IM and Presence Service Network Setup

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Configuration changes and service restart notifications

Service Restart Notifications

If you make a configuration change in Cisco Unified CM IM and Presence Administration that impacts an IM and Presence XCP service, you will need to restart XCP services for your changes to take effect. IM and Presence Service notifies you of exactly which node the configuration change impacts and of any service that you must restart. An Active Notifications popup window displays on each page of Cisco Unified CM IM and Presence Administration to serve as a visual reminder that you must restart services. Use your mouse to hover over the dialog bubble icon to see the list of active notifications (if any) and associated severity levels. From the list of active notifications you can go directly to Cisco Unified IM and Presence Serviceability, where you can restart the required service.

It is good practice to monitor the service restart popup window for service restart notifications, particularly if you make configuration changes after you deploy IM and Presence Service in the network. Most tasks in the accompanying documentation indicate if service restarts are required.

See the Online Help topic on Service Restart Notifications for information about the types of service notifications, and the service notification security levels.

Cisco XCP Router Restart

The Cisco XCP Router must be running for all availability and messaging services to function properly on IM and Presence Service. This applies to both SIP-based and XMPP-based client messaging. If you restart the Cisco XCP Router, IM and Presence Service automatically restarts all active XCP services.
The topics in this module indicate if you need to restart the Cisco XCP Router following a configuration change. Note that you must restart the Cisco XCP Router, not turn off and turn on the Cisco XCP Router. If you turn off the Cisco XCP Router, rather than restart this service, IM and Presence Service stops all other XCP services. Subsequently when you then turn on the XCP router, IM and Presence Service will not automatically turn on the other XCP services; you need to manually turn on the other XCP services.

**Restart Cisco XCP Router Service**

**Procedure**

- **Step 1** On IM and Presence Service, choose **Cisco Unified IM and Presence Serviceability > Tools > Control Center - Network Services**.
- **Step 2** Choose the node from the Server list box and select **Go**.
- **Step 3** Click the radio button next to the Cisco XCP Router service in the IM and Presence Service section.
- **Step 4** Click **Restart**.
- **Step 5** Click **OK** when a message indicates that restarting may take a while.

**Domain Value Configuration**

**Note**

- Cisco Unified Presence automatically defaults the presence domain for the cluster to the DNS domain specified during Cisco Unified Presence installation.
- It is highly recommended that you use a DNS deployment. If however you are not using DNS in your network and you did not set a DNS domain at install, the presence domain is set to "DOMAIN.NOT.SET" by default. You must replace this default value with the enterprise-wide presence domain.
- In order to be considered valid, the presence domain value must match the DNS domain name. Using a valid domain name ensures that the SRM initializes correctly in a High Availability deployment.

Follow this procedure if you want to change the domain value (from one valid domain value to another valid IP proxy domain value).

This procedure is applicable if you have a DNS or non-DNS deployment.

**Procedure**

- **Step 1** Stop the Cisco SIP Proxy, Presence Engine and XCP Router services on IM and Presence on all nodes in your cluster.
- **Step 2** On the publisher node, perform the following steps to configure the new domain value:
  a) Choose **Cisco Unified CM IM and Presence Administration > System > Cluster Topology**.
  b) In the right pane, click **Settings**.
c) Configure the Domain Name value with the new domain.
d) Choose Cisco Unified CM IM and Presence Administration > System > Service Parameters, and select the Cisco SIP Proxy service.
e) Configure the Federation Routing IM and Presence FQDN with the new domain.
f) You will be prompted to confirm these configuration changes. Click OK for both prompts, and then select Save.

Step 3 On all nodes in the cluster, use this CLI command to set the new domain:
```shell
set network domain <new_domain>
```
This CLI command invokes a reboot of the servers

Step 4 On all nodes in the cluster, manually start the Cisco Presence Engine and Cisco XCP Router services after the reboot is complete (if required).

Step 5 Manually regenerate all certificates on each node in the cluster.

Note When you regenerate the Tomcat certificate, you must restart Tomcat. You can restart Tomcat after you regenerate all of the certificates on the local server. Use this CLI command to restart Tomcat:
```shell
utils service restart Cisco Tomcat
```

Step 6 If you use DNS in your network, update the DNS configuration for the new domain. Update any host records and any DNS SRV records that you require for the new domain

Step 7 Configure any XMPP clients with the new domain.

