IP COMMUNICATIONS

Configuring Cisco Unified Communications Manager and Unity

A Step-by-Step Guide

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Configuring Cisco Unified Communications Manager and Unity Connection:

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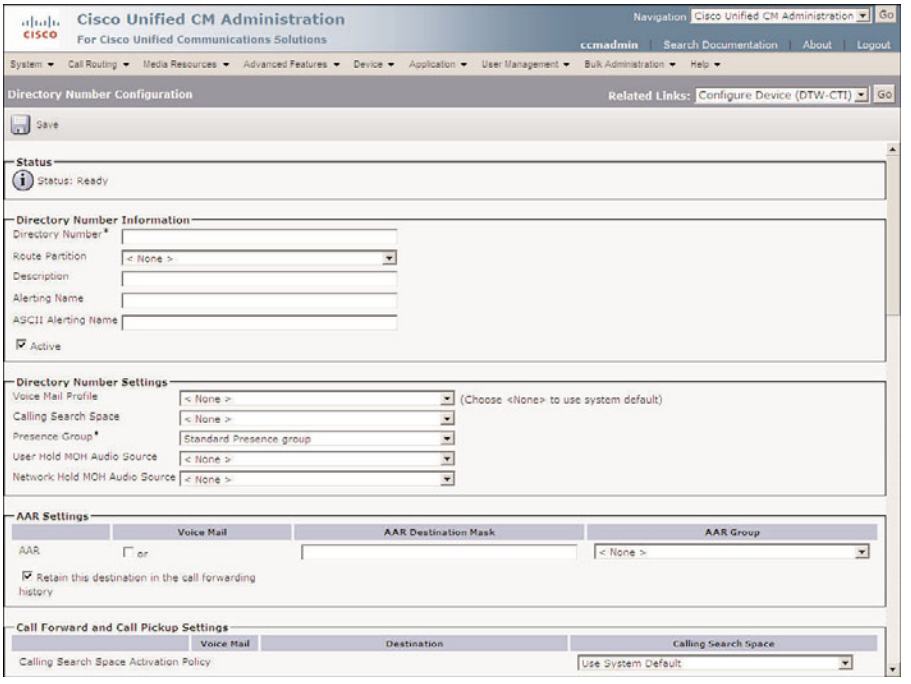

Figure 4-14 *CTI Route Point Directory Number Configuration*

Step 8. In the **Description** field, enter a description that will help you quickly identify the line later.

Step 9. In the **Alerting Name** field, enter the name that should be displayed on the caller's phone while it is ringing.

Step 10. The **ASCII Alerting Name** field is the used on devices that do not support Unicode characters.

Step 11. The **Associated Devices** box lists all the devices to which this line is assigned. To remove the line from a listed device, highlight the device in the Associated Devices box and click the down arrow that is between the Associated Device box and the Dissociate Devices box. The device should not appear in the **Dissociate Devices** box. Click **Save** and the line is removed from the selected device.

Directory Number Settings

Step 12. The **Voice Mail Profile** field determines which voicemail profile the directory number will use. The voicemail profile defines the number that is dialed when the Messages button on the phone is pressed. Voicemail profiles are discussed in further detail in Chapter 5. Select the voicemail profile from the drop-down list.

Step 13. The next field allows a **Calling Search Space** (CSS) to be assigned as the line level. This determines what destinations can be reached when calling from this line. Select the Calling Search Space from the drop-down list.

Note It is important to understand what happens when a CSS is assigned to the line and the device. In short, the two CSSs are combined; however, there is a little more to it. For a detailed explanation, refer to Chapter 5.

Step 14. The presence group to which a line belongs determines which lines are allowed to monitor. Select the **presence group** to which this device should belong.

