> <li>• <b>name</b>—User ID of the user. The user ID must be at least 3 and no more than 32 characters in length. Cisco Unity Express allows only letters, numbers, and the characters underscore (_), dot (.), and dash (-) in user IDs. User IDs must start with a letter. Do not use spaces in the username.</li> <li>• <b>create</b>—Creates the user with no other information.</li> <li>• <b>delete</b>—Deletes an existing user.</li> <li>• <b>fullname</b>—Specifies a full name for this user. This full name appears on telephone displays.</li> <li>• <b>group</b>—Associates this user with an existing group.</li> <li>• <b>language</b>—Specifies a language for this user. Cisco Unity Express supports only one language installed on the system. This option cannot be changed.</li> <li>• <b>password</b>—Specifies a password for this user. The <i>password</i> value must be entered within quotation marks (" "). Spaces are not allowed. Acceptable password characters are lowercase letters a through z, uppercase letters A through Z, digits 0 through 9, and the following symbols: - , . + = _ ! @ # \$ ^ * ( ) ? / ~ &lt; &gt; &amp; %.</li> <li>• <b>pin</b>—Specifies a personal identification number (PIN) for this user. The user enters this number from the telephone when accessing the voice-mail system. The PIN may contain a maximum number of 16 digits. The asterisk (*) and pound sign (#) may not be used.</li> </ul>

	Command or Action	Purpose
Step 2	<pre>show users</pre> <p>or</p> <pre>show user detail username name</pre> <p><b>Example:</b> se-10-0-0-0# show user detail username user2 </p>	<p>Displays a list of usernames for all configured users. This command does not display the details for the users.</p> <p>or</p> <p>Displays the detailed configuration information for the user with the <i>name</i> value.</p>
Step 3	<pre>copy running-config startup-config</pre> <p><b>Example:</b> se-10-0-0-0# copy running-config startup-config </p>	<p>Copies the configuration changes to the startup configuration.</p>

## Examples

The following output illustrates the **show users** and **show user detail username** commands:

```
se-10-0-0-0# show users
user1
user2

se-10-0-0-0# show user detail username user2
Full Name:      User 2
First Name:
Last Name:     user2
Nickname:      user2
Phone:
Phone(E.164):
Language:      en_US
se-10-0-0-0#
```

## Configuration Mode:

	Command or Action	Purpose
Step 1	<p><b>config t</b></p> <p><b>Example:</b> se-10-0-0-0# config t</p>	Enters configuration mode.
Step 2	<p><b>username name [create   phonenumber phone-number   phonenumberE164 full-number]</b></p> <p><b>Example:</b> se-10-0-0-0(config)# username user3 create se-10-0-0-0(config)# username user3 phonenumber 71111 se-10-0-0-0(config)# username user3 phonenumberE164 13335550111</p>	<p>Creates the user with user ID <i>name</i> value. The optional parameters configure more information for the user:</p> <ul style="list-style-type: none"> <li>• <b>name</b>—User ID of the user. The user ID must be at least 3 and no more than 32 characters in length. Cisco Unity Express allows only letters, numbers, and the characters underscore (_), dot (.), and dash (-) in user IDs. User IDs must start with a letter. Do not use spaces in the username.</li> <li>• <b>create</b>—Creates the user with no other information.</li> <li>• <b>phonenumber</b>—Specifies a number or extension for this user. No spaces or dashes are allowed.</li> <li>• <b>phonenumberE164</b>—Specifies a telephone number with area code for this user. No spaces or dashes are allowed.</li> </ul>
Step 3	<p><b>exit</b></p> <p><b>Example:</b> se-10-0-0-0(config)# exit</p>	Exits configuration mode.
Step 4	<p><b>show users</b></p> <p>or</p> <p><b>show user detail username name</b></p> <p><b>Example:</b> se-10-0-0-0# show user detail username user2</p>	<p>Displays a list of usernames for all configured users. This command does not display the details for the users.</p> <p>or</p> <p>Displays the detailed configuration information for the user <i>name</i> value.</p>
Step 5	<p><b>copy running-config startup-config</b></p> <p><b>Example:</b> se-10-0-0-0# copy running-config startup-config</p>	Copies the configuration changes to the startup configuration.



## Examples

The following example illustrates configuring a user and the output from the **show** commands:

```
se-10-0-0-0(config)# username user3 create
se-10-0-0-0(config)# username user3 phonenumber 7654
se-10-0-0-0(config)# exit
se-10-0-0-0# show users
user1
user2
user3
se-10-0-0-0# show user detail username user3
Full Name:           User 3
First Name:
Last Name:           user3
Nickname:            user3
Phone:               7654
Phone (E.164) :
Language:            en_US
```

# Adding and Modifying a Group

A group is a collection of users, usually with a common function or purpose, such as sales, main office, customer service, or technicians. A group has the following characteristics:

- Members of the group can be individual users or other groups.
- The group is assigned an extension. If the members of the group are configured with the extension as a shared line, then anyone who calls this extension reaches a member of the group.
- The group usually has a mailbox assigned to it. This mailbox is called a general delivery mailbox. All members of the group access the mailbox to retrieve messages stored there. See [“Types of Mailboxes” on page 117](#) for more information about general delivery mailboxes.
- At least one user must be designated as the owner of the group. The owner adds and deletes users from the group.
- Members may belong to more than one group.
- Members can be added to the group using the configuration mode **groupname** command or using the EXEC mode **username** command. See [“Adding and Modifying a User” on page 106](#) for details about the **username** command.




---

**Note** Users must exist before being added to a group. See [“Adding and Modifying a User” on page 106](#) to configure the user’s detailed information.

---

- Only members have access to the messages in a group’s voice mailbox. The owner is not considered a member of the group. If the owner needs to access the group’s mailbox, add the owner as a member of the group. (The owner’s name appears twice in the group, once as a member and once as the owner.)
- A group may be assigned a privilege level. The privilege level permits the members of the group to access all or a restricted set of administrative functions. Use the **show privileges** command to display the privilege levels installed on your system. Use the **show groups privileges** command to display the privileges assigned to each group. See [“Privilege Levels for Users” on page 106](#) for more information about privilege levels.

See [“Software Licenses and Factory-Set Limits” on page 15](#) for the maximum number of groups, owners, and members permitted on your system.

The procedure described in this section allows you to create a new group in the system. Use the same commands to modify an existing group’s properties.

## Prerequisites

The following information is required to define a group:

- EXEC mode:
  - Name of the group
  - (Optional) Description of the group
  - (Optional) Full name of the group
- Configuration mode:
  - Name of the group

- (Optional) One or more member user IDs
- (Optional) User ID of the owner
- (Optional) Extension or telephone number of the group
- (Optional) Full E.164 telephone number of the group
- (Optional) Privilege level for the group

## SUMMARY STEPS

EXEC Mode:

1. **groupname** *name* [**create** | **delete** | **description** "*description*" | **fullname** "*full-name*"]
2. **show groups**  
or  
**show group detail groupname** *name*
3. **copy running-config startup-config**

Configuration Mode:

1. **config t**
2. **groupname** *name* [**member** *username* | **owner** *ownername* | **phonenumber** *phone-number* | **phonenumberE164** *full-number* | **privilege** *privilege-id*]
3. **exit**
4. **show groups**  
or  
**show group detail groupname** *name*
5. **copy running-config startup-config**

## DETAILED STEPS

## EXEC Mode:

	Command or Action	Purpose
Step 1	<p><b>groupname</b> <i>name</i> [<b>create</b>   <b>delete</b>   <b>description</b> "<i>description</i>"   <b>fullname</b> "<i>fullname</i>"]</p> <p><b>Example:</b>  se-10-0-0-0# groupname sales fullname "Sales Department"  se-10-0-0-0# groupname sales description "Retail Sales Department"  se-10-0-0-0# groupname sales delete</p>	<p>Creates the group with group ID <i>name</i> value. The optional parameters configure more information for the group:</p> <ul style="list-style-type: none"> <li>• <b>create</b>—Creates the group with no other information.</li> <li>• <b>delete</b>—Deletes an existing group.</li> <li>• <b>description</b>—Specifies a description of the group.</li> <li>• <b>fullname</b>—Specifies a long name for the group.</li> </ul>
Step 2	<p><b>show groups</b></p> <p>or</p> <p><b>show group detail groupname</b> <i>name</i></p> <p><b>Example:</b>  se-10-0-0-0# show group detail groupname sales</p>	<p>Displays a list of group names for all configured groups. This command does not display the details for the groups.</p> <p>or</p> <p>Displays the detailed configuration information for the group <i>name</i> value.</p>
Step 3	<p><b>copy running-config startup-config</b></p> <p><b>Example:</b>  se-10-0-0-0# copy running-config startup-config</p>	<p>Copies the configuration changes to the startup configuration.</p>

## Examples

The following example creates a group and displays the output of the **show** commands:

```

se-10-0-0-0# groupname sales fullname "Sales Department"
se-10-0-0-0# groupname sales description "CA office"

se-10-0-0-0# show groups
Administrators
sales

se-10-0-0-0# show group detail groupname sales
Full Name:          Sales Department
Description:        CA office
Phone:
Phone(E.164):
Language:           en_US
Owners:
Members:
se-10-0-0-0#

```

## Configuration Mode:

	Command or Action	Purpose
Step 1	<pre>config t</pre> <p><b>Example:</b> se-10-0-0-0# config t</p>	Enters configuration mode.
Step 2	<pre>groupname name [member username   owner ownername   phonenumber phone-number   phonenumberE164 full-number   privilege privilege-id]</pre> <p><b>Example:</b> se-10-0-0-0(config)# groupname sales member user1 se-10-0-0-0(config)# groupname sales owner user2 se-10-0-0-0(config)# groupname sales phonenumber 50120 se-10-0-0-0(config)# groupname sales phonenumberE164 12225550120 se-10-0-0-0(config)# groupname sales privilege ManagePrompts</p>	<p>Creates the user with user ID <i>name</i> value. The optional parameters configure more information for the user:</p> <ul style="list-style-type: none"> <li>• <b>member</b>—Associates an existing user as a member of this group. Repeat this command to assign multiple users to the group.</li> <li>• <b>owner</b>—Specifies the owner of the group. The owner is not considered a member. If the owner is to have access to the group's voice mailbox, also assign the owner as a member.</li> <li>• <b>phonenumber</b>—Associates a number or extension with this group. No spaces or dashes are allowed.</li> <li>• <b>phonenumberE164</b>—Associates a telephone number and area code with this group. No spaces or dashes are allowed.</li> <li>• <b>privilege</b>—Specifies the privilege level for the group. Members assigned to this group have the designated privilege rights.</li> </ul>
Step 3	<pre>exit</pre> <p><b>Example:</b> se-10-0-0-0(config)# exit</p>	Exits configuration mode.
Step 4	<pre>show groups</pre> <p>or</p> <pre>show group detail groupname name</pre> <p><b>Example:</b> se-10-0-0-0# show group detail groupname sales</p>	<p>Displays a list of group names for all configured groups. This command does not display the details for the groups.</p> <p>Displays the detailed configuration information for the group <i>name</i> value.</p>
Step 5	<pre>copy running-config startup-config</pre> <p><b>Example:</b> se-10-0-0-0# copy running-config startup-config</p>	Copies the configuration changes to the startup configuration.

## Examples

The following example adds an owner and two members to the group sales and assigns sales a phone number:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# groupname sales member user1
se-10-0-0-0(config)# groupname sales member user2
se-10-0-0-0(config)# groupname sales owner user1
se-10-0-0-0(config)# groupname sales phonenumber 50120
se-10-0-0-0(config)# groupname sales phonenumberE164 12225550120
se-10-0-0-0(config)# groupname sales privilege ManagePrompts
se-10-0-0-0(config)# exit

se-10-0-0-0(# show groups
Administrators
sales

se-10-0-0-0# show group detail groupname sales
Full Name:          Sales Department
Description:        CA office
Phone:              50120
Phone (E.164):     12225550120
Language:           en_US
Owners:             user1
Members:            user1 user2
se-10-0-0-0(#
```

# Creating and Modifying a Voice Mailbox

Assign a voice mailbox to a user configured in the Cisco Unity Express database. A mailbox user is either an individual or the owner of a user group. The user must have an assigned extension.

Not all users or extensions require a voice mailbox. To use mailboxes efficiently, consider the function or purpose of the user or extension before assigning the mailbox.

The commands to create or modify a voice mailbox are the same.

## Types of Mailboxes

Cisco Unity Express supports two types of mailboxes:

- Personal mailbox—This mailbox is assigned to a specific user and is accessible only by this user. When a caller leaves a message in this mailbox, the message waiting indicator (MWI) light turns on.
- General delivery mailbox (GDM)—This mailbox is assigned to a group of users. (See [“Adding and Modifying a Group” on page 112](#) for the definition of group members.) All members in the group have access to the mailbox. When a caller leaves a message in this mailbox, no MWI is turned on. Instead, when a member logs in to the personal mailbox, the mailbox menu allows the member to access the messages in each GDM to which the member belongs. Only one person can access the GDM at a time. After the first person saves or deletes a message in the GDM, the message is no longer played as “new” for any subsequent members.

## Mailbox Limitations

- Mailboxes are assigned to an IP telephone under the control of the Cisco CallManager system that resides on the same router as the Cisco Unity Express module. IP telephones under the control of Cisco CallManager on another router need their own on-site Cisco Unity Express application.
- Only the owner of a personal mailbox can delete messages in the mailbox. Members of a GDM can delete messages in the mailbox. The administrator cannot delete messages or display the length of time for which messages are stored in the system. When the mailbox owner logs in to the voice mailbox, the application notifies the owner of any expired messages. The owner can delete or save each message. If a message is saved from the expired messages menu, the expiry timer is restarted for that message.
- Mailboxes can have different storage sizes. Consider the purpose of the mailbox when assigning a smaller or larger size than the default. The aggregate of all mailboxes cannot exceed the maximum storage allowed on your system. See [“Cisco Unity Express Feature List” on page 2](#) for the mailbox storage capacity for your system, and use the **show voicemail usage** command to display the amount of storage already configured.

## Prerequisites

- Verify that the users and groups that will have voice mailboxes are configured before using this procedure. If you have not created the users and groups, see [“Adding and Modifying a User” on page 106](#) or [“Adding and Modifying a Group” on page 112](#) or return to the Cisco Unity Express GUI for the procedures.

- System-wide mailbox default values were configured during the installation process. If necessary, modify any of the following values for a specific mailbox:
  - Mailbox size
  - Expiration time
  - Message size

Use the **show voicemail limits** command to display the default values.

- The default greeting type is standard. Modify this value if the user or group owner has recorded an alternate greeting.

## SUMMARY STEPS

1. **config t**
2. **voice mailbox owner** *name* [**size** *seconds*]
3. **default** *parameter*
4. **description** “*text*”
5. **enable**  
or  
**disable**
6. **expiration time** *days*
7. **greeting** {**alternate** | **standard**}
8. **mailboxsize** *seconds*
9. **messagesize** *seconds*
10. (Optional) **no** *parameter*
11. **tutorial**
12. **zerooutnumber** “*number*”
13. **end**
14. **exit**
15. **show voicemail** {**detail** {**mailbox** | **user**} *name* | **limits** | **mailboxes** [**idle** *days*] | **usage** | **users**}
16. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>voice mailbox owner</b> <i>name</i> [ <b>size</b> <i>seconds</i> ]  <b>Example:</b> se-10-0-0-0(config)# voice mailbox owner user3 se-10-0-0-0(config)# voice mailbox owner sales	Creates a mailbox for the <i>name</i> value and with storage size <i>seconds</i> value, and enters mailbox configuration mode.



	Command or Action	Purpose
Step 3	<p><b>default</b> <i>parameter</i></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# default mailboxsize</p>	(Optional) Resets the mailbox parameter to the default system value.
Step 4	<p><b>description</b> "text"</p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# description "User 3 mailbox"</p>	(Optional) Enters a description of the mailbox. Use double quotes around the text.
Step 5	<p><b>enable</b> OR <b>disable</b></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# enable                      se-10-0-0-0(config-mailbox)# disable</p>	Activates or deactivates the new mailbox or reactivates the disabled mailbox.
Step 6	<p><b>expiration time</b> <i>days</i></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# expiration time 10</p>	Sets the number of days for which messages are stored in the mailbox. The default is 30 days.
Step 7	<p><b>greeting</b> {<i>alternate</i>   <i>standard</i>}</p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# greeting standard</p>	Specifies which greeting to use when a caller reaches the mailbox. The mailbox owner can record standard and alternate messages from the telephone user interface (TUI). If the user has not recorded any messages, the default recording is used.
Step 8	<p><b>mailboxsize</b> <i>seconds</i></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# mailboxsize 300</p>	Specifies the storage size of the mailbox, in seconds. This is the same as the <b>size</b> parameter.
Step 9	<p><b>messagesize</b> <i>seconds</i></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# messagesize 120</p>	Specifies the maximum size of an incoming message, in seconds.
Step 10	<p><b>no</b> <i>parameter</i></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# no tutorial</p>	Deletes or disables the mailbox parameter.
Step 11	<p><b>tutorial</b></p> <p><b>Example:</b>                      se-10-0-0-0(config-mailbox)# tutorial</p>	Enables the mailbox tutorial program when the telephone user logs in to the voice-mail system for the first time. The default is enabled. If the <b>tutorial</b> command is enabled after the mailbox is configured, the tutorial will start again but will confirm the user's previous choices, rather than erasing them all.

	Command or Action	Purpose
Step 12	<pre>zerooutnumber "number"</pre> <p><b>Example:</b> se-10-0-0-0(config-mailbox)# <b>zerooutnumber "2100"</b></p>	Specifies the extension where a caller is routed when a caller presses "0" to reach an operator after being transferred to a subscriber's mailbox.
Step 13	<pre>end</pre> <p><b>Example:</b> se-10-0-0-0(config-mailbox)# end</p>	Exits mailbox configuration mode.
Step 14	<pre>exit</pre> <p><b>Example:</b> se-10-0-0-0(config)# exit</p>	Exits configuration mode.
Step 15	<pre>show voicemail {detail {mailbox   user} name   limits   mailboxes [idle days]   usage   users}</pre> <p><b>Example:</b> se-10-0-0-0# show voicemail detail mailbox sales se-10-0-0-0# show voicemail detail mailbox user1 se-10-0-0-0# show voicemail detail user user3 se-10-0-0-0# show voicemail limits se-10-0-0-0# show voicemail mailboxes se-10-0-0-0# show voicemail mailboxes idle 5 se-10-0-0-0# show voicemail usage se-10-0-0-0# show voicemail users</p>	<p>Displays voice mailbox properties.</p> <ul style="list-style-type: none"> <li>• <b>detail</b>—Displays the details for a configured <b>mailbox</b> or <b>user</b> with the <i>name</i> value. For a group mailbox, this is the name of the mailbox, not the owner of the mailbox. If a user is an owner of a group mailbox, details for both the user's personal and group mailboxes are displayed.</li> <li>• <b>limits</b>—Displays the default values for all mailboxes.</li> <li>• <b>mailboxes</b>—Displays all configured mailboxes and their current mailbox storage status. The <b>idle</b> parameter displays the mailboxes that have been inactive for at least the specified number of days.</li> <li>• <b>usage</b>—Displays how much of the system's voice-mail capacity has been used or configured.</li> <li>• <b>users</b>—Lists the local voice-mail users.</li> </ul>
Step 16	<pre>copy running-config startup-config</pre> <p><b>Example:</b> se-10-0-0-0# copy running-config startup-config</p>	Copies the configuration changes to the startup configuration.

## Examples

The following example configures a mailbox for a user and displays the output of the **show** commands:

```
se-10-0-0-0# config t

se-10-0-0-0(config)# voice mailbox owner user3
se-10-0-0-0(config-mailbox)# description "User 3 mailbox"
se-10-0-0-0(config-mailbox)# expiration time 10
se-10-0-0-0(config-mailbox)# greeting alternate
se-10-0-0-0(config-mailbox)# mailboxsize 480
se-10-0-0-0(config-mailbox)# messagesize 120
se-10-0-0-0(config-mailbox)# no tutorial
```

