



Route Pattern Configuration

A route pattern comprises a string of digits (an address) and a set of associated digit manipulations that route calls to a route list or a gateway. Route patterns provide flexibility in network design. They work in conjunction with route filters and route lists to direct calls to specific devices and to include, exclude, or modify specific digit patterns.

Refer to [“Understanding Route Plans”](#) in *Cisco Unified CallManager System Guide* for more detailed route pattern information.

Use the following topics to find, add, update, copy, or delete a route pattern:

- [Finding a Route Pattern, page 34-1](#)
- [Configuring a Route Pattern, page 34-3](#)
- [Route Pattern Configuration Settings, page 34-4](#)
- [Deleting a Route Pattern, page 34-10](#)

Finding a Route Pattern

Because you might have several route patterns in your network, Cisco Unified CallManager lets you use specific criteria to locate specific route patterns. To locate route patterns, use the following procedure.



Note

During your work in a browser session, Cisco Unified CallManager Administration retains your route pattern search preferences. If you navigate to other menu items and return to this menu item, Cisco Unified CallManager Administration retains your route pattern search preferences until you modify your search or close the browser.

Procedure

Step 1 Choose **Call Routing > Route/Hunt > Route Pattern**.

The Find and List Route Patterns window displays. Use the two drop-down selection boxes to search for a route pattern.

- Step 2** From the first Find Route Patterns where drop-down selection box, choose Pattern, Description, or Partition.



Note The criterion that you choose in this drop-down list box specifies how the list of route patterns that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

- Step 3** From the second Find Route Patterns where drop-down list box, choose one of the following criteria:
- begins with
 - contains
 - ends with
 - is exactly
 - is not empty
 - is empty

- Step 4** Specify the appropriate search text, if applicable, and click **Find**. You can also specify how many items per page to display.



Note To find all route patterns that are registered in the database, click **Find** without entering any search text.

A list of discovered route patterns displays by

- Route pattern icon
- Route pattern
- Partition
- Description
- Route Filter
- Gateway/Route List



Tip To search for route patterns within the search results, click the **Search Within Results** check box and enter your search criteria as described in this step.



Note You can delete multiple route patterns from the Find and List Route Patterns window by checking the check boxes next to the appropriate route patterns and clicking **Delete Selected**. You can delete all route patterns in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.

- Step 5** Click the route pattern from the list of records that matches your search criteria. The window displays the route pattern that you choose.

Additional Information

See the [“Related Topics”](#) section on page 34-11.

Configuring a Route Pattern

This section describes how to configure a route pattern.

Before You Begin

Ensure that the following items are configured in Cisco Unified CallManager:

- Gateway
- Route list
- Partition (unless you are using <None>)
- Route filter (unless you are using <None>)

**Timesaver**

Assigning 8XXX to a gateway routes all directory numbers 8000 to 8999 out the gateway. Similarly, 82XX routes directory numbers 8200 to 8299. See the [“Special Characters and Settings”](#) section in the *Cisco Unified CallManager System Guide* for more information about wildcards.

Procedure

Step 1 Choose **Call Routing > Route/Hunt > Route Pattern**.

Step 2 Perform one of the following tasks:

- To copy an existing route pattern, locate the appropriate route pattern as described in the [“Finding a Route Pattern”](#) section on page 34-1, click the **Copy** button next to the route pattern that you want to copy, and continue with [Step 3](#).
- To add a new route pattern, click the **Add New** button, and continue with [Step 3](#).
- To update an existing route pattern, locate the appropriate route pattern as described in the [“Finding a Route Pattern”](#) section on page 34-1, and continue with [Step 3](#).

**Note**

If you change the gateway or route list, you must click **Update** prior to choosing the **Edit** link. Otherwise, you get linked to the previous gateway or route list.

- Step 3** In the Route Pattern Configuration window that displays, enter the appropriate settings as described in [Table 34-1](#).



Note The **(Edit)** link next to the Gateway or Route List field takes you to the Gateway Configuration or Route List Configuration window for reference, depending on whether the Gateway or Route List field contains a gateway or a route list. The Gateway Configuration window displays devices that are associated with the specified gateway. The Route List Configuration window displays the route groups that are associated with the specified route list.

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

Additional Information

See the [“Related Topics”](#) section on page 34-11.

Route Pattern Configuration Settings

[Table 34-1](#) describes the available fields in the Route Pattern Configuration window.

