Adding or Changing the IPv6 Addresses of Cisco Unity Connection

This chapter contains the following sections:

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- Changing the IPv6 Address, page 13-6

Enabling IPv6 and Adding an IPv6 Address to a Unity Connection

You can enable and configure Internet Protocol Version 6 (IPv6) for use with Cisco Unified Communications Manager phone system integrations via SCCP or SIP. IPv6 is disabled by default. Note the following considerations when deploying IPv6 for Cisco Unified CM integrations:

- IPv6 is supported in Cisco Unified CM release 7.1(2) and later.
- The CTL file required for security features (authentication and encryption) between Unity Connection and Cisco Unified CM for SCCP integrations uses IPv4 addressing. Therefore, in order to use authentication and encryption with SCCP secure ports, you must retain the IPv4 address or host name for the Cisco Unified CM server(s) on the port group in Unity Connection.
- Some versions of Cisco Adaptive Security Applia nce (ASA) do not support application inspection for IPv6 traffic for Unified Communications application servers and endpoints. Cisco recommends not using IPv6 for Unified Communications if you are using a Cisco ASA version that does not provide this support. See the documentation for your version of Cisco ASA to determine whether application inspection is supported in your deployment.

Use the following task list to enable IPv6 and to configure the IPv6 address of a Unity Connection server if the server is already integrated with Cisco Unified CM via SCCP or SIP. (If you have not yet integrated the server with Cisco Unified CM, see the applicable integration guide for instructions.)

Note  Unity Connection platform can be configured either in IPv4 only mode or Dual (IPv4/IPv6) mode.
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Caution

Do not enable IPv6 during business hours. The server must be restarted for changes to take effect.


3. If the Unity Connection server is integrated with Cisco Unified CM via SIP: Configure the SIP trunk with the IPv6 destination address, and reset the trunk. See the “To Configure a Cisco Unified Communications Manager SIP Trunk with the Cisco Unity Connection IPv6 Destination Address” procedure on page 13-2.

4. Configure the IPv6 address and addressing mode settings for the Cisco Unified CM integration(s). See the “To Configure the IPv6 Address and Addressing Mode for Cisco Unified Communications Manager Phone System Integrations in Cisco Unity Connection Administration” procedure on page 13-2.

To Configure a Cisco Unified Communications Manager SIP Trunk with the Cisco Unity Connection IPv6 Destination Address

Step 1  Sign in to Cisco Unified CM Administration.
Step 2  On the Device menu, select Trunk.
Step 3  Find the trunk corresponding to the Connection server, and select the name of the trunk.
Step 4  On the Trunk Configuration page, change the value of the Destination Address IPv6 field to the new IPv6 address.
Step 5  Select Save to save the change.
Step 6  Select Reset to reset the trunk.

To Configure the IPv6 Address and Addressing Mode for Cisco Unified Communications Manager Phone System Integrations in Cisco Unity Connection Administration

Step 1  Sign in to Cisco Unity Connection Administration.
Step 2  Expand System Settings, then select General Configuration.
Step 3  On the Edit General Configuration page, for IP Addressing Mode, select the option from the list to control where Connection listens for incoming traffic:

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• IPv4
• IPv6
• IPv4 and IPv6

Step 4  Select Save.

Step 5  Optionally, to enable the Unity Connection server to contact the Cisco Unified Communications Manager server via an IPv6 address or host name, do the following substeps:

a. Expand Telephony Integrations, then select Port Group.

b. On the Search Port Groups page, select the display name of the port group that you want to modify.

Note  If the port group that you want to modify does not appear in the search results table, set the applicable parameters in the search fields at the top of the page, and then select Find.

c. On the Port Group Basics page, on the Edit menu, select Servers.

d. On the Edit Servers page, in the Cisco Unified Communications Manager Servers table, enter a value for the IPv6 Address or Host Name for each Cisco Unified CM server that the port group connects to. Do the same for the servers in the TFTP Server table.

Caution  If you are using authentication and encryption with SCCP secure ports, you must also retain the IPv4 address or host name for each Cisco Unified CM server and TFTP server.

e. Select Save.

f. Repeat substep a. through substep e. for each additional port group for which you want to configure an IPv6 address or host name.

Step 6  If you selected the IPv4 and IPv6 option in Step 3, do the following substeps to configure the call control signalling and/or media addressing mode settings for the Cisco Unified CM integration:

a. Expand Telephony Integrations, then select Port Group.

b. On the Search Port Groups page, select the display name of the port group that you want to modify.

Note  If the port group that you want to modify does not appear in the search results table, set the applicable parameters in the search fields at the top of the page, and then select Find.

c. On the Port Group Basics page, on the Edit menu, select Servers.

d. In the IPv6 Addressing Mode section, select either the IPv4 option or the IPv6 option for the applicable settings:

• Preference for Signaling (applicable to both SCCP integrations and SIP integrations)—This setting determines the call control signaling preference when registering with Cisco Unified CM via SCCP or when initiating SIP requests.

• Preference for Media (applicable only to SIP integrations)—This setting determines the preferred addressing mode for media events when communicating with dual-stack (IPv4 and IPv6) devices.

e. Select Save.
Enabling or Disabling IPv6 through Command Line Interface (CLI) Commands

You can enable or disable IPv6 through command line interface (CLI) commands.