Step 15. The next two fields allow you to configure what audio source is heard when a call is placed on hold. The first of the two, which is labeled **User Hold Audio Source**, determines what is heard when the call is placed on hold by pressing the Hold button. The second field, **Network Hold Audio Source**, determines what audio is heard when the call is placed on hold by pressing the Transfer, Call Park, or Conference button. Select the desired audio source from the drop-down list for each field. If no audio source is chosen, the source defined at the device level is used, and if None is chosen, the source set in the device pool is used.

AAR Settings

Step 16. Automated Alternate Routing (AAR) is used to provide an alternate route if a call fails because of insufficient location bandwidth. To have failed calls reach this line because of insufficient bandwidth sent to voicemail, select the check box under Voice Mail. If you do not choose to send the calls to voicemail, you must choose an AAR group and you might need to configure the AAR destination mask. By default, AAR uses the external phone number mask to determine the fully qualified number of the destination. If you do not want to use the external phone number mask, enter the correct mask in the **AAR Destination Mask** field. The **AAR Group** field determines the AAR group with which the device is associated. An AAR group defines the prefix that is assigned when a call fails because of insufficient bandwidth. Select the appropriate **AAR group** from the drop-down list.

Call Forward and Pickup Settings

Step 17. The next seven fields deal with call forwarding. These fields determine the forwarding destination, which depends on the reason for the forward. Table 4-6 lists the ten types of forwards.

You can configure each type of "forward" to forward calls to voicemail or a specific extension.

Table 4-6 *Forward Types*

Forward Type	Forward Action
Forward All	Forwards all incoming calls
Forward Busy Internal	Forwards calls from internal callers when the line is busy
Forward Busy External	Forwards calls from external callers when the line is busy
Forward No Answer Internal	Forwards calls from internal callers that are not answered
Forward No Answer External	Forwards calls from external callers that are not answered
Forward No Coverage Internal	Forwards calls from internal callers when the application that controls the directory number fails
Forward No Coverage External	Forwards calls from external callers when the application that controls the directory number fails
Forward on CTI Failure	Forwards calls when a CTI route point or CTI port fails
Forward Unregistered Internal	Forwards calls from internal callers when the line is not registered
Forward Unregistered External	Forwards calls from external callers when the line is not registered

To forward to voicemail, select the Voice Mail box. For this to work, a voicemail profile must be defined for the line.

To forward calls to another extension, enter the extension number in the Destination field. When a destination is entered into any of the internal forwards, the number is automatically entered into the corresponding external forward.

If you want the external calls to be forwarded to a different destination, simply enter the desired destination in the appropriate external forward field. A calling search space can be applied to each forward type, which limits the destinations to which a call can be forwarded. This is useful when you want to restrict a line from forwarding calls to numbers that are long distance, but still want long-distance calls to be placed from the line. Enter the appropriate destinations and calling search spaces for each forward type.

Step 18. In the **No Answer Ring Duration** field, enter the number of seconds that the line will ring before forwarding to the Forward No Answer destination. If this field is left blank, the value configured in Communications Manager service parameters is used. The default value is 12 seconds.

Step 19. The **Call Pickup Group** field determines to which call pickup group this directory number belongs. Call pickup groups allow a user to redirect an incoming call on another phone to the user's phone. Select the desired call pickup group from the drop-down list. Call pickup groups are covered in more detail in Chapter 6.

Park Monitoring

Step 20. The **Park Monitoring Forward No Retrieve Destination External** field determines where external calls are forwarded to when they are placed on park and not retrieved. To send them to voicemail, select the check box below Voice Mail. To send them to an alternate number, enter that number in the Destination field. If the parker's CSS does not have rights to dial the alternate destination, you need to select a CSS from the Calling Search Space drop-down list.

Step 21. The **Park Monitoring Forward No Retrieve Destination Internal** field determines where internal calls are forwarded to when they are placed on park and not retrieved. To send them to voicemail, select the check box below Voice Mail. To send them to an alternative number, enter that number in the Destination field. If the parker's CSS does not have rights to dial the alternate destination, you need to select a CSS from the Calling Search Space drop-down list.

