Maintaining Cisco Unity Connection Server

Migrating a Physical Server to a Virtual Machine

Follow the given tasks to migrate from physical server to a virtual machine:

- Backup the software component on the physical server. For more information, see the Backing Up and Restoring Cisco Unity Connection Components chapter.

- Download and deploy the OVA template to create a new virtual machine. For more information, see the Creating a Virtual Machine section.

- Migrating the Unity Connection server on the virtual machine.

    - To replace the publisher server, see the Replacing a Publisher Server section.

    - To replace the subscriber server, see the Replacing a Subscriber Server section.

- If Unity Connection is installed as a standalone server, restore the software component from the physical server to the virtual machine for which you have taken the back up. For more information, see the Restoring the Software Components on Unity Connection section.

- (Optional) Install new languages on the replaced server if required or remove the existing languages already installed on the server. For more information, see the Adding or Removing Unity Connection Languages section.

Note   If you are deploying Unity Connection networking (Intersite, Intrasite, or HTTPS), see the Networking Guide for Cisco Unity Connection, Release 14, before replacing the Unity Connection server, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/14/networking/guide/b_14cucnetx.html .

Replacing a Publisher Server

While you are upgrading the publisher server in a Unity Connection cluster, the subscriber server continues to provide services to the users and callers.

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> **Note** In case of a standalone server, replace the server during off-peak hours to avoid call-processing interruptions and impact to services.

Step 1 Manually change the status of subscriber server to Primary:

a) Sign in to Cisco Unity Connection Serviceability.

b) Expand Tools and select Cluster Management.

c) On the Cluster Management page, from the Server Manager menu, locate the subscriber server and check the following:

- If the subscriber server status is Primary, skip the remaining steps in this procedure.

- If the subscriber server status is Secondary, select Make Primary.

- If the subscriber has Deactivated status, change the status to Secondary and then select Activate. When prompted to confirm changing the server status, select OK. After successful activation of the subscriber server, change the status to Primary selecting Make Primary option.

Step 2 Manually change the status of publisher server to Deactivated:

a) Sign in to the Real-Time Monitoring Tool and select Port Monitor.

b) In the Node field, select the publisher server and then select Start Polling. Note whether any voice messaging ports are currently handling calls for the server.

c) Return to the Cluster Management page of Cisco Unity Connection Serviceability and do any one of th following:

- If no voice messaging ports are currently handling calls for the publisher server, move to the next Step 1.

- If there are voice messaging ports that are currently handling calls for the publisher server, on the Cluster Management page, in the Port Manager column, select Stop Taking Calls for the publisher server and then wait until RTMT shows that all the ports for the publisher server are idle.

d) From the Server Manager menu, in the Change Server Status column for the publisher server, select Deactivate and then select OK.

Step 3 Install the replacement publisher server, see Installing the Publisher Server section.

a) Shut down the publisher server using the CLI command utils system shutdown. On the Cluster Management page of the subscriber server, the publisher has Not Functioning status.

b) Install the virtual machine. The following settings on the virtual machine must be same as that on the physical server, otherwise the transfer of data from the physical server to the virtual machine get failed:

- Hostname of the server

- IP address of the server

- Time zone

- NTP server

- DHCP settings

- Primary DNS settings

- SMTP hostname

- X.509 Certificate information (Organization, Unit, Location, State, and Country).

Step 4   You must run the utils disaster_recovery prepare restore pub_from_sub CLI command on the publisher server. This command handles the tasks to prepare for restore of a publisher node from a subscriber node.

Step 5   Configure the cluster on the replaced publisher server:

a) Sign in to Cisco Unity Connection Administration on the publisher server.

b) Expand System Settings and select Cluster.

c) On the Find and List Servers page, select Add New.

d) On the New Server Configuration page, in the Hostname/IP Address field, enter the hostname or IP address of the subscriber server. Enter the description and select Save.

Step 6   If Unity Connection is installed as a cluster, you can restore the publisher using the subscriber data.

a) Run the utils cuc cluster renegotiate CLI command on the subscriber server. The publisher automatically restarts after running this command.

b) Run the show cuc cluster status CLI command on the subscriber server to confirm that the new Unity Connection cluster is configured correctly.

