



# Configure IM Addressing Scheme

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## IM Addressing Scheme Overview

The IM and Presence Service supports two IM addressing schemes:

- *UserID@Default\_Domain* is the default IM address scheme when you install the IM and Presence Service.
- Directory URI IM address scheme supports multiple domains, alignment with the user's email address, and alignment with Microsoft SIP URI.

You must use the same IM address scheme across all IM and Presence Service clusters.

## IM Address Using User@Default\_Domain

The default addressing scheme for IM and Presence Service is *UserID@Default\_Domain*.

When you use the *UserID@Default\_Domain* IM address scheme, all IM addresses are part of a single, default IM domain. The default domain value must be consistent across all clusters. Because IM addresses are part of the IM and Presence default domain, multiple domains are not supported.

The UserID can be free-form or synced from LDAP. The following fields are supported:

- sAMAccountName
- User Principle Name (UPN)
- Email address
- Employee number
- Telephone number

If you map the UserID to an LDAP field on Cisco Unified Communications Manager, that LDAP mapping must be consistent across all clusters.

Although you can map the UserID to the email address, that does not mean the IM URI equals the email address. Instead it becomes *<email-address>@Default\_Domain*. For example,

amckenzie@example.com@sales-example.com. The Active Directory (AD) mapping setting that you choose is global to all users within that IM and Presence Service cluster. It is not possible to set different mappings for individual users.

## IM Address Using Directory URI

The Directory URI address scheme aligns a user's IM address with their Cisco Unified Communications Manager Directory URI.

The Directory URI IM address scheme provides the following IM addressing features:

- Multiple domain support. IM addresses do not need to use a single IM and Presence Service domain.
- Alignment with the user's email address. You can configure the Cisco Unified Communications Manager Directory URI to align with a user's email address to provide a consistent identity for email, IM, voice and video communications.
- Alignment with Microsoft SIP URI. The Cisco Unified Communications Manager Directory URI can be configured to align with the Microsoft SIP URI to ensure that the user's identity is maintained when migrating from Microsoft OCS/Lync to IM and Presence Service.

If you configure the node to use Directory URI as the IM address scheme, we recommend that you deploy only clients that support Directory URI. Any client that does not support Directory URI will not work if the Directory URI IM address scheme is enabled. Cisco recommends that you use the *UserID@Default\_Domain* IM address scheme and not the Directory URI IM address scheme if you have any deployed clients that do not support Directory URI.

The Directory URI IM address settings are global and apply to all users in the cluster. You cannot set a different Directory URI IM address for individual users in the cluster.

For details on provisioning directory URIs from an external LDAP Directory, see [Configure LDAP Directory](#).

## Multiple IM Domains

IM and Presence Service supports IM addressing across multiple IM address domains and automatically lists all domains in the system. You can add, edit, or delete domains. For information on configuring IM domains, see [Configure the Domain Overview](#).

If you are interoperating with Cisco Expressway, see the *Cisco Expressway Administrator Guide* at <http://www.cisco.com/c/en/us/support/unified-communications/expressway-series/products-maintenance-guides-list.html>.

## IM Addressing Scheme Prerequisites

The IM and Presence Service default domain and the IM address scheme that you use must be consistent across all IM and Presence Service clusters. Before you begin, [Configure the Default Domain on IM and Presence Service](#).

The IM address scheme you set affects all user JIDs and cannot be performed in a phased manner without disrupting communication between clusters that may have different settings.

If any of the deployed clients do not support directory URI as the IM address, administrators should disable the directory URI IM address scheme.

# Configure IM Addressing Scheme Task Flow

Complete these tasks in the following order to configure your IM addressing scheme.