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Routing Information Configuration on IM and Presence Service

Routing Communication Recommendations

MDNS is the default mechanism for establishing the XCP route fabric on IM and Presence Service; the network automatically establishes router-to-router connections between all IM and Presence Service nodes in a cluster. A requirement for MDNS routing is that all nodes in the cluster are in the same multicast domain. We recommend MDNS routing because it can seamlessly support new XCP routers joining the XCP route fabric.

If you choose MDNS as the routing communication, you must have multicast DNS enabled in your network. In some networks multicast is enabled by default, or enabled in a certain area of the network, for example, in an area that contains the nodes that form the cluster. In these networks, you do not need to perform any additional configuration in your network to use MDNS routing. When multicast DNS is disabled in the network, MDNS packets cannot reach the other nodes in a cluster. If multicast DNS is disabled in your network, you must perform a configuration change to your network equipment to use MDNS routing.

Alternatively, you can choose router-to-router communication for your deployment. In this case, IM and Presence Service dynamically configures all router-to-router connections between nodes in a cluster. Choose this routing configuration type if all the nodes in your cluster are not in the same multicast domain. Note that when you choose router-to-router communication:

- Your deployment will incur the additional performance overhead while IM and Presence Service establishes the XCP route fabric.
- You do not need to restart the Cisco XCP Router on all nodes in your deployment when you add a new node.
- If you delete or remove a node, you must restart the Cisco XCP Router on all nodes in your deployment.
Configure MDNS Routing and Cluster ID

At installation, the system assigns a unique cluster ID to the IM and Presence database publisher node. The systems distributes the cluster ID so that all nodes in your cluster share the same cluster ID value. The nodes in the cluster use the cluster ID to identify other nodes in the multicast domain using MDNS. A requirement for MDNS routing is that the cluster ID value is unique to prevent nodes in one standalone IM and Presence Service cluster from establishing router-to-router connections with nodes in another standalone cluster. Standalone clusters should only communicate over intercluster peer connections.

Choose **Cisco Unified CM IM and Presence Administration > System > Cluster Topology > Settings** to view or configure the cluster ID value for a cluster. If you change the cluster ID value, make sure that the value remains unique to your IM and Presence Service deployment.

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**Note**

If you deploy the Chat feature, IM and Presence Service uses the cluster ID value to define chat node aliases. There are certain configuration scenarios that may require you to change the cluster ID value. See the Group Chat module for details.

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**Related Topics**

Chat Setup and Management

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Configure Routing Communication

To allow the nodes in a cluster to route messages to each other, you must configure the routing communication type. This setting determines the mechanism for establishing router connections between nodes in a cluster. Configure the routing communication type on the IM and Presence database publisher node, and IM and Presence Service applies this routing configuration to all nodes in the cluster.

For single node IM and Presence Service deployments, we recommend that you leave the routing communication type at the default setting.

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**Caution**

You must configure the routing communication type before you complete your cluster configuration and start to accept user traffic into your IM and Presence Service deployment.

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**Before You Begin**

- If you want to use MDNS routing, confirm that MDNS is enabled in your network.
- If you want to use router-to-router communication, and DNS is not available in your network, for each node you must configure the IP address as the node name in the cluster topology. To edit the node name, choose **Cisco Unified CM IM and Presence Administration > System > Cluster Topology**, and click the edit link on a node. Perform this configuration after you install IM and Presence Service, and before you restart the Cisco XCP Router on all nodes.
When using the Cisco Jabber client, certificate warning messages can be encountered if the IP address is configured as the IM and Presence Service node name. To prevent Cisco Jabber from generating certificate warning messages, the FQDN should be used as the node name.

**Attention**

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**Procedure**

**Step 1** Choose Cisco Unified CM IM and Presence Administration > System > Cluster Topology.

**Step 2** In the right pane, choose Settings.

**Step 3** Choose one of these Routing Communication Types from the menu:

- **Multicast DNS (MDNS)** - Choose Multicast DNS communication if the nodes in your cluster are in the same multicast domain. Multicast DNS communication is enabled by default on IM and Presence Service.

- **Router to Router** - Choose Router-to-Router communication if the nodes in your cluster are not in the same multicast domain.

**Step 4** Click Save.

**Step 5** Restart the Cisco XCP Router service on all nodes in your deployment.

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**Related Topics**

- [Restart Cisco XCP Router Service, on page 2](#)

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**Configure Cluster ID**

At installation, the system assigns a default unique cluster ID to the IM and Presence database publisher node. If you configure multiple nodes in the cluster, the systems distributes the cluster ID so that each node in your cluster shares the same cluster ID value.

We recommend that you leave the cluster ID value at the default setting. If you do change the cluster ID value, note the following:

- If you choose MDNS routing, all nodes must have the same cluster ID to allow them to identify other nodes in the multicast domain.