Note   If third-party certificates are deployed in Unity Connection then after successfully replacing the publisher server, you must reconfigure third party certificates for the newly build publisher server. For information on how to configure the certificates, see Security chapter of *Cisco Unified Communications Operating System Administration Guide for Cisco Unity Connection Release 14* available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/14/os_administration/guide/b_14cucosagx.html.

Replacing a Subscriber Server

While you are upgrading the subscriber server in a Unity Connection cluster, the publisher server continues to provide services to users and callers.

Step 1   Manually change the status of publisher server to Primary:

a) Sign in to Cisco Unity Connection Serviceability.

b) Expand Tools and select Cluster Management.

c) On the Cluster Management page, from the Server Manager menu, locate the publisher server and check the following:

- If the publisher server status is Primary, skip the remaining steps in this procedure.

- If the publisher server status is Secondary, change the status by selecting Make Primary.

- If the publisher has Deactivated status, change the status to Secondary and select Activate. A prompt appears to confirm the changing of the server status, select OK. After successful activation of the publisher server, change the status to Primary by selecting Make Primary option.

Step 2   Manually change the status of subscriber server to Deactivated:

a) Sign in to the Real-Time Monitoring Tool, expand <Unity Connection> option and select Port Monitor.

b) In the Node field, select the subscriber server and select Start Polling. Note whether any voice messaging ports are currently handling calls for the server.

c) Return to the Cluster Management page of Cisco Unity Connection Serviceability.

- If no voice messaging ports are currently handling calls for the server, skip to the next step.

- If there are voice messaging ports that are currently handling calls for the subscriber server, on the Cluster Management page, in the Change Port Status column, select Stop Taking Calls for the subscriber server and then wait until RTMT shows that all ports for the server are idle.

d) From the Server Manager menu, in the Change Server Status column for the subscriber server, select Deactivate and select OK.

Step 3 Make sure that the hostname or IP address of the subscriber server is configured correctly on the publisher server as mentioned in Step 1 of replacing a publisher server.

Step 4 Install the replaced subscriber server, see Installing the Publisher Server section.

a) Shut down the subscriber server using the CLI command utils system shutdown. On the Cluster Management page of the publisher server, the subscriber has Not Functioning status.

b) Reinstall the Unity Connection server. You must specify the same security password of the subscriber server that you are replacing and it should also match the security password for the publisher server. Otherwise, the Unity Connection cluster do not function. If you do not know the security password, you can change it on the publisher server before you install the subscriber server using the CLI command set password user.

Step 5 Check the cluster status by running the show cuc cluster status CLI command on the subscriber server.

Note If third-party certificates are deployed in Unity Connection then after successfully replacing the subscriber server, you must reconfigure third party certificates for the newly build subscriber server. For information on how to configure the certificates, see Security chapter of *Cisco Unified Communications Operating System Administration Guide for Cisco Unity Connection Release 14* available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/14/os_administration/guide/b_14cucosagx.html.

Replacing the Non-Functional Server

Replacing the Non-Functional Server

Tasks	Procedure
If Unity Connection is installed as standalone.	• Recreate the virtual machine. For more information, see the Creating a Virtual Machine section. • Restore the software. For more information, see the Restoring the Software Components on Unity Connection section.

Tasks	Procedure
If Unity Connection is installed as a cluster and publisher is not functioning.	• Recreate the virtual machine. For more information, see the Creating a Virtual Machine section. • Replace the Publisher server, see the Replacing a Publisher Server section.
If Unity Connection is installed as a cluster and subscriber is not functioning.	Install the subscriber server, see the Installing the Subscriber Server section.

If both the servers are not functioning in a cluster.	• Replace the publisher server, see Installing the Publisher Server section.
	
	• Restore the software components on the physical machine. For more information, see the Restoring the Software Components on Unity Connection section.
	
	• Configure cluster on the publisher sever:
	
	  • Replace the subscriber server, see the Installing the Subscriber Server section.
	
	  • Check the cluster status using CLI command show cuc cluster status.
	
	  • Synchronize MWIs on each phone system.

Changing the IP Address or Hostname of a Unity Connection Server

Before changing the IP address of a standalone Unity Connection server or a cluster, you need to determine whether the server is defined by hostname or IP address.