## Procedure

	Command or Action	Purpose
<b>Step 1</b>	<a href="#">Verify User Provisioning, on page 4</a>	Verify that end users are correctly provisioned and that there are no duplicate or invalid users.
<b>Step 2</b>	<a href="#">Disable High Availability, on page 4</a>	You must temporarily disable high availability for the presence redundancy group. Configuring the IM addressing scheme requires you to stop services temporarily; if you stop the services while high availability is enabled, a system failover will occur.
<b>Step 3</b>	<a href="#">Stop Services, on page 5</a>	Prior to updating your IM addressing scheme configuration stop essential IM and Presence Services. Make sure to stop services in the prescribed order.
<b>Step 4</b>	<a href="#">Assign IM Addressing Scheme, on page 5</a>	Use this procedure to configure a new domain and IM address scheme, or to update an existing domain and address scheme.
<b>Step 5</b>	<a href="#">Restart Services, on page 7</a>	Once your IM addressing scheme is configured, restart services. You must do this prior to updating user address information or provisioning new users. Make sure to follow the prescribed order when you restart services.
<b>Step 6</b>	<a href="#">Enable High Availability, on page 8</a>	You can enable high availability for the presence redundancy groups after you have configured the IM addressing scheme and restarted IM and Presence services. All services must be running on IM and Presence database publisher nodes and subscriber nodes before you enable high availability.
<b>Step 7</b>	<p>If you chose <b>Directory URI</b> as the IM addressing scheme:</p> <ul style="list-style-type: none"> <li>• <a href="#">Assign the LDAP Source for Directory URIs, on page 9</a></li> <li>• <a href="#">Manually Assign a Directory URI, on page 9</a></li> </ul>	<p>Optional. If you are syncing users from an external LDAP directory, set the LDAP source field for your directory URI values.</p> <p>For non-LDAP users, you must provision directory URIs manually. You can do this on a user-by-user basis, or via the Bulk Administration Tool.</p>

## Verify User Provisioning

Use this procedure to verify that end users are correctly provisioned before you configure the addressing scheme.

### Procedure

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- Step 1** From Cisco Unified CM IM and Presence Administration, choose **Diagnostics > System Troubleshooter**. The System Troubleshooter runs.
- Step 2** In the **User Troubleshooter** section, verify that end users are correctly provisioned and that there are no duplicate or invalid users.
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### What to do next

[Disable High Availability, on page 4](#)

## Disable High Availability

Disable High Availability in each presence redundancy group in your cluster. Editing the addressing scheme requires you to stop services temporarily. If you stop services with High Availability enabled, a system failover occurs.



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**Note** The **Presence Redundancy Group Details** page shows all the active JSM sessions, even when the high availability is disabled in the cluster.

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### Before you begin

Take a record of the number of active users for each cluster node in each Presence Redundancy Group. You can find this information in the (**System > Presence Topology**) window of Cisco Unified CM IM and Presence Administration. You will need these numbers later when you re-enable High Availability.

### Procedure

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- Step 1** From the Cisco Unified CM Administration user interface, choose **System > Presence Redundancy Groups**.
- Step 2** Click **Find** and select the group.
- Step 3** On the Presence Redundancy Group Configuration window, uncheck the **Enable High Availability** check box.
- Step 4** Click **Save**.
- Step 5** Repeat this procedure for each Presence Redundancy Group.
- Step 6** When you are done, wait at least two minutes to sync the new HA settings across the cluster before you make any further changes
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**What to do next**

[Stop Services, on page 5](#)

## Stop Services

Prior to updating your IM addressing scheme configuration stop essential IM and Presence Services. Make sure to stop services in the prescribed order.