```

se-10-0-0-0(config-mailbox)# zerooutnumber "2100"
se-10-0-0-0(config-mailbox)# enable
se-10-0-0-0(config-mailbox)# end
se-10-0-0-0(config)# exit

se-10-0-0-0# show voicemail detail mailbox user3

Owner:                               /sw/local/users/user3
Type:                                 Personal
Description:                          User 3 mailbox
Busy state:                           idle
Enabled:                               enabled
Mailbox Size (seconds):                480
Message Size (seconds):                120
Play Tutorial:                         false
Space Used (seconds):                  0
Total Message Count:                   0
New Message Count:                     0
Saved Message Count:                   0
Expiration (days):                    10
Greeting:                              alternate
Created/Last Accessed:                 Oct 15 2003 04:38:28 GMT+00:00

se-10-0-0-0# show voicemail limits

Default Mailbox Size (seconds):        3000
Default Caller Message Size (seconds): 60
Maximum Recording Size (seconds):      900
Default Message Age (days):           30
System Capacity (minutes):             6000
Default Prompt Language:               en_US
Operator Telephone:                    7000

se-10-0-0-0# show voicemail mailboxes

OWNER                                MSGS NEW  SAVED  MSGTIME MBXSIZE  USED
"user3"                              0    0    0      0       480     0 %

se-10-0-0-0# show voicemail mailboxes idle 3

OWNER                                IDLE MSGS  MSGTIME MBXSIZE
"user1"                              10    0    0       3000
"user2"                              10    0    0       3000
"user3"                              10    0    0       3000
"user4"                              10    0    0       3000
"user5"                              10    0    0       3000
"user6"                              10    0    0       3000

se-10-0-0-0# show voicemail mailboxes idle 20

OWNER                                IDLE MSGS  MSGTIME MBXSIZE

se-10-0-0-0# show voicemail detail user user3

-- Mailboxes owned --
"/sw/local/users/user3"              User 3 mailbox
-- Mailboxes accessible --

```

```
se-10-0-0-0# show voicemail usage

personal mailboxes:           1
general delivery mailboxes:   0
orphaned mailboxes:          0
capacity of voicemail (minutes): 6000
allocated capacity (minutes): 8.0
message time used (seconds):  0
message count:                0
average message length (seconds): 0.0
greeting time used (seconds):  0
greeting count:              0
average greeting length (seconds): 0.0
total time used (seconds):     0
total time used (minutes):     0.0
percentage used time (%):      0
se-10-0-0-0#
```

# Unlocking a Voice Mailbox

If a mailbox becomes locked, the telephone user will hear a message stating that the mailbox is unavailable. Use the **voice mailbox unlock** command to unlock the mailbox.

Starting in Cisco Unity EXEC mode, enter the following command:

```
voice mailbox unlock {owner name | telephonenumber tel-number}
```

<i>name</i>	Name of the mailbox owner.
<i>tel-number</i>	Extension or telephone number of the mailbox.

Examples:

```
se-10-0-0-0# voice mailbox unlock owner user3  
se-10-0-0-0# voice mailbox unlock telephonenumber 7654
```

This command is equivalent to the GUI operation of clicking the **Unlock** icon under **Voice Mail > Mailboxes**.

# Refreshing Message Waiting Indicators

Occasionally the MWI lights on a user's telephone get out of synchronization with the voice message status of the mailbox. When this condition happens, the MWI light is lit although the mailbox has no new messages or the MWI light is not lit even though the mailbox has new messages.

Use the **mwi refresh all** or **mwi refresh telephonenumber** command to refresh the MWI lights and to synchronize the mailbox message status and MWI lights. If the user has no messages, the MWI turns off. If the user has voice messages, the MWI light turns on.

Starting in Cisco Unity EXEC mode, enter the following command:

```
mwi refresh all
```

or

```
mwi refresh telephonenumber tel-number
```

where *tel\_number* is the telephone number of a specific extension.

Examples:

```
se-10-0-0-0# mwi refresh all  
se-10-0-0-0# mwi refresh telephonenumber 7654
```

This command is equivalent to the GUI operation of clicking the **Refresh All** or **Refresh Selected** icons under **Voice Mail > Message Waiting Indicators > Refresh**.



## Monitoring Active Calls

---

This chapter describes the commands that permit monitoring of active calls on the Cisco Unity Express system and contains the following sections:

- [Displaying Active Calls by Application, page 125](#)
- [Displaying Active Calls by Route, page 127](#)
- [Terminating an Active Call, page 129](#)

### Displaying Active Calls by Application

To display active calls by Cisco Unity Express application, use the following command in Cisco Unity Express EXEC mode:

```
show ccn call application [all [subsystem {jtapi | sip}] |  
application-name [subsystem {jtapi | sip}]]
```

where **all** displays active calls for all applications, *application-name* displays active calls for the specified application, and **jtapi** and **sip** display active calls for those subsystems.

The command displays information about the port, the call, and the media.

The following is sample output for the **show ccn call application** command:

```
se-10-0-0-0# show ccn call application voicemail  
  
Active Call Details for Subsystem :SIP  
-----  
  
**** Details for route ID :1200 ****  
-----  
  
** Active Port #1:Call and Media info **  
-----  
  
Port ID :4  
Port Impl ID :16904  
Port State :IN_USE  
Call Id :241  
Call Impl Id :FFCE47C8-669711D6-8C4BF237-80EC4A17@10.4.39.35  
Call State :CALL_ANSWERED  
Call active time(in seconds) :1  
Application Associated :voicemail
```

```

Application Task Id :17000000122
Called Number :1200
Dialed Number :
Calling Number :1005
ANI :
DNIS :
CLID :sip:1005@10.4.39.35
Arrival Type :DIRECT
Last Redirected Number :
Original Called Number :
Original Dialed Number :

```

```

Media Id :6
Media State :IN_USE
Media Destination Address :10.4.39.35
Media Destination Port :16970
Destination Size :20
Destination Payload :G711ULAW64K
Media Source Address :10.4.39.135
Media Source Port :16904
Source Size :30
Source Payload :G711ULAW64K

```

```
se-10-0-0-0# show ccn call application promptgmt
```

```
Active Call Details for Subsystem :SIP
```

```

-----
**** Details for route ID :1202 ****
-----

```

```

** Active Port #1:Call and Media info **
-----

```

```

Port ID :3
Port Impl ID :16902
Port State :IN_USE
Call Id :242
Call Impl Id :92023CF-669811D6-8C50F237-80EC4A17@10.4.39.35
Call State :CALL_ANSWERED
Call active time(in seconds) :1
Application Associated :promptgmt
Application Task Id :17000000123
Called Number :1202
Dialed Number :
Calling Number :1005
ANI :
DNIS :
CLID :sip:1005@10.4.39.35
Arrival Type :DIRECT
Last Redirected Number :
Original Called Number :
Original Dialed Number :

```

```

Media Id :5
Media State :IN_USE
Media Destination Address :10.4.39.35
Media Destination Port :18534
Destination Size :20
Destination Payload :G711ULAW64K
Media Source Address :104.39.135
Media Source Port :16902

```



```
Source Size :30
Source Payload :G711ULAW64K
```

## Displaying Active Calls by Route

Cisco Unity Express supports displaying active calls by route, which is a trigger number configured for an application. Use the **show ccn trigger** command to display a list of configured triggers.

To display active calls by route, use the following command in Cisco Unity Express EXEC mode:

```
show ccn call route [all [subsystem {jtapi | sip}] | route-address [subsystem {jtapi | sip}]]
```

where **all** displays active calls for all applications, *route-address* displays active calls for the specified route, and **jtapi** and **sip** display active calls for those subsystems.

The command displays information about the port, the call, and the media for both JTAPI and SIP subsystems.

The following example is sample output for the **show ccn call route all** command:

```
se-10-0-0-0# show ccn call route all

Active Call Details for Subsystem :JTAPI
-----

**** Details for route ID :2200 ****
-----

** Active Port #1:Call and Media info **
-----

Port ID :2
Port Impl ID :4086502013
Port State :IN_USE
Call Id :9
Call Impl Id :1566/1
Call State :CALL_ANSWERED
Call active time(in seconds) :6
Application Associated :voicemail
Application Task Id :17000000010
Called Number :2200
Dialed Number :
Calling Number :2001
ANI :
DNIS :
CLID :
Arrival Type :DIRECT
Last Redirected Number :
Original Called Number :2200
Original Dialed Number :

Media Id :2
Media State :IN_USE
Media Destination Address :172.16.59.11
Media Destination Port :22814
Destination Size :20
Destination Payload :G711ULAW64K
Media Source Address :10.4.14.133
Media Source Port :16388
```

```

Source Size :20
Source Payload :G711ULAW64K

  ** Active Port #2:Call and Media info **
  -----

Port ID :1
Port Impl ID :4086502014
Port State :IN_USE
Call Id :10
Call Impl Id :1567/1
Call State :CALL_ANSWERED
Call active time(in seconds) :6
Application Associated :voicemail
Application Task Id :17000000011
Called Number :2200
Dialed Number :
Calling Number :2003
ANI :
DNIS :
CLID :
Arrival Type :DIRECT
Last Redirected Number :
Original Called Number :2200
Original Dialed Number :

Media Id :1
Media State :IN_USE
Media Destination Address :172.16.59.12
Media Destination Port :27928
Destination Size :20
Destination Payload :G711ULAW64K
Media Source Address :10.4.14.133
Media Source Port :16386
Source Size :20
Source Payload :G711ULAW64K

```

```
Active Call Details for Subsystem :SIP
-----
```

The following example displays active calls for the route 1200, which is a trigger number for the voice-mail application.

```
se-10-0-0-0# show ccn call route 1200
```

```
Active Call Details for Subsystem :SIP
-----
```

```
**** Details for route ID :1200 ****
-----
```

```

  ** Active Port #1:Call and Media info **
  -----

Port ID :8
Port Impl ID :16912
Port State :IN_USE
Call Id :246
Call Impl Id :E682B0A9-673311D6-8C64F237-80EC4A17@10.4.39.35
Call State :CALL_ANSWERED
Call active time(in seconds) :0
Application Associated :voicemail

```

```
Application Task Id :17000000127
Called Number :1200
Dialed Number :
Calling Number :1005
ANI :
DNIS :
CLID :sip:1005@10.4.39.35
Arrival Type :DIRECT
Last Redirected Number :
Original Called Number :
Original Dialed Number :

Media Id :1
Media State :IN_USE
Media Destination Address :10.4.39.35
Media Destination Port :18812
Destination Size :20
Destination Payload :G711ULAW64K
Media Source Address :10.4.39.135
Media Source Port :16912
Source Size :30
Source Payload :G711ULAW64K
```

## Terminating an Active Call

An active call can be terminated using the call's implementation ID or the implementation ID of the port through which the call came in to the system. Use the **show ccn call route** command to obtain the call or port implementation ID. See [“Displaying Active Calls by Route” on page 127](#).

To terminate an active call, use the following command in Cisco Unity Express EXEC mode:

```
ccn call terminate { callimplid | portimplid } impli-id
```

where *impli-id* is the implementation ID of the call or port.

The following examples terminate a call with implementation ID 1567/1:

```
se-10-0-0-0# ccn call terminate call 1567/1
```

The following examples terminate a call coming through a port with implementation 4086502014:

```
se-10-0-0-0# ccn call terminate port 4086502014
```





## Backing Up and Restoring Data

---

Cisco Unity Express backup and restore functions use an FTP server to store and retrieve data. The backup function copies the files from the Cisco Unity Express application to the FTP server and the restore function copies the files from the FTP server to the Cisco Unity Express application. The FTP server can reside anywhere in the network if the backup and restore functions can access it with an IP address.

We recommend that backups be done daily to preserve voice-mail messages and configuration data.

Backup and restore commands are available in configuration mode and in offline mode.

- In configuration mode, set the following parameters:
  - Number of backup files to keep (the oldest file is deleted).
  - URL of the FTP server where the files will be stored.
- In offline mode, perform the backup or restore procedure. Decide the following:
  - Type of files to be backed up: all files (configuration and data), only configuration files, or only data files. Data files consist of voice-mail messages. Configuration files consist of all other system and application parameters.
  - Backup filename (used for restore procedure).
  - URL of the FTP server where the files will be stored.



### Caution

---

Offline mode terminates all existing voice-mail calls, and no new voice-mail calls are allowed. Calls to auto attendant are allowed. We recommend doing a backup when telephone users are not active on calls.

---

In Cisco Unity Express EXEC mode, the startup configuration and running configuration can be saved to various locations, such as the network FTP server, the network TFTP server, and flash memory.

This chapter contains the following sections:

- [Restrictions, page 132](#)
- [Setting Backup Parameters, page 133](#)
- [Backing Up Files, page 135](#)
- [Restoring Files, page 138](#)
- [Copying Configurations, page 141](#)
- [Restoring Factory Default Values, page 143](#)

# Restrictions

Cisco Unity Express does not support the following backup and restore capabilities:

- Scheduled backup and restore operations. The backup and restore procedures begin when the appropriate command is entered.
- Centralized message storage arrangement. 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.

# Setting Backup Parameters

The backup parameters define the FTP server to use for storing Cisco Unity Express backup files and the number of files that are stored before the system deletes the oldest one.

All Cisco Unity Express backup files are stored on the specified server. You can copy the backup files to other locations or servers, if necessary.

Cisco Unity Express automatically assigns a backup ID to the backup file. Use the backup ID to restore the file.

## Prerequisites

The following information is required for setting the backup parameters:

- Number of revisions to save before the oldest file is written over
- FTP server URL
- User ID of the FTP server login
- Password of the FTP server login

## SUMMARY STEPS

1. **config t**
2. **backup {revisions *number* | server url *ftp-url* username *ftp-username* password *ftp-password*}**
3. **exit**
4. **show backup**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>config t</pre> <p><b>Example:</b> se-10-0-0-0# config t </p>	Enters configuration mode.
Step 2	<pre>backup {revisions number   server url ftp-url username ftp-username password ftp-password}</pre> <p><b>Example:</b></p> <pre>se-10-0-0-0(config)# backup server url ftp://main/backups username "admin" password "wxyz" se-10-0-0-0(config)# backup server url ftp://172.168.10.10/backups username "admin" password "wxyz" se-10-0-0-0(config)# backup revisions 5</pre>	<p>Sets the backup parameters.</p> <ul style="list-style-type: none"> <li><b>server url</b>—The <i>ftp-url</i> value is the URL to the network FTP server where the backup files will be stored. The <i>ftp-username</i> and <i>ftp-password</i> values are the user ID and password for the network FTP server.</li> </ul> <p><b>Note</b> The backup server must be configured before the backup revisions can be configured.</p> <ul style="list-style-type: none"> <li><b>revisions</b>—The number of backup files that will be stored. When this number is reached, the system deletes the oldest stored file.</li> </ul> <p>In the example, <b>main</b> is the hostname of the FTP server and <b>backups</b> is the directory where backup files are stored.</p>
Step 3	<pre>exit</pre> <p><b>Example:</b> se-10-0-0-0(config)# exit </p>	Exits configuration mode.
Step 4	<pre>show backup</pre> <p><b>Example:</b> se-10-0-0-0# show backup </p>	Displays the backup server configuration information, including the FTP server URL and the number of revisions.

## Examples

The following example configures a backup server and displays the **show backup** output:

```
se-10-0-0-0# config t
se-10-0-0-0#(config)# backup server url ftp://172.16.0.0/backups username "admin" password
"voice"
se-10-0-0-0#(config)# backup revisions 10
se-10-0-0-0#(config)# exit

se-10-0-0-0# show backup
Server URL: ftp://172.16.0.0/backups
User Account on Server: admin
Number of Backups to Retain: 10
se-10-0-0-0#
```



# Backing Up Files

Backup commands must be entered in EXEC mode while the system is in offline mode. Active calls are terminated, and no new calls are accepted. Consider doing the backup procedure at a time when telephone users are least likely to be on the telephone.

**Note**

---

We recommend that you back up your configuration files whenever changes are made to the system or application files. Data files, which contain voice messages, should be backed up daily to minimize data loss, such as from a hardware failure.

---

## Numbering Scheme for Backup Files

Three types of backup requests are available: data only, configuration only, or all.

- **Data**—Backs up greetings, voice-mail messages, recorded names, and custom scripts and prompts.
- **Configuration**—Backs up only the running configuration. Use the **show run** command to display the current running configuration.
- **All**—Backs up all data and configuration information.

Cisco Unity Express automatically numbers and dates the backup files and identifies the revision number in a backupid field.

Performing different backup types at various times causes different backup IDs for data backups and configuration backups. For example, the last data backup ID might be 3, and the last configuration backup might be 4. Performing an “all” backup might result in a backup ID of 5 for both data and configuration.

When restoring the files, refer to the backup ID for the backup file that you want to use. Use the **show backup server** command for a list of backup IDs.

**Caution**

---

Offline mode terminates all existing voice-mail calls, and no new voice-mail calls are allowed. Calls to auto attendant are allowed. We recommend doing a backup when telephone users are not active on calls.

---

### SUMMARY STEPS

1. **offline**
2. **backup category {all | configuration | data}**
3. **continue**
4. **show backup history**
5. **show backup server**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>offline</b>  <b>Example:</b> se-10-0-0-0# <b>offline</b>	Enters offline mode. All active voice-mail calls are terminated.
Step 2	<b>backup category {all   configuration   data}</b>  <b>Example:</b> se-10-0-0-0(offline)# <b>backup category all</b> se-10-0-0-0(offline)# <b>backup category configuration</b> se-10-0-0-0(offline)# <b>backup category data</b>	Specifies the type of data to be backed up and stored.
Step 3	<b>continue</b>  <b>Example:</b> se-10-0-0-0(offline)# <b>continue</b>	Exits offline mode and returns to EXEC mode.
Step 4	<b>show backup history</b>  <b>Example:</b> se-10-0-0-0# <b>show backup history</b>	Displays the backup and restore procedures and the success or failure of those attempts.
Step 5	<b>show backup server</b>  <b>Example:</b> se-10-0-0-0# <b>show backup server</b>	Displays the backup files available on the backup server, the date of each backup, and the backup file ID.

## Examples

The following example displays the output from the **show backup** commands:

```
se-10-0-0-0# show backup history

Start Operation
Category:      Configuration
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Backup
Backupid:      1
Restoreid:     -1
Description:   test backup 1
Date:          Sun Jun 13 12:23:38 PDT 1993
Result:        Failure
Reason:        Script execution failed: /bin/BR_VMConfig_backup.sh: returnvalue:1
               ; Server Url:ftp://10.100.10.215/CUE_backup: returnvalue:9 Unable to authenticate
#End Operation

#Start Operation
Category:      Configuration
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Backup
Backupid:      2
Restoreid:     -1
Description:   CUE test backup
```

```
Date:          Sun Jun 13 12:32:48 PDT 1993
Result:        Success
Reason:
#End Operation

#Start Operation
Category:      Data
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Backup
Backupid:      2
Restoreid:     -1
Description:   CUE test backup
Date:          Sun Jun 13 12:32:57 PDT 1993
Result:        Success
Reason:
#End Operation

#Start Operation
Category:      Configuration
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Restore
Backupid:      2
Restoreid:     1
Description:
Date:          Sun Jun 13 12:37:52 PDT 1993
Result:        Success
Reason:
#End Operation

se-10-0-0-0# show backup server

Category:      Data
Details of last 5 backups
Backupid:      1
Date:          Tue Jul 22 10:55:52 PDT 2003
Description:

Backupid:      2
Date:          Tue Jul 29 18:06:33 PDT 2003
Description:

Backupid:      3
Date:          Tue Jul 29 19:10:32 PDT 2003
Description:

Category:      Configuration
Details of last 5 backups
Backupid:      1
Date:          Tue Jul 22 10:55:48 PDT 2003
Description:

Backupid:      2
Date:          Tue Jul 29 18:06:27 PDT 2003
Description:

Backupid:      3
Date:          Tue Jul 29 19:10:29 PDT 2003
Description:

se-10-0-0-0#
```

# Restoring Files

After the backup files are created, you can restore them when needed. Restoring is done in offline mode, which terminates all voice-mail active calls and does not permit new voice-mail calls (auto attendant calls are permitted). You should consider doing the restore when telephone users are least likely to be on the telephone.

Use the **show backup server** command to locate the backup ID of the file that you want to restore.

## SUMMARY STEPS

1. **show backup server**
2. **offline**
3. **restore id *backupid* category {all | configuration | data}**
4. **reload**
5. **show backup history**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>show backup server</b>  <b>Example:</b> se-10-0-0-0# show backup server	Lists the data and configuration backup files. Look at the backup ID field for the revision number of the file that you want to restore.
Step 2	<b>offline</b>  <b>Example:</b> se-10-0-0-0# offline	Enters offline mode. All active voice-mail calls are terminated.
Step 3	<b>restore id <i>backupid</i> category {all   configuration   data}</b>  <b>Example:</b> se-10-0-0-0(offline)# restore id 22 category all se-10-0-0-0(offline)# restore id 8 category configuration se-10-0-0-0(offline)# restore id 3 category data	Specifies the backup ID <i>backupid</i> value and the file type to be restored.
Step 4	<b>reload</b>  <b>Example:</b> se-10-0-0-0(offline)# reload	Resets the Cisco Unity Express module so that the restored values take effect.
Step 5	<b>show backup history</b>  <b>Example:</b> se-10-0-0-0# show backup history	Displays the backup and restore procedures and the success or failure of those attempts.

## Examples

The following example displays the backup server and backup history:

```

se-10-0-0-0# show backup server

Category:          Data
Details of last 5 backups
Backupid:          1
Date:              Tue Jul 22 10:55:52 PDT 2003
Description:

Backupid:          2
Date:              Tue Jul 29 18:06:33 PDT 2003
Description:

Backupid:          3
Date:              Tue Jul 29 19:10:32 PDT 2003
Description:

Category:          Configuration
Details of last 5 backups
Backupid:          1
Date:              Tue Jul 22 10:55:48 PDT 2003
Description:

Backupid:          2
Date:              Tue Jul 29 18:06:27 PDT 2003
Description:

Backupid:          3
Date:              Tue Jul 29 19:10:29 PDT 2003
Description:

se-10-0-0-0#

se-10-0-0-0# show backup history

Start Operation
Category:          Configuration
Backup Server:    ftp://10.100.10.215/CUE_backup
Operation:        Backup
Backupid:         1
Restoreid:        -1
Description:      test backup 1
Date:             Sun Jun 13 12:23:38 PDT 1993
Result:           Failure
Reason:           Script execution failed: /bin/BR_VMConfig_backup.sh: returnvalue:1
                  ; Server Url:ftp://10.100.10.215/CUE_backup: returnvalue:9 Unable to authenticate
#End Operation

#Start Operation
Category:          Data
Backup Server:    ftp://10.100.10.215/CUE_backup
Operation:        Backup
Backupid:         1
Restoreid:        -1
Description:      test backup 1
Date:             Sun Jun 13 12:23:44 PDT 1993
Result:           Failure
Reason:           Script execution failed: /bin/BR_VMData_backup.sh: returnvalue:1

```

```
Voicemail Backup failed; Server Url:ftp://10.100.10.215/CUE_backup: returnvalue:9
Unable to authenticate
#End Operation
```

```
#Start Operation
Category:      Configuration
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Backup
Backupid:     2
Restoreid:    -1
Description:   CUE test backup
Date:         Sun Jun 13 12:32:48 PDT 1993
Result:       Success
Reason:
#End Operation
```

```
#Start Operation
Category:      Data
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Backup
Backupid:     2
Restoreid:    -1
Description:   CUE test backup
Date:         Sun Jun 13 12:32:57 PDT 1993
Result:       Success
Reason:
#End Operation
```

```
#Start Operation
Category:      Configuration
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Restore
Backupid:     2
Restoreid:    1
Description:
Date:         Sun Jun 13 12:37:52 PDT 1993
Result:       Success
Reason:
#End Operation
```

```
#Start Operation
Category:      Data
Backup Server: ftp://10.100.10.215/CUE_backup
Operation:     Restore
Backupid:     2
Restoreid:    1
Description:
Date:         Sun Jun 13 12:38:00 PDT 1993
Result:       Success
Reason:
#End Operation
```

# Copying Configurations

The following Cisco Unity Express EXEC commands are available to copy the startup configuration and running configuration to and from flash memory, the network FTP server, and the network TFTP server.

## Copying from Flash Memory to Another Location

Starting in Cisco Unity Express EXEC mode, use the following command to copy the startup configuration in flash memory to another location:

```
copy startup-config {ftp: user-id:password@ftp-server-address/[directory] | tftp:tftp-server-address} filename
```

Keyword or Argument	Description
<b>ftp:</b> <i>user-id:password@</i>	User ID and password for the FTP server. Include the colon (:) and the at sign (@) in your entry.
<i>ftp-server-address</i>	IP address of the FTP server.
<i>directory</i>	(Optional) Directory on the FTP server where the copied file will reside. If you use it, precede the name with the forward slash (/).
<b>tftp:</b> <i>tftp-server-address</i>	IP address of the TFTP server.
<i>filename</i>	Name of the destination file that will contain the copied startup configuration.

This command is interactive and prompts you for the information. You cannot enter the parameters in one line. The following examples illustrate this process.

In this example, the startup configuration is copied to the FTP server, which requires a user ID and password to transfer files. The IP address of the FTP server is 172.16.231.193. The startup configuration file is saved on the FTP server with the filename start.

```
se-10-0-0-0# copy startup-config ftp
Address or name of remote host? admin:voice@172.16.231.193
Source filename? start
```

The following example shows the startup configuration copied to the TFTP server, which does not require a user ID and password. The IP address of the TFTP server is 172.16.231.190. The startup configuration is saved in the TFTP directory configs as filename temp\_start.

```
se-10-0-0-0# copy startup-config tftp
Address or name of remote host? 172.16.231.190/configs
Source filename? temp_start
```

## Copying from the Network FTP Server to Another Location

Starting in Cisco Unity Express EXEC mode, use the following command to copy the network FTP server configuration to another location:

```
copy ftp: {running-config | startup-config} user-id:password@ftp-server-address/[directory] filename
```

Keyword or Argument	Description
<b>running-config</b>	Active configuration in flash memory.
<b>startup-config</b>	Startup configuration in flash memory.
<i>user-id:password@</i>	User ID and password for the FTP server. Include the colon (:) and the at sign (@) in your entry.
<i>ftp-server-address</i>	IP address of the FTP server.
<i>directory</i>	(Optional) Directory name for retrieving the file. If you use it, precede the name with the forward slash (/).
<i>filename</i>	Name of the source file to be copied.

This command is interactive and prompts you for the information. You cannot enter the parameters in one line. The following example illustrates this process.

In this example, the FTP server requires a user ID and password. The IP address of the FTP server is 10.3.61.16. The file start in the FTP server configs directory is copied to the startup configuration.

```
se-10-0-0-0# copy ftp: startup-config
!!!WARNING!!! This operation will overwrite your startup configuration.
Do you wish to continue[y]? y
Address or name or remote host? admin:voice@10.3.61.16/configs
Source filename? start
```

## Copying the Flash Running Configuration to Another Location

Starting in Cisco Unity Express EXEC mode, use the following command to copy the running configuration in flash memory to another location:

```
copy running-config {ftp: user-id:password@ftp-server-address [directory] |
startup-config | tftp:ftp-server-address} filename
```

Keyword or Argument	Description
<b>ftp: <i>user-id:password@</i></b>	User ID and password for the FTP server. Include the colon (:) and the at sign (@) in your entry.
<i>ftp-server-address</i>	IP address of the FTP server.
<i>directory</i>	(Optional) Directory on the FTP server where the copied file will reside. If you use it, precede the name with the forward slash (/).
<b>startup-config</b>	Startup configuration in flash memory.
<b>tftp:<i>ftp-server-address</i></b>	IP address of the TFTP server.
<i>filename</i>	Name of the destination file that will contain the copied running configuration.

When you copy the running configuration to the startup configuration, enter the command on one line.

When you copy to the FTP or TFTP server, this command becomes interactive and prompts you for the information. You cannot enter the parameters in one line. The following example illustrates this process.



In the following example, the running configuration is copied to the FTP server, which requires a user ID and password. The IP address of the FTP server is 172.16.231.193. The running configuration is copied to the configs directory as file saved\_start.

```
se-10-0-0-0# copy running-config ftp:
Address or name of remote host? admin:voice@172.16.231.193/configs
Source filename? saved_start
```

In the following example, the running configuration is copied to the startup configuration as file start. In this instance, enter the command on a single line.

```
se-10-0-0-0# copy running-config startup-config start
```

## Copying the Network TFTP Configuration to Another Location

Starting in Cisco Unity Express EXEC mode, use the following command to copy the network TFTP configuration to another location:

```
se-10-0-0-0# copy tftp: {running-config | startup-config} tftp-server-address/[directory] filename
```

Keyword or Argument	Description
<b>running-config</b>	Active configuration in flash memory.
<b>startup-config</b>	Startup configuration in flash memory.
<i>tftp-server-address</i>	IP address of the TFTP server.
<i>directory</i>	(Optional) Directory on the TFTP server where the copied file will reside. If you use it, precede the name with the forward slash (/).
<i>filename</i>	Name of the source file to be copied.

This command is interactive and prompts you for the information. You cannot enter the parameters in one line. The following example illustrates this process.

In this example, the TFTP server has IP address 10.3.61.16. The file start in directory configs on the TFTP server is copied to the startup configuration.

```
se-10-0-0-0# copy tftp: startup-config
!!!WARNING!!! This operation will overwrite your startup configuration.
Do you wish to continue [y]? y
Address or name of remote host? 10.3.61.16/configs
Source filename? start
```

## Restoring Factory Default Values

Cisco Unity Express provides a command to restore the factory default values for the entire system. Restoring the system to the factory defaults erases the current configuration. This function is available in offline mode.



### Caution

This feature is not reversible. All data and configuration files are erased. Use this feature with caution. It is recommended that you do a full system backup before proceeding with this feature.

After the administrator enters the command to restore system defaults, the system requests confirmation before starting the procedure. Upon receiving the confirmation, the system does the following:

- Replaces the current database with an empty database.
- Initializes the Lightweight Directory Access Protocol (LDAP) to an empty state.
- Replaces the startup configuration with the template startup configuration that ships with the system.
- Erases all postinstallation configuration data.
- Deletes all user and custom prompts.

When the system is clean, the administrator sees a message that the system will reload, and the system begins to reload. When the reload is complete, the system prompts the administrator to go through the postinstallation process.

When logging in to the graphical user interface (GUI), the administrator has the option to run the initialization wizard.

Perform the following steps to reset the system to Cisco Unity Express factory default values.

---

**Step 1** se-10-0-0-0# **offline**

This command puts the system into offline mode.

**Step 2** (offline)# **restore factory default**

**This operation will cause all the configuration and data on the system to be erased. This operation is not reversible. Do you wish to continue? (n)**

**Step 3** Do one of the following:

- Enter **n** if want to retain the system configuration and data.  
The operation is cancelled, but the system remains in offline mode. To return to online mode, enter **continue**.
  - Enter **y** if you want to erase the system configuration and data.  
When the system is clean, a message appears indicating that the system will start to reload. When the reload is complete, a prompt appears to start the postinstallation process.
-



# Troubleshooting

---

This chapter provides information on troubleshooting some Cisco Unity Express problems and contains the following sections:

- [Troubleshooting Guidelines, page 145](#)
- [Troubleshooting Commands, page 149](#)

Also check “[Restrictions for Implementing Cisco Unity Express](#)” on [page 12](#) in case system limitations are involved in the problem under consideration.

## Troubleshooting Guidelines

The following sections provide information and suggestions for resolving some problems with the Cisco Unity Express configuration and applications:

- [System Reports, page 145](#)
- [Log Files, page 146](#)
- [Users and Groups, page 146](#)
- [Hardware and Software, page 146](#)
- [Voice Mail, page 149](#)
- [Auto Attendant Prompts, page 149](#)

## System Reports

Cisco Unity Express provides the following system reports in both the graphical user interface (GUI) and the command-line interface (CLI):

- Mailbox and message statistics
- Mailbox size monitoring
- Backup and restore history
- System hardware parameters
- Memory and CPU usage (CLI only)
- Call history

## Log Files

**Problem:** I cannot display log files in the GUI.

**Explanation** Log files are kept for error reporting and troubleshooting. The GUI does not have access to system error messages.

**Recommended Action** Use the CLI to display log files.

## Users and Groups

**Problem:** I cannot get in to the GUI.

**Explanation** You forgot to enter a system administrator during the initialization wizard.

**Recommended Action** Use the administrator login ID created during the post-installation procedure or create an administrator login ID using the following CLI commands, starting in Cisco Unity Express EXEC mode, where *name* is the user ID and *password* is the user's password:

- a. cue-10-0-0-0# **username** *name* **create**
- b. cue-10-0-0-0# **username** *name* **password** *password*
- c. cue-10-0-0-0# **config t**
- d. cue-10-0-0-0(config)# **groupname** **Administrators** **member** *name*

**Problem:** I need to recover a user's password or personal identification number (PIN).

**Explanation** The user has forgotten the password or PIN.

**Recommended Action** For security reasons, passwords and PINs are not displayed on the screen or printed out. You must create a new password or PIN and give that new code to the user. See [“Adding and Modifying a User” on page 106](#) for the commands to create a new password or PIN.

## Hardware and Software

### Rebooting the System

**Problem:** I am not sure if I need to reboot the router when I reboot the Cisco Unity Express module.

**Explanation** A reboot of the Cisco Unity Express module does not require a reboot of the router. The Cisco Unity Express module and the router can be rebooted independently of each other. However, if you reboot the router, no calls will reach the module until IP connectivity is reestablished between the router and the module.



#### Caution

---

Always do a shutdown of the module before power-cycling the router to avoid data loss or file corruption.

---

## Setting Daylight Savings Time

**Problem:** I need to set daylight savings time.

**Explanation** Cisco Unity Express sets daylight savings time automatically on the basis of the time zone, which is selected during the installation procedure or with the **Administration > Network Time & Time Zone Settings** GUI screen.

## Communicating Between Components

**Problem:** I cannot open a session in to the Cisco Unity Express module.

**Explanation** The TTY line associated with the module is occupied.

**Recommended Action** Use the **service-module service-engine slot/port session clear** command to clear the TTY line.

**Problem:** I cannot change or remove the IP address or IP default-gateway configurations with the Cisco Unity Express CLI.

**Explanation** The IP address and IP default-gateway configurations are controlled from the Cisco IOS software.

**Recommended Action** Make the required changes from the service-engine interface.

**Problem:** Service-module commands do not seem to take effect.

**Explanation** The service-module status might not be steady state. RBCP configuration messages go through only when the service-module is in steady state.

**Recommended Action** Use the **service-module service-engine slot/port reload** command to reload the Cisco Unity Express module.

**Problem:** I cannot ping the internal address when using the IP unnumbered scheme.

**Explanation** The IP route table is not correct.

**Recommended Action** When using IP unnumbered, add a static route that points to the service-engine interface.

**Problem:** I cannot set the speed of the terminal line from the router side or the Cisco Unity Express side.

**Explanation** Cisco Unity Express does not have a CLI command to set the speed. The speed is set to 9600, 8-N-1 on both the Cisco CallManager and Cisco Unity Express sides. Although Cisco IOS software allows you to change the speed settings, the changes do not take effect.

## Online Insertion and Removal (OIR)

**Problem:** I did an OIR of the Cisco Unity Express AIM-CUE on my router but it does not seem to be working.

**Explanation** Only the Cisco 3745 and 3845 routers support OIR. OIR is not available on the AIM.

**Problem:** I did an OIR on the Cisco 3745. Now the Cisco Unity Express network module is not working.

**Explanation** The Cisco Unity Express network module must be shutdown before OIR.

**Recommended Action** OIR requires the following steps:

- a. Shut down the service-engine interface.
- b. Issue the **service-module service-engine slot/port shutdown** command.
- c. Wait for confirmation that the network module has been shut down.
- d. Proceed with the OIR.

## Saving and Viewing Log Files

**Problem:** I need to be able to store log files to a remote location.

**Recommended Action** Log files are stored on the disk, which is the default location. You can configure Cisco Unity Express to store the log files to a separate server. Also, you can copy log files on the disk to a separate server if they need to be kept for history purposes, for example:

```
copy log filename.log url ftp://ftp-user-id:ftp-user-passwd@ftp-ip-address/directory
se-10-0-0-0# copy log messages.log url ftp://admin:voice@172.168.0.5/log_history
```

**Problem:** I cannot display the contents of log files on the GUI.

**Explanation** The GUI cannot display log files. Troubleshooting commands and files are available only through the CLI.

**Recommended Action** Copy the log files from Cisco Unity Express to an external server and use a text editor, such as vi, to display the content.

## Saving Configuration Changes

**Problem:** I lost some configuration data when the GUI timer expired.

**Explanation** You did not save the data while you were entering it.

**Recommended Action** While making some configuration changes in the GUI, use the **Apply** icon to save your changes to the running configuration before the timer logs you out of the system. If the timer logs you out and you did not use the **Apply** icon, your changes are not saved.




---

**Note** The timer affects only the GUI, not the CLI.

---

**Problem:** I lost configuration data when I rebooted the system.

**Explanation** You did not save the data before the reboot.

**Recommended Action** Perform a **Save Configuration** operation in the GUI or enter a **copy running-config startup-config** command in the CLI to copy your changes from the running configuration to the startup configuration. When Cisco Unity Express reboots, it reloads the startup configuration.



**Note**

Voice-mail messages, which are considered application data and are saved directly to the disk, are preserved automatically in the startup configuration. (They should be backed up to preserve them on another server in case of a power outage or a new installation.) All other configuration changes require an explicit “save configuration” operation to preserve them in the startup configuration.

## Voice Mail

**Problem:** A user received a message with an envelope that says “unknown caller.”

**Explanation** Cisco Unity Express has a Lightweight Directory Access Protocol (LDAP) directory with the names and extensions of the users who have voice mailboxes. When a message comes in, Cisco Unity Express tries to match the caller’s ID (name or extension) to an entry in the LDAP directory. If a match is found, the user’s name or extension is included in the message envelope.

If a user is configured on Cisco CallManager but not in Cisco Unity Express, for example, Cisco Unity Express has no record of that user in its LDAP directory and announces that caller as “unknown caller.”

**Recommended Action** You may want to synchronize the Cisco CallManager and Cisco Unity Express databases if some Cisco CallManager users are not defined in the LDAP directory.

## Auto Attendant Prompts

**Problem:** The custom auto-attendant prompt is not working.

**Recommended Action** Verify that the prompt format is CCITT G.711 u-law, 8kHz, 8-bit, Mono.

## Troubleshooting Commands

Table 9 lists Cisco Unity Express troubleshooting commands. The Cisco Technical Assistance Center (TAC) may request that you run one or more of these commands when troubleshooting a problem. TAC personnel will provide additional information about the commands at that time.



**Caution**

Some of these commands may impact performance of your system. We recommend that you do not use these commands unless directed to do so by the TAC.

**Table 9 Troubleshooting Commands**

Command	Purpose	Cisco Unity Express EXEC Mode	Cisco Unity Express Configuration Mode
log console	Displays messages on the console based on severity.	—	Yes
log filter	Displays messages on the console based on a filter.	—	Yes

**Table 9 Troubleshooting Commands (continued)**

<b>Command</b>	<b>Purpose</b>	<b>Cisco Unity Express EXEC Mode</b>	<b>Cisco Unity Express Configuration Mode</b>
<b>log server</b>	Configures an external server for storing log files.	—	Yes
<b>show arp</b>	Displays the Cisco Unity Express ARP table entries.	Yes	—
<b>show crash</b>	Displays the most recent crash log.	Yes	—
<b>show errors</b>	Displays any errors reported in the messages log.	Yes	—
<b>show exception</b>	Displays any exceptions that are thrown out.	Yes	—
<b>show interfaces</b>	Displays all available interfaces.	Yes	—
<b>show log</b>	Displays a specific log.	Yes	—
<b>show logging</b>	Displays the current active logging level.	Yes	—
<b>show logs</b>	Displays a list of log files.	Yes	—
<b>show memory</b>	Displays current Cisco Unity Express memory statistics.	Yes	—
<b>show processes</b>	Displays CPU or memory processes.	Yes	—
<b>show software</b>	Displays configured software information.	Yes	—
<b>show tech-support</b>	Displays complete system information.	Yes	—
<b>show trace</b>	<i>Do not use except with tac guidance.</i>	Yes	—
<b>show version</b>	Displays the version of all hardware components.	Yes	—
<b>trace all</b>	<i>Do not use except with tac guidance.</i>	Yes	—
<b>trace ccn</b>	<i>Do not use except with tac guidance.</i>	Yes	—
<b>trace config-ccn</b>	<i>Do not use except with tac guidance.</i>	Yes	—
<b>trace overwrite</b>	<i>Do not use except with tac guidance.</i>	—	Yes
<b>trace server</b>	<i>Do not use except with tac guidance.</i>	—	Yes
<b>trace voicemail</b>	<i>Do not use except with tac guidance.</i>	Yes	—
<b>trace webInterface</b>	<i>Do not use except with tac guidance.</i>	Yes	—





## Advanced Configuration

---

This chapter describes advanced configuration procedures for modifying application parameters after the initial installation and configuration process described in the section “[Configuring System Components](#)” on page 63. That earlier chapter includes commands not described in this chapter.

The advanced configuration procedures include:

- [Configuring System Engine Parameters](#), page 152
- [Configuring Application Parameters](#), page 154
- [Configuring Multiple Triggers for an Application](#), page 158
- [Configuring the Hostname](#), page 162
- [Configuring the DNS Server](#), page 164
- [Configuring NTP Servers](#), page 166
- [Configuring an External Syslog Server](#), page 170
- [Configuring the Clock Time Zone](#), page 172

# Configuring System Engine Parameters

Use this procedure to configure parameters that are used across all systems and subsystems in Cisco Unity Express. This set of parameters affects the underlying software programs, or engine, that comprise Cisco Unity Express.

For Release 1.1.2, the only parameter available is **maxsteps**. A script uses this value to limit the number of steps that can execute for an application script. For example, if a script has an error such that a customer is returned to the same menu choice in an infinite loop, the system stops the loop when the maxstep value is reached. Similarly, if a script has procedures with nested steps that exceed the maxstep value when the script executes, the system stops the script. When this happens, the caller hears a system message that the system is not available.



**Note** Script steps are described in detail in the [Cisco Unity Express Script Editor Guide](#).

## Prerequisites

The following information is required to configure system engine parameters.

- Maximum number of script steps that can execute.

## SUMMARY STEPS

1. **config t**
2. **ccn engine**
3. **default parameter**
4. **maxsteps steps-limit**
5. **end**
6. **exit**
7. **show ccn engine**
8. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>ccn engine</b>  <b>Example:</b> se-10-0-0-0(config)# ccn engine	Enters Cisco Communication Network (CCN) engine configuration mode.

	Command or Action	Purpose
Step 3	<b>default</b> <i>parameter</i>  <b>Example:</b> se-10-0-0-0(config-engine)# default maxsteps	(Optional) Sets the parameter to the system default value. The default value for maxsteps is 1000.
Step 4	<b>maxsteps</b> <i>steps-limit</i>  <b>Example:</b> se-10-0-0-0(config-engine)# maxsteps 200	Specifies the maximum number of steps in the telephony application. Refer to the <a href="#">Cisco Unity Express Script Editor Guide</a> for detailed information about script steps.
Step 5	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-engine)# end	Exits Cisco Communication Network engine configuration mode.
Step 6	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 7	<b>show ccn engine</b>  <b>Example:</b> se-10-0-0-0# show ccn engine	Displays configured Cisco Communication Network engine parameters.
Step 8	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The following example illustrates the **show ccn engine** output:

```
se-10-0-0-0# show ccn engine

Maximum number of Tasks:          0
Maximum number of Steps:         200
se-10-0-0-0#
```

# Configuring Application Parameters

The section “[Configuring System Components](#)” on page 63 described how to configure parameters for the applications that shipped with Cisco Unity Express. This procedure describes how to configure parameters for your custom auto-attendant application script.

## Prerequisites

- Application name.
- Script name for the application.
- Maxsessions value. See “[Sharing Ports Among Applications and Triggers](#)” on page 66 for guidelines on assigning this value.
- Name and value for each parameter that the script requires. These may vary, depending on the script that you have created.



---

**Note** For more information about creating scripts, refer to the [Cisco Unity Express Script Editor Guide](#).

---

## SUMMARY STEPS

1. **config t**
2. **ccn application** *full-name*
3. **default** *parameter*
4. **description** “*text*”
5. **maxsessions** *number*
6. **no** *parameter*
7. **parameter** *name* “*value*”
8. **script** *name* [**description** “*description*”]
9. **enabled**
10. **end**
11. **exit**
12. **show ccn scripts**
13. **show ccn application**
14. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>config t</code>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<code>ccn application full-name</code>  <b>Example:</b> se-10-0-0-0(config)# ccn application myscript	Specifies the application to configure and enters application configuration mode. Use the full name of the application for the <i>full-name</i> argument.
Step 3	<code>default parameter</code>  <b>Example:</b> se-10-0-0-0(config-application)# default maxsessions	(Optional) Resets the application parameter as follows: <ul style="list-style-type: none"> <li>• <b>default description</b>—Uses the name of the application.</li> <li>• <b>default enabled</b>—Enables the application.</li> <li>• <b>default maxsessions</b>—Uses the number of ports on your Cisco Unity Express module. See <a href="#">“Software Licenses and Factory-Set Limits” on page 15</a> for the maximum number of ports.</li> <li>• <b>default script</b>—No effect.</li> <li>• <b>default parameter</b>—Uses the script’s default value.</li> </ul>
Step 4	<code>description "text"</code>  <b>Example:</b> se-10-0-0-0(config-application)# description "my application"	(Optional) Enter a description of the application. Use double quotes around the text.
Step 5	<code>maxsessions number</code>  <b>Example:</b> se-10-0-0-0(config-application)# maxsessions 8	Specifies the number of users who can access this application simultaneously. See <a href="#">“Sharing Ports Among Applications and Triggers” on page 66</a> for guidelines on assigning this value.
Step 6	<code>no parameter</code>  <b>Example:</b> se-10-0-0-0(config-application)# no description	(Optional) Deletes or disables a script value.
Step 7	<code>parameter name "value"</code>  <b>Example:</b> se-10-0-0-0(config-application)# parameter MaxRetry "5" se-10-0-0-0(config-application)# parameter WelcomePrompt "Welcome.wav"	Specifies parameters for the application. Each parameter must have a name and a value, which is written within double quotes.

	Command or Action	Purpose
Step 8	<b>script</b> <i>name</i> [ <b>description</b> " <i>description</i> "]  <b>Example:</b> se-10-0-0-0(config-application)# script myscript.aef description "My New Script"	Specifies the name of the script and an optional description, which must be written within double quotes. If no description is provided, the system uses the <i>name</i> value for the description.
Step 9	<b>enabled</b>  <b>Example:</b> se-10-0-0-0(config-application)# enabled	Allows the application to be accessible to the system.
Step 10	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-application)# end	Exits application configuration mode.
Step 11	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 12	<b>show ccn scripts</b>  <b>Example:</b> se-10-0-0-0# show ccn scripts	Displays the configured script names and their descriptions.
Step 13	<b>show ccn application</b>  <b>Example:</b> se-10-0-0-0# show ccn application	Displays details about each configured application.
Step 14	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration change to the startup configuration.

## Examples

The following example illustrates the **show ccn scripts** output:

```
se-10-0-0-0# show ccn scripts
```

```
Name:                               myscript.aef
Description:                         My New Script
se-10-0-0-0#
```

The following example illustrates the **show ccn application** output:

```
se-10-0-0-0# show ccn application
```

```
Name:                               myscript
Description:                         my application
Script:                              myscript.aef
ID number:                           2
Enabled:                              yes
```

```
Maximum number of sessions:      8
Retries:                          5
WelcomePrompt:                   Welcome.wav
se-10-0-0-0#
```

# Configuring Multiple Triggers for an Application

Your network may require additional triggers for one or more Cisco Unity Express applications. For example, customers may be able to dial more than one telephone number to contact your company. These telephone numbers would activate the auto-attendant application.

Use this procedure to configure the additional triggers. Each trigger must match a JTAPI route point. If you configure a trigger on Cisco Unity Express, verify that the route point exists in Cisco CallManager.

Cisco Unity Express supports a maximum of 8 SIP triggers and 8 JTAPI triggers for all applications combined. This applies to both the NM and the AIM.

## Port Sharing Among Multiple Triggers

Each trigger is assigned a **maxsessions** value. In addition to the guidelines described in [“Sharing Ports Among Applications and Triggers”](#) on page 66, one other consideration is needed.

The maximum number of callers that can access an application concurrently is determined by the application’s maxsession value if the total maxsessions values from all its triggers exceed the application’s maxsessions value.

For example, suppose your module has 8 ports and you assigned the auto-attendant application a maxsessions value of 5. Your auto-attendant application has 2 triggers. You configure one trigger with a maxsessions value of 2 and the other trigger with a maxsessions value of 4. The maximum number of callers that can access the auto-attendant application simultaneously is 5, not 6.

Suppose, instead, that you configure one trigger with a maxsessions value of 2 and the other trigger with a maxsessions value of 2. The maximum number of simultaneous callers to the application is 4, not 5.

## Prerequisites

The following information is required to configure the triggers:

- Telephone number that invokes the application. The number must not be the same for voice mail, auto attendant, and the greeting management system.
- Number of milliseconds that the system must wait for a caller response before it times out and drops the call.
- Language to use for the prompts. Cisco Unity Express supports only one language installed on the system. This option cannot be changed.
- Maximum number of callers, or sessions, that can access the trigger simultaneously.

## SUMMARY STEPS

1. **config t**
2. **ccn trigger {sip | jtapi} phonenumber *number***
3. **application *string***
4. **default *parameter***
5. **idletimeout *time***
6. **locale *language***
7. **maxsessions *number***



8. **no parameter**
9. **enabled**
10. **end**
11. Repeat Step 2 to Step 10 to configure additional triggers for this application.
12. **exit**
13. **show ccn trigger**
14. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>config t</code>	Enters configuration mode.
	<b>Example:</b> <code>se-10-0-0-0# config t</code>	
Step 2	<code>ccn trigger {sip   jtapi} phonenumber number</code>	Specifies the telephone number that acts as the trigger to start the application and enters trigger configuration mode. The <i>number</i> value must match a JTAPI route point configured on Cisco CallManager.
	<b>Example:</b> <code>se-10-0-0-0(config)# ccn trigger sip phonenumber 50150</code> <code>se-10-0-0-0(config)# ccn trigger jtapi phonenumber 50160</code>	
Step 3	<code>application string</code>	Specifies the name of the application to start when the telephone number is dialed, which, in turn, invokes the appropriate application script. This application name must match the name that was configured with the <b>ccn application name</b> command.
	<b>Example:</b> <code>se-10-0-0-0(config-trigger)# application myapplication</code>	
Step 4	<code>default parameter</code>	(Optional) Resets the application parameter to the script-defined default value. Using the <b>default</b> command on Cisco Unity Express system parameters has the following effects: <ul style="list-style-type: none"> <li>• <b>default application</b>—No effect.</li> <li>• <b>default enabled</b>—Enables the application.</li> <li>• <b>default idletimeout</b>—Uses 5000 (5 seconds).</li> <li>• <b>default locale</b>—Uses the system default.</li> <li>• <b>default maxsessions</b>—Uses the number of ports on your Cisco Unity Express module. See <a href="#">“Software Licenses and Factory-Set Limits” on page 15</a> for the maximum number of ports.</li> </ul>
	<b>Example:</b> <code>se-10-0-0-0(config-trigger)# default idletimeout</code> <code>se-10-0-0-0(config-trigger)# default maxsessions</code>	
Step 5	<code>idletimeout time</code>	Specifies the number of milliseconds to wait for a caller’s response before timing out and disconnecting the call.
	<b>Example:</b> <code>se-10-0-0-0(config-trigger)# idletimeout 500</code>	

## ■ Configuring Multiple Triggers for an Application

	Command or Action	Purpose
Step 6	<p><b>locale</b> <i>language</i></p> <p><b>Example:</b> se-10-0-0-0(config-trigger)# locale en_US</p>	Specifies the language to use for the prompts heard by the caller. Cisco Unity Express supports only one language installed on the system. This option cannot be changed.
Step 7	<p><b>maxsessions</b> <i>number</i></p> <p><b>Example:</b> se-10-0-0-0(config-trigger)# maxsessions 3</p>	Specifies the maximum number of callers that can access the trigger simultaneously. See the “ <a href="#">Port Sharing Among Multiple Triggers</a> ” section on page 158 for guidelines on assigning this value.
Step 8	<p><b>no</b> <i>parameter</i></p> <p><b>Example:</b> se-10-0-0-0(config-trigger)# no maxsessions se-10-0-0-0(config-trigger)# no maxsessions</p>	<p>(Optional) Deletes or disables the <i>parameter</i> value. Using the <b>no</b> command on Cisco Unity Express system parameters has the following effects:</p> <ul style="list-style-type: none"> <li>• <b>no application</b>—No effect.</li> <li>• <b>no enabled</b>—Disables the application.</li> <li>• <b>no idletimeout</b>—No effect.</li> <li>• <b>no locale</b>—Uses the system default.</li> <li>• <b>no maxsessions</b>—Sets the value to 0.</li> </ul>
Step 9	<p><b>enabled</b></p> <p><b>Example:</b> se-10-0-0-0(config-trigger)# <b>enabled</b></p>	Enables the trigger.
Step 10	<p><b>end</b></p> <p><b>Example:</b> se-10-0-0-0(config-trigger)# end</p>	Exits trigger configuration mode.
Step 11	Repeat Step 2 to Step 10 to configure additional triggers for this application.	—
Step 12	<p><b>exit</b></p> <p><b>Example:</b> se-10-0-0-0(config)# exit</p>	Exits configuration mode.
Step 13	<p><b>show ccn trigger</b></p> <p><b>Example:</b> se-10-0-0-0# <b>show ccn trigger</b></p>	Displays the parameter values for all configured triggers.
Step 14	<p><b>copy running-config startup-config</b></p> <p><b>Example:</b> se-10-0-0-0# copy running-config startup-config</p>	Copies the configuration changes to the startup configuration.

## Examples

The following sample configuration sets two triggers for the voice-mail application:

```

se-10-0-0-0# config t
se-10-0-0-0(config)# ccn trigger sip phonenumber 50150
se-10-0-0-0(config-trigger)# application voicemail
se-10-0-0-0(config-trigger)# idletimeout 500
se-10-0-0-0(config-trigger)# maxsessions 4
se-10-0-0-0(config-trigger)# enabled
se-10-0-0-0(config-trigger)# end
se-10-0-0-0(config)#
se-10-0-0-0(config)# ccn trigger jtapi phonenumber 50160
se-10-0-0-0(config-trigger)# application voicemail
se-10-0-0-0(config-trigger)# idletimeout 1000
se-10-0-0-0(config-trigger)# maxsessions 8
se-10-0-0-0(config-trigger)# enabled
se-10-0-0-0(config-trigger)# end
se-10-0-0-0(config)# exit
se-10-0-0-0#

```

The output for the **show ccn trigger** command might look similar to the following:

```

se-10-0-0-0# show ccn trigger

Name:                    50150
Type:                    SIP
Application:              voicemail
Locale:                   en_US
Idle Timeout:             500
Enabled:                  yes
Maximum number of sessions: 4

Name:                    50160
Type:                    JTAPI
Application:              voicemail
Locale:                   en_US
Idle Timeout:             1000
Enabled:                  yes
Maximum number of sessions: 8
se-10-0-0-0#

```

# Configuring the Hostname

During the software post-installation process, the hostname was configured. Use this procedure to change the hostname.

## SUMMARY STEPS

1. **config t**
2. **hostname** *hostname*
3. **exit**
4. **show hosts**
5. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>hostname</b> <i>hostname</i>  <b>Example:</b> se-10-0-0-0(config)# hostname mainhost mainhost(config)# no hostname	Specifies the hostname that identifies the local Cisco Unity Express system. Do not include the domain name as part of the hostname.  The Cisco Unity Express prompt changes to reflect the hostname. If you do not enter a hostname, the prompt is formed using “se” and the IP address of the Cisco Unity Express network module.
Step 3	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 4	<b>show hosts</b>  <b>Example:</b> se-10-0-0-0# show hosts	Displays the host servers configured on the system.
Step 5	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The following commands configure the hostname:

```
se-10-0-0-0# config t
```

```
se-10-0-0-0(config)# hostname ca-west  
ca-west(config)# exit  
ca-west#
```

The output from the **show hosts** command might look similar to the following:

```
ca-west# show hosts  
  
Hostname:      ca-west  
Domain:        myoffice  
DNS Server1:   10.100.10.130  
DNS Server2:   10.5.0.0  
ca-west#
```

# Configuring the DNS Server

During the software post-installation process, the DNS server and IP addresses were configured. Use this procedure to change the server name and IP addresses.

## SUMMARY STEPS

1. **config t**
2. **ip domain-name** *dns-server-name*
3. **ip name-server** *ip-address* [*ip-address*] [*ip-address*] [*ip-address*]
4. **exit**
5. **show ip route**
6. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>ip domain-name</b> <i>dns-server-name</i>  <b>Example:</b> se-10-0-0-0(config)# ip domain-name mycompany.com	Specifies the domain name of the DNS server.
Step 3	<b>ip name-server</b> <i>ip-address</i> [ <i>ip-address</i> ] [ <i>ip-address</i> ] [ <i>ip-address</i> ]  <b>Example:</b> se-10-0-0-0(config)# ip name-server 192.168.0.5  se-10-0-0-0(config)# ip name-server 192.168.0.5 192.168.0.10 192.168.0.12 192.168.0.20	Specifies up to four IP addresses of the DNS server.
Step 4	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 5	<b>show ip route</b>  <b>Example:</b> se-10-0-0-0# show ip route	Displays the IP route destinations, gates, and masks.
Step 6	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration change to the startup configuration.

## Examples

The following commands configure the DNS server:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# ip domain-name myoffice
se-10-0-0-0(config)# ip name-server 10.100.10.130 10.5.0.0
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

The output from the **show ip route** command might look similar to the following:

```
se-10-0-0-0# show ip route

          DEST          GATE          MASK IFACE
    10.100.6.9          0.0.0.0    255.255.255.0 eth1
    172.16.0.0          0.0.0.0      255.0.0.0 lo
    0.0.0.0            10.100.6.9      0.0.0.0 eth1
se-10-0-0-0#
```

# Configuring NTP Servers

You can configure Network Time Protocol (NTP) servers using the GUI options, the CLI commands, or during the software post-installation process. Cisco Unity Express accepts a maximum of three NTP servers. Use this procedure to add or delete NTP servers.

## Adding NTP Servers

You can designate an NTP server using its IP address or its hostname.

- If you use an IP address, you must always refer to the NTP server by that IP address. You cannot use a hostname to refer to that NTP server.
- If you use a hostname, you must always refer to the NTP server by that hostname. You cannot use an IP address to refer to that NTP server.

Cisco Unity Express uses the DNS server to resolve the hostname to an IP address and stores the IP address as an NTP server. If DNS resolves the hostname to more than one IP address, Cisco Unity Express randomly chooses one of the IP addresses that is not already designated as an NTP server.

To configure an NTP server with multiple IP addresses for a hostname, repeat the configuration steps using the same hostname. Each iteration assigns the NTP server to its remaining IP addresses.

### SUMMARY STEPS

1. **config t**
2. **ntp server** {hostname | ip-address} [**prefer**]
3. **exit**
4. **show ntp status**
5. **show ntp configuration**
6. **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>ntp server</b> {hostname   ip-address} [ <b>prefer</b> ]  <b>Example:</b> se-10-0-0-0(config)# ntp server 10.0.3.4 se-10-0-0-0(config)# ntp server 10.0.10.20 prefer	Specifies the name or IP address of the NTP server.  If more than one server is configured, the server with the <b>prefer</b> attribute is used before the others.



	Command or Action	Purpose
Step 3	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 4	<b>show ntp status</b>  <b>Example:</b> se-10-0-0-0# show ntp status	Displays the NTP subsystem status.
Step 5	<b>show ntp configuration</b>  <b>Example:</b> se-10-0-0-0# show ntp configuration	Displays the configured NTP servers.
Step 6	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The following commands configure the NTP server:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# ntp server 10.100.6.9
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

The output from the **show ntp status** command might look similar to the following:

```
se-10-0-0-0# show ntp status

NTP reference server 1:      10.100.6.9
Status:                     sys.peer
Time difference (secs):     3.268110099434328E8
Time jitter (secs):        0.1719226837158203
se-10-0-0-0#
```

The following example configures an NTP server with a hostname that points to two IP addresses 172.16.10.1 and 172.16.10.2:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# ntp server NTP.mine.com
se-10-0-0-0(config)# exit
se-10-0-0-0#
se-10-0-0-0# config t
se-10-0-0-0(config)# ntp server NTP.mine.com
se-10-0-0-0(config)# exit
se-10-0-0-0#
```

The output from the **show ntp status** command might look similar to the following:

```
se-10-0-0-0# show ntp status

NTP reference server 1:      172.16.10.1
Status:                     sys.peer
Time difference (secs):     3.268110099434328E8
```

```

Time jitter (secs):          0.1719226837158203

NTP reference server 1:     172.16.10.2
Status:                     sys.peer
Time difference (secs):     3.268110099434328E8
Time jitter (secs):        0.1719226837158203
se-10-0-0-0#

```

## Removing an NTP Server

Remove an NTP server using its IP address or hostname.