Note You can also use Cisco Prime Collaboration Deployment for readdressing. For more information on Cisco PCD, see http://www.cisco.com/c/en/us/products/cloud-systems-management/prime-collaboration/index.html.

Determine Whether Unity Connection is Defined by Hostname or IP Address

Step 1 Sign in to Cisco Unity Connection Administration of the server of which the IP address needs to be changed.

Step 2 Expand System Settings and select Cluster.

Note You need to select Cluster even if you want to change the IP address or hostname of a standalone server.

Step 3 Select Find to locate the server of which you need to change the IP address or hostname:

- If the value of the Hostname/IP Address column is a hostname, the server is defined by a hostname.

- If the value of the Hostname/IP Address column is an IP address, the server is defined by an IP address.

Important Considerations before Changing the Hostname or IP Address of a Unity Connection Server

1. When you change the IP address or hostname of the Unity Connection server, make sure to apply the same changes on all the associated components that refer the Unity Connection server by IP address or hostname:

2. Bookmarks on client computers to the following web applications:

   - Web applications, such as Cisco Personal Communications Assistant and Cisco Unity Connection Administration.

   - Cisco Fax Server

   - Cisco Unified Application Environment

   - Cisco Unified Mobile Advantage

   - Cisco Unified Presence

   - Cisco Unified Personal Communicator

   - Cisco Unity Connection ViewMail for Microsoft Outlook

   - IMAP email clients that access Unity Connection

   - Phone systems and related components, including Cisco EGW 2200, Cisco ISR voice gateway, Cisco SIP Proxy Server, Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, and PIMG/TIMG units.

   - RSS readers

   - SMTP smart host

   - Voice messaging systems with which Unity Connection is integrated via VPIM, such as Cisco Unity and Cisco Unity Express.

   ⚠

   Caution   If associated components reference the Unity Connection server by IP address and if you do not change the IP address as applicable, the components are no longer be able to access Unity Connection.

3. You can change the IP address and hostname of a Unity Connection server or cluster following the steps mentioned in the Changing the IP Address or Hostname of a Unity Connection Server or Cluster section.

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> **Caution**   Do not change the IP address or hostname of a Unity Connection server during business hours.

4. (Only in case of changing IP address of a Unity Connection server) If the Unity Connection server is configured to get an IP address from a DHCP server, you cannot manually change the IP address of the server. Instead, you must do one of the following:

    • Change DHCP/DNS settings from Cisco Unified Operating System Administration> Settings and select the applicable option from IP, and restart Unity Connection by running the CLI command utils system restart.

    • Disable DHCP on Unity Connection by running the CLI command set network dhcp and then manually change the IP address by doing the procedure given below.

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>
> **Note**   To change the IP address or hostname of a Unity Connection cluster, follow the steps mentioned in the Changing the IP Address or Hostname of a Unity Connection Server section first on the publisher server and then on the subscriber server.

Changing the IP Address or Hostname of a Unity Connection Server or Cluster

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>
> **Note**   We can also change IP Address or Hostname of Cisco Unity Connection standalone node or cluster using CLI . For more information on CLI usage see https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/cli_ref/14_0_1/cucm_b_cli_reference_guide_release_1401/cucm_b_cli_reference_guide_release_1401_chapter_0110.html#CUCM_CL_SEB8A06A_00

Do the following steps to change the IP address or Hostname of a standalone server or a cluster defined by hostname or IP address using GUI. In case of a cluster, follow the steps first on the publisher server and then on the subscriber server.

Step 1   Sign in to the standalone server or the publisher server using Real-Time Monitoring Tool. Expand Tools> Alert and select Alert Central. In the Systems tab, make sure the ServerDown is black. If ServerDown is red, then resolve all the problems and change it to black.

Step 2   Check the server status:
   a) Sign in to Cisco Unity Connection Serviceability.
   b) Expand Tools and select Cluster Management.
   c) On the Cluster Management page, check whether server status is Primary or Secondary. If there is any other status value then resolve the problem.

Step 3   Check the network connectivity and DNS server configuration by running the utils diagnose module validate_network CLI command.

Step 4   Backup the database using Disaster Recovery System. See the Backing Up and Restoring Cisco Unity Connection Components chapter.

