Call Display Restrictions

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Call Display Restrictions Overview

Cisco Unified Communications Manager provides flexible configuration options that allow and also restrict the display of the number and name information for both calling and connected users. You can restrict connected numbers and names independently of each other.

You can configure connected number and name restrictions on the SIP trunk level or on a call-by-call basis. The SIP trunk level configuration overrides a call-by-call configuration.

For example, in a hotel environment, you may want to see the display information for calls that are made between a guest room and the front desk. However, for calls between guest rooms, you can restrict the call information to display on either phone.

Call Display Restrictions Configuration Task Flow

Before you begin

- Review Call Display Restrictions Interactions, on page 10

Procedure

	Command or Action	Purpose
Step 1	Generate a Phone Feature List	Generate a report to identify endpoints that support the Call Display Restrictions feature.
Step 2	Configure Partitions for Call Display Restrictions, on page 2	Configure partitions to create a logical grouping of directory numbers (DN) and route patterns with similar reachability characteristics. For example, in a hotel environment, you can a

	Command or Action	Purpose
		configure a partition for dialing between rooms, and a partition for dialing the public switched telephone network (PSTN).
Step 3	Configure Calling Search Spaces for Call Display Restrictions, on page 3.	Configure calling search spaces to identify the partitions that calling devices can search when they attempt to complete a call. Create calling search spaces for rooms, the front desk, other hotel extensions, the PSTN, and the room park range (for call park).
Step 4	Configure the Service Parameter for Connected Number Display Restriction, on page 4.	Configure the service parameter to display the connected line ID as dialed digits only.
Step 5	Configure Translation Patterns, on page 5.	Configure translation patterns with different levels of display restrictions.
Step 6	Configure Phones for Call Display Restrictions, on page 6	Associate endpoints with the partitions and the calling search spaces that you want to use for call display restrictions.
Step 7	Configure the PSTN Gateway for Call Display Restrictions, on page 8	Associate the PSTN gateway with the partitions and the calling search spaces that you want to use for call display restrictions.
Step 8	Optional. Configure Call Display Restrictions on SIP Trunks, on page 8	Use this procedure to configure connected number and name restrictions on the SIP trunk level. The SIP trunk level configuration overrides call-by-call configuration.

Configure Partitions for Call Display Restrictions

Configure partitions to create a logical grouping of directory numbers (DNs) and route patterns with similar reachability characteristics. Partitions facilitate call routing by dividing the route plan into logical subsets that are based on organization, location, and call type. You can configure multiple partition

Procedure

Step 1 From Cisco Unified CM Administration, choose **Call Routing** > **Class of Control** > **Partition**.

Step 2 Click **Add New** to create a new partition.

Step 3 In the **Partition Name, Description** field, enter a name for the partition that is unique to the route plan.

Partition names can contain alphanumeric characters, as well as spaces, hyphens (-), and underscore characters (_). See the online help for guidelines about partition names.

Step 4 Enter a comma (,) after the partition name and enter a description of the partition on the same line.

The description can contain up to 50 characters in any language, but it cannot include double quotes ("), percentage sign (%), ampersand (&), backslash (\), angle brackets (<>), or square brackets ([ ]).

If you do not enter a description, Cisco Unified Communications Manager automatically enters the partition name in this field.

Step 5 To create multiple partitions, use one line for each partition entry.

Step 6 From the **Time Schedule** drop-down list, choose a time schedule to associate with this partition.

The time schedule specifies when the partition is available to receive incoming calls. If you choose **None**, the partition remains active at all times.

Step 7 Select one of the following radio buttons to configure the **Time Zone**:

- **Originating Device**—When you select this radio button, the system compares the time zone of the calling device to the **Time Schedule** to determine whether the partition is available is available to receive an incoming call.
- **Specific Time Zone**—After you select this radio button, choose a time zone from the drop-down list. The system compares the chosen time zone to the **Time Schedule** to determine whether the partition is available is available to receive an incoming call.

Step 8 Click **Save**.

Partition Name Guidelines

The list of partitions in a calling search space is limited to a maximum of 1024 characters. This means that the maximum number of partitions in a CSS varies depending on the length of the partition names. Use the following table to determine the maximum number of partitions that you can add to a calling search space if partition names are of fixed length.

Table 1: Partition Name Guidelines

Partition Name Length	Maximum Number of Partitions
2 characters	340
3 characters	256
4 characters	204
5 characters	172
...	...
10 characters	92
15 characters	64

Configure Calling Search Spaces for Call Display Restrictions

Configure calling search spaces to identify the partitions that calling devices can search when they attempt to complete a call. Create calling search spaces for rooms, the front desk, other hotel extensions, the PSTN, and the room park range (for call park).