Table 34-1 Route Pattern Configuration Settings

Field	Description
Pattern Definition	
Route Pattern	Enter the route pattern, including numbers and wildcards (do not use spaces); for example, for NANP, enter 9.@ for typical local access, or 8XXX for a typical private network numbering plan. The uppercase characters A, B, C, and D are valid characters. Note Ensure that the directory route pattern, which uses the chosen partition, route filter, and numbering plan combination, is unique. Check the route pattern, translation pattern, directory number, call park number, call pickup number, message waiting on/off, or meet me number if you receive an error that indicates duplicate entries. You can also check the route plan report. See the “Wildcards and Special Characters in Route Patterns and Hunt Pilots” section in the <i>Cisco Unified CallManager System Guide</i> for more information about wildcards.

Table 34-1 **Route Pattern Configuration Settings (continued)**

Field	Description
Route Partition	If you want to use a partition to restrict access to the route pattern, choose the desired partition from the drop-down list box. If you do not want to restrict access to the route pattern, choose <None> for the partition. See the “Partition Configuration” section on page 41-1 for more information on how to use partitions. You can configure the number of partitions that display in this drop-down list box by using the Max List Box Items enterprise parameter. If more than 250 partitions are specified by using the Max List Box Items enterprise parameter, the ellipsis button (...) displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box and click OK. Note To set the maximum list box items, choose System > Enterprise Parameters and choose CCMAdmin Parameters. Note Make sure that the combination of route pattern, route filter, and partition is unique within the Cisco Unified CallManager cluster.
Description	Enter a description of the route pattern.
Numbering Plan	Choose a numbering plan.
Route Filter	If your route pattern includes the @ wildcard, you may choose a route filter. The optional act of choosing a route filter restricts certain number patterns. The route filters that display depend on the numbering plan that you choose from the Numbering Plan drop-down list box. If more than 250 route filters exist, the ellipsis button (...) displays next to the drop-down list box. Click the ... button to display the Select Route Filters window. Enter a partial route filter name in the List items where Name contains field. Click the desired route filter name in the list of route filters that displays in the Select item to use box and click OK. Note To set the maximum list box items, choose System > Enterprise Parameters and choose CCMAdmin Parameters.

Table 34-1 Route Pattern Configuration Settings (continued)

Field	Description
MLPP Precedence	Choose an MLPP precedence setting for this route pattern from the drop-down list box: • Executive Override—Highest precedence setting for MLPP calls. • Flash Override—Second highest precedence setting for MLPP calls. • Flash—Third highest precedence setting for MLPP calls. • Immediate—Fourth highest precedence setting for MLPP calls. • Priority—Fifth highest precedence setting for MLPP calls. • Routine—Lowest precedence setting for MLPP calls. • Default—Does not override the incoming precedence level but rather lets it pass unchanged. Note Refer to the “Precedence” section in the “Multilevel Precedence and Preemption” chapter of the <i>Cisco Unified CallManager Features and Services Guide</i> for more information.
Gateway/Route List	Choose the gateway or route list for which you are adding a route pattern. Note If the gateway is included in a Route Group, this drop-down list box does not display the gateway. When a gateway is chosen in the drop-down list box, Cisco Unified CallManager uses all the ports in the gateway to route/block this route pattern. This action does not apply for MGCP gateways.
Route Option	The Route Option designation indicates whether you want this route pattern to be used for routing calls (such as 9.@ or 8[2-9]XX) or for blocking calls. Choose the Route this pattern or Block this pattern radio button. If you choose the Block this pattern radio button, you must choose the reason for which you want this route pattern to block calls. Choose a value from the drop-down list box: • No Error • Unallocated Number • Call Rejected • Number Changed • Invalid Number Format • Precedence Level Exceeded
Call Classification	Call Classification indicates whether the call that is routed through this route pattern is considered either off (OffNet) or on (OnNet) the local network. The default value specifies OffNet. When adding a route pattern, if you uncheck the Provide Outside Dial Tone check box, you set Call Classification as OnNet.
Allow Device Override	This check box is unchecked by default. When checked, the system uses the Call Classification setting that is configured on the associated gateway or trunk to consider the outgoing call as OffNet or OnNet.
Provide Outside Dial Tone	Check this check box to provide outside dial tone. To route the call in the network, leave the check box unchecked.