Step 5   If intrasite, HTTPS, and SRSV networking is configured, remove the server from the Unity Connection site. For instructions, see the Networking Guide for Cisco Unity Connection, Release 14, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/14/networking/guide/b_14cucnetx.html.

> **Caution**   Re-adding a server to a Unity Connection site can be a time consuming process.

Step 6   On a DNS server, change the DNS record of the Unity Connection server to the new IP address. Update both the forward (A) and reverse (PTR) records.

Step 7   *(Applicable only when you change the IP address or Hostname of a standalone server or a cluster defined by an IP address or Hostname)* Changing the IP addresses or Hostname of a standalone server or the publisher server in Connection Administration:

a) Sign in to Cisco Unity Connection Administration.

> **Caution**   In case of a cluster, you must sign in to the publisher sever and select subscriber server to change the IP address or Hostname of a subscriber server.

b) Expand System Settings, and select Cluster.
c) Select Find to display a list of servers in the cluster.
d) Select the name of the standalone server or publisher server.
e) Change the value of the Hostname/IP Address field to the new Hostname/IP address.
f) Select Save.

Step 8   On the standalone or publisher server, change the IP address, Hostname, and default gateway (if applicable):

a) Sign in to Cisco Unified Operating System Administration.
b) From the Settings menu, select **IP** > **Ethernet**.
c) In the Host Information, enter the value of Hostname.
d) If you want an alternate hostname for the server, run the **set web-security** CLI command. In the Hostname, change the hostname of the server.

For more information on the CLI commands, see the applicable version of the *Command Line Interface Reference Guide for Cisco Unified Communications Solutions* at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html .

> **Note**   Enter a certificate signing request. Then download the certificate signing request to the server on which you installed Microsoft Certificate Services or another application that issues certificates, or download the request to a server that you can use to send the certificate signing request to an external certification authority (CA).
>
> (In case of SSL certificates created and installed on renamed server) Upload the root certificate and the server certificate to the standalone or publisher server. Follow the steps as mentioned in Security Guide for Cisco Unity Connection Release 14, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/14/security/guide/b_14cucsecx.html.

e) In the Port Information, change the value of the IP Address and Subnet Mask field (if applicable).
f) If you are moving the server to a different subnet that requires a new default gateway address, change the value of the Default Gateway field in the Gateway Information.
g) Select Save.

> **Caution**   After saving the page, node services will restart automatically. Restarting services ensures the proper update for the changes to take effect. Do not perform any action on the server until the services are up and running. To check the status of the services, run **utils service list** CLI command.

Step 9   If you change the IP address or Hostname of a standalone server, skip to Step 10.

(Applicable only when you change the IP address or Hostname of a publisher server in case of a cluster) On the subscriber server, change the IP address of the publisher server:

a) Sign in to Cisco Unified Operating System Administration.

b) From the Settings menu, select IP > Publisher.

c) Change the IP address of the publisher server.

d) Select Save.

Step 10   Sign in to Real-Time Monitoring Tool and confirm that the server is available and running.

This completes the process of changing the IP address of the standalone server.

Step 11   For the cluster, repeat Step 1 to Step 9 on subscriber server also.

This completes the process of changing the IP address of a cluster.

Adding or Removing Unity Connection Languages

After installing a new server or on an existing server, you may need to add some new language(s) and remove some already installed languages depending on the user requirement.

> **Note**   Languages are not licensed and Unity Connection 14 does not enforce a limit on the number of languages you can install and use. However, the more languages you install, the less hard disk space is available for storing voice messages.

Task List for Adding Languages to a Standalone Unity Connection Server

Do the following tasks to download and install languages in addition to English (United States):

1. Download the Unity Connection languages that you want to install and do the following steps:

   a. Sign in as a registered user on the following Cisco.com link:
   http://tools.cisco.com/support/downloads/pub/Redirect.x?mdfid=278875240.

   b. Expand **Unified Communications Applications > Voicemail and Unified Messaging > Cisco Unity Connection**, and select the applicable Unity Connection version.

   c. On the Select a Software Type page, select **Cisco Unity Connection Locale Installer**.

   d. On the Select a Release page, select the applicable Unity Connection version. The download links for the languages appear on the right side of the page.

   e. Select the name of a file to download. On the Download Image page, note down the MD5 value and follow the on screen prompts to complete the download.