- If the NTP server was configured using its IP address, use that IP address to remove the server. You cannot remove the server with its hostname.
- If the NTP server was configured using its hostname, use that hostname to remove the server. You cannot remove the server with an IP address.

If the NTP server hostname is associated with more than one IP address, you cannot specify which IP address to remove. Cisco Unity Express deletes the IP address based on a response from the DNS server and cannot guarantee which configured NTP server IP address is deleted.

If you need to remove the NTP server with a specific IP address, repeat the removal steps enough times to delete all the NTP servers, update the DNS server with the correct IP address information, and then add the NTP server enough times to assign the NTP server to its appropriate number of IP addresses.

### SUMMARY STEPS

1. **config t**
2. **no ntp server** {hostname | ip-address}
3. **exit**
4. **show ntp status**
5. **show ntp configuration**
6. **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>no ntp server</b> {hostname   ip-address}  <b>Example:</b> se-10-0-0-0(config)# no ntp server 10.0.3.4 se-10-0-0-0(config)# no ntp server myhost	Specifies the hostname or IP address of the NTP server to remove.

	Command or Action	Purpose
Step 3	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 4	<b>show ntp status</b>  <b>Example:</b> se-10-0-0-0# show ntp status	Displays the NTP subsystem status.
Step 5	<b>show ntp configuration</b>  <b>Example:</b> se-10-0-0-0# show ntp configuration	Displays the configured NTP servers.
Step 6	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration change to the startup configuration.

## Displaying NTP Server Information

The following commands are available to display NTP server configuration information and status:

- **show ntp associations**
- **show ntp server**
- **show ntp source**

# Configuring an External Syslog Server

Cisco Unity Express captures messages that describe activities in the system. Use CLI commands to display the messages; viewing the messages is not available from the GUI.

The activities are categorized into four different levels of severity with regard to their impact on the system's functioning:

- **Information**—The message describes normal system activity, including debug, information, and notice messages.
- **Warning**—The message is an alert that a non-normal activity is occurring. The Cisco Unity Express system continues to function.
- **Error**—The message indicates that a system error has occurred. The Cisco Unity Express system may or may not have stopped functioning.
- **Fatal**—The message describes a critical, alert, or emergency situation with the system. The Cisco Unity Express system has stopped functioning.

These messages are collected and directed to three possible destinations:

- **Messages.log file**—This option is the default. The file contains all system messages and resides on the Cisco Unity Express module hard disk in `/var/log/messages.log`. You can print the messages, view them on the console, or copy them to a server to review for troubleshooting and error reporting.
- **Console**—Display the messages.log file using the **show log name messages.log** command. View the system messages as they occur with the **log console info** command.
- **External system log (syslog) server**—Cisco Unity Express copies the messages to another server and collects them in a file on that server's hard disk. The syslog daemon configuration on the external server determines which directory will save the messages log.

The external server must be configured to listen for UDP on port 514 from the IP address of the Cisco Unity Express module.

## Prerequisites

You need the hostname or IP address of the designated log server.

### SUMMARY STEPS

1. **config t**
2. **log server address** {*IP-address* | *hostname*}
3. **exit**
4. **show running-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>log server address</b> { <i>IP-address</i>   <i>hostname</i> }  <b>Example:</b> se-10-0-0-0(config)# log server address 10.187.240.31 se-10-0-0-0(config)# log server address logpc	Specifies the hostname or IP address of the NTP server designated as the log server.
Step 3	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 4	<b>show running-config</b>  <b>Example:</b> se-10-0-0-0# show running-config	Displays the system configuration, which includes the configured log server.

## Examples

The output from the **show running-config** command might look similar to the following:

```
se-10-0-0-0# show running-config

clock timezone America/Los_Angeles

hostname se-10-0-0-0

ip domain-name localdomain

ntp server 10.100.60.1
.
.
log server address 10.100.10.210

voicemail default mailboxsize 3000
voicemail capacity time 6000

end
```

# Configuring the Clock Time Zone

During the software post-installation process, the time zone of the local Cisco Unity Express module was configured. Use this procedure to change the module's time zone.

Cisco Unity Express automatically updates the clock for daylight savings time on the basis of the selected time zone.

## SUMMARY STEPS

1. **config t**
2. **clock timezone** *timezone*
3. **exit**
4. **show clock detail**
5. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.
Step 2	<b>clock timezone</b> <i>timezone</i>  <b>Example:</b> se-10-0-0-0(config)# clock timezone America/Los_Angeles	Specifies the local time zone. To enter a value for the <i>timezone</i> argument, you must know the phrase that represents your time zone.  If you do know the phrase, press <b>&lt;Enter&gt;</b> . A series of menus will appear to help you choose the time zone.
Step 3	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit	Exits configuration mode.
Step 4	<b>show clock detail</b>  <b>Example:</b> se-10-0-0-0# show clock detail	Displays the time zone, clocking resolution, and current clock time.
Step 5	<b>copy running-config startup-config</b>  <b>Example:</b> se-10-0-0-0# copy running-config startup-config	Copies the configuration changes to the startup configuration.

## Examples

The following commands configure the clock timezone:

```
se-10-0-0-0# config t
```

se-10-0-0-0(config)# **clock timezone**

Please identify a location so that time zone rules can be set correctly.

Please select a continent or ocean.

- 1) Africa            4) Arctic Ocean 7) Australia      10) Pacific Ocean
- 2) Americas        5) Asia 8) Europe
- 3) Antarctica      6) Atlantic Ocean 9) Indian Ocean

#? **2**

Please select a country.

- 1) Anguilla            18) Ecuador            35) Paraguay
- 2) Antigua & Barbuda    19) El Salvador        36) Peru
- 3) Argentina         20) French Guiana     37) Puerto Rico
- 4) Aruba              21) Greenland         38) St Kitts & Nevis
- 5) Bahamas           22) Grenada            39) St Lucia
- 6) Barbados          23) Guadeloupe        40) St Pierre & Miquelon
- 7) Belize             24) Guatemala         41) St Vincent
- 8) Bolivia            25) Guyana             42) Suriname
- 9) Brazil             26) Haiti              43) Trinidad & Tobago
- 10) Canada            27) Honduras          44) Turks & Caicos Is
- 11) Cayman Islands    28) Jamaica            45) United States
- 12) Chile             29) Martinique        46) Uruguay
- 13) Colombia         30) Mexico             47) Venezuela
- 14) Costa Rica        31) Montserrat        48) Virgin Islands (UK)
- 15) Cuba              32) Netherlands Antilles 49) Virgin Islands (US)
- 16) Dominica         33) Nicaragua
- 17) Dominican Republi 34) Panama

#? **45**

Please select one of the following time zone regions.

- 1) Eastern Time
- 2) Eastern Time - Michigan - most locations
- 3) Eastern Time - Kentucky - Louisville area
- 4) Eastern Time - Kentucky - Wayne County
- 5) Eastern Standard Time - Indiana - most locations
- 6) Eastern Standard Time - Indiana - Crawford County
- 7) Eastern Standard Time - Indiana - Starke County
- 8) Eastern Standard Time - Indiana - Switzerland County
- 9) Central Time
- 10) Central Time - Michigan - Wisconsin border
- 11) Central Time - North Dakota - Oliver County
- 12) Mountain Time
- 13) Mountain Time - south Idaho & east Oregon
- 14) Mountain Time - Navajo
- 15) Mountain Standard Time - Arizona
- 16) Pacific Time
- 17) Alaska Time
- 18) Alaska Time - Alaska panhandle
- 19) Alaska Time - Alaska panhandle neck
- 20) Alaska Time - west Alaska
- 21) Aleutian Islands
- 22) Hawaii

#? **16**

The following information has been given:

```

United States
Pacific Time

```

Therefore TZ='America/Los\_Angeles' will be used.

Is the above information OK?

- 1) Yes
- 2) No

#? **1**

The output from the **show clock detail** command might look similar to the following:

```
se-10-0-0-0# show clock detail

19:20:33.724 PST Wed Feb 4 2004
time zone:                        America/Los_Angeles
clock state:                       unsync
delta from reference (microsec):    0
estimated error (microsec):         175431
time resolution (microsec):         1
clock interrupt period (microsec):  10000
time of day (sec):                  732424833
time of day (microsec):             760817
```





## Networking Cisco Unity Express

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This chapter describes the procedures for configuring the networking capability on the local Cisco Unity Express voice-mail system and contains the following sections:

- [Cisco Unity Express Networking Overview, page 175](#)
- [Configuring Network Locations, page 177](#)
- [Downloading and Uploading Network Location Spoken Names, page 184](#)
- [Disabling a Network Location, page 185](#)
- [Adding Remote Users to the Local Directory, page 187](#)
- [Downloading and Uploading Remote User Spoken Names, page 194](#)
- [Configuring Caller ID for Incoming Messages, page 195](#)
- [Configuring a Location with vCard Information, page 196](#)
- [Configuring the LRU Cache, page 200](#)
- [Configuring Network Broadcast Messages, page 201](#)
- [Configuring Distribution Lists, page 207](#)

## Cisco Unity Express Networking Overview

Cisco Unity Express supports the Voice Profile for Internet Mail (VPIM) version 2 protocol to permit voice-mail message networking between Cisco Unity Express and Cisco Unity voice-mail systems that are not co-located on the same router or server. The voice-mail systems can reside on Cisco CallManager or Cisco CallManager Express call control platforms. Supported networked voice-mail configurations include:

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

### Non-Delivery Record (NDR)

Voice-mail message networking uses Non-Delivery Records (NDRs) for handling undelivered messages. Currently, when a message cannot be delivered to a local subscriber, the sender receives an immediate notification of the reason. However, when sending to a remote subscriber, immediate feedback may not be possible due to repeated attempts to contact the remote location or to deliver the message.

After a specified amount of time, the sender receives a new voice-mail message indicating the reason for non-delivery. If non-delivery is due to the recipient's mailbox being full, nonexistent, or disabled, the non-delivery message includes the sender's original message. When the sender plays the NDR, the sender can readdress and resend the original message or delete the message.

### Blind Addressing

When a subscriber sends a message to another subscriber on the same (local) Cisco Unity Express voice-mail system, the sender can address the recipient using spell-by-name or an extension number. The sender hears a confirmation of the recipient's spoken name, if it is recorded, or the recipient's extension number.

When a subscriber sends a message to a remote subscriber, the sender will not hear a confirmation of the recipient's name or extension. This is blind addressing. The address of the remote recipient is the location ID of the remote system plus the recipient's extension number at the remote location.

### Spoken Name Confirmation for Remote Users

Beginning with Release 2.1, administrators or other privileged users can add remote users to the local directory using the Administration via Telephone (AvT) feature, which is part of the Telephone User Interface (TUI). Administrators can record spoken names for these remote users. The Cisco Unity Express network module (NM) supports up to 50 remote users; the Advanced Integration Module (AIM) supports up to 20 remote users.

This directory permits local voice-mail senders to address messages to the remote users using dial-by-name and to receive spoken name confirmation of the recipients. If a recipient is not in the directory, the sender receives the recipient's location ID and extension.

If the local system has vCard information enabled, incoming vCard information updates the remote user directory. The vCard information also updates a dynamic cache of remote users. This cache contains the first names, last names, and spoken names of remote users and is updated on a least recently used (LRU) basis. If a local sender addresses a voice message to a remote user who is not in the local directory but is in the LRU cache, the sender hears a spoken name for the remote user. If the remote user is not in the directory or the cache, the sender does not receive spoken name confirmation.

## Components

- Cisco Unity Express—Configure the Cisco Unity Express system at each location for networking between the systems.
- Cisco CallManager—Releases 3.3(3), 3.3(4), 4.0(1), 4.0(2), and 4.1(2) are supported.
- Cisco Unity—Releases 4.03 and 4.04 are supported. You must configure VPIM networking on Cisco Unity, including the primary location for Cisco Unity and the delivery locations for remote Cisco Unity Express locations. See the documentation in the [“Additional References” section on page 20](#) for more information.

## Prerequisites

- Cisco Unity Express must be installed at each remote location.
- Network connectivity between all Cisco Unity Express and Cisco call control system sites must be established.

### Cisco CallManager and Cisco Unity Express Version Compatibility

Cisco Unity Express is shipped configured for interoperability with Cisco CallManager 3.3(3) and above. The following scenarios apply when installing Cisco Unity Express with a different version of Cisco CallManager, or upgrading the Cisco CallManager version:

- If Cisco Unity Express is installed with Cisco CallManager 4.0, Cisco Unity Express will reload once after the reload that you initiate at the completion of the initialization wizard procedure.
- If Cisco Unity Express is installed with Cisco CallManager 3.3, and Cisco CallManager is upgraded to version 4.0, then Cisco Unity Express reloads and updates its system files to work with the new version of Cisco CallManager. No further action from you is required.
- If the Cisco CallManager version has changed due to a Cisco CallManager configuration, or a different version of Cisco CallManager is restored, you must perform a manual reload. Cisco Unity Express will then perform one additional reload after the user-initiated reload.

## Restrictions

- The VPIM version 2 protocol is supported only between Cisco Unity Express and Cisco Unity 4.0.3. Interworking with other voice-mail systems that use the VPIM version 2 protocol is not supported.
- For Cisco Unity Express Release 2.0, network configuration is available only with the command-line interface (CLI). Network tracing is available using the CLI or the Cisco Unity Express graphical user interface (GUI). From the GUI, choose **Administration > Traces**. See the [“Troubleshooting Commands” section on page 183](#) for more information on trace options.

## Configuring Network Locations

To configure network locations in Cisco Unity Express, perform the following tasks at each network location.

## Prerequisites

The following information is required to configure networking on Cisco Unity Express:

- Network location ID number—Unique ID number for each location used by the voice-mail sender to send a remote message. The maximum length of the number is 7 digits. Release 2.0 supports a maximum of 500 locations.
- (Optional) Location name—Descriptive name of the network location.
- (Optional) Abbreviated location name—Abbreviated description of the network location.
- E-mail domain name—E-mail domain name or IP address for the remote voice-mail system. The domain name is attached to the local voice-mail originator’s extension when sending a VPIM message. The local system’s e-mail domain name must be configured to receive remote voice-mail messages.
- Voice-mail system telephone number prefix—Phone number prefix that is added to a local voice-mail originator’s extension to create a VPIM address. A prefix is required only if an e-mail domain services multiple locations, and extensions between the locations are not unique. The maximum length of the prefix is 15 digits.
- Length of the local voice-mail system extensions.


- VPIM encoding scheme—Encoding scheme options for translating voice-mail messages at the local Cisco Unity Express system are dynamic, G.711mu-law, or G.726.
- (Optional) Voice-mail spoken name capability—Enabling this functionality permits receipt of a voice-mail originator's spoken name, which is played at the beginning of the received voice-mail message.

## SUMMARY STEPS


1. **config t**
2. **network location id** *number*
3. **name** *location-name*
4. **abbreviation** *name*
5. **email domain** *domain-name*
6. **voicemail phone-prefix** *digit string*
7. **voicemail extension-length** *number* [**min** *number* | **max** *number*]
8. **voicemail vpim-encoding** {**dynamic** | **G711ulaw** | **G726**}
9. (Optional) **voicemail spoken-name**
10. **end**
11. **network local location id** *number*
12. **end**
13. **show network locations**
14. **show network detail location id** *number*
15. **show network detail local**
16. **show network queues**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t	Enters configuration mode.

