



CHAPTER 12

Configuring Call Routing

Revised June 30, 2011

The following sections describe how to configure call routing by using the administrative console:

- [Configuring Routes, page 12-1](#)
- [Configuring Dial Patterns, page 12-4](#)
- [Configuring Remote Service Providers, page 12-6](#)
- [Viewing Call Detail Records, page 12-9](#)

Configuring Routes

On the Cisco TelePresence Exchange System, a route is a reference to an adjacency on a Cisco Session Border Controller (SBC). Each adjacency on the SBC is assigned a unique tag. The tag value is included in SIP messages between the SBC and Cisco TelePresence Exchange System, which simplifies routing.

For example, the SBC uses an adjacency for each hosted organization. The adjacency is configured with a unique tag. The same tag value is configured in the Cisco TelePresence Exchange System route for that organization. Therefore, the outgoing route on the SBC is found by matching the tag value.

The following sections describe how to configure routes:

- [Adding Routes, page 12-1](#)
- [Editing Routes, page 12-2](#)
- [Deleting Routes, page 12-2](#)
- [Route Fields, page 12-3](#)

Adding Routes

Before You Begin

Configure SIP resources.

Procedure

To add a new route, do the following procedure:

-
- Step 1** From the navigation pane, choose **Call Routing > Routes**.
The Routes window is displayed.

- Step 2** Click **Add A New Route**.
- Step 3** Enter the settings as indicated in [Table 12-1](#) to configure the route.
- Step 4** To save your changes, click **Save**.
-

Editing Routes

Procedure

To edit a route, do the following procedure:

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- Step 1** From the navigation pane, choose **Call Routing > Routes**.
The Routes window is displayed.
- Step 2** In the item table, click the applicable entry.
The Route Details window is displayed.
- Step 3** From the toolbar, click **Edit This Route**.
The Edit Route window is displayed. Fields contain the currently-configured values.
- Step 4** Modify field entries as required.
Fields are described in [Table 12-1](#).
- Step 5** To save your changes, click **Save**.
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Deleting Routes

Procedure

To delete a route, do the following procedure:

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- Step 1** From the navigation pane, choose **Call Routing > Routes**.
The Routes window is displayed.
- Step 2** Do the following sub-steps, depending on your Cisco TelePresence Exchange System version.
- Cisco TelePresence Exchange System Release 1.0(3)**
- In the item table, check the check box next to the entry that you want to delete. You can delete multiple routes at one time by checking the check box next to each entry that you want to delete.
 - Click **Delete**.
 - In the Deletion Confirmation dialog box, click **Delete** to confirm the deletion.
- Cisco TelePresence Exchange System Release 1.0(2) and earlier**
- In the item table, check the check box next to the entry you want to delete.
 - From the drop-down list that appears, choose **Delete**.
 - Click **Go**.

- d. In the panel that is displayed to confirm the deletion, click **OK**.

**Tip**

If you prefer to view the details of a route prior to deleting it, in the Routes window, you can click the applicable **Route** to go to the Routes page. After verifying that you have chosen the correct route to delete, click **Delete This Route**, and then in the Deletion Confirmation dialog box, click **Delete** to confirm the deletion.

Route Fields

Table 12-1 *Route Field Descriptions*

Field	Description
Name	Text string to identify this route. See the “Common Field Properties” section on page 2-4.
Description	Text string describing this route. See the “Common Field Properties” section on page 2-4.
SIP Resource	Drop-down list. Choose the SIP resource for this route. The SIP resource is generally a session border controller (SBC) that provides call routing between enterprises and the Cisco TelePresence Exchange System server cluster. The SBC also provides routing between the Cisco TelePresence Exchange System and remote service providers. See the “Adding SIP Resources” section on page 9-4.
SIP Tag	The SBC tag for this route. This value must match the tag that the SBC assigns to the associated adjacency. The tag value must be unique in this Cisco TelePresence Exchange System.
Route Type	Drop-down list. Choose either incoming, outgoing, or both. If the route is for direct-dial or help desk calls, choose BOTH. If the route is for a remote service provider, you can specify separate routes for incoming and outgoing calls.

Table 12-1 **Route Field Descriptions (continued)**

Field	Description
Endpoint Type	Drop-down list. Choose one of the following values: • CTS—Indicates that the endpoints served by this route are all TIP-based Cisco TelePresence System endpoints. • Interop—Indicates that none of the endpoints served by this route are TIP-based Cisco TelePresence System endpoints. • Both—Indicates that a mixture of endpoints are served by this route. Caution If you select Interop or Both, any incoming calls from a TIP-based Cisco Telepresence System endpoint to a conference that is hosted on a Cisco TelePresence Server MSE 8710 (TPS) will fail. Therefore, if calls over this route must be able to connect to a TPS, select only the CTS value in this field.
Active	Check box. Check this check box to activate the route.