Before you begin

Configure Partitions for Call Display Restrictions, on page 2

Procedure

Step 1 From Cisco Unified CM Administration, choose **Call Routing** > **Class of Control** > **Calling Search Space**.

Step 2 Click **Add New**.

Step 3 In the **Name** field, enter a name.

Ensure that each calling search space name is unique to the system. The name can include up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_).

Step 4 In the **Description** field, enter a description.

The description can include up to 50 characters in any language, but it cannot include double-quotes ("), percentage sign (%), ampersand (&), back-slash (\), or angle brackets (<>).

Step 5 From the **Available Partitions** drop-down list, perform one of the following steps:

- For a single partition, select that partition.
- For multiple partitions, hold down the **Control (CTRL)** key, then select the appropriate partitions.

Step 6 Select the down arrow between the boxes to move the partitions to the **Selected Partitions** field.

Step 7 (Optional) Change the priority of selected partitions by using the arrow keys to the right of the **Selected Partitions** box.

Step 8 Click **Save**.

Configure the Service Parameter for Connected Number Display Restriction

The connected number display restriction restricts the connected line ID display to dialed digits only. This option addresses customer privacy issues as well as connected number displays that are meaningless to phone users.

Before you begin

Configure Calling Search Spaces for Call Display Restrictions, on page 3

Procedure

Step 1 From Cisco Unified CM Administration, choose **System** > **Service Parameters**.

Step 2 Select the server where the Cisco CallManager service runs, and then select the Cisco CallManager service.

Step 3 Set the **Always Display Original Dialed Number** service parameter to **True** to enable this feature.

The default value is **False**.

Step 4 (Optional) Set the **Name Display for Original Dialed Number When Translated** service parameter.

The default field shows the alerting name of the original dialed number before translation. You can change this parameter to show the alerting name of the dialed number after translation. This parameter is not applicable if the **Always Display Original Number** service parameter is set to **False**.

Step 5 Click **Save**.

Configure Translation Patterns

Unified Communications Manager uses translation patterns to manipulate dialed digits before it routes a call. In some cases, the system does not use the dialed number. In other cases, the public switched telephone network (PSTN) does not recognize the dialed number. For the Call Display Restrictions feature, calls are routed through different translation patterns before the calls are extended to the actual device.

Before you begin

Configure the Service Parameter for Connected Number Display Restriction, on page 4

Procedure

Step 1 From Cisco Unified CM Administration, choose **Call Routing** > **Translation Pattern**.

Step 2 Configure the fields in the **Translation Pattern Configuration** window. See Translation Pattern Fields for Call Display Restrictions, on page 5 for more information about the fields and their configuration options.

Step 3 Click **Save**.

Translation Pattern Fields for Call Display Restrictions

Field	Description
Translation Pattern	Enter the translation pattern, including numbers and wildcards. Do not use spaces. For example, for the NANP, enter 9.@ for typical local access or 8XXX for a typical private network numbering plan. Valid characters include the uppercase characters A, B, C, and D and \+, which represents the international escape character +.
Description	Enter a description for the translation pattern. The description can include up to 50 characters in any language, but it cannot include double quotes ("), percentage sign (%), ampersand (&), or angle brackets (<>).
Partition	From the drop-down list, choose the partition to associate with this translation pattern.
Calling Search Space	From the drop-down list, choose the calling search space to associate with this translation pattern.

Field	Description
Calling Line ID Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the calling line ID. • **Allowed**—Choose this option if you want to display the phone number of the calling party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the calling party phone number.
Calling Name Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the calling name. • **Allowed**—Choose this option if you want to display the name of the calling party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the calling name.
Connected Line ID Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the connected line ID. • **Allowed**—Choose this option if you want to display the phone number of the connected party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the connected party phone number.
Connected Name Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the connected name. • **Allowed**—Choose this option if you want to display the name of the connected party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the connected name.

Configure Phones for Call Display Restrictions

Use this procedure to associate phones with the partitions and the calling search spaces used for call display restrictions.

Before you begin

Configure Translation Patterns, on page 5

Procedure

Step 1 From Cisco Unified CM Administration, choose **Device** > **Phone**.

Step 2 Perform one of the following tasks:

a) To modify the fields for an existing phone, enter search criteria and choose a phone from the resulting list. The **Phone Configuration** window appears.

b) To add a new phone, click **Add New**.

The **Add a New Phone** window appears.

Step 3 From the **Calling Search Space** drop-down list, choose the calling search space that you want the system to use when it determines how to route a dialed number.