Note	Make sure that the MD5 checksum matches the checksum that is listed on Cisco.com. If the values do not match, the downloaded file is damaged. Do not attempt to use a damaged file to install software as the results is unpredictable. If the MD5 values do not match, download the file again until the value for the downloaded file matches the value listed on Cisco.com.

2. (Unity Connection cluster only) Make sure that the subscriber server status is Primary and the publisher server status is Secondary in order to install the Unity Connection languages. Follow the given steps:

 a. Sign in to Cisco Unity Connection Serviceability.

 b. Expand Tools and select Cluster Management.

 c. For subscriber server, select Make Primary.

3. On the standalone or publisher server, install the Unity Connection languages that you downloaded. Refer Installing Unity Connection Language Files from Network Location or Remote Server for more details.

4. If you are using additional languages because you want the Cisco Personal Communications Assistant to be localized: Download and install the corresponding Unity Connection locales on the publisher server.

5. (Unity Connection cluster only) Change the publisher server status to Primary and follow the same steps on subscriber server to install the same Unity Connection languages that were installed on publisher server.

Installing Unity Connection Language Files from Network Location or Remote Server

In this procedure, do not use the web browser controls (for example, Refresh/Reload) while accessing Cisco Unified Operating System Administration. However, you can use the navigation controls in the administration interface.

Step 1 Stop the Connection Conversation Manager and Connection Mixer services:

a) Sign in to Cisco Unity Connection Serviceability. Expand Tools menu and select **Service Management**.
b) In Critical Services, for the Connection Conversation Manager row, select **Stop**.
c) Wait for the service to stop.
d) In the Critical Services menu, in the Connection Mixer row, select **Stop**.
e) Wait for the service to stop.

Step 2 Sign in to Cisco Unified Operating System Administration.

Step 3 From the Software Upgrades menu, select **Install/Upgrade**. The Software Installation/Upgrade window appears.

Step 4 In the Source list, select **Remote Filesystem**.

Step 5 In the Directory field, enter the path of the folder that contains the language file on the remote system.

If the language file is located on a Linux or Unix server, you must enter a forward slash at the beginning of the folder path. (For example, if the language file is in the languages folder, you must enter **/languages**.)

If the language file is located on a Windows server, make sure that you are connecting to an FTP or SFTP server, and use the appropriate syntax:

> • Begin the path with a forward slash (/) and use forward slashes throughout the path.
>
> • The path must start from the FTP or SFTP root folder on the server, so you cannot enter a Windows absolute path, which starts with a drive letter (for example, C:).

Step 6   In the **Server** field, enter the server name or IP address.

Step 7   In the **User Name** field, enter your user name on the remote server.

Step 8   In the **User Password** field, enter your password on the remote server.

Step 9   In the **Transfer Protocol** list, select the applicable option.

Step 10   Select **Next**.

Step 11   Select the language that you want to install, and select **Next**.

Step 12   Monitor the progress of the download.

If you loose your connection with the server or close your browser during the installation process, you may see the following message when you try to access the Software Upgrades menu again:

Warning: Another session is installing software, click Assume Control to take over the installation.

If you are sure you want to take over the session, select **Assume Control**.

Step 13   *If you want to install another language,*ct **Install Another**, and repeat all the above steps

Step 14   *If you are finished with installing languages:* Restart the services:

> • Sign in to Cisco Unity Connection Serviceability.
>
> • Expand Tools menu and select **Service Management**.
>
> • In the Critical Services menu, in the Connection Conversation Manager row, select **Start**. Wait for the service to start.
>
> • In the Critical Services menu, in the Connection Mixer row, select **Start**. Wait for the service to start.

Removing Unity Connection Language Files

Step 1   Sign in to the command line interface as a platform administrator.

> **Note**   Make sure to stop Connection Conversation Manager and Connection Mixer services before uninstalling the languages.

Step 2   Run the **show cuc locales** CLI command to display a list of installed language files.

Step 3   In the command results, find the language that you want to remove, and note the value of the Locale column for the language.

Step 4   Run the **delete cuc locale <code** > CLI command to remove the language, where <code> is the value of the Locale column that you get in Removing Unity Connection Language Files.

When the command completes, the following information appears:

```
<code> uninstalled
```