Command or Action	Purpose
<p><b>Step 2</b> <code>network location id number</code></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# network location id 9</pre></p>	<p>Enters location configuration mode to allow you to add or modify a location.</p> <ul style="list-style-type: none"> <li><i>number</i>—A unique numeric ID assigned to the location. This number is used to identify the location and is entered when a user performs addressing functions in the telephone user interface. The maximum length of the number is 7 digits. Cisco Unity Express Release 2.0 supports up to 500 locations on a single system.</li> <li>To delete a location, use the <b>no</b> form of this command.</li> </ul>
<p><b>Step 3</b> <code>name location-name</code></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# name "San Jose"</pre></p>	<p>(Optional) Descriptive name used to identify the location. Enclose the name in double quotes if spaces are used.</p> <ul style="list-style-type: none"> <li>To delete a location name, use the <b>no</b> form of this command.</li> </ul>
<p><b>Step 4</b> <code>abbreviation name</code></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# abbreviation sjcal</pre></p>	<p>(Optional) Creates an alphanumeric abbreviation for the location that is spoken to a user when the user performs addressing functions in the telephone user interface. You cannot enter more than 5 characters.</p> <ul style="list-style-type: none"> <li>To delete an abbreviation, use the <b>no</b> form of this command.</li> </ul>
<p><b>Step 5</b> <code>email domain domain-name</code></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# email domain cisco.com</pre></p>	<p>Configures the e-mail domain name or IP address for the location. The domain name is added when sending a VPIM message to the remote location (for example, "4843000@cisco.com"). If you do not configure a domain name or IP address, the Cisco Unity Express system at this location cannot receive network messages.</p> <p> <b>Caution</b> To remove the e-mail domain name or IP address and disable networking, use the <b>no</b> form of this command. If you remove the e-mail domain for this location, and the location was also configured as the network local location (see <a href="#">Step 11</a>), then if you save your configuration and reload Cisco Unity Express, the network local location will remain disabled. After Cisco Unity Express restarts, reenter the <b>network local location id</b> command to reenabling networking at this location.</p>

	Command or Action	Purpose
Step 6	<p><b>voicemail phone-prefix</b> <i>digit-string</i></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# voicemail phone-prefix 484</pre></p>	<p>Configures the phone number prefix that is added to an extension to create a VPIM address for a user at the location. A prefix is required only if an e-mail domain services multiple locations and extensions between the locations are not unique. Valid values: 1 to 15 digits. Default value: empty.</p> <ul style="list-style-type: none"> <li>To delete a phone prefix, use the <b>no</b> form of this command.</li> </ul>
Step 7	<p><b>voicemail extension-length</b> {<i>number</i>   <b>min</b> <i>number</i> <b>max</b> <i>number</i>}</p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# voicemail extension-length 8</pre> <pre>se-10-0-0-0(config-location)# voicemail extension-length min 5 max 9</pre></p>	<p>Configures the voice mail extension length for the location.</p> <ul style="list-style-type: none"> <li><i>number</i>—Configures the number of digits contained in extensions at the location.</li> <li><b>max number</b>—Sets the minimum number of digits for extensions. Default value: 2.</li> <li><b>min number</b>—Sets the maximum number of digits for extensions. Default value: 15.</li> <li>To remove the configuration for the number of digits for extensions, use the <b>no</b> form of this command.</li> </ul>
Step 8	<p><b>voicemail vpim-encoding</b> {<b>dynamic</b>   <b>G711ulaw</b>   <b>G726</b>}</p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# voicemail vpim-encoding G711ulaw</pre></p>	<p>Configures the encoding method used to transfer voice-mail messages to this location.</p> <ul style="list-style-type: none"> <li><b>dynamic</b>—Cisco Unity Express negotiates with the location to determine the encoding method</li> <li><b>G711ulaw</b>—Cisco Unity Express always sends messages as G711 mu-law .wav files. Set this only if the receiving system supports G711 mu-law encoding (such as Cisco Unity).</li> <li><b>G726</b>—Cisco Unity Express always sends messages as G726 (32K ADPCM). Use for low-bandwidth connections or when the system to which Cisco Unity Express is connecting does not support G711mu-law.</li> <li>Default value: <b>dynamic</b>.</li> <li>To return to the default value for encoding, use the <b>no</b> form of this command.</li> </ul>
Step 9	<p><b>voicemail spoken-name</b></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# voicemail spoken-name</pre></p>	<p>(Optional) Enables sending the spoken name of the voice-mail originator as part of the message. If the spoken name is sent, it is played as the first part of the received message. Default: enabled.</p> <ul style="list-style-type: none"> <li>To disable sending the spoken name, use the <b>no</b> form of this command.</li> </ul>
Step 10	<p><b>end</b></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config-location)# end</pre></p>	<p>Exits location configuration mode.</p>

	Command or Action	Purpose
Step 11	<p><b>network local location id</b> <i>number</i></p> <p><b>Example:</b> se-10-0-0-0(config)# network local location id 1</p>	<p>Enables networking for the local Cisco Unity Express system identified by the location ID number.</p> <ul style="list-style-type: none"> <li>To delete the local location, use the <b>no</b> form of this command.</li> </ul> <p> <b>Caution</b> If you delete the network local location and then save your configuration, when you reload Cisco Unity Express, the network local location will remain disabled. After Cisco Unity Express restarts, reenter the <b>network local location id</b> command to reenables networking at this location.</p>
Step 12	<p><b>exit</b></p> <p><b>Example:</b> se-10-0-0-0(config)# exit</p>	Exits configuration mode.
Step 13	<p><b>show network locations</b></p> <p><b>Example:</b> se-10-0-0-0# show network locations</p>	(Optional) Displays the location ID, name, abbreviation, and domain name for each configured Cisco Unity Express location.
Step 14	<p><b>show network detail location id</b> <i>number</i></p> <p><b>Example:</b> se-10-0-0-0# show network detail location id 9</p>	(Optional) Displays network information for the specified location ID, including the number of messages sent and received.
Step 15	<p><b>show network detail local</b></p> <p><b>Example:</b> se-10-0-0-0# show network detail local</p>	(Optional) Displays network information for the local Cisco Unity Express location, including the number of messages sent and received.
Step 16	<p><b>show network queues</b></p> <p><b>Example:</b> se-10-0-0-0# show network queues</p>	(Optional) Displays information about messages in the outgoing queue that are to be sent from this Cisco Unity Express system. The queue information contains three displays: one for urgent job queue information, one for normal job queue information, and one for running job information.

## Examples

The following examples illustrate the output from the **show network** commands on company ABC's call control system in San Jose with remote voice-mail provided by six remote Cisco Unity Express sites.

```
se-10-0-0-0# show network locations
```

```

ID          NAME                ABBREV  DOMAIN
101         'San Jose'           SJC     sjc.cue.abc.com
102         'Dallas/Fort Worth' DFW     dfw.cue.abc.com
201         'Los Angeles'       LAX     lax.cue.abc.com
202         'Canada'             CAN     can.cue.abc.com
```

```

301      'Chicago'                CHI    chi.cue.abc.com
302      'New York'               NYC    nyc.cue.abc.com
401      'Bangalore'              BAN    bang.cue.abc.com

```

```
se-10-0-0-0# show network detail location id 102
```

```

Name:                Dallas/Fort Worth
Abbreviation:        DFW
Email domain:        dfw.cue.abc.com
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:
VPIM encoding:       G726
Send spoken name:    enabled
Sent msg count:      10
Received msg count:  110

```

```
se-10-0-0-0# show network detail local
```

```

Location Id:         101
Name:                San Jose
Abbreviation:        SJC
Email domain:        sjc.cue.abc.com
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:
VPIM encoding:       dynamic
Send spoken name:    enabled

```

The following example illustrates output from the **show network queues** command. The output includes the following fields:

- **ID**—Job ID.
- **Retry**—Number of times that Cisco Unity Express has tried to send this job to the remote location.
- **Time**—Time when the job will be resent.

```
se-10-0-0-0# show network queues
```

```
Running Job Queue
=====
```

ID	TYPE	TIME	RETRY	SENDER	RECIPIENT
107	VPIM	06:13:26	20	jennifer	1001@sjc.cue.abc.com
106	VPIM	06:28:25	20	jennifer	1001@sjc.cue.abc.com

```
Urgent Job Queue
=====
```

ID	TYPE	TIME	RETRY	SENDER	RECIPIENT
123	VPIM	16:33:39	1	andy	9003@lax.cue.abc.com

```
Normal Job Queue
=====
```

ID	TYPE	TIME	RETRY	SENDER	RECIPIENT
122	VPIM	16:33:23	1	andy	9001@lax.cue.abc.com
124	VPIM	16:34:28	1	andy	9003@lax.cue.abc.com
125	VPIM	16:34:57	1	andy	9002@lax.cue.abc.com
126	VPIM	16:35:43	1	andy	9004@lax.cue.abc.com



## Troubleshooting Commands

To troubleshoot network configuration in Cisco Unity Express, use the following commands in EXEC mode.

### SUMMARY STEPS

1. `trace networking smtp [all | receive | send | work]`
2. `trace networking vpim [all | receive | send]`
3. `trace networking sysdb [all]`
4. `trace networking dns [all]`
5. `trace networking database [all | connection | execute | garbage | largeobject | mgmt | query | results | transaction]`
6. `trace networking jobqueue [all | job number]`

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>trace networking smtp [all   receive   send   work]</pre> <p><b>Example:</b> se-10-0-0-0# trace networking smtp all</p>	Enables tracing for SMTP network functions. <ul style="list-style-type: none"> <li>• <b>all</b>—Traces every SMTP activity.</li> <li>• <b>receive</b>—Traces SMTP receiving.</li> <li>• <b>send</b>—Traces SMTP sending.</li> <li>• <b>work</b>—</li> </ul>
Step 2	<pre>trace networking vpim [all   receive   send]</pre> <p><b>Example:</b> se-10-0-0-0# trace networking vpimi all</p>	Enables tracing for VPIM network functions. <ul style="list-style-type: none"> <li>• <b>all</b>—Traces every VPIM activity.</li> <li>• <b>receive</b>—Traces VPIM receiving.</li> <li>• <b>send</b>—Traces VPIM sending.</li> </ul>
Step 3	<pre>trace networking sysdb [all]</pre> <p><b>Example:</b> se-10-0-0-0# trace networking sysdb</p>	Enables tracing for sysdb events. <ul style="list-style-type: none"> <li>• <b>all</b>—Traces every sysdb event.</li> </ul>
Step 4	<pre>trace networking dns [all]</pre> <p><b>Example:</b> se-10-0-0-0# trace networking dns</p>	Enables tracing for DNS activities. Displays DNS lookups that are performed and results that are given when a user adds an e-mail domain to a location, and when a domain is verified and resolved using SMTP. <ul style="list-style-type: none"> <li>• <b>all</b>—Traces every DNS event.</li> </ul>

	Command or Action	Purpose
Step 5	<pre>trace networking database [all   connection   execute   garbage   largeobject   mgmt   query   results   transaction]]</pre> <p><b>Example:</b> se-10-0-0-0# trace networking database results</p>	<p>Enables tracing for database functions. The following keywords specify the type of traces:</p> <ul style="list-style-type: none"> <li>• <b>all</b>—Every database event.</li> <li>• <b>connection</b>—Database connections.</li> <li>• <b>execute</b>—Inserts and updates performed on database.</li> <li>• <b>garbage</b>—Garbage data collection process.</li> <li>• <b>largeobject</b>—Large object reads and writes to the database.</li> <li>• <b>mgmt</b>—Database management processes.</li> <li>• <b>query</b>—Queries performed on the database.</li> <li>• <b>results</b>—Results of queries, inserts, and updates.</li> <li>• <b>transactions</b>—Start and end of database transactions.</li> </ul>
Step 6	<pre>trace networking jobqueue [all   job number]</pre> <p><b>Example:</b> se-10-0-0-0# trace networking jobqueue job 101</p>	<p>Enables tracing for the job queue.</p> <ul style="list-style-type: none"> <li>• <b>all</b>—Traces all jobs in the queue.</li> <li>• <b>job number</b>—Traces a specified job in the queue.</li> </ul>

## Downloading and Uploading Network Location Spoken Names

Use the Administration via Telephone (AvT) options to record the spoken names. Those name files are stored in the Lightweight Directory Access Protocol (LDAP) on the Cisco Unity Express module. If you download the files to a server other than the Cisco Unity Express module, you can upload those spoken name files to another Cisco Unity Express module in the network.

The following sections describe this feature:

- [Prerequisites, page 184](#)
- [Disabling a Network Location, page 185](#)
- [Uploading the Location Spoken Name, page 185](#)

### Prerequisites

- Network location ID
- URL of the file with the recorded spoken name on the server
- Login and password to the server

### Downloading the Location Spoken Name

To download the network location spoken name, use the following command in Cisco Unity Express EXEC mode:

**network copy spokename url *url* location id *location-id* loginname *server-login* password *server-password***

where the command arguments are defined as:

<i>url</i>	URL to the spoken name file on the server.
<i>location-id</i>	Network location ID.
<i>server-login</i>	Server login.
<i>server-password</i>	Server password.

The following example uploads the spoken name file rename.wav for location 500:

```
se-10-0-0-0# network copy spokename url ftp://10.4.51.66/rename.wav location id 500
loginname admin password test
```

## Uploading the Location Spoken Name

To upload the network location spoken name, use the following command in Cisco Unity Express EXEC mode:

**network copy spokename location id *location-id* url *url* loginname *server-login* password *server-password***

where the command arguments are defined as:

<i>location-id</i>	Network location ID.
<i>url</i>	URL to the spoken name file on the server.
<i>server-login</i>	Server login.
<i>server-password</i>	Server password.

The following example uploads the spoken name file rename.wav for location 500:

```
se-10-0-0-0# network copy spokename location id 500 url ftp://10.4.51.66/rename.wav
loginname admin password test
```

## Disabling a Network Location

Cisco Unity Express supports disabling a location from the Cisco Unity Express network. A new command is available to disable a network location from sending or receiving Cisco Unity Express voice-mail messages. This command does not delete the network location from the Cisco Unity Express database.

To re-establish voice-mail message transmission to and from the network location, use the **enable** command.

## Prerequisites

You will need the network location ID to disable a network location.

**SUMMARY STEPS**

1. **config t**
2. **network location id** *location-id*
3. **no enable**
4. **y**
5. **end**
6. **exit**

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
<b>Step 2</b>	<b>network location id</b> <i>location-id</i>  <b>Example:</b> se-10-0-0-0(config)# network location id 15	Enters the location configuration mode for network location <i>location-id</i> .
<b>Step 3</b>	<b>no enable</b>  <b>Example:</b> se-10-0-0-0(config-location)# no enable !!!WARNING!!!:Disabling location will disable networking to/from this location. Do you wish to continue[n]?:	Disables the network location <i>location-id</i> from sending or receiving voice-mail messages.
<b>Step 4</b>	Enter yes to disable the location.	—
<b>Step 5</b>	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-location)# end se-10-0-0-0(config)#	Exits location configuration mode.
<b>Step 6</b>	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.

**Examples**

The following example displays the details for network location 15 with networking disabled:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# network location id 15
se-10-0-0-0(config-location)# no enable
```

```

!!!WARNING!!!:Disabling location will disable
networking to/from this location.
Do you wish to continue[n]?:y
se-10-0-0-0(config-location)# end
se-10-0-0-0(config)# exit
se-10-0-0-0#
se-10-0-0-0# show network detail location id 15

Name:                houston
Abbreviation:        hou
Email domain:        how.cue.abcdef.com
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:        4
VPIM encoding:       dynamic
Send spoken name:    enabled
Send vCard:          enabled
State:               disabled
VPIM broadcast ID:   vpim-broadcast
Sent msg count:      1
Received msg count:  1

```

The following example re-establishes voice-mail transmission to and from network location 15.

```

se-10-0-0-0# config t
se-10-0-0-0(config)# network location id 15
se-10-0-0-0(config-location)# enable
se-10-0-0-0(config-location)# end
se-10-0-0-0(config)# exit

```

## Adding Remote Users to the Local Directory

Cisco Unity Express permits the addition of remote users to the local voice-mail directory.

The local Cisco Unity Express directory allows inclusion of frequently addressed remote users. This capability allows a local voice-mail sender to address a remote recipient using dial-by-name. Additionally, the system provides the sender with a spoken name confirmation of the remote recipient so that the sender can verify that the name and location are correct.

Regardless of the license level, the network module (NM) supports a maximum of 50 remote users and the advanced integration module (AIM) supports a maximum of 20 remote users.

System administrators have a new menu option available on the Cisco Unity Express telephone user interface (TUI) to record the spoken name for the remote users. If a remote user does not have a spoken name recorded, the system uses the remote extension number and location as confirmation to the local sender.

If the vCard option is configured, the remote user's vCard updates the local system with the remote user's first name, last name, or extension.

The following sections describe this feature:

- [Impact of Remote Messages on the Local User, page 188](#)
- [Configuring the Local Directory with Remote Users, page 188](#)
- [Displaying Remote Users, page 192](#)
- [Prerequisites, page 185](#)

## Impact of Remote Messages on the Local User

Prior to Release 2.1, the local sender had to use blind addressing to send a message to a remote recipient. Now the local sender can use dial-by-name for the remote recipient's address. If a name or number conflicts with another, the system presents the sender with all conflicting addresses to make a selection.

The local sender hears the remote user's spoken name if it is configured by one of the following methods:

- The spoken name is recorded on the local system.
- The local system receives a message from the remote user, whose spoken name is recorded on the remote system, and the remote system is configured to send the spoken name to the local system.

If the remote sender's spoken name is not configured either locally or remotely, the local user hears the remote extension number and remote location name.

When a local user plays back a message from a remote user, the local user hears the remote sender's spoken name or remote phone number, spoken name of the remote office, the date, and the time that the message was sent. If the local system received the message more than 30 minutes after the message was sent, the local user also hears the time when the message was received. If the local user replies to this message, the local system automatically sets up the appropriate remote address information.

If the system cannot deliver a message to a remote site after 6 hours, the local user receives a non-delivery record (NDR) indicating that the message was not sent or that the message was not delivered to the recipient's mailbox. Beginning with Release 2.1, Cisco Unity Express adds a delayed delivery record (DDR), which is a notification left in the sender's mailbox after 60 minutes of trying to deliver the original message. Unlike the NDR, the DDR does not contain the original message as an attachment and does not count against the sender's mailbox capacity. Additionally, the DDR cannot be saved, only deleted. The system stores only one copy of a DDR for a particular message in the sender's mailbox. The user must delete the existing DDR in order to receive an updated DDR for the same message.

## Configuring the Local Directory with Remote Users

Configuring remote users requires the following procedures:

- Configuring the local system for networking.  
CLI commands exist to configure the local and remote sites in the system. GUI screens are available to configure the location parameters.
- Configuring vCard information on the local system.  
See the chapter "[Configuring a Location with vCard Information](#)" on page 196 for that procedure.
- Adding the remote user information to the local directory.  
This section describes this procedure.
- Adding a spoken name and location for the remote user.

The administrator uses the TUI to record a spoken name for the remote user and a spoken name for the remote location.

Configuring the remote user can be done in the Cisco Unity Express configuration mode and the EXEC mode. Both modes permit adding the remote user to the local directory but have different capabilities for other user information. Use the **remote username location** command once, in either mode, to associate the remote user with a network location.

## Configuration Mode

Use this Cisco Unity Express configuration mode procedure to configure remote users on the local system.

### Prerequisites

The following information is required to configure remote users on the local system:

- Remote username
- Remote user's extension number
- Remote location ID

### SUMMARY STEPS

1. **config t**
2. **remote username *username* location *location-id* create**
3. **remote username *username* phonenumber *extension-number***
4. **exit**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
Step 2	<b>remote username <i>username</i> location <i>location-id</i> create</b>  <b>Example:</b> se-10-0-0-0(config)# remote username abrown location sjc create	Adds the user with <i>username</i> at the location <i>location-id</i> to the local directory.  An error message appears if one of the following conditions occurs: <ul style="list-style-type: none"> <li>• A user, group, or remote user exists with this username.</li> <li>• The maximum number of remote users is already configured on the system.</li> <li>• <i>location-id</i> does not exist.</li> <li>• <i>location-id</i> is the local location.</li> </ul>

	Command or Action	Purpose
Step 3	<p><b>remote username</b> <i>username</i> <b>phonenumber</b> <i>extension-number</i></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# remote username abrown phonenumber 75555</pre></p>	<p>Associates the remote user <i>username</i> with <i>extension-number</i>.</p> <p>The local system does not verify the remote extension number.</p> <p>An error message appears if one of the following conditions occurs:</p> <ul style="list-style-type: none"> <li>• <i>username</i> does not exist.</li> <li>• The length of <i>extension-number</i> does not fall within the maximum and minimum extension lengths for the user's location.</li> </ul>
Step 4	<p><b>exit</b></p> <p><b>Example:</b>  <pre>se-10-0-0-0(config)# exit se-10-0-0-0#</pre></p>	<p>Exits configuration mode.</p>



## EXEC Mode

Use this Cisco Unity Express EXEC mode procedure to configure remote users on the local system.

### Prerequisites

The following information is required to configure remote users on the local system:

- Remote username
- Remote location ID
- Remote user's first name, last name, and full name for display purposes

### SUMMARY STEPS

1. **remote username** *username* **location** *location-id* **create**
2. **remote username** *username* **fullname display** *display-name*
3. **remote username** *username* **fullname first** *first-name*
4. **remote username** *username* **fullname last** *last-name*

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>remote username</b> <i>username</i> <b>location</b> <i>location-id</i> <b>create</b>  <b>Example:</b> se-10-0-0-0# remote username abrown location sjc create	Adds the user with <i>username</i> at the location <i>location-id</i> to the local directory.  An error message appears if one of the following conditions occurs: <ul style="list-style-type: none"> <li>• A user, group, or remote user exists with this username.</li> <li>• The maximum number of remote users is already configured on the system.</li> <li>• <i>location-id</i> does not exist.</li> <li>• <i>location-id</i> is the local location.</li> </ul>
Step 2	<b>remote username</b> <i>username</i> <b>fullname display</b> <i>display-name</i>  <b>Example:</b> se-10-0-0-0# remote username abrown fullname display "Al Brown"	Associates the remote user <i>username</i> with a display name.
Step 3	<b>remote username</b> <i>username</i> <b>fullname first</b> <i>first-name</i>  <b>Example:</b> se-10-0-0-0# remote username abrown fullname first Al	Associates the remote user <i>username</i> with a first name for display.
Step 4	<b>remote username</b> <i>username</i> <b>fullname last</b> <i>last-name</i>  <b>Example:</b> se-10-0-0-0# remote username abrown fullname last Brown	Associates the remote user <i>username</i> with a last name for display.

## Examples

The following example configures several remote users.