Step 4 Check the **Ignore presentation indicators (internal calls only)** check box to ignore any presentation restriction on internal calls.

Step 5 Click **Save**.
The phone is added to the database.

Step 6 To associate the added phone to a directory number, choose **Device** > **Phone**, enter search parameters to search the phone that you added.

Step 7 In the **Find and List Phones** window, click the phone name.
The **Phone Configuration window** appears.

Step 8 From the **Association** pane, click the phone name to add or modify the directory number.
The **Directory Number Configuration** window appears.

Step 9 In the **Directory Number Configuration** window, add or modify the value of directory number in the **Directory Number** text box, and select a value in the **Route Partition** drop-down list.

Step 10 Click **Save**.

Phone Configuration Example

Configure phone A (Room-1) with partition P_Room and device/line calling search space CSS_FromRoom

{ P_Phones, CSS_FromRoom} : 221/Room-1

Configure phone B (Room-2) with partition P_Room and device/line calling search space CSS_FromRoom

{ P_Phones, CSS_FromRoom} : 222/Room-2

Configure phone C (Front Desk-1) with partition P_FrontDesk and device/line calling search space

CSS_FromFrontDesk and Ignore Presentation Indicators check box enabled

{ P_FrontDesk, CSS_FromFrontDesk, IgnorePresentationIndicators set} : 100/Reception

Configure phone D (Front Desk-2) with partition P_FrontDesk and device/line calling search space

CSS_FromFrontDesk and Ignore Presentation Indicators check box enabled

{ P_FrontDesk, CSS_FromFrontDesk, IgnorePresentationIndicators set} : 200/Reception

Configure phone E (Club) with partition P_Club and calling search space CSS_FromClub

{ P_Club, CSS_FromClub) : 300/Club

Configure the PSTN Gateway for Call Display Restrictions

Associate the PSTN gateway with the partitions and the calling search spaces that you want to use for call display restrictions.

Before you begin

Configure Phones for Call Display Restrictions, on page 6

Procedure

Step 1 In Cisco Unified CM Administration, choose **Device** > **Gateway**.

Step 2 Enter search criteria and choose the PSTN gateway from the resulting list.
The **Gateway Configuration** window appears.

Step 3 From the **Calling Search Space** drop-down list, choose the calling search space that you want the system to use when it determines how to route an incoming call from the PSTN.

Step 4 Click **Save** and **Reset** to apply the configuration changes.

Step 5 (Optional) To associate the available trunk or gateway, in Cisco Unified Communications Manager Administration, choose **SIP Route Pattern**, and select a SIP trunk or route list from the **SIP Trunk/Route List** drop-down list.

Gateway Configuration Example

Configure PSTN Gateway E with route pattern P_PSTN and calling search space CSS_FromPSTN

{CSS_FromPSTN}, RoutePattern {P_PSTN}

Configure Call Display Restrictions on SIP Trunks

You can configure connected number and name restrictions on the SIP trunk level. The SIP trunk-level configuration overrides call-by-call configuration.

Before you begin

(Optional) Configure the PSTN Gateway for Call Display Restrictions, on page 8

Procedure

Step 1 From Cisco Unified CM Administration, choose **Device** > **Trunk**.
The **Find and List Trunks** window appears.

Step 2 Enter search criteria and click **Find**.

Step 3 Select the name of the trunk that you want to update.

Step 4 Configure the fields in the **SIP Trunk Configuration** window. See SIP Trunk Fields for Call Display Restrictions, on page 9 for more information about the fields and their configuration options.

Step 5 Click **Save**.

SIP Trunk Fields for Call Display Restrictions

Table 2: Inbound Calls

Field	Description
Calling Line ID Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the calling line ID. • **Allowed**—Choose this option if you want to display the phone number of the calling party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the calling party phone number.
Calling Name Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the calling name. • **Allowed**—Choose this option if you want to display the name of the calling party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the calling name.
Calling Search Space	From the drop-down list, choose the calling search space to associate with this translation pattern.

Table 3: Outbound Calls

Field	Description
Connected Line ID Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the connected line ID. • **Allowed**—Choose this option if you want to display the phone number of the connected party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the connected party phone number.
Connected Name Presentation	From the drop-down list, choose one of the following options: • **Default**—Choose this option if you do not want to change the presentation of the connected name. • **Allowed**—Choose this option if you want to display the name of the connected party. • **Restricted**—Choose this option if you want Cisco Unified Communications Manager to block the display of the connected name.

Call Display Restrictions Interactions

This section describes how the Call Display Restrictions feature interacts with Cisco Unified Communications Manager applications and call