Configuring Dial Patterns

A dial pattern is a digit pattern that matches the rule that you configure for the system. You can specify the rule as a regular expression or as a set of digits to match exactly.

You can also match the domain (which are the characters that follow the @ symbol in the SIP URI).

The following sections describe how to configure dial patterns:

- [Adding Dial Patterns, page 12-4](#)
- [Editing Dial Patterns, page 12-5](#)
- [Deleting Dial Patterns, page 12-5](#)
- [Dial Patterns Fields, page 12-6](#)

Adding Dial Patterns

Procedure

To add a new dial pattern, do the following procedure:

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- | | |
|---------------|---|
| Step 1 | From the navigation pane, choose Call Routing > Dial Patterns .
The Dial Patterns window is displayed. |
| Step 2 | Click Add A New Dial Pattern . |
| Step 3 | Enter the settings as indicated in Table 12-2 to configure the dial pattern. |
| Step 4 | To save your changes, click Save . |
-

Editing Dial Patterns

Procedure

To edit a dial pattern, do the following procedure:

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- | | |
|---------------|---|
| Step 1 | From the navigation pane, choose Call Routing > Dial Patterns .
The Dial Patterns window is displayed. |
| Step 2 | In the item table, click the applicable entry.
The Dial Pattern Details window is displayed. |
| Step 3 | From the toolbar, click Edit This Dial Pattern .
The Edit Dial Pattern window is displayed. Fields contain the currently-configured values. |
| Step 4 | Modify field entries as required.
Fields are described in Table 12-2 . |
| Step 5 | To save your changes, click Save . |
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Deleting Dial Patterns

Procedure

To delete a dial pattern, do the following procedure:

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- | | |
|---------------|---|
| Step 1 | From the navigation pane, choose Call Routing > Dial Patterns .
The Dial Patterns window is displayed. |
| Step 2 | Do the following sub-steps, depending on your Cisco TelePresence Exchange System version.
Cisco TelePresence Exchange System Release 1.0(3) <ol style="list-style-type: none">a. In the item table, check the check box next to the entry that you want to delete. You can delete multiple dial patterns at one time by checking the check box next to each entry that you want to delete.b. Click Delete.c. In the Deletion Confirmation dialog box, click Delete to confirm the deletion. Cisco TelePresence Exchange System Release 1.0(2) and earlier <ol style="list-style-type: none">a. In the item table, check the check box next to the entry you want to delete.b. From the drop-down list that appears, choose Delete.c. Click Go.d. In the panel that is displayed to confirm the deletion, click OK. |

**Tip**

If you prefer to view the details of a dial pattern prior to deleting it, in the Dial Patterns window, you can click the applicable **Dial Pattern** to go to the Dial Patterns page. After verifying that you have chosen the correct dial pattern to delete, click **Delete This Dial Pattern**, and then in the Deletion Confirmation dialog box, click **Delete** to confirm the deletion.

Dial Patterns Fields

Table 12-2 *Dial Pattern Field Descriptions*

Field	Description
Name	Text string to identify the dial pattern. See the “Common Field Properties” section on page 2-4 .
Description	Text string describing the dial pattern. See the “Common Field Properties” section on page 2-4 .
Pattern	The definition of the pattern. The format of the pattern field depends on the pattern type.
Pattern Type	Drop-down list. The pattern type specifies how the Cisco TelePresence Exchange System will use the contents of the pattern field to match the dial pattern. The available pattern type is Number, which matches the exact number that is entered in the pattern. •

Configuring Remote Service Providers

Customers can attend meetings hosted by a remote service provider. To attend the meeting, the user dials a number that matches the dial pattern that is associated with the remote service provider. The Cisco TelePresence Exchange System routes the user request to an SBC that establishes communication with the remote service provider.