**Enabling IPv6 through CLI Commands**

To enable IPv6 through CLI commands:

1. Run the following CLI command to check the IPv6 settings:
   
   ```
   admin:show network ipv6 settings
   ```

   **Example 13-1 If you run the above command, the following message appears:**

   ```
   IPv6          : disabled
   DHCPv6        : disabled
   IPv6 Gateway  : fe80::202:2cff:fed2:7e01
   IPv6 addresses:
   Address:fe80::250:56ff:fe8e:6cef    Mask:64
   Scope:Link
   ```

2. Run the following CLI command to enable IPv6 on platform level:
   
   ```
   set network ipv6 service enable
   ```

3. Perform one of the following steps:
   - If global address appears in the IPv6 addresses row, restart the system.
   - If global address does not appear in the IPv6 addresses row, do not restart the system.

   **Note**

   If global address does not appear in the IPv6 addresses, you need to configure IPv6 manually or enable DHCPv6.

**Configuring IPv6 Manually**

1. Run the following command on CLI to configure ipv6 address manually:
   
   ```
   set network ipv6 static_address <IPv6 address>
   ```

   **Example 13-2 You can run the following command to enable IPv6**

   ```
   set network ipv6 static_address fec0::250:56ff:fe8e:6cef 64
   ```

   **Note**

   The IPv6 address that you specify in the above command can either be a global IPv6 address or a unique local unicast IPv6 address.

2. Restart the system to apply the above specified setting.

**Enabling DHCPv6**

1. Run the following command on CLI to configure DHCPv6:
   
   ```
   set network ipv6 dhcp enable
   ```
Step 2  Restart the system to apply the above specified setting.

Disabling IPv6 through CLI Commands

To disable IPv6 through CLI commands:

Step 1  Run the following command to disable IPv6:

```
set network ipv6 service disable
```

Step 2  Run the following command to disable DHCPv6:

```
set network ipv6 dhcp disable
```

Step 3  Restart the system to apply the above specified settings.
Changing the IPv6 Address

You can configure IPv6 for use with Cisco Unified Communications Manager phone system integrations via SCCP or SIP. Because IPv6 addressing is not used between servers in a cluster or between locations in a Cisco Voicemail Organization, you can use the following procedure to change the IP address of any Unity Connection server, regardless of whether the server is part of a cluster or is networked with other servers.

Do the following procedure to change the IPv6 address of a Unity Connection server on which IPv6 has previously been enabled and configured.

⚠️ Caution
Do not change the IPv6 address of a Unity Connection server during business hours. The server must be restarted for changes to take effect.

To Change the IPv6 Address of a Cisco Unity Connection Server

Step 1 In the Real-Time Monitoring Tool (RTMT) confirm that the server is running and available:
   a. Using the RTMT, sign in to the server.
   b. In the left pane, under Tools, select Alert Central.
   c. In the right pane, on the System tab, if ServerDown is black, skip to Step 2.
      If ServerDown is red, right-click ServerDown, and select Alert Details. Resolve the problem before continuing.

Step 2 Sign in to Cisco Unified Serviceability, and check the status of the server:
   a. From the Tools menu, select Cluster Management.
   b. In the Server Status column, confirm that the value for the current server is Primary. If the Server Status column has any other value, resolve the problem before continuing.

Step 3 Check network connectivity and DNS server configuration by running the following CLI command:
   ```
   admin: utils diagnose module validate_network
   Log file: /var/log/active/platform/log/diag1.log
   ```
   Starting diagnostic test(s)
   ---------------------------
   test - validate_network : Passed
   Diagnostics Completed
   admin:


Step 5 On a DNS server, change the DNS record of the server to the new IPv6 address. Update both the forward (AAAAA) and reverse (PTR) records.
Step 6  
Change the IPv6 address of the server:
   a. Sign in to Cisco Unified Operating System Administration.
   b. From the Settings menu, select IP > Ethernet IPv6.
   c. Under Address Source, if Router Advertisement or DHCP is selected, either select Manual Entry to change to a static non-link-local IPv6 address and then continue to Substep d., or change the assigned IPv6 prefix or address in the router or DHCPv6 server and then skip to Substep e.

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**Note**  
Cisco recommends that you manually configure the Unity Connection server with a static non-link-local IPv6 address.

   d. Under Address Source, change the value of the IPv6 Address field and, if applicable, the Subnet Mask field.
   e. Check the Update with Reboot check box.
   f. Select Save, and the system restarts.

Step 7  
In the RTMT, confirm that the server is running and available:
   a. Using the RTMT, sign in to the server.
   b. In the left pane, under Tools, select Alert Central.
   c. In the right pane, on the System tab, if ServerDown is black, skip to Step 8.
      
      If ServerDown is red, right-click ServerDown, and select Alert Details. Resolve the problem before continuing.

Step 8  

Step 9  
If the Unity Connection server is integrated with Cisco Unified Communications Manager via SIP: Update the IPv6 address of the Cisco Unity Connection server on the SIP trunk in Cisco Unified Communications Manager Administration:
   a. Sign in to Cisco Unified CM Administration.
   b. From the Device menu, select Trunk.
   c. Find the trunk corresponding to the Unity Connection server, and select the Name of the trunk.
   d. On the Trunk Configuration page, change the value of the Destination Address IPv6 field to the new IPv6 address.
   e. Select Save to save the change.
   f. Select Reset to reset the trunk.
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