



Restriction Tables

Overview: Restriction Tables

Restriction tables allow you to control which phone numbers subscribers and administrators can use for:

- Transferring calls.
- Delivering faxes to a fax machine.
- Sending message notifications.
- Sending AMIS messages.

For example, you can specify that subscribers have calls transferred only to internal extensions or that faxes are delivered only to local phone numbers. Restriction tables are applied regardless of how a subscriber or administrator accesses Cisco Unity.

Each class of service specifies for its members a restriction table for call transfers, one for message notification, and one for fax deliveries. The restriction table can be the same for all three, or different for each. Note, however, that the AMIS restriction table is not associated with a class of service; there is only one system-wide restriction table that controls AMIS message delivery.

Cisco Unity comes with the following predefined restriction tables, which you can modify (including changing their names) but not delete. By default, each of these restriction tables prevents access to long distance phone numbers.

{Default Outdial}	Restricts numbers for message notifications. Also restricts numbers entered in the Media Master control bar when subscribers use it to record a greeting or name, or when subscribers listen to a message by using ViewMail.
{Default Transfer}	Restricts numbers for call transfers.
{Default Fax}	Restricts numbers for fax delivery.
{Default AMIS}	Determines which AMIS delivery numbers can be processed immediately and which delivery numbers must wait for the AMIS schedule to become active.

Refer to the following sections in this chapter for more information:

- [How Restriction Tables Work, page 20-2](#)—This section explains how restriction tables work.
- [Creating and Modifying Restriction Tables, page 20-4](#)—This section details how you can add new restriction tables and customize existing ones.
- [Restriction Table Settings, page 20-6](#)—This section provides information about the settings on the Restriction Tables page.

How Restriction Tables Work

When a subscriber uses the ActiveAssistant or the Cisco Unity conversation to attempt to change a phone number that will be used for message notification, fax delivery, or call transfer, Cisco Unity applies the appropriate restriction table to verify that the phone number entered is allowed. The same thing happens when an administrator uses the Cisco Unity Administrator to attempt to change a phone number that will be used for message notification, fax delivery, or call transfer. In each case, the restriction table used is the one associated with the subscriber or administrator who is changing the number.

For example, if a subscriber uses the ActiveAssistant to enter a phone number on the Message Notification page, and then saves the page, Cisco Unity applies the restriction table associated with class of service of that subscriber, and displays an error message if the phone number is not allowed. But when an administrator

changes a message notification number for a subscriber by using the Cisco Unity Administrator, Cisco Unity applies the restriction table associated with the administrator class of service, not the class of service of the subscriber. Therefore, an administrator can, when necessary, override the limitations of the class of service of a particular subscriber.

Each row of a restriction table is made up of a dial string. Each dial string consists of a call pattern and a setting that specifies whether numbers matching the call pattern are permitted for use. The restriction table is applied when a subscriber or an administrator attempts to change a number controlled by a restriction table, not when Cisco Unity tries to complete a transfer or delivery. (Note, however, that the AMIS restriction table is applied every time a message is sent to an AMIS subscriber or an AMIS location.)

When a restriction table is applied to a number (such as a pager number for a message notification), Cisco Unity compares the number with the call pattern of the first dial string in the restriction table. If the number does not match the call pattern, Cisco Unity then compares the number with the call pattern in the second dial string, and so on, until it finds a match. When Cisco Unity finds a match, it either permits or restricts the use of this number as specified in the dial string.

Restriction tables are commonly used to permit or restrict the use of the following:

- Specific numbers, such as an extension.
- Numbers that are greater than or less than a specific length.
- Numbers that contain a specific digit or pattern of digits, such as an external access code followed by a long-distance access code.

For example, the restriction table in [Figure 20-1](#) restricts most long distance phone numbers, but permits extensions starting with “91.” In this case, if a subscriber enters “9123” as a transfer number, Cisco Unity first compares the number to the call pattern in Dial String 0 which restricts all numbers that begin with “91” and are followed by at least seven digits. Because the number entered does not match the call pattern, Cisco Unity then compares the number to Dial String 1 which restricts all numbers that begin with “9011” and are followed by at least seven digits. Finally, Cisco Unity compares the number to the last dial string, which contains the wildcard character that matches all numbers of any length. Because the Allow This String field is set to Yes for this dial string, Cisco Unity permits this number to be used.

Figure 20-1 Example 1

Dial String	Call Pattern	Allow This String
0	91??????*?	No
1	9011??????*?	No
2	*	Yes

The restriction table in [Figure 20-2](#) restricts long distance phone numbers and numbers less than four digits long. In this example, “9” is the external access code for the phone system, and “1” is the long-distance access code. Dial String 0 restricts any number beginning with “91,” while numbers less than four digits in length are restricted by Dial String 2. Thus, the only numbers permitted by this restriction table have at least four digits, and are not long distance phone numbers.