The following sections describe how to configure remote service providers:

- [Adding Remote Service Providers, page 12-7](#)
- [Editing Remote Service Providers, page 12-7](#)
- [Deleting Remote Service Providers, page 12-7](#)
- [Remote Service Provider Fields, page 12-8](#)

Adding Remote Service Providers

Procedure

To add a new remote service provider, do the following procedure:

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- Step 1** From the navigation pane, choose **Call Routing > Remote Service Providers**.
The Remote Service Providers window is displayed.
 - Step 2** Click **Add A New Remote Service Provider**.
 - Step 3** Enter the settings as indicated in [Table 12-3](#) to configure the remote service provider.
 - Step 4** To save your changes, click **Save**.
-

Editing Remote Service Providers

Procedure

To edit a remote service provider, do the following procedure:

-
- Step 1** From the navigation pane, choose **Call Routing > Remote Service Providers**.
The Remote Service Providers window is displayed.
 - Step 2** In the item table, click the applicable entry.
The Remote Service Provider Details window is displayed.
 - Step 3** From the toolbar, click **Edit This Remote Service Provider**.
The Edit Remote Service Provider window is displayed. Fields contain the currently-configured values.
 - Step 4** Modify field entries as required.
Fields are described in [Table 12-3](#).
 - Step 5** To save your changes, click **Save**.
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Deleting Remote Service Providers

Procedure

To delete a remote service provider, do the following procedure:

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- Step 1** From the navigation pane, choose **Call Routing > Remote Service Providers**.
The Remote Service Providers window is displayed.
 - Step 2** Do the following sub-steps, depending on your Cisco TelePresence Exchange System version.

Cisco TelePresence Exchange System Release 1.0(3)

- a. In the item table, check the check box next to the entry that you want to delete. You can delete multiple remote service providers at one time by checking the check box next to each entry that you want to delete.
- b. Click **Delete**.
- c. In the Deletion Confirmation dialog box, click **Delete** to confirm the deletion.

Cisco TelePresence Exchange System Release 1.0(2) and earlier

- a. In the item table, check the check box next to the entry you want to delete.
- b. From the drop-down list that appears, choose **Delete**.
- c. Click **Go**.
- d. In the panel that is displayed to confirm the deletion, click **OK**.

**Tip**

If you prefer to view the details of a remote service provider prior to deleting it, in the Remote Service Providers window, you can click the applicable **Remote Service Provider** to go to the Remote Service Providers page. After verifying that you have chosen the correct remote service provider to delete, click **Delete This Remote Service Provider**, and then in the Deletion Confirmation dialog box, click **Delete** to confirm the deletion.

Remote Service Provider Fields

Table 12-3 Remote Service Provider Field Descriptions

Field	Description
Name	Text string to identify the remote service provider. See the “Common Field Properties” section on page 2-4.
Description	Text string describing the remote service provider. See the “Common Field Properties” section on page 2-4.

Table 12-3 Remote Service Provider Field Descriptions (continued)

Field	Description
Dial Patterns	Button and drop-down list. Click Add A Dial Pattern to display a drop-down list. To associate a dial pattern with the remote service provider, choose a dial pattern from the drop-down list. You can add multiple dial patterns by repeating the above procedure. For information about dial patterns, see the “Adding Dial Patterns” section on page 12-4.
SIP Routes	Button and drop-down list. Click Add A Route to display a drop-down list. To associate a SIP route with the remote service provider, choose a route from the drop-down list. Note SBCs manage call routing between the Cisco TelePresence Exchange System and remote service providers. You can add multiple routes, ordered by priority, to accommodate SBC fail over. To add multiple routes, click Add A Route and choose another route from the drop-down list. Repeat this procedure for each route. For information about routes, see the “Adding Routes” section on page 12-1.

Viewing Call Detail Records

The Cisco TelePresence Exchange System collects and displays call detail records (CDRs) for calls that are placed on the system. From the administration console, you can view CDR details for the system as well as export a comma separated value (.csv) file of that information. The system saves up to 30 days of CDR information and deletes any records older than 30 days on a daily basis.

When viewing CDRs through the administration console, you can filter the listing by each category heading (such as caller, service provider, organization, Meet-Me conference ID, and start and end time).

The following sections describe how to view, export, and filter CDRs:

- [Viewing and Filtering CDRs, page 12-9](#)
- [Exporting a CDR File, page 12-10](#)

For instructions on viewing intra-company call detail records, see the [“Viewing Intra-Company CDRs” section on page 12-10](#).

Viewing and Filtering CDRs

Procedure

To view and filter CDRs for the system, do the following procedure:

-
- Step 1** From the navigation pane, choose **Call Routing > CDRs**.
- The CDRs window is displayed showing details on meetings for the past 30 days.

