



Prerequisites for Installing Cisco Unity Express Software

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This chapter describes the prerequisites for installing the Cisco Unity Express software on your system and contains the following sections:

- [Prerequisites for Cisco Unified Communications Manager Express, page 15](#)
- [Prerequisites for Cisco Unified Communications Manager, page 19](#)

See *Cisco Unity Express Documentation, By Version* for the hardware installation documentation for your Cisco Unity Express module. See *Software Activation for Cisco Unity Express 7.1 and Later Versions* for information on activating Cisco Unity Express software licenses.

Prerequisites for Cisco Unified Communications Manager Express



Note

This section applies to a new installation of Cisco Unity Express 8.6.

If you are using Cisco Unified Communications Manager Express (Cisco Unified CME) on your Cisco Unity Express system, Cisco Unified CME must be installed before you configure Cisco Unity Express. If you did not perform the Cisco Unified CME installation, contact the designated installer to ensure that the following procedures are completed:

1. Verify that the version of Cisco Unified CME is compatible with Cisco Unity Express 8.6. See the *Cisco Unity Express Compatibility Matrix*.
2. Install all Cisco Unified CME and Cisco Unity Express hardware and verify functionality.
 - a. Attach the telephones so that they register with the Cisco Unified CME router. Configure the telephones and subscribers and save them to the Cisco Unified CME database. The Cisco Unity Express initialization wizard allows you to copy this data to the Cisco Unity Express database. You can create additional subscribers and telephones later using the Cisco Unity Express CLI commands or GUI options.

Use the following sample ephone-dn and ephone configurations to configure the telephones and subscribers manually:

```

ephone-dn 1 <---- ephone dn configuration for a user
  number 8004
  name User1
  call-forward busy 6900
  call-forward noan 6900 timeout 10
!
!
ephone-dn 20 <---- ephone dn configuration for a group
  number 8801
  name Salesgroup
  call-forward busy 6900
  call-forward noan 6900 timeout 10

ephone 1 <--- ephone configured for the ephone-dn configured above
  username "Salesgroup" password null
  mac-address 0009.B7F7.556A
  button 1:1 2:20 3:21 4:22 5:23

```

- b. Verify that the Cisco Unity Express router is configured with a Cisco IOS release that supports the Cisco Unity Express hardware module you are using. For information on the minimum Cisco IOS release required to support these modules, see [Release Notes for Cisco Unity Express 8.6](#).
- c. Verify that the Enable LED on the Cisco Unity Express hardware module is lit.


Note

See the [“Uninterruptible Power Supply Recommendations”](#) section on page 11.

3. Install and verify Cisco Unified CME software functionality.

Depending on the version of Cisco Unified CME, you can perform some configuration using the Cisco Unified CME graphical user interface. If the version of Cisco Unified CME does not support the GUI, see [Cisco Unified Communications Manager Express Administrator Guide](#). If your version of Cisco Unified CME supports the GUI, proceed with the following steps:

- a. Verify that you have web connectivity to the Cisco Unified CME configuration webpage at: <http://cisco-unified-cme-router-ipaddress/ccme.html>.
- b. Verify that the Cisco Unified CME router flash memory has the following files, which control the functionality of the Cisco Unity Express GUI:
 - CiscoLogo.gif
 - Delete.gif
 - Plus.gif
 - Tab.gif
 - admin_user.html
 - admin_user.js
 - dom.js
 - downarrow.gif
 - ephone_admin.html
 - logohome.gif
 - normal_user.html

- normal_user.js
- sxiconad.gif
- telephony_service.html
- uparrow.gif
- xml-test.html
- xml.template

c. Configure the following path in Cisco Unified CME configuration mode:

```
Router(config)# ip http path flash:
```

d. Verify the path with the **show running-config** command.

e. 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 might be unnumbered.

Using the **ip unnumbered** command for configuration 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.

Copy the IP address of the Cisco Unity Express module because you need it to access the GUI to configure the system. 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 Integrated-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 Integrated-Service-Engine1/0
```

**Note**

If your network uses a VLAN interface with an EtherSwitch module, use the previous example and replace both instances of “FastEthernet0/0” with “VLAN1”.

The example above applies to the NME-CUE. The command to enter interface configuration mode is different depending on the Cisco Unity Express module. Table 1 shows the different commands used for each module.

Table 1 Interface Configuration Mode Commands for Cisco Unity Express Modules

Cisco Unity Express Module	Command to Enter Interface Configuration Mode
ISM-SRE-300-K9	<code>interface ism 0/unit</code>
SM-SRE-700-K9	<code>interface sm slot/0</code>
SM-SRE-900-K9	
SM-SRE-710-K9	
SM-SRE-910-K9	
NME-CUE	<code>interface integrated-service-engine slot/0</code>
1861/ISE	
AIM2-CUE	<code>interface internal-service-module 0/unit</code>

- f. Verify that a SIP dial peer is configured to point to the Cisco Unity Express module, that it specifies G.711 u-law and SIP Notify for DTMF Relay, and that VAD is turned off. This step is required to have an incoming call directed to Cisco Unity Express 8.6. The following is an example configuration:

```
dial-peer voice 6000 voip <----- SIP dial peer pointing to Cisco Unity Express
destination-pattern 6...
session protocol sipv2
dtmf-relay sip-notify
session target ipv4:10.3.6.128 <---- Cisco Unity Express IP address
codec g711ulaw
no vad
```

- g. Configure the appropriate number of SIP dial peers to support your dial plan.
- h. Verify that a Cisco Unified CME web administrator is configured with a username and password, for example:

```
telephony-service
.
.
.
web admin system name admin password user1
```

or

```
web admin system name admin secret 5 encrypted-password
```

4. The FTP server that communicates with Cisco Unity Express must support passive FTP requests. To configure this functionality on the FTP server, see the FTP server documentation.
5. (Optional) If no subscribers were created in the Cisco Unified CME interface, create a list of all subscribers, groups, and their extensions to simplify the task of configuring many subscribers and extensions.



Note Designate a primary extension for each subscriber who will receive voice-mail messages. Cisco Unity Express does not activate the MWI for an E.164 number.

Prerequisites for Cisco Unified Communications Manager

If you are using Cisco Unified Communications Manager on your Cisco Unity Express system, Cisco Unified Communications Manager must be installed before the Cisco Unity Express configuration can be started.

If you did not perform the Cisco Unified Communications Manager installation, contact the designated installer to ensure that the following procedures are completed:

1. Verify that the version of Cisco Unified Communications Manager is compatible with Cisco Unity Express 8.6. See *Cisco Unity Express Compatibility Matrix*.
2. (Required) Install all Cisco Unified Communications Manager and Cisco Unity Express hardware and verify functionality. See *Cisco Unity Express Documentation, By Version* for the hardware installation documentation for your module.
 - a. Attach the telephones so that they register with the Cisco Unified Communications Manager server.
 - b. Verify that the Enable LED is lit on the Cisco Unity Express hardware module.



Note See the [“Uninterruptible Power Supply Recommendations”](#) section on page 11.

3. (Required) Install and verify Cisco Unified Communications Manager software functionality.
 - a. You must be able to access the Cisco Unified Communications Manager configuration webpage.
 - 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 might be unnumbered.

Use the **ip unnumbered** command to allow 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.

Copy the IP address of the Cisco Unity Express module because you need it to access the GUI to configure the system. 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
```



Note If your network uses a VLAN interface with an EtherSwitch module, use the previous example and replace both instances of “FastEthernet0/0” with “VLAN1”.

The previous example applies to the NME-CUE. The command to enter interface configuration mode is different depending on the Cisco Unity Express module. [Table 1](#) shows the different commands used for each module.

Table 1 *Interface Configuration Mode Commands for Cisco Unity Express Modules*

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SM-SRE-700-K9	<code>interface sm slot/0</code>
SM-SRE-900-K9	
SM-SRE-710-K9	
SM-SRE-910-K9	
NME-CUE	<code>interface integrated-service-engine slot/0</code>
1861/ISE	
AIM2-CUE	<code>interface internal-service-module 0/unit</code>

- c. On the Cisco Unified Communications Manager, configure up to 24 CTI ports for a Cisco Unity Express system with an NME-CUE module. For the AIM2-CUE, configure 6 CTI ports on Cisco Unified Communications Manager. For the ISM-SRE-300-K9, configure 10 CTI ports on Cisco Unified Communications Manager. For the SM-SRE-700-K9, SM-SRE-710-K9, SM-SRE-900-K9, and SM-SRE-910-K9, configure 32 CTI ports. Use the Cisco Unified Communications Manager option **Device > Phones > Add new Phone**. These ports will be used by the Cisco Unity Express applications (voice mail, auto attendant, and Administration via Telephone [AvT]) to terminate calls.

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

- d. Configure at least two Cisco Unified Communications Manager route points on Cisco Unified Communications Manager using the **Device > CTI Route Point** option. The Cisco Unity Express voice-mail application uses one route point, and the auto attendant application uses one route point. If you plan to use the Cisco Unity Express AvT, configure a third route point on Cisco Unified Communications Manager. You need as many route points as the number of call-in numbers on Cisco Unity Express.



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

- e. Create a Cisco Unified Communications Manager JTAPI user with 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 Unified Communications Manager.) Verify that the Enable CTI Application Use check box is checked for this JTAPI user. Verify that the JTAPI user is able to perform Standard CTI Enable by selecting the appropriate option or group on the CUCM.

- f. Verify that the AXL service is active. To do this, go to the Cisco Unified Communications Manager serviceability website, click **Tools > Service Activation**. Look for Cisco AXL Web service.
- 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.
```

4. The FTP server that communicates with Cisco Unity Express must support passive FTP requests. To configure this functionality on the FTP server, see the FTP server documentation.
5. (Optional) If no subscribers were created in the Cisco Unified Communications Manager interface, create a list of all subscribers, groups, and their extensions to simplify the task of configuring many subscribers and extensions.