Table 34-1 **Route Pattern Configuration Settings (continued)**

Field	Description
Allow Overlap Sending	With overlap sending enabled, when Cisco Unified CallManager passes a call to the PSTN, it relies on overlap sending in the PSTN to determine how many digits to collect and where to route the call. Check this check box for each route pattern that you consider to be assigned to a gateway or route list that routes the calls to a PSTN that supports overlap sending. The CMC and FAC features do not support overlap sending because the Cisco Unified CallManager cannot determine when to prompt the user for the code. If you check the Require Forced Authorization Code or the Require Client Matter Code check box, the Allow Overlap Sending check box becomes disabled.
Urgent Priority	If the dial plan contains overlapping route patterns, Cisco Unified CallManager would not route the call until the interdigit timer expires (even if it is possible to dial a sequence of digits to choose a current match). Check this check box to interrupt interdigit timing when Cisco Unified CallManager must route a call immediately.
Require Forced Authorization Code	If you want to use forced authorization codes with this route pattern, check this check box. The FAC feature does not support overlap sending because the Cisco Unified CallManager cannot determine when to prompt the user for the code. If you check the Allow Overlap Sending check box, the Require Forced Authorization Code check box becomes disabled.
Authorization Level	Enter the authorization level for the route pattern. The number that you specify in this field determines the minimum authorization level that is needed to successfully route a call through this route pattern. Tip To activate the authorization code, you must check the Require Forced Authorization Code. If you do not check the check box, a message displays when you insert the route pattern that indicates that the authorization code cannot be activated. To activate the code, click Cancel, check the Require Forced Authorization Code check box, and click Insert. To activate the code at a later time, click OK.
Require Client Matter Code	If you want to use client matter codes with this route pattern, check this check box. The CMC feature does not support overlap sending because the Cisco Unified CallManager cannot determine when to prompt the user for the code. If you check the Allow Overlap Sending check box, the Require Client Matter Code check box become disabled.
Calling Party Transformations	
Use Calling Party's External Phone Number Mask	Check the check box if you want the full, external phone number to be used for calling line identification (CLID) on outgoing calls. You may also configure an External Phone Number Mask on all phone devices. Note The calling party transformation settings that are assigned to the route groups in a route list override any calling party transformation settings that are assigned to a route pattern that is associated with that route list.

Table 34-1 **Route Pattern Configuration Settings (continued)**

Field	Description
Calling Party Transform Mask	Enter a transformation mask value. Valid entries for the NANP include the digits 0 through 9; the wildcard characters X, asterisk (*), and octothorpe (#); the uppercase characters A, B, C, and D; and blank. If this field is blank and the preceding field is not checked, no calling party transformation takes place. See the “ Calling Party Number Transformations Settings ” section in the <i>Cisco Unified CallManager System Guide</i> for more information.
Prefix Digits (Outgoing Calls)	Enter prefix digits in the Prefix Digits (Outgoing Calls) field. Valid entries for the NANP include the digits 0 through 9; the wildcard characters asterisk (*) and octothorpe (#); the uppercase characters A, B, C, and D; and blank. Note The appended prefix digit does not affect which directory numbers route to the assigned device.
Calling Line ID Presentation	Cisco Unified CallManager uses calling line ID presentation (CLIP/CLIR) as a supplementary service to allow or restrict the originating caller’s phone number on a call-by-call basis. Choose whether you want the Cisco Unified CallManager to allow or restrict the display of the calling party’s phone number on the called party’s phone display for this route pattern. Choose <i>Default</i> if you do not want to change calling line ID presentation. Choose <i>Allowed</i> if you want Cisco Unified CallManager to allow the display of the calling number. Choose <i>Restricted</i> if you want Cisco Unified CallManager to block the display of the calling number. For more information about this field, see Table 17-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco Unified CallManager System Guide</i>.
Calling Name Presentation	Cisco Unified CallManager uses calling name presentation (CNIP/CNIR) as a supplementary service to allow or restrict the originating caller’s name on a call-by-call basis. Choose whether you want the Cisco Unified CallManager to allow or restrict the display of the calling party’s name on the called party’s phone display for this route pattern. Choose <i>Default</i> if you do not want to change calling name presentation. Choose <i>Allowed</i> if you want Cisco Unified CallManager to display the calling name information. Choose <i>Restricted</i> if you want Cisco Unified CallManager to block the display of the calling name information. For more information about this field, see Table 17-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco Unified CallManager System Guide</i>.

Table 34-1 **Route Pattern Configuration Settings (continued)**

Field	Description
Connected Party Transformations	
Connected Line ID Presentation	Cisco Unified CallManager uses connected line ID presentation (COLP/COLR) as a supplementary service to allow or restrict the called party's phone number on a call-by-call basis. Choose whether you want Cisco Unified CallManager to allow or restrict the display of the connected party's phone number on the calling party's phone display for this route pattern. Choose <i>Default</i> if you do not want to change the connected line ID presentation. Choose <i>Allowed</i> if you want to display the connected party's phone number. Choose <i>Restricted</i> if you want Cisco Unified CallManager to block the display of the connected party's phone number. For more information about this field, see Table 17-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco Unified CallManager System Guide</i>.
Connected Name Presentation	Cisco Unified CallManager uses connected name presentation (CONP/CONR) as a supplementary service to allow or restrict the called party's name on a call-by-call basis. Choose whether you want Cisco Unified CallManager to allow or restrict the display of the connected party's name on the calling party's phone display for this route pattern. Choose <i>Default</i> if you do not want to change the connected name presentation. Choose <i>Allowed</i> if you want to display the connected party's name. Choose <i>Restricted</i> if you want Cisco Unified CallManager to block the display of the connected party's name. For more information about this field, see Table 17-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco Unified CallManager System Guide</i>.
Called Party Transformations	
Discard Digits	From the Discard Digits drop-down list box, choose the discard digits instructions that you want to associate with this route pattern. The discard digits that display depend on the numbering plan that you choose from the Numbering Plan drop-down list box. See the “Discard Digits Instructions” section in the <i>Cisco Unified CallManager System Guide</i> for more information on discard instructions for the North American Numbering Plan. Note The called party transformation settings that are assigned to the route groups in a route list override any called party transformation settings that are assigned to a route pattern that is associated with that route list.
Called Party Transform Mask	Enter a transformation mask value. Valid entries for the NANP include the digits 0 through 9; the wildcard characters X, asterisk (*), and octothorpe (#); the uppercase characters A, B, C, and D; and blank. If the field is blank, no transformation takes place. Cisco Unified CallManager sends the dialed digits exactly as dialed.

Table 34-1 **Route Pattern Configuration Settings (continued)**

Field	Description
Prefix Digits (Outgoing Calls)	Enter prefix digits in the Prefix Digits (Outgoing Calls) field. Valid entries for the NANP include the digits 0 through 9; the wildcard characters asterisk (*) and octothorpe (#); the uppercase characters A, B, C, and D; and blank. Note The appended prefix digit does not affect which directory numbers route to the assigned device.
ISDN Network-Specific Facilities Information Element	
Network Service Protocol	From the Network Service Protocol drop-down list box, choose the PRI protocol that matches the protocol of the terminating gateway.
Carrier Identification Code	Enter the appropriate carrier identification code (0, 3, or 4 digits) in the Carrier Identification Code field. Carrier identification codes allow customers to reach the services of interexchange carriers. The following list shows examples of commonly used carrier identification codes: • ATT—0288 • Sprint—0333 • WorldCom/MCI—0222 For a complete list of NANP carrier identification codes, go to http://www.nanpa.com/ .
Network Service	Choose the appropriate network service. The values vary depending on the network service protocol that you choose from the Network Service Protocol field.
Service Parameter Name	This field displays the service parameter name that is associated with the chosen network service. If no service parameter exists for the network service, the field displays <Not Exist>.
Service Parameter Value	Enter the appropriate service parameter value. Valid entries include the digits 0 through 9. If a service parameter does not exist for the network service, Cisco Unified CallManager Administration disables this field.

Additional Information

See the [“Related Topics”](#) section on page 34-11.

Deleting a Route Pattern

This section describes how to delete a route pattern.

Procedure

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- Step 1** Choose **Call Routing > Route/Hunt > Route Pattern**.
- Step 2** Locate the route pattern that you want to delete. See the [“Finding a Route Pattern”](#) section on page 34-1.
- Step 3** Check the check box of the route pattern that you want to delete and click **Delete Selected**.
A message that displays states that you cannot undo this action.

Step 4 To delete the route pattern, click **OK** or to cancel the deletion, click **Cancel**.

**Tip**

You can also delete a route pattern by locating and displaying the route pattern that you want to delete and clicking **Delete**.

Additional Information

See the [“Related Topics” section on page 34-11](#).

Related Topics

- [Finding a Route Pattern, page 34-1](#)
- [Configuring a Route Pattern, page 34-3](#)
- [Route Pattern Configuration Settings, page 34-4](#)
- [Deleting a Route Pattern, page 34-10](#)
- [Wildcards and Special Characters in Route Patterns and Hunt Pilots, Cisco Unified CallManager System Guide](#)
- [Configuring a Route Filter, page 31-3](#)
- [Understanding Route Plans, Cisco Unified CallManager System Guide](#)