Figure 20-2 Example 2

Dial String	Call Pattern	Allow This String
0	91*	No
1	????*	Yes
2	*	No

Creating and Modifying Restriction Tables

You can modify the predefined restriction tables, and you can create up to 100 new ones. You can also add up to 100 dial strings to a table. New dial strings are automatically inserted into the restriction table as Dial String 0. Note that the order of the dial strings is very important because Cisco Unity sequentially compares a phone number to the call patterns in the restriction table, starting with Dial String 0. If a number matches more than one call pattern, the number is handled according to the first call pattern it matches.

You can indicate call patterns by entering specific numbers or by using the following special characters as wildcards:

- * Matches zero or more digits.
- ? Matches exactly one digit. Use ? as a placeholder for a single digit.
- # Corresponds to the # key on the phone.

By default, all restriction tables have * as the call pattern in the last dial string of the table; you cannot modify this call pattern setting. It prevents a case in which the entered number does not match any call pattern in the table. However, you can change the Allow This String field setting for this dial string to either permit or restrict a number.

To create a new restriction table

- Step 1** In the Cisco Unity Administrator, go to any **Call Management > Restriction Tables** page.
 - Step 2** Click the **Add** icon.
 - Step 3** In the Add a Restriction Table dialog box, enter information as appropriate in the Name field.
 - Step 4** Select **New Restriction Table** or **Based on Existing Restriction Table**. If you select Based on Existing Restriction Table, select the appropriate restriction table in the Based On field.
 - Step 5** Click the **Add** button.
 - Step 6** Enter settings for your new restriction table, and then click the **Save** icon.
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To modify a restriction table

- Step 1** In the Cisco Unity Administrator, go to any **Call Management > Restriction Tables** page.
- Step 2** Click the **Find** icon.
- Step 3** Double-click the restriction table that you want to modify.
- Step 4** Perform one of the following actions:

- To add a dial string, click **Add Dial String** and enter settings for the new dial string as appropriate.
- To delete a dial string, click the dial string number in the table at the bottom portion of the Restriction Tables page, and then click **Remove Dial String**.
- To modify a dial string, click the dial string number in the table at the bottom portion of the Restriction Tables page, and change settings as appropriate.

Step 5 Click the **Save** icon.

Restriction Table Settings

Use the following table to learn more about settings for restriction tables.

Table 20-1 *Call Management > Restriction Tables Page*

Field	Considerations
Restriction Table Name	Enter a descriptive name for the types of phone numbers that are restricted or for the types of subscribers to which the restrictions apply.
Minimum Digits Allowed	<p>Enter the minimum number of digits—including access codes—in a call transfer, message notification, or fax delivery number, in order for Cisco Unity to apply the restriction table to the number. Numbers containing fewer digits are automatically permitted.</p> <p>For example, to permit subscribers to use four-digit numbers, enter 5 in the Minimum Digits Allowed field. Enter 1 (the default value) to apply the restriction table to as many digits as the subscriber enters.</p>
Maximum Digits Allowed	<p>Enter the maximum number of digits—including access codes—in a call transfer, message notification, or fax delivery number permitted by the restriction table. Numbers containing more than the maximum digits are automatically restricted.</p> <p>For example, if local calls in your area are seven digits long, and you want to prevent subscribers from using long distance phone numbers, enter 8 as the maximum digits permitted (“8” is the length of local numbers, including the external access code for the phone system).</p>

Table 20-1 Call Management > Restriction Tables Page (continued)

Field	Considerations
Selected Dial String	<p><i>Display only.</i> This setting identifies the dial string in the restriction table that is selected for modifying.</p> <p>If you click the Add Dial String button, the new dial string is always added to the first row of the restriction table as Dial String 0. Up to 100 dial strings can be specified in a table.</p> <p>Note that the order of the dial strings is very important. Cisco Unity sequentially compares a phone number to the call patterns in the restriction table, starting with Dial String 0. If a number matches more than one call pattern, the number is permitted or restricted according to the first call pattern it matches.</p>
Allow This String	<p>Select the action that Cisco Unity takes when a number matches a call pattern:</p> <ul style="list-style-type: none"> • Yes—Permit use of phone numbers matching the pattern. • No—Do not permit use of phone numbers matching the pattern.
Call Pattern	<p>Enter specific numbers or patterns of numbers that can be permitted or restricted. Include external and long-distance access codes. Use digits 0 through 9 and the following special characters:</p> <ul style="list-style-type: none"> • * to match zero or more digits. • ? to match exactly one digit. Each ? serves as a placeholder for one digit. • # to correspond to the # key on the phone.