```
se-10-0-0-0# config t
se-10-0-0-0(config)# remote username asmith location sjc created
se-10-0-0-0(config)# remote username asmith phonenumber 84444
se-10-0-0-0(config)# remote username tbrown location sjc created
se-10-0-0-0(config)# remote username tbrown phonenumber 81111
se-10-0-0-0(config)# remote username jdoe location nyc created
se-10-0-0-0(config)# remote username jdoe phonenumber 92222
se-10-0-0-0(config)# remote username sjones location nyc created
se-10-0-0-0(config)# remote username sjones phonenumber 93333
se-10-0-0-0(config)# end
se-10-0-0-0# remote username asmith fullname display "Al Smith"
se-10-0-0-0# remote username asmith fullname first Al
se-10-0-0-0# remote username asmith fullname last Smith
se-10-0-0-0# remote username tbrown fullname display "Tom Brown"
se-10-0-0-0# remote username tbrown fullname first Tom
se-10-0-0-0# remote username tbrown fullname last Brown
se-10-0-0-0# remote username jdoe fullname display "Jane Doe"
se-10-0-0-0# remote username jdoe fullname first Jane
se-10-0-0-0# remote username jdoe fullname last Doe
se-10-0-0-0# remote username sjones fullname display "Susan Jones"
se-10-0-0-0# remote username sjones fullname first Susan
se-10-0-0-0# remote username sjones fullname last Jones
se-10-0-0-0#
```

## Displaying Remote Users

Several commands are available to display remote users.

### Displaying All Remote Users

The following command displays all remote users configured on the local system:

```
show remote users
```

The output for this command may appear similar to the following:

```
se-10-0-0-0# show remote users

asmith
tbrown
jdoe
sjones
```

### Displaying a Specific Remote User

The following command displays the details for a specific remote user:

```
show remote user detail username username
```

where *username* is the specific remote user.

The output for this command may appear similar to the following:

```
se-10-0-0-0# show remote user detail username asmith
```

```
Full Name: Al Smith
First Name: Al
Last Name: Smith
Nick Name:
Extension: 84444
Location Id: sjc
```

## Deleting Remote User Information

Several commands are available to delete remote user information from the local directory.

### Deleting an Extension Number

The following configuration mode command deletes a remote user's extension number:

```
no remote username username phonenumber extension-number
```

where *username* is the name of the remote user and *extension-number* is the remote user's extension.

The following example deletes extension 75555 from remote user Al Smith:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no remote username asmith phonenumber 84444
se-10-0-0-0(config)# end
```

### Deleting a Display Name

The following EXEC mode command deletes the remote user's display name:

```
no remote username username fullname display display-name
```

where *username* is the name of the remote user and *display-name* is the remote user's display name.

The following example deletes the display name from remote user Al Smith:

```
se-10-0-0-0# no remote username asmith fullname display "Al Smith"
```

### Deleting a First Name

The following EXEC mode command deletes the remote user's first name:

```
no remote username username fullname first first-name
```

where *username* is the name of the remote user and *first-name* is the remote user's first name.

The following example deletes the first name from remote user Al Smith:

```
se-10-0-0-0# no remote username asmith fullname first Al
```

### Deleting a Last Name

The following EXEC mode command deletes the remote user's last name:

```
no remote username username fullname last last-name
```

where *username* is the name of the remote user and *last-name* is the remote user's last name.

The following example deletes the last name from remote user Al Smith:

```
se-10-0-0-0# no remote username asmith fullname last Smith
```

## Deleting a Remote User Entry in Local Directory

The following EXEC mode command deletes the remote user from the local directory:

```
no remote username username
```

where *username* is the name of the remote user.

The following example deletes the remote user Al Smith:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no remote username asmith
se-10-0-0-0(config)# end
```

# Downloading and Uploading Remote User Spoken Names

Use the Administration via Telephone (AvT) options to record the spoken names. Those name files are stored in the Lightweight Directory Access Protocol (LDAP) on the Cisco Unity Express module. If you download the files to a server other than the Cisco Unity Express module, you can upload those spoken name files to another Cisco Unity Express module in the network.

The following sections describe this feature:

- [Prerequisites, page 194](#)
- [Downloading the Remote User Spoken Name, page 194](#)
- [Uploading the Remote User Spoken Name, page 195](#)

## Prerequisites

- User name
- URL of the file with the recorded spoken name on the server
- Login and password to the server

## Downloading the Remote User Spoken Name

To download the remote user spoken name, use the following command in Cisco Unity Express EXEC mode:

```
remote copy spokename url url username username loginname server-login password
server-password
```

where the command arguments are defined as:

<i>url</i>	URL to the spoken name file on the server.
<i>username</i>	Remote user ID.

<i>server-login</i>	Server login.
<i>server-password</i>	Server password.

The following example uploads the spoken name file `abrown.wav` for remote user `abrown`:

```
se-10-0-0-0# remote copy spokename url ftp://10.4.51.66/abrown.wav username abrown
loginname admin password test
```

## Uploading the Remote User Spoken Name

To upload the network location spoken name, use the following command in Cisco Unity Express EXEC mode:

```
remote copy spokename username username url url loginname server-login password
server-password
```

where the command arguments are defined as:

<i>username</i>	Remote user ID.
<i>url</i>	URL to the spoken name file on the server.
<i>server-login</i>	Server login.
<i>server-password</i>	Server password.

The following example uploads the spoken name file `abrown.wav` for remote user `abrown`:

```
se-10-0-0-0# remote copy spokename username abrown url ftp://10.4.51.66/abrown.wav
loginname admin password test
```

## Configuring Caller ID for Incoming Messages

Cisco Unity Express supports caller ID information for incoming voice-mail messages.

When receiving an incoming voice-mail message from an external caller, the system attempts to match the associated caller ID information with an entry in the local directory. If a match is not found and the system is configured to play caller ID information, the system plays the sender's telephone number in the message envelope when the recipient listens to that message. If the system is not configured to play caller ID information, the system plays "Unknown Caller" in the message envelope.

Cisco Unity Express does not verify that the caller ID information is valid. That function is dependent on the central office (CO) and the incoming trunk setup. Additionally, the local system plays caller ID information for Cisco CallManager Express or Cisco CallManager extensions that are not configured in the local Cisco Unity Express directory.

The default caller ID status is disabled. Use the GUI **Defaults > Voice Mail** option or the CLI command described below to enable or disable playing of caller ID information.



### Note

An external call is any telephone number that is not listed in the Cisco Unity Express user directory. Possible sources of external calls are the local telephone company, an IP telephone, or an H.323 gateway. These sources must be configured to present caller ID information to the Cisco Unity Express system.

The following sections describe this feature:

- [Enabling Caller ID on the Local System, page 196](#)
- [Disabling Caller ID on the Local System, page 196](#)

## Enabling Caller ID on the Local System

Use the following Cisco Unity Express configuration mode command to enable the playing of caller ID information in the message envelope of incoming external calls.

### **voicemail callerid**

The following example illustrates enabling caller ID information on local system:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# voicemail callerid
se-10-0-0-0(config)# exit
```

## Disabling Caller ID on the Local System

Use the following Cisco Unity Express configuration mode command to disable the playing of caller ID information in the message envelope of incoming external calls.

### **no voicemail callerid**

The following example illustrates disabling caller ID information on local system:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no voicemail callerid
se-10-0-0-0(config)# exit
```

## Configuring a Location with vCard Information

Cisco Unity Express supports sending and receiving vCard information in voice-mail messages. A remote user's vCard information contains the user's first name, last name, and extension. Cisco Unity Express uses the vCard information from incoming voice profile for Internet mail (VPIM) messages and the recorded spoken name to populate and update a least recent user (LRU) cache with the remote user information. (For more information about configuring the spoken name, see [“Adding Remote Users to the Local Directory” on page 187.](#))

When addressing a message to a remote user, the local sender hears the spoken name as a confirmation of the intended recipient. The LRU cache is a source of the spoken name.

The maximum length of the LRU cache is 50 users on the network module (NM) and 20 users on the advanced integration module (AIM).

The following sections describe this feature:

- [Enabling a Location to Receive vCard Information, page 197](#)
- [Displaying vCard Status, page 198](#)
- [Disabling Receipt of vCard Information, page 199](#)

## Enabling a Location to Receive vCard Information

The remote location numeric ID is required to enable the location to receive vCard information. The system default is to send the vCard information.

### SUMMARY STEPS

1. **config t**
2. **network location id** *location-id*
3. **voicemail vcard**
4. **end**
5. **exit**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
Step 2	<b>network location id</b> <i>location-id</i>  <b>Example:</b> se-10-0-0-0(config)# network location id 15	Enters the location configuration mode for network location <i>location-id</i> .
Step 3	<b>voicemail vcard</b>  <b>Example:</b> se-10-0-0-0(config-location)# voicemail vcard	Enables the network location <i>location-id</i> to receive vCard information.
Step 4	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-location)# end se-10-0-0-0(config)#	Exits location configuration mode.
Step 5	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.

### Examples

The following example enables receipt of vCard information to network locations 23 and nyc:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# network location 23
se-10-0-0-0(config-location)# voicemail vcard
```

```

se-10-0-0-0(config-location)# end
se-10-0-0-0(config)# network location nyc
se-10-0-0-0(config-location)# voicemail vcard
se-10-0-0-0(config-location)# end
se-10-0-0-0(config)# exit

```

## Displaying vCard Status

Several commands are available to display vCard status.

### Displaying vCard Status For a Specific Location

The following Cisco Unity Express EXEC mode command displays details about a specific remote location:

```
show network detail location id location-id
```

where *location-id* is the remote location number.

The following example displays details about network location 15, which has vCard enabled:

```
se-10-0-0-0# show network detail location id 15
```

```

Name:                houston
Abbreviation:        hou
Email domain:        how.cue.abcdef.com
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:        4
VPIM encoding:       dynamic
Send spoken name:    enabled
Send vCard:          enabled
State:               enabled
VPIM broadcast ID:   vpim-broadcast
Sent msg count:      0
Received msg count:  0

```

### Displaying vCard Status For the Local System

The following EXEC mode command displays details for the local Cisco Unity Express system:

```
show network detail local
```

The following example displays details for the local system with vCard enabled:

```
se-10-0-0-0# show network detail local
```

```

Location ID:         10
Name:                SanJoseCA
Abbreviation:        sjc
Email domain:        sjc.cue.abcdef.com
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:        G726
VPIM encoding:       G726
Send spoken name:    enabled
Send vCard:          enabled
State:               enabled
VPIM broadcast ID:   vpim-broadcast

```



## Disabling Receipt of vCard Information

Use this procedure to disable receipt of vCard information.

### SUMMARY STEPS

1. **config t**
2. **network location id *location-id***
3. **no voicemail vcard**
4. **end**
5. **exit**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
Step 2	<b>network location id <i>location-id</i></b>  <b>Example:</b> se-10-0-0-0(config)# network location id 15	Enters the location configuration mode for network location <i>location-id</i> .
Step 3	<b>no voicemail vcard</b>  <b>Example:</b> se-10-0-0-0(config-location)# no voicemail vcard	Disables the network location <i>location-id</i> from receiving vCard information.
Step 4	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-location)# end se-10-0-0-0(config)#	Exits location configuration mode.
Step 5	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.

### Examples

The following command disables receipt of vCard information to network location nyc:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# network location nyc
se-10-0-0-0(config-location)# no voicemail vcard
se-10-0-0-0(config-location)# end
se-10-0-0-0(config)# exit
```

## Configuring the LRU Cache

Cisco Unity Express supports a least recent user (LRU) cache that contains vCard information about remote users. An LRU cache is a database of remote users' first names, last names, and spoken names. These remote users are not configured in the Remote User Directory. The users contained in the cache are referred to as cached users.

Network messages update the contents of the LRU cache. When a local sender addresses a voice-mail message to a remote user, the system accesses this information to send a spoken name confirmation about the remote user to the local sender. Each time a network message arrives from a cached user or each time a local sender sends a voice message to a cached user, the system updates the timestamp of the cached user's entry in the LRU cache.

The maximum capacity of the LRU cache is 50 users on the network module (NM) and 20 users on the advanced integration module (AIM). When the LRU cache reaches its maximum capacity, a new entry erases the existing entry with the oldest timestamp. This means that the next time a local sender calls a remote user, the sender will not receive a spoken name confirmation if the remote user is no longer in the LRU cache.

Do one or both of the following to avoid the inconsistent confirmation response:

- To ensure that a sender always receives a spoken name confirmation for a remote user, configure the remote user in to the Remote User Directory.
- Disable the LRU cache.

The LRU cache contents are saved after system reloads.

By default, the LRU cache is enabled on the local system. Use the GUI **Defaults > Voice Mail** option or the CLI commands described below to change the status of the LRU cache.

The following sections describe this feature:

- [Enabling the LRU Cache, page 200](#)
- [Disabling the LRU Cache, page 200](#)
- [Displaying LRU Cache Data, page 201](#)

## Enabling the LRU Cache

Use the following Cisco Unity Express configuration mode command to enable the LRU cache on the local system:

```
remote cache enable
```

The following example illustrates enabling the LRU cache on the local system:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# remote cache enable
se-10-0-0-0(config)# exit
```

## Disabling the LRU Cache

Disabling the cache clears all cache entries and prevents new user entries from being stored in the cache.

Use the following Cisco Unity Express configuration mode command to disable the LRU cache on the local system.

**no remote cache enable**

The following example illustrates disabling the LRU cache on the local system:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no remote cache enable
se-10-0-0-0(config)# exit
```

## Displaying LRU Cache Data

Use the following Cisco Unity Express EXEC mode command to display the local system's LRU cache data:

**show remote cache**

The system displays the user ID, location, extension, and last accessed time for each cached user.

```
se-10-0-0-0# show remote cache

Remote user cache is enabled
ID             LOCATION  EXTENSION  LAST ACCESSED TIME
3014001        sjc      5555       Tue Sep 21 10:38:28 PDT 2004
6661005        nyc      1111       Tue Sep 21 14:55:11 PDT 2004
```

## Configuring Network Broadcast Messages

Cisco Unity Express permits sending broadcast messages to local and remote network locations. Cisco Unity Express permits users with the broadcast privilege to send local and network broadcast messages. Users obtain this privilege as members of a group that has the broadcast privilege.

Sending a broadcast message is available through the Cisco Unity Express telephone user interface (TUI).

The broadcast message sender has the option to re-address, re-record, and review the message before sending it out. The sender also has the option to set the number of days the broadcast message plays before the system deletes it. The maximum life of a broadcast message is 30 days. The default message lifetime is 30 days.

The sender can include any or all of the remote locations configured on the local system. The remote addresses can be location numbers or location names. When using the location name, the number of matches may resolve into several locations. If the number of locations is less than or equal to 4, the system gives the sender the option to select the exact location. If the number of matches is greater than 4, the sender has to enter more letters to narrow the search.

All subscribers at the remote location receive the broadcast message. The recipients hear the message immediately after logging in to their voice mailboxes. The recipients cannot interrupt the message with any DTMF key. Recipients can save or delete the broadcast message; they cannot reply or forward a broadcast message.

The system administrator at each location determines how or when the message waiting indicator (MWI) lights up.

It is possible for the MWI lights to turn on for a broadcast message on some systems but not for others.

The following sections describe this feature:

- [Configuring Broadcast Messages, page 202](#)

- [Configuring the Broadcast Message VPIM ID for a Network Location, page 203](#)
- [Enabling the MWI Lights for Broadcast Messages, page 205](#)
- [Displaying Broadcast Messages, page 205](#)
- [Deleting a Broadcast Message, page 206](#)
- [Changing the Broadcast Message Start and End Times, page 206](#)
- [Disabling the Broadcast Privileges for a Group, page 207](#)
- [Disabling the MWI Lights for Broadcast Messages, page 207](#)

## Configuring Broadcast Messages

Perform the following procedures to configure broadcast messages:

- [Configuring a Group with Broadcast Privileges, page 202.](#)
- [Configuring the Broadcast Message Length and Expiration Time, page 202](#)

### Configuring a Group with Broadcast Privileges

Use the following EXEC mode command to configure a group with broadcast privileges:

```
group group-name privilege broadcast
```

where *group-name* is the set of users who will have the capability of creating and sending broadcast messages.

The following example assigns the broadcast privilege to a group named managers:

```
se-10-0-0-0# group managers privilege broadcast
```

### Configuring the Broadcast Message Length and Expiration Time

Use the following procedure to configure the local system for broadcast messages.

#### Prerequisites

The following information is required to configure the broadcast message length and expiry time:

- Broadcast message length, in seconds
- Broadcast message expiry time, in days

#### SUMMARY STEPS

1. **config t**
2. **voicemail broadcast recording time** *broadcast-length*
3. **voicemail default broadcast expiration time** *broadcast-days*
4. **exit**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
Step 2	<b>voicemail broadcast recording time broadcast-length</b>  <b>Example:</b> se-10-0-0-0(config)# voicemail broadcast recording time 120	Specifies the maximum length of broadcast messages, in seconds. Valid values are 10 to 3600.
Step 3	<b>voicemail default broadcast expiration time broadcast-days</b>  <b>Example:</b> se-10-0-0-0(config)# voicemail default broadcast expiration time 90	Specifies the number of days to store broadcast messages. The maximum value is 30 days.
Step 4	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.

## Examples

The following example sets the broadcast message length to 20 seconds and the expiration time to 2 days.