- If you are deploying the Group Chat feature, IM and Presence Service uses the cluster ID value for chat node alias mappings, and there are certain configuration scenarios that may require you to change the cluster ID value. See the Group Chat module for details.

If you change the default Cluster ID value, you only need to make this change on the IM and Presence database publisher node, and the system replicates the new Cluster ID value to the other nodes in the cluster.
**Procedure**

**Step 1** Choose Cisco Unified CM IM and Presence Administration > System > Cluster Topology.

**Step 2** In the right pane, choose Settings.

**Step 3** View or edit the Cluster ID value.

*Note* By default, IM and Presence Service assigns the cluster ID value "StandaloneCluster" to a cluster.

**Step 4** Click Save.

*Tip* IM and Presence Service does not permit the underscore character (_) in the Cluster ID value. Ensure the Cluster ID value does not contain this character.

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**Related Topics**

Chat Setup and Management

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**Configure Throttling Rate for Availability State Change Messages**

To prevent an overload of the on IM and Presence Service, you can configure the rate of availability (presence) changes sent to the Cisco XCP Router in messages per second. When you configure this value, IM and Presence Service throttles the rate of availability (presence) changes back to meet the configured value.

**Procedure**

**Step 1** Choose Cisco Unified CM IM and Presence Administration > System > Service Parameters.

**Step 2** Choose the IM and Presence Service node from the Server menu.

**Step 3** Choose Cisco Presence Engine from the Service menu.

**Step 4** In the Clusterwide Parameters section, edit the Presence Change Throttle Rate parameter. This parameter defines the number of presence updates per second.

**Step 5** Click Save.

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**Configure Proxy Server Settings**

**Procedure**

**Step 1** Choose Cisco Unified CM IM and Presence Administration > Presence > Routing > Settings.

**Step 2** Choose On for the Method/Event Routing Status.

**Step 3** Choose Default SIP Proxy TCP Listener for the Preferred Proxy Server.

**Step 4** Click Save.


Services on IM and Presence Service

Configure Sync Agent Settings

Before You Begin

- Configure the topology for your deployment before starting the Sync Agent.
- If you deploy the Cisco Jabber client with IM and Presence Service, and you configure system-wide default application profiles, configure and enable the default profiles before you activate the Sync Agent.

Procedure

Step 1  Choose Cisco Unified CM IM and Presence Administration > System > Service Parameters.
Step 2  Choose the IM and Presence Service node from the Server menu.
Step 3  Choose Cisco Sync Agent from the Service menu.
Step 4  Choose a value for the User Assignment Mode as follows:
   a) If set to Balanced, the Sync Agent synchronizes user information to IM and Presence Service, and then assigns the users to each node in an attempt to balance the user assignment evenly across all nodes.
      - If set to Active/Standby, the Sync Agent synchronizes user information to IM and Presence Service, and assigns the total number of users to the first node of a subcluster only. If there is only a single node in the subcluster, the Sync Agent uses this node for assignment regardless of the location of the node within the subcluster.
   b) If set to None, the Sync Agent synchronizes user information to IM and Presence Service but does not assign any users. You must manually assign your users to nodes using the system topology interface
Step 5  Choose Save.

Related Topics

- Cluster Topology Configuration on IM and Presence Service
- Turn On Services for IM and Presence Service, on page 7

Turn On Services for IM and Presence Service

The following procedure lists the services that you must turn on when you deploy a basic IM and Presence Service configuration. Turn on these services on each node in your IM and Presence Service cluster.

You may need to turn on other optional services depending on the additional features that you deploy on IM and Presence Service. See the IM and Presence Service documentation relating to those specific features for further details. If you have manually stopped any services so that you could configure certain system components or features, use this procedure to manually restart those services.
The Cisco XCP Router service must be running for a basic IM and Presence Service deployment. IM and Presence Service turns on the Cisco XCP Router by default. Verify that this network service is on by choosing Cisco Unified IM and Presence Serviceability > Control Center - Network Services.

Procedure

**Step 1** Choose Cisco Unified IM and Presence Serviceability > Tools > Service Activation.

**Step 2** Choose the IM and Presence Service node from the Server menu.

**Step 3** For a basic IM and Presence Service deployment, turn on the following services:

- Cisco SIP Proxy
- Cisco Presence Engine
- Cisco Sync Agent
- Cisco XCP Connection Manager
- Cisco XCP Authentication Service

**Step 4** Click Save.

Related Topics

Configure Sync Agent Settings, on page 7