- Step 2** (Optional) To filter the information that is displayed on the CDRs window, do one of the following:
- To filter on the call type and CDR source information that is displayed on the CDR window, click the **T** icon next to the column heading, and check the check boxes next to each item that you want to display on the window.
To display CDRs for all items, check **All**.
 - To filter on any specific heading other than call type and CDR source such as organization (for example ABC Company), click the **T** icon next to the column heading, and enter the specific item on which you want to filter.
- Step 3** To activate the filter, click **Filter**.
To deactivate a filter, click the **T** icon next to the appropriate column heading and click **Clear**.



Note When you click **Clear Filters**, the system clears all defined filters.

Exporting a CDR File

To capture the information that is displayed on the **Call Routing > CDRs** window, you can export a CDR file. When you export the CDR file, additional information for each CDR entry is available beyond what is viewable on the CDRs window, for example, the call engine name and IP address, which can be useful for troubleshooting purposes.

Procedure

To export a CDR file from the system, do the following procedure:

- Step 1** From the navigation pane, choose **Call Routing > CDRs**.
The CDRs window is displayed showing details on meetings.
- Step 2** To export a file that summarizes CDRs for the last 30 days, click **Export CDRs**.
A panel appears with options to either view or save the export.csv file.

Viewing Intra-Company CDRs

Intra-company (direct dial) calls are not routed via the Cisco TelePresence Exchange System cluster. As a result, the Cisco TelePresence Exchange System by default is not aware of these calls and does not generate any CDRs for them. Therefore, if you need to view intra-company CDRs, you must configure the Cisco TelePresence Exchange System to periodically pull the CDRs from Cisco Unified Communications Manager and to generate them locally as if the calls had been processed by the Cisco TelePresence Exchange System itself.



- Note**
- The collected CDRs are stored on the Cisco TelePresence Exchange System with all the other CDRs, with the cdrSource set to INTRACOMPANY_DIRECTDIAL.

- CDRs are imported hourly, and the timing for collection is also dependent on the schedule for CDR files being generated in Unified CM. Unless by chance a call comes in at exactly the right time to be included in the Unified CM processing and the Cisco TelePresence Exchange System processing immediately, you may need to wait an hour or two before the CDR appears in the database.

See the following [“Configuring Unified CM to Enable Intra-Company CDRs”](#) section for detailed instructions.

Configuring Unified CM to Enable Intra-Company CDRs

To configure Cisco Unified Communications Manager to enable intra-company CDRs and then to provision the Unified CM publisher node in the Cisco TelePresence Exchange System administration console, do the following two procedures in the order presented.

Procedure

- Step 1** Log in to the Cisco Unified Communications Manager publisher node as the administrator.
- Step 2** From the Navigator menu, select **Cisco Unified Serviceability** and click **Go**.
- Step 3** Choose **Tools > Service Activation**.
- Step 4** From the Select Server drop-down list, select the publisher node.
- Step 5** Verify that under the CDR Services menu, both the **Cisco SOAP – CDRonDemand Service** and the **Cisco CAR Web Service** check boxes are checked. If they are not checked, check them and click **Save** to activate these services.
- Step 6** To create a custom API user for the CDR APIs in Unified CM, from the navigation menu, select **Unified CM Administration** and click **Go**.



Note The default ccmadministrator user can be used instead of the custom API user. However, for security reasons, Cisco recommends that a separate API user be created for the Cisco TelePresence Exchange System application to pull the CDRs from Unified CM.

- Step 7** Choose **User Management > Application User** and click **New** to create a new application user.
- Step 8** Choose **User Management > User Group** and click **Standard CAR Admin Users**.
- Step 9** Click **Add App Users to Group** and select the application user that you created in [Step 7](#).
- Step 10** Repeat [Step 8](#) and [Step 9](#) for **Standard CCM End Users** and **Standard CCM Read Only**.
- Step 11** Continue with the following procedure to provision Unified CM in the Cisco TelePresence Exchange System administration console.

Procedure

- Step 1** In the Cisco TelePresence Exchange System administration console, from the navigation pane, choose **Media Resources > Unified CM Resources**.
- Step 2** Enter or edit information on the applicable Unified CM page to indicate the address of the Unified CM and the username and password of the API user that you created in [Step 7](#) of the previous procedure.

Step 3 Click **Test Connection** to validate the username and password that you entered in [Step 2](#).

When both Unified CM and the Cisco TelePresence Exchange System have been configured correctly to enable intra-company CDRs, the message “Connection has been verified.” is displayed.

When there is a mismatch in the credentials, the error message “Connection failed verification. Error accessing API.” is displayed. Verify the login credentials and if necessary the Host address of the Unified CM and repeat [Step 3](#) until the “Connection has been verified” message is displayed.