```
se-10-0-0-0# config t
se-10-0-0-0(config)# voicemail broadcast recording time 20
se-10-0-0-0(config)# voicemail default broadcast expiration time 2
se-10-0-0-0(config)# exit
```

## Configuring the Broadcast Message VPIM ID for a Network Location

Use the following procedure to configure the VPIM ID for broadcast messages for a network location.

### Prerequisites

The following information is required to configure the broadcast message VPIM ID for a network location:

- Network location ID
- Network location VPIM ID

**SUMMARY STEPS**

1. **config t**
2. **network location id** *location-id*
3. **voicemail broadcast vpim-id** *vpim-id*
4. **end**
5. **exit**

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	<b>config t</b>  <b>Example:</b> se-10-0-0-0# config t se-10-0-0-0(config)#	Enters configuration mode.
<b>Step 2</b>	<b>network location id</b> <i>location-id</i>  <b>Example:</b> se-10-0-0-0(config)# network location id 15	Specifies the network location.
<b>Step 3</b>	<b>voicemail broadcast vpim-id</b> <i>vpim-id</i>  <b>Example:</b> se-10-0-0-0(config-location)# voicemail broadcast vpim-id 159a	Specifies the VPIM ID for the location. Valid VPIM IDs contain letters, numbers, and the special characters underscore (_), dash (-), and dot (.). The maximum length is 32 characters.
<b>Step 4</b>	<b>end</b>  <b>Example:</b> se-10-0-0-0(config-location)# end se-10-0-0-0(config)#	Exits location configuration mode.
<b>Step 5</b>	<b>exit</b>  <b>Example:</b> se-10-0-0-0(config)# exit se-10-0-0-0#	Exits configuration mode.

**Examples**

The following example sets the VPIM ID to ny-270 for network location 150:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# network location id 150
se-10-0-0-0(config-location)# voicemail broadcast vpim-id ny-270
se-10-0-0-0(config-location)# end
se-10-0-0-0(config)# exit
```

## Enabling the MWI Lights for Broadcast Messages

Use the following Cisco Unity Express configuration mode command to enable the MWI lights to turn on when a voice mailbox receives a broadcast message.

```
voicemail broadcast mwi
```

The following example illustrates enabling the MWI lights for broadcast messages:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# voicemail broadcast mwi
se-10-0-0-0(config)# end
```

## Displaying Broadcast Messages

Several commands are available to display information about broadcast messages.

### Displaying Current Broadcast Messages

Use the following EXEC mode command to display broadcast messages:

```
show voicemail broadcast messages
```

The output for this command may appear similar to the following:

```
se-10-0-0-0# show voicemail broadcast messages

Message ID:          JMX0824L4R4-NM-FOC08221WSQ-1103139552166-NBCM
Sender:              1005@nyc.cue.abcdef.com
Length(secs):        10
Start time:          21:12:54 Nov 23 2004 PST
End time:            11:48:06 Dec 4 2004 PST

Message ID:          JMX0824L4R4-NM-FOC08221WSQ-1103084723247-NBCM
Sender:              5555@nyc.cue.abcdef.com
Length(secs):        30
Start time:          08:41:09 Dec 7 2004 PST
End time:            09:00:00 Jan 3 2005 PST
```

### Displaying Broadcast Messages Received Per Mailbox

The following command is modified to display broadcast message information:

```
show voicemail mailboxes
```

A new column BCST displays the number of broadcast messages received by the mailboxes. The output for this command may appear similar to the following:

```
se-10-0-0-0# show voicemail mailboxes

OWNER          MSGS  NEW  SAVE  DEL  BCST  MSGTIME  MBXSIZE  USED
user1          16   16   0     0    4    3000     3000     100%
user2          16   16   0     0    4    3000     3000     100%
user3          16   16   0     0    4    3000     3000     100%
user4          16   16   0     0    4    3000     3000     100%
```

## Displaying Broadcast Messages Received by the Voice-Mail System

The following command is modified to display broadcast message information:

```
show voicemail usage
```

A new row **broadcast message count** displays the number of broadcast messages received by the voice mail system. The output for this command may appear similar to the following:

```
se-10-0-0-0# show voicemail usage

personal mailboxes:                120
general delivery mailboxes:        0
orphaned mailboxes                 0
capacity of voicemail (minutes):   6000
allocated capacity (minutes):      6000.0
total message time used (seconds):  7543
total message count:               7001
average message length (seconds):  1.0774175117840308
broadcast message count:           4
networking message count:          0
greeting time used (seconds):      3
greeting count:                    1
average greeting length (seconds):  3.0
total time used (seconds):          7546
total time used (minutes):          125.76667022705078
percentage time used (%):           2
```

## Deleting a Broadcast Message

Use the following EXEC mode command to delete a broadcast message:

```
voicemail broadcast message message-id delete
```

where *message-id* is the coded identifier for the message. Use the **show voicemail broadcast messages** command to obtain the message ID.

The following example deletes a broadcast message:

```
se-10-0-0-0# voicemail broadcast message JMX0824L4R4-NM-FOC08221WSQ-1103139552166-NBCM delete
```

## Changing the Broadcast Message Start and End Times

Use the following EXEC mode commands to change the start and end times of a broadcast message:

```
voicemail broadcast message message-id starttime time date
```

```
voicemail broadcast message message-id endtime time date
```

where *message-id* is the coded identifier for the message, *time* is the time in the 24-hour clock format, and *date* has the format YYYY-MM-DD. Use the **show voicemail broadcast messages** command to obtain the message ID.



The following examples change the start and end times for a broadcast message:

```
se-10-0-0-0# voicemail broadcast message JMX0824L4R4-NM-FOC08221WSQ-1103139552166-NBCM
starttime 10:00 2004-09-15

se-10-0-0-0# voicemail broadcast message JMX0824L4R4-NM-FOC08221WSQ-1103139552166-NBCM
endtime 15:30 2004-09-16
```

## Disabling the Broadcast Privileges for a Group

Use the following EXEC mode command to remove the broadcast privileges from a group:

```
no group groupname privilege broadcast
```

where *groupname* is the group to have the broadcast privileges removed.

The following example disables the broadcast privilege for the group named managers:

```
se-10-0-0-0# no group managers privilege broadcast
```

## Disabling the MWI Lights for Broadcast Messages

Use the following Cisco Unity Express configuration mode command to turn off the MWI lights for broadcast messages.

```
no voicemail broadcast mwi
```

The following example illustrates disabling the MWI lights for broadcast messages:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# no voicemail broadcast mwi
se-10-0-0-0(config)# end
```

## Configuring Distribution Lists

Cisco Unity Express permits configuration of distribution lists that allow users to send a voice-mail message to multiple recipients at one time. This section describes distribution lists and contains the following sections:

- [Members of a Distribution List, page 208](#)
- [Public Distribution Lists, page 208](#)
- [Private Distribution Lists, page 209](#)
- [Properties of Distribution Lists, page 210](#)
- [Differences Between Cisco Unity Express and Cisco Unity Distribution Lists, page 211](#)
- [Configuring Public Distribution Lists, page 212](#)
- [Displaying Distribution Lists, page 215](#)
- [Deleting Distribution Lists, page 217](#)

## Members of a Distribution List

Members of a distribution list can be any combination of the following:

- Local and remote users

A remote user that is statically configured on the local system can be a member of a distribution list. However, that remote user cannot own a distribution list on the local system.

- General delivery mailboxes (GDMs)
- Groups
- Other distribution lists

Recursive distribution lists are permitted; for example, list A can be a member of list B, and list B can be a member of list A.

- Blind addresses

Specify the location ID and extension of the blind address. The system verifies the location ID and the extension length.

## Public Distribution Lists

All local users of the system can use a public distribution list in the address of a voice-mail message. [Table 10](#) describes the features of a public distribution list.

**Table 10** Features of Public Distribution Lists

Feature	Number Permitted	Description
Maximum number of lists on the system	15	<p>Cisco Unity Express supports up to 15 user-defined public lists. Local users who belong to the Administrators group or to any group that has the ManagePublicList privilege can create these lists.</p> <p>The system generates a special list, the <b>everyone</b> list, which contains all the local users but no groups, GDMs, or other lists. The system automatically creates this list when the system receives a request for it. A user cannot manually add or delete members of this list.</p>
Number of owners of a list	0 to 50	<p>The 15 public lists can have owners. The <b>everyone</b> list cannot have an owner.</p> <p>The owner can be any local user or group. If the owner is a group, all the members of the group are owners of the list.</p> <p>The owners can edit or delete members of the list and can assign other owners to the list.</p> <p>Members of the Administrators group are implicit owners of all public distribution lists and can edit any public list at any time. If all the owners of a list are deleted, the Administrator group continues to have ownership of the list.</p>
Maximum number of list members on the local system	1000	<p>This total is the sum of all members in all public lists on the system, excluding the <b>everyone</b> list.</p> <p>This maximum applies to all voice mailbox license levels.</p>
Maximum number of list owners on the local system	50	<p>This total is the sum of all owners of all public lists on the system, excluding the <b>everyone</b> list.</p> <p>This maximum applies to all voice mailbox license levels.</p>

Use the Cisco Unity Express graphical user interface (GUI), telephone user interface (TUI), or command-line interface (CLI) to create and manage public distribution lists.

## Private Distribution Lists

Any local user can create private distribution lists that are visible and accessible only to the user. [Table 11](#) describes the features of private distribution lists.

**Table 11** Features of Private Distribution Lists

Feature	Description
Owner of a private list	The owner of a private distribution list is the local user who created it. The owner of a private list cannot be changed.  If the local user is deleted from the system, the user's private lists are also deleted.
List creation and management	Use the GUI or TUI to create and manage private lists. No CLI commands are available to create or manage private lists.
Viewing private lists	The list owner and any local users who are members of the Administrator group or any group with the ViewPrivateList privilege can use the GUI to view the private lists that belong to a specific user. CLI commands are available to view private lists and their details.  Members of the ViewPrivateList or Administrator groups cannot create or modify a private list for a user.
Maximum number of private lists per user	A user can have a maximum of 5 private lists.
Maximum number of members per user	The sum of all members in a user's private lists is 50.
Maximum number of members on the local system	$50*n$ , where $n$ is the number of mailboxes (not users) allowed by the voice mailbox license level.

## Properties of Distribution Lists

Cisco Unity Express distribution lists have the following properties:

- **Identification**—Each list must have a unique name or number.
  - Valid names have a maximum of 64 characters and include the letters A to Z, a to z, digits 0 to 9, and the characters underscore (\_), dot (.), and dash (-). Names must start with a letter. Do not use spaces in the name.
  - Valid private list numbers are 1 to 5.
  - Public list numbers have a maximum length of 15 digits. A list number can match the user's or GDM's telephone number but must not match another local public list number.
  - The system automatically assigns 9999 to the default **everyone** public list. An administrator can change this number using the GUI menu option **Voice Mail > Distribution Lists > Public Lists**. The 9999 number cannot be changed using TUI options or CLI commands.
- **Members**—Distribution lists can comprise a variety of members: local users, remote users, blind addresses, GDMs, groups, and other lists.
  - A public list member can be another public list but may not be a private list.
  - A private list member can be any public list and may be another private list owned by the same user.
  - When a user addresses a voice message to a public or private distribution list, the system verifies that the list has members. If the list is empty, the system plays a prompt indicating that the list contains no members and does not allow the list to be used as a recipient of the message.

- Spoken name—The owner of a public or private distribution list can record a spoken name for the list using the TUI. Recording or uploading the spoken name cannot be done through the GUI or CLI. The default **everyone** public list has a spoken name by default. An administrator can change this name using the TUI.
- Removal of a list member—If a local or remote user is removed from the system, the user is removed from all public and private distribution lists on the system. The user's private distribution lists are removed from the system and the user is removed as owner of any public distribution list. If the user was the sole owner of a public distribution list, the Administrator group assumes ownership of that list.  
This same series of actions applies to the removal of a group, except for private lists (a group cannot own a private list).
- Access to remote distribution lists—A local user cannot modify a remote distribution list and cannot use a remote distribution list as the recipient of a voice message.

## Differences Between Cisco Unity Express and Cisco Unity Distribution Lists

Table 12 describes important differences between the Cisco Unity Express and Cisco Unity distribution lists.

**Table 12** Differences Between Cisco Unity Express and Cisco Unity Distribution Lists

Feature	Cisco Unity Implementation	Cisco Unity Express Implementation
Managing distribution lists through the TUI	Not permitted for public distribution lists. Permitted for private distribution lists.	Permitted for public and private distribution lists. Extra TUI menu options are available for managing public lists. Key presses for private distribution lists are the same as for Cisco Unity.
Creating distribution lists	Created by the system. No TUI options are available for users to create or delete distribution lists.	Created and deleted by the user using TUI menus. Implicit list creation is available for both public and private lists. If a user tries to add a member to a nonexistent list, the system creates the list and adds the member to it. If a user tries to record the spoken name for a nonexistent list, the system creates the list and records the spoken name. In both cases, the user hears a prompt stating that a new list was created.

**Table 12** Differences Between Cisco Unity Express and Cisco Unity Distribution Lists (continued)

Feature	Cisco Unity Implementation	Cisco Unity Express Implementation
Removing members of a list	The system assigns a sequence of numbers to the list members' names and extensions. The user presses the sequence number to remove the member.	The user removes a list member by name or extension, similar to the dial-by-name and extension flow for addressing voice messages.
Adding private lists to another list	Not permitted.	A private list may be added to another private list owned by the same user.

## Configuring Public Distribution Lists

Use this procedure to create public distribution lists.



### Note

Use the TUI or GUI to create private distribution lists. No CLI commands are available for private distribution lists.

## Prerequisites

Local and remote users must be previously defined on the system.

The following information is required to create a public distribution list:

- List name and number
- (Optional) List description—The description can have a maximum of 64 characters.

The following information is required to add members to a distribution list:

- Member type (user, group, GDM, list, remote, or blind)
- Member name or extension

## SUMMARY STEPS

1. **config t**
2. **list name** *list-name* **number** *list-number* **create**
3. **list number** *list-number* **owner** *owner-ID*
4. **list number** *list-number* **member** {*member-name* | *extension*} **type** {**group** | **user** | **gdm** | **list** | **remote** | **blind**}
5. (Optional) **list number** *list-number* **description** *description*
6. **exit**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><b>config t</b></p> <p><b>Example:</b>  se-10-0-0-0# config t  se-10-0-0-0(config)#</p>	Enters configuration mode.
Step 2	<p><b>list name list-name number list-number create</b></p> <p><b>Example:</b>  se-10-0-0-0(config)# list name engineers number 5  create</p>	<p>Creates a list named <i>list-name</i> with the number <i>list-number</i>.</p> <ul style="list-style-type: none"> <li>• <i>list-number</i> can be up to 15 digits in length.</li> <li>• An error message appears if <i>list-name</i> or <i>list-number</i> already exists.</li> <li>• An error message appears if the maximum number of public lists (15) already exists.</li> </ul>
Step 3	<p><b>list number list-number owner owner-ID</b></p> <p><b>Example:</b>  se-10-0-0-0(config)# list number 5 owner mbrown</p>	<p>Assigns an owner to the list. The owner can be a local user or a local group.</p> <ul style="list-style-type: none"> <li>• An error message appears if <i>listnumber</i> or <i>owner-ID</i> does not exist.</li> <li>• An error message appears if the maximum number of owners on the system (50) has been reached.</li> <li>• Use the <b>no</b> form of the command to remove the owner of the list.</li> </ul>

Command or Action	Purpose
<p><b>Step 4</b></p> <pre>list number list-number member {member-name   extension} type {group   user   gdm   list   remote   blind}</pre> <p><b>Example:</b></p> <pre>se-10-0-0-0(config)# list number 5 member wsmith type user se-10-0-0-0(config)# list number 5 member managers type group se-10-0-0-0(config)# list number 5 member sale type gdm se-10-0-0-0(config)# list number 5 member mylist3 type list se-10-0-0-0(config)# list number 5 member tjones type remote se-10-0-0-0(config)# list number 5 member abc5555 type blind</pre>	<p>Assigns a member to the list. Valid member types include:</p> <ul style="list-style-type: none"> <li>• <b>group</b>—Local or remote group</li> <li>• <b>user</b>—Local user</li> <li>• <b>gdm</b>—Local or remote GDM</li> <li>• <b>list</b>—Any local public list that belong to the list owner</li> <li>• <b>remote</b>—Remote user</li> <li>• <b>blind</b>—Blind address of a remote user</li> </ul> <p>Valid members include:</p> <ul style="list-style-type: none"> <li>• Local or remote user</li> <li>• Group ID</li> <li>• GDM name</li> <li>• Voice mailbox extension (blind address)</li> <li>• List number</li> <li>• List name</li> </ul> <p>An error message appears if the list or member does not exist.</p> <p>An error message appears if the maximum number of public list members (1000) has been reached.</p> <p>Use the <b>no</b> form of this command to delete the member from the list.</p>
<p><b>Step 5</b></p> <pre>list number list-number description description</pre> <p><b>Example:</b></p> <pre>se-10-0-0-0(config)# list number 5 description "SJ Engineers"</pre>	<p>(Optional) Adds a description to the public list. Enclose the description in quotes if the description is more than one word.</p> <p>An error message appears if the list does not exist.</p> <p>Use the <b>no</b> form of this command to delete the description.</p>
<p><b>Step 6</b></p> <pre>exit</pre> <p><b>Example:</b></p> <pre>se-10-0-0-0(config)# exit se-10-0-0-0#</pre>	<p>Exits configuration mode.</p>

## Examples

The following example creates public distribution list number 5 for engineers:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# list name engineers number 5 create
se-10-0-0-0(config)# list number 5 owner abcdef
se-10-0-0-0(config)# list number 5 owner progmgrs
se-10-0-0-0(config)# list number 5 member abcdef type user
se-10-0-0-0(config)# list number 5 member xxyzz type user
```



```

se-10-0-0-0(config)# list number 5 member betamgrs type group
se-10-0-0-0(config)# list number 5 member tech type gdm
se-10-0-0-0(config)# list number 5 member nyc7777 type blind
se-10-0-0-0(config)# exit

```

## Displaying Distribution Lists

Several commands are available to display distribution lists and their members.

### Displaying All Public Distribution Lists

The following Cisco Unity Express EXEC mode command displays all the public distribution lists on the local system:

```
show lists public
```

This command displays the lists in alphabetical order with each list name, number, and type, followed by the details of each list.

Output from this command may appear similar to the following:

```

se-10-0-0-0# show lists public

List number          List Name           Type
5                   engineers          Public
9999                everyone           Public
Number: 5
Name: engineers
Type: Public
Description:
Owners:
    abcdef          Local User
    progmgrs        Group
Members:
    abcdef          Local User
    xxyyzz          Local User
    progmgrs        Group
    techs           General Delivery Mailbox
    tech25          Remote User
    nyc5555         Blind Address

```

### Displaying Details of a Public Distribution List

The following Cisco Unity Express EXEC mode command displays details of a specific public distribution list:

```
show lists detail public (name list-name | number list-number)
```

where *list-name* is the name of the list and *list-number* is the number of the list.

This command displays the list number, list name, list type, owners, and members of the list with their type categories.

Output from this command may appear similar to the following:

```

se-10-0-0-0# show lists detail public name engineers
Number: 5
Name: engineers

```

```
Type: Public
Description:
Owners:
  abcdef user
  progmgrs group
Members:
  abcdef user
  xxyzzz user
  betamgrs group
  techs gdm
  tech25 remote
  nyc5555 blind
```

The command **show list detail public number 5** would display the same output as shown above.

## Displaying an Owner's Lists

The following Cisco Unity Express EXEC mode command displays the public and private lists owned by a specific user or group:

```
show lists owner owner-id
```

where *owner-id* is the name of a user or group. An error message appears if *owner-id* does not exist.

This command displays the list number, list name, and list type for all the public and private lists that belong to the specified owner. The lists appear in alphabetical order, private lists first followed by public lists.

Output from this command may appear similar to the following:

```
se-10-0-0-0# show lists owner abcdef

Owner: abcdef
  List Number   List Name      List Type
  4             projectteam    Private List
  5             engineers      Public List
  25            managers      Public List
```

## Displaying Details of a Private Distribution List

The following Cisco Unity Express EXEC mode command displays the details of a specific private distribution list for a specific user:

```
show lists detail private (name list-name | number list-number) owner owner-id
```

where *list-name* is the name of the private list, *list-number* is the number of the private list, and *owner-id* is the name of a user. An error message appears if *list-name*, *list-number*, or *owner-id* does not exist.

The list owner and local users who are members of the ViewPrivateList or Administrators groups can view the private lists that belong to a particular user.

This command displays the list number, list name, owner, members, and member types of the specified private distribution list.

Output from this command may appear similar to the following:

```
se-10-0-0-0# show lists detail private name projectteam owner abcdef
Number: 4
Name: projectteam
Type: Private
Description:
```

```
Owner:
  abcdef
Members:
  tech1 user
  tech2 user
  testers group
  tech10 remote
```

The command **show lists detail private number 4 owner abcdef** would display the same output as shown above.

## Deleting Distribution Lists

The TUI and GUI have options for deleting private and public distribution lists. Additionally, the CLI has a command for deleting public lists on the local system.

Use the following Cisco Unity Express configuration mode command to delete public distribution lists:

```
list number list-number delete
```

where *list-number* is the number of the public distribution list.

The following example deletes list number 10 from the local system:

```
se-10-0-0-0# config t
se-10-0-0-0(config)# list number 10 delete
se-10-0-0-0(config)# exit
se-10-0-0-0#
```





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---

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