CHAPTER 42

Line Group Configuration

A line group allows you to designate the order in which directory numbers are chosen. Cisco Unified Communications Manager distributes a call to idle or available members of a line group based on a call distribution algorithm and on the Ring No Answer Reversion (RNAR) Timeout setting.

Note
Users cannot pick up calls to a DN that belongs to a line group by using the Directed Call Pickup feature.

Use the following topics to add or delete a line group or to add directory numbers to or to remove directory numbers from a line group:
- Finding a Line Group, page 42-1
- Configuring a Line Group, page 42-2
- Line Group Configuration Settings, page 42-3
- Adding Members to a Line Group, page 42-8
- Removing Members from a Line Group, page 42-9
- Deleting a Line Group, page 42-9

Finding a Line Group

Because you may have several line groups in your network, Cisco Unified Communications Manager lets you locate specific line groups on the basis of specific criteria. Use the following procedure to locate line groups.

Note
During your work in a browser session, Cisco Unified Communications Manager Administration retains your line group search preferences. If you navigate to other menu items and return to this menu item, Cisco Unified Communications Manager Administration retains your line group search preferences until you modify your search or close the browser.

Procedure

Step 1
Choose Call Routing > Route/Hunt > Line Group.

The Find and List Line Groups window displays. Records from an active (prior) query may also display in the window.
Configuring a Line Group

The following procedure describes how to configure a line group.

Before You Begin
You must define one or more directory numbers before performing this procedure.

Procedure

Step 1  Choose **Call Routing > Route/Hunt > Line Group.**

Step 2  Perform one of the following tasks:

- To copy an existing line group, locate the appropriate line group as described in the “Finding a Line Group” section on page 42-1, click the **Copy** button next to the line group that you want to copy and continue with Step 3.
- To add a new line group, click the **Add New** button and continue with Step 3.
To update an existing line group, locate the appropriate line group as described in the “Finding a Line Group” section on page 42-1 and continue with Step 3.

**Step 3**

In the Line Group Configuration window that displays, enter a name in the Line Group Name field. The name can contain up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each line group name is unique to the route plan.

**Timesaver**

Use concise and descriptive names for your line groups. The CompanynameLocationGroup format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a line group. For example, CiscoDallasAA1 identifies a Cisco Access Analog line group for the Cisco office in Dallas.

**Step 4**

Choose the appropriate settings as described in Table 42-1.

**Step 5**

To add or update this line group, click **Save**.

**Additional Information**

See the “Related Topics” section on page 42-10.

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### Line Group Configuration Settings

Table 42-1 describes the line group configuration settings.

**Tip**

Although you can configure an empty line group with no members (directory numbers), Cisco Unified Communications Manager does not support this configuration for routing calls. If the line group contains no members, the hunt list stops hunting when the call gets routed to the empty line group. To avoid this situation, make sure that you configure at least one member in the line group.

#### Table 42-1  Line Group Configuration Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line Group Information</strong></td>
<td></td>
</tr>
<tr>
<td>Line Group Name</td>
<td>Enter a name for this line group. The name can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each line group name is unique to the route plan.</td>
</tr>
<tr>
<td>RNA Reversion Timeout</td>
<td>Enter a time, in seconds, after which Cisco Unified Communications Manager will distribute a call to the next available or idle member of this line group or to the next line group if the call is not answered and if the first hunt option, Try next member; then, try next group in Hunt List, is chosen. The RNA Reversion Timeout applies at the line-group level to all members.</td>
</tr>
</tbody>
</table>
Distribution Algorithm

Choose a distribution algorithm, which applies at the line-group level, from the options in the drop-down list box:

- **Top Down**—If you choose this distribution algorithm, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member.

- **Circular**—If you choose this distribution algorithm, Cisco Unified Communications Manager distributes a call to idle or available members starting from the \((n+1)\)th member of a line group, where the \(n\)th member is the member to which Cisco Unified Communications Manager most recently extended a call. If the \(n\)th member is the last member of a line group, Cisco Unified Communications Manager distributes a call starting from the top of the line group.

- **Longest Idle Time**—If you choose this distribution algorithm, Cisco Unified Communications Manager only distributes a call to idle members, starting from the longest idle member to the least idle member of a line group.

- **Broadcast**—If you choose this distribution algorithm, Cisco Unified Communications Manager distributes a call to all idle or available members of a line group simultaneously. See the Note in the description of the Selected DN/Route Partition field for additional limitations in using the Broadcast distribution algorithm.

The default value specifies **Longest Idle Time**.

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Table 42-1 Line Group Configuration Settings (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Algorithm</td>
<td>Choose a distribution algorithm, which applies at the line-group level, from the options in the drop-down list box:</td>
</tr>
<tr>
<td></td>
<td>- Top Down—If you choose this distribution algorithm, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member.</td>
</tr>
<tr>
<td></td>
<td>- Circular—If you choose this distribution algorithm, Cisco Unified Communications Manager distributes a call to idle or available members starting from the ((n+1))th member of a line group, where the (n)th member is the member to which Cisco Unified Communications Manager most recently extended a call. If the (n)th member is the last member of a line group, Cisco Unified Communications Manager distributes a call starting from the top of the line group.</td>
</tr>
<tr>
<td></td>
<td>- Longest Idle Time—If you choose this distribution algorithm, Cisco Unified Communications Manager only distributes a call to idle members, starting from the longest idle member to the least idle member of a line group.</td>
</tr>
<tr>
<td></td>
<td>- Broadcast—If you choose this distribution algorithm, Cisco Unified Communications Manager distributes a call to all idle or available members of a line group simultaneously. See the Note in the description of the Selected DN/Route Partition field for additional limitations in using the Broadcast distribution algorithm.</td>
</tr>
</tbody>
</table>

The default value specifies **Longest Idle Time**.
Hunt Options

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Answer</td>
<td>For a given distribution algorithm, choose a hunt option for Cisco Unified Communications Manager to use if a call is distributed to a member of a</td>
</tr>
<tr>
<td></td>
<td>line group that does not answer. This option gets applied at the member level. Choose from the options in the drop-down list box:</td>
</tr>
<tr>
<td></td>
<td>• Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle</td>
</tr>
<tr>
<td></td>
<td>or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful,</td>
</tr>
<tr>
<td></td>
<td>Cisco Unified Communications Manager then tries the next line group in a hunt list.</td>
</tr>
<tr>
<td></td>
<td>• Try next member, but do not go to next group—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or</td>
</tr>
<tr>
<td></td>
<td>available members starting from the first idle or available member of a line group to the last idle or available member. Cisco Unified</td>
</tr>
<tr>
<td></td>
<td>Communications Manager stops trying upon reaching the last member of the current line group.</td>
</tr>
<tr>
<td></td>
<td>• Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco Unified Communications Manager skips the remaining</td>
</tr>
<tr>
<td></td>
<td>members of this line group when the RNA reversion timeout value elapses for the first member. Cisco Unified Communications Manager then proceeds</td>
</tr>
<tr>
<td></td>
<td>directly to the next line group in a hunt list.</td>
</tr>
<tr>
<td></td>
<td>• Stop hunting—If you choose this hunt option, Cisco Unified Communications Manager stops hunting after trying to distribute a call to the first</td>
</tr>
<tr>
<td></td>
<td>member of this line group and the member does not answer the call.</td>
</tr>
</tbody>
</table>
Busy For a given distribution algorithm, choose a hunt option for Cisco Unified Communications Manager to use if a call is distributed to a member of a line group that is busy. Choose from the options in the drop-down list box:

- Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful, Cisco Unified Communications Manager then tries the next line group in a hunt list.

- Try next member, but do not go to next group—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. Cisco Unified Communications Manager stops trying upon reaching the last member of the current line group.

- Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco Unified Communications Manager skips the remaining members of this line group upon encountering a busy member. Cisco Unified Communications Manager proceeds directly to the next line group in a hunt list.

- Stop hunting—If you choose this hunt option, Cisco Unified Communications Manager stops hunting after trying to distribute a call to the first busy member of this line group.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Busy</td>
<td>For a given distribution algorithm, choose a hunt option for Cisco Unified Communications Manager to use if a call is distributed to a member of a line group that is busy. Choose from the options in the drop-down list box:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful, Cisco Unified Communications Manager then tries the next line group in a hunt list.</td>
</tr>
<tr>
<td></td>
<td>- Try next member, but do not go to next group—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. Cisco Unified Communications Manager stops trying upon reaching the last member of the current line group.</td>
</tr>
<tr>
<td></td>
<td>- Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco Unified Communications Manager skips the remaining members of this line group upon encountering a busy member. Cisco Unified Communications Manager proceeds directly to the next line group in a hunt list.</td>
</tr>
<tr>
<td></td>
<td>- Stop hunting—If you choose this hunt option, Cisco Unified Communications Manager stops hunting after trying to distribute a call to the first busy member of this line group.</td>
</tr>
</tbody>
</table>
Table 42-1  Line Group Configuration Settings (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>For a given distribution algorithm, choose a hunt option for Cisco Unified Communications Manager to use if a call is distributed to a member of a line group that is not available. The Not Available condition occurs when none of the phones that are associated with the DN in question is registered. Not Available also occurs when extension mobility is in use and the DN/user is not logged in. Choose from the options in the drop-down list box:</td>
</tr>
<tr>
<td></td>
<td>• Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful, Cisco Unified Communications Manager then tries the next line group in a hunt list.</td>
</tr>
<tr>
<td></td>
<td>• Try next member, but do not go to next group—If you choose this hunt option, Cisco Unified Communications Manager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. Cisco Unified Communications Manager stops trying upon reaching the last member of the current line group.</td>
</tr>
<tr>
<td></td>
<td>• Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco Unified Communications Manager skips the remaining members of this line group upon encountering the first unavailable member. Cisco Unified Communications Manager proceeds directly to the next line group in a hunt list.</td>
</tr>
<tr>
<td></td>
<td>• Stop hunting—If you choose this hunt option, Cisco Unified Communications Manager stops hunting after trying to distribute a call to the first unavailable member of this line group.</td>
</tr>
</tbody>
</table>

Line Group Member Information

Find Directory Numbers to Add to Line Group

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition</td>
<td>Choose a route partition for this line group from the drop-down list box. The default value specifies &lt;None&gt;. If you click Find, the Available DN/Route Partition list box displays all DNs that belong to the chosen partition.</td>
</tr>
<tr>
<td>Directory Number Contains</td>
<td>Enter the character(s) that are found in the directory number that you are seeking and click the Find button. Directory numbers that match the character(s) that you entered display in the Available DN/Route Partition box.</td>
</tr>
<tr>
<td>Available DN/Route Partition</td>
<td>Choose a directory number in the Available DN/Route Partition list box and add it to the Selected DN/Route Partition list box by clicking Add to Line Group.</td>
</tr>
</tbody>
</table>
### Adding Members to a Line Group

You can add members to a new line group or to an existing line group. The following procedure describes adding a member to an existing line group.

#### Before You Begin

You must define one or more directory numbers before performing this procedure.

#### Procedure

1. **Choose** Call Routing > Route/Hunt > Line Group.
2. **Locate** the line group to which you want to add a member. See the “Finding a Line Group” section on page 42-1.
Step 3 If you need to locate a directory number, choose a route partition from the Partition drop-down list box, enter a search string in the Directory Number Contains field, and click Find. To find all directory numbers that belong to a partition, leave the Directory Number Contains field blank and click Find. A list of matching directory numbers displays in the Available DN/Route Partition list box.

Step 4 In the Available DN/Route Partition list box, choose a directory number to add and click Add to Line Group to move it to the Selected DN/Route Partition list box. Repeat this step for each member that you want to add to this line group.

Step 5 In the Selected DN/Route Partition list box, choose the order in which the new directory number(s) is to be accessed in this line group. To change the order, click a directory number and use the Up and Down arrows to the right of the list box to change the order of directory numbers.

Step 6 Click Save to add the new directory numbers and to update the directory number order for this line group.

Additional Information
See the “Related Topics” section on page 42-10.

Removing Members from a Line Group

You can remove members from a new line group or from an existing line group. The following procedure describes removing a directory number from an existing line group.

Procedure

Step 1 Choose Call Routing > Route/Hunt > Line Group.
Step 2 Locate the line group from which you want to remove a directory number. See the “Finding a Line Group” section on page 42-1.
Step 3 In the Selected DN/Route Partition list box, choose a directory number to be deleted and click the down arrow below the list box to move the directory number to the Removed DN/Route Partition list box. Repeat this step for each member that you want to remove from this line group.
Step 4 To remove the members, click Save.

Additional Information
See the “Related Topics” section on page 42-10.

Deleting a Line Group

The following procedure describes how to delete a line group.

Before You Begin
You cannot delete a line group that one or more route/hunt lists references. To find out which hunt lists are using the line group, in the Line Group Configuration window, choose Dependency Records from the Related Links drop-down list box and click Go. If the dependency records are not enabled for the
system, the Dependency Records Summary window displays a message. For more information about
dependency records, see the “Accessing Dependency Records” section on page A-2. If you try to delete
a line group that is in use, Cisco Unified Communications Manager displays an error message. Before
deleting a line group that is currently in use, you must perform the following task:

- Remove the line group from all hunt lists to which it belongs before deleting the line group. See the
  “Removing Route Groups from a Route List” section on page 40-5.

Tip
To delete line groups and hunt pilots; first, delete the hunt pilot; second, delete the hunt list; and finally,
delete the line group.

Procedure

Step 1
Choose Call Routing > Route/Hunt > Line Group.

Step 2
Locate the line group that you want to delete. See the “Finding a Line Group” section on page 42-1.

Step 3
Check the check box next to the line group that you want to delete and click Delete Selected.
A dialog box displays to warn you that you cannot undo deletion of line groups.

Step 4
To delete the line group, click OK or to cancel the action, click Cancel. If you click OK, the Cisco
Unified Communications Manager removes the line group.

Note
You can delete multiple line groups from the Find and List Line Groups window by checking the
check boxes next to the appropriate line groups and clicking Delete Selected. You can delete all
the line groups in the window by clicking Select All and clicking Delete Selected.

Additional Information
See the “Related Topics” section on page 42-10.

Related Topics

Line Groups
- Finding a Line Group, page 42-1
- Configuring a Line Group, page 42-2
- Line Group Configuration Settings, page 42-3
- Adding Members to a Line Group, page 42-8
- Removing Members from a Line Group, page 42-9
- Deleting a Line Group, page 42-9

Route Lists and Route Groups
- Adding a Route List, page 40-2
- Adding Route Groups to a Route List, page 40-4
- Understanding Route Plans, Cisco Unified Communications Manager System Guide