



## Route Pattern

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A route pattern is a string of digits (an address) and a set of associated digit manipulations that can be assigned 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.

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

- Adding a Route Pattern, page 23-3
- Updating a Route Pattern, page 23-5
- Copying a Route Pattern, page 23-6
- Deleting a Route Pattern, page 23-7

## Understanding Route Patterns

Cisco CallManager uses route patterns to route both internal and external calls. When you assign a directory number to a Cisco IP Phone, you are assigning it a route pattern (the directory number is the route pattern). Gateways and Cisco IP Phones can also use more complex route patterns that can contain wildcards. Gateways can route ranges of numbers and manipulate directory numbers before the Cisco CallManager passes them onto an adjacent system such as a central office (CO) or private branch exchange (PBX).

**Caution**

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If a device does not have a route pattern, it cannot receive calls. This includes Cisco Access gateways and Cisco IP Phones.

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**Tips**

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You must reset gateways in order for new or updated routing information to be recognized.

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The simplest route pattern is just a set of one or more digits. For example, the number 8912 is a route pattern. When assigned to a Cisco Access gateway or a route list, the Cisco CallManager directs any calls to 8912 to the assigned device. If called party transformations are configured, the Cisco CallManager manipulates the dialed address before passing the call to the route list or gateway.

**Considerations for Using Route Patterns**

- If the route pattern contains an at symbol (@), the Discard Digits field can specify any of the PreAt discard digits instructions (DDIs).
- When @ is used in a routing pattern, the octothorpe (#) is automatically recognized as an end-of-dialing character. For routing patterns that don't use @, you must include the # in the routing pattern to be able to use the # character to signal the end-of-dialing.

**Additional Information**

The following list contains additional information related to this section:

- Understanding Route Plans, page 5-1
- Understanding Route Pattern Wildcards and Special Characters, page 5-7
- Understanding Closest-Match Routing, page 5-11

**Related Procedures**

The following list contains procedures related to this section:

- Adding a Route Pattern, page 23-3
- Updating a Route Pattern, page 23-5
- Copying a Route Pattern, page 23-6
- Deleting a Route Pattern, page 23-7

# Adding a Route Pattern

This section describes how to add a route pattern.

## Procedure

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- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Route Plan > Route Pattern**.
- Step 3** Enter the route pattern, including numbers and wildcards (do not use spaces) in the Route Pattern field. For example, 9.@ for typical local access, or 8XXX for a typical private network numbering plan.



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**Note** Assigning 8XXX to a gateway routes all directory numbers 8000 to 8999 out the gateway. Similarly, 82XX routes directory numbers 8200 to 8999.

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Refer to the “Understanding Route Pattern Wildcards and Special Characters” section on page 5-7 for more information on wildcards.

- Step 4** Select a partition from the Partition drop-down list box, or None if you don’t want to assign a partition.
- Step 5** Select a numbering plan from the Numbering Plan drop-down list box.
- Step 6** If your route pattern includes the @ wildcard, select a route filter from the Route Filter drop-down list box. Selecting a route filter restricts certain number patterns. Route filters are optional.
- Step 7** Select the gateway or route list for which you are adding a route pattern from the Gateway/Route List drop-down list box.
- Step 8** The Route Option designation indicates if you want this route pattern used for routing calls (such as 9.@ or 8[2-9]XX) or blocking calls. Select “Route this pattern” or “Block this pattern” in the Route Option fields.
- Step 9** Check the boxes for Provide Outside Dial Tone and Urgent Priority accordingly.
- Step 10** Check the box for Use Calling Party’s External Phone Number Mask if you want the full, external phone number used for CLID on outgoing calls.

- Step 11** Enter a transformation mask value in the Calling Party Transform Mask field. Valid entries include the digits 0 through 9, the wildcard character X, and blank. If this field is blank and the preceding field is not checked, no calling party transformation takes place.




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**Note** The calling party transformation settings assigned to the route groups in a route list override any calling party transformation settings assigned to a route pattern associated with that route list.

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- Step 12** Select the discard digits instructions you want associated with this route pattern from the Discard Digits drop-down list box.
- Step 13** Enter a transformation mask value in the Called Party Transform Mask field. Valid entries include the digits 0 through 9, the wildcard character X, and blank. If the field is blank, no transformation takes place. The dialed digits are sent exactly as dialed.
- Step 14** Enter prefix digits in the Prefix Digits (Outgoing Calls) field. Valid entries include the digits 0 through 9, #, \*, and blank.




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**Note** The appended prefix digit does not affect which directory numbers route to the assigned device.

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- Step 15** Click **Insert**. The route pattern appears in the list on the left side of the page.
- Step 16** Click **New** and repeat Steps 1 through 15 to add more route patterns.
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### Additional Information

The following list contains additional information related to this procedure:

- Understanding Route Plans, page 5-1
- Understanding Route Pattern Wildcards and Special Characters, page 5-7
- Understanding Closest-Match Routing, page 5-11

### Related Procedures

The following list contains other related procedures:

- Adding a Route Filter, page 20-5
- Updating a Route Pattern, page 23-5
- Copying a Route Pattern, page 23-6
- Deleting a Route Pattern, page 23-7

## Updating a Route Pattern

This section describes how to update a route pattern.

### Procedure

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- Step 1** Open Cisco CallManager Administration.
  - Step 2** Click **Route Plan > Route Pattern**.
  - Step 3** Select the route pattern you want to update from the Route Pattern list on the left side of the page.
  - Step 4** Make the desired changes to the route pattern and click **Update**. The page displays the updated route pattern.
  - Step 5** Repeat Steps 3 and 4 to update more route patterns.
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### Additional Information

The following list contains additional information related to this procedure:

- Understanding Route Plans, page 5-1
- Understanding Route Pattern Wildcards and Special Characters, page 5-7
- Understanding Closest-Match Routing, page 5-11

### Related Procedures

The following list contains other related procedures:

- Adding a Route Filter, page 20-5
- Adding a Route Pattern, page 23-3
- Copying a Route Pattern, page 23-6
- Deleting a Route Pattern, page 23-7

## Copying a Route Pattern

This section describes how to copy a route pattern.

### Procedure

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- Step 1** Open Cisco CallManager Administration.
  - Step 2** Click **Route Plan > Route Pattern**.
  - Step 3** Select the route pattern you want to copy from the Route Pattern list on the left side of the page.
  - Step 4** Click **Copy**. The page displays the route pattern with a Copy of... name in the Route Pattern field.
  - Step 5** Enter the name for this route pattern in the Route Pattern field.
  - Step 6** Make appropriate changes to customize the new route pattern and click **Insert**. The new route pattern appears in the route pattern list on the left side of the page.
  - Step 7** To build another route pattern that is similar to the current route pattern, click **Copy**, enter a new route pattern name, and repeat Steps 3 through 6.
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### Additional Information

The following list contains additional information related to this procedure:

- Understanding Route Plans, page 5-1
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- Understanding Closest-Match Routing, page 5-11

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## Deleting a Route Pattern

This section describes how to delete a route pattern.

### Procedure

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- Step 1** Open Cisco CallManager Administration.
  - Step 2** Click **Route Plan > Route Pattern**.
  - Step 3** Select the route pattern you want to delete from the Route Pattern list on the left side of the page.
  - Step 4** Click **Delete**. A message displays stating that you are about to delete the selected route pattern and that this action cannot be undone.
  - Step 5** Click **OK** to continue, or **Cancel** to cancel the deletion.
  - Step 6** Repeat Steps 3 through 5 to delete more route patterns.
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### Additional Information

The following list contains additional information related to this procedure:

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**Related Procedures**

The following list contains other related procedures:

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- Adding a Route Pattern, page 23-3
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