Step 22. The **Park Monitoring Reversion Timer** field determines how many seconds a call can be parked before CM sends an alert to the parked phone. If left blank, the value set in the service parameters is used. The default is 60 seconds.

MLPP Alternate Party Settings

Step 23. The next set of parameters deals with MLPP alternate party settings. These settings allow you to configure an alternate destination for precedence calls that are not answered on this line or the forwarded number assigned to this line. If MLPP is not being used, these parameters can be left empty. In the first field, which is labeled **Target (Destination)**, enter the number to which unanswered precedence calls should be forwarded.

Step 24. In the **MLPP Alternate Party Calling Search Space** field, select the appropriate search space from the drop-down list. This calling search space limits the destinations to which precedence calls can be forwarded.

Step 25. In the **MLPP No Answer Ring Duration** field, enter the number of seconds that the phone will ring when it receives a precedence call before forwarding to the Forward No Answer destination if unanswered.

Line Settings for All Devices

Step 26. The **Hold Reversion Ring Duration** field determines how many seconds a call can be on hold before CM rings the phone that placed the call on hold. The call will ring until it is answered or the maximum hold duration expires. Enter the desired amount of seconds in this field. If left blank, the value set in the service parameters is used.

Step 27. The **Hold Reversion Notification Interval** field determines the intervals at which the holding party will receive an alert reminding him or her that a call is on hold. Enter the desired amount of seconds in this field. If left blank, the value set in the service parameters is used.

Step 28. The **Party Entrance Tone** field determines which tone is played when a new caller joins a call. When this parameter is set to Default, the value set in the service parameters is used. To ensure that a tone is played, set this to On. To ensure that no tone is played, set this to Off.

Line Settings for This Device

Step 29. The next two fields, labeled **Display (Internal Call ID)**, are used to configure which caller ID is displayed when calls are placed to other internal callers. Enter up to 30 characters in this field. Both letters and numbers are allowed. If this field is left blank, the line's directory number will be used.

Note There two fields for the internal caller ID. The second, which is labeled ASCII Display, is used for devices that do not support Unicode character display. This is also true for the next two fields labeled Line Text Label.

Step 30. The **External Phone Number Mask** field can be used to modify the external caller ID for calls placed from this line. An example mask might be **408370XXXX**. The extension number is used to fill in the XXXX portion. In this example, if the directory number is 1401, the external phone mask would cause the external caller ID number to be 4083701401. The external phone mask on the first line creates the fully qualified directory number that is displayed above the first extension on certain IP phones.

Multiple Call / Call-Waiting Settings

Step 31. The next field, which is labeled **Maximum Number of Calls**, determines how many active calls can be on the line. The maximum is 10,000 active calls per phone. Enter the maximum number of calls in this field.

Step 32. The **Busy Trigger** field determines how many active calls are required before the line is considered busy. The default is two. This means that if the maximum number of calls on the line is four and the busy trigger is two, the third inbound call will receive a busy indication. The user can place additional outbound calls up to the maximum number of four.

Forwarded Call Information Display

Step 33. The Forwarded Call Information Display section determines what information is sent when a call is forwarded. Select the information to be sent by selecting the check box next to each desired field.

Step 34. Click the **Save** button at the top of the screen to add this line.

The number of CTI route points you need depends on their individual requirements and number of applications needed for connection. Refer to the specific application installation guide when configuring CTI route points to ensure that you set all the parameters correctly.

Summary

This chapter has covered the tasks required to implement a basic dial plan. The call flow was explored to give the reader a good overview of the components that make up a dial plan. After that, each individual component was discussed, including route groups, route lists and route patterns, and step-by-step configurations. Additional components that are used in more advanced dial plans, such as route filters, translation patterns, and CTI route points, were also covered. After completing this chapter, you should feel comfortable with how a basic route plan works and how to configure one. The next chapter covers components that can be added to a route plan to restrict certain devices from placing calls to certain destinations, and discusses ways to ensure that WAN links are not oversubscribed, which in turn helps maintain good voice quality.