**Before you begin**

[Disable High Availability, on page 4](#)

**Procedure**

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- Step 1** In **Cisco Unified IM and Presence Serviceability**, choose **Tools > Control Center – Network Services**.
- Step 2** Stop the following IM and Presence Services, in this order, by selecting the service and clicking the **Stop** button:
- a) **Cisco Sync Agent**
  - b) **Cisco Client Profile Agent**
- Step 3** After both services have stopped, choose **Tools > Control Center – Feature Services** and stop the following services in this order:
- a) **Cisco Presence Engine**
  - b) **Cisco SIP Proxy**
- Step 4** After both services have stopped, choose **Tools > Control Center – Feature Services** and stop the following service:
- **Cisco XCP Router**

**Note** When you stop the XCP Router service, all related XCP feature services stop automatically.

**What to do next**

[Assign IM Addressing Scheme, on page 5](#)

## Assign IM Addressing Scheme

Use this procedure to configure a new domain and IM address scheme, or to update an existing domain and address scheme.



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**Note** Make sure that the IM addressing scheme that you configure is consistent across all clusters.

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### Before you begin

[Stop Services, on page 5](#)

### Procedure

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- Step 1** In **Cisco Unified CM IM and Presence Administration**, choose **Presence > Settings > Advanced Configuration**.
- Step 2** To assign a new default domain, check the **Default Domain** check box and, in the text box, enter the new domain.
- Step 3** To change the address scheme, check the **IM Address Scheme** check box, and select one of the following options from the drop-down list box:
- **UserID@[Default\_Domain]** — Each IM user address is derived from the UserID along with the default domain. This is the default setting.
  - **Directory URI** — Each IM user address matches the directory URI that is configured for that user in Cisco Unified Communications Manager.
- Note** When you choose this option, all deployed clients must support Directory URI as the IM address and use either EDI-based or UDS-based directory integration. For UDS-based integration with Jabber, you must be running Jabber Release 10.6 or later.

- Step 4** Click **Save**.

You can monitor the progress of the update in the status area.

If you chose Directory URI as the IM address scheme, you may be prompted to ensure that the deployed clients can support multiple domains. Click **OK** to proceed or click **Cancel**.

If any user has an invalid Directory URI setting, a dialog box appears. Click **OK** to proceed or click **Cancel**, and then fix the user settings before reconfiguring the IM address scheme.

A system update can take up to 1 hour to complete. Click **Re-try** to reapply the changes or click **Cancel**.

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### What to do next

If you configured user@default\_domain as the addressing scheme, and you are not using the Directory URI, then proceed to [Restart Services, on page 7](#).

If you configured Directory URI as the addressing scheme, choose on the of the following options:

- [Assign the LDAP Source for Directory URIs, on page 9](#)
- [Manually Assign a Directory URI, on page 9](#)

## IM Address Examples

Sample IM address options that are available for IM and Presence Service.

**IM and Presence Service Default Domain:** cisco.com

**User:** John Smith

**User ID:** js12345

**Mail ID:** jsmith@cisco-sales.com

**SIPURI:** john.smith@webex.com

IM Address Format	Directory URI Mapping	IM Address
<userid>@<domain>	n/a	js12345@cisco.com
Directory URI	mailid	jsmith@cisco-sales.com
Directory URI	msRTCSIP-PrimaryUserAddress	john.smith@webex.com

## Restart Services

Once your IM addressing scheme is configured, restart services. You must do this prior to updating user address information or provisioning new users. Make sure to follow the prescribed order when you restart services.

### Before you begin

- [Assign IM Addressing Scheme, on page 5](#)
- If you configured Directory URI as the addressing scheme, complete one of the following options before you restart services:
  - [Assign the LDAP Source for Directory URIs, on page 9](#)
  - [Manually Assign a Directory URI, on page 9](#)

### Procedure

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- Step 1** In **Cisco Unified IM and Presence Serviceability**, choose **Tools > Control Center – Network Services**.
- Step 2** Start the following service by selecting the service and clicking the **Start** button:
- **Cisco XCP Router**
- Step 3** After the service starts, choose **Tools > Control Center – Feature Services** and start the following services in this order:
- Cisco SIP Proxy**
  - Cisco Presence Engine**
- Step 4** Confirm that the Cisco Presence Engine service is running on all nodes before proceeding to the next step.
- Step 5** Choose **Tools > Control Center – Network Services** and start the following services in this order:
- Cisco Client Profile Agent**

## b) Cisco Sync Agent

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### What to do next

[Enable High Availability, on page 8](#)

## Enable High Availability

After you have configured your IM addressing scheme and restarted services, use this procedure to re-enable high availability for each presence redundancy group in your cluster

### Before you begin

All services must be running on IM and Presence database publisher nodes and subscriber nodes before you enable high availability. If it has been less than 30 minutes since your services restarted, confirm that your Cisco Jabber sessions have been recreated before you enable High Availability. Otherwise, Presence won't work for Jabber clients whose sessions aren't created.

To obtain the number of Cisco Jabber sessions, run the `show perf query counter Cisco Presence Engine Active JsmSessions` CLI command on all cluster nodes. The number of active sessions should match the number of users that you recorded when you disabled high availability.

### Procedure

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- Step 1** From Cisco Unified IM and Presence Serviceability, choose **Tools > Control Center - Network Services**.
- Step 2** From the **Server** list, choose the node on which you want to reactivate services and click **Go**.
- Step 3** In the **IM and Presence Services** area, select the following services:
- **Cisco Client Profile Agent**
  - **Cisco Sync Agent**
  - **Cisco XCP Router**
- Step 4** Click **Restart**.
- Step 5** From the **Related Links** drop-down list, select **Service Activation** and click **Go**.
- Step 6** In the **IM and Presence Services** area, select the following services:
- **Cisco SIP Proxy**
  - **Cisco Presence Engine**
- Step 7** Click **Save**.
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## Assign the LDAP Source for Directory URIs

If you are syncing users from an external LDAP directory, you can use this procedure to assign the external LDAP Directory source field that is used to assign the directory URI. When your LDAP directory sync occurs, the directory URI will be assigned from the value of the field that you configure.



**Note** You cannot apply edits to an existing LDAP configuration in Cisco Unified Communications Manager if the initial sync has already occurred. You can sync new items that were added to the external LDAP directory, but you cannot edit the LDAP configuration in Cisco Unified Communications Manager. If you've already synced your LDAP directory:

- Use the Bulk Administration Tool to assign directory URIs to users. For details, see the *Bulk Administration Guide for Cisco Unified Communications Manager*.
- Assign the directory URI to a user manually

### Before you begin

[Assign IM Addressing Scheme, on page 5](#)

### Procedure

**Step 1** From Cisco Unified CM Administration, select **System > LDAP > LDAP Directory**.

**Step 2** From the **Directory URI** drop-down list, select one of the following options:

- **mail**: Map the Directory URI to the user's email address to provide a consistent identity for email, IM, voice and video communications.
- **msRTCSIP-PrimaryUserAddress**: Map the Directory URI to the Microsoft OCS/Lync SIP URI.

**Note** The directory URI isn't provisioned until the LDAP sync occurs. For details on configuring an LDAP Directory sync, see [Configure LDAP Directory](#).

### What to do next

[Restart Services, on page 7](#)

## Manually Assign a Directory URI

If you are not using LDAP, you can use this procedure to enter a Directory URI manually on a user-by-user basis.



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**Note** You can also use the Bulk Administration Tool to provision directory URIs for a large number of end users via a csv file. For Bulk Administration details, see the *Bulk Administration Guide for Cisco Unified Communications Manager* at <http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

If you haven't yet synced your LDAP directory, you can provision directory URIs for users via an LDAP directory sync.

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### Before you begin

[Assign IM Addressing Scheme, on page 5](#)

### Procedure

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- Step 1** In **Cisco Unified CM Administration**, choose **User Management > End User**.
  - Step 2** Enter the appropriate search criteria and click **Find**.
  - Step 3** Select the end user that you want to configure.
  - Step 4** In the **User Information** area, enter a directory URI in the **Directory URI** field.
  - Step 5** Click **Save**.
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### What to do next

[Restart Services, on page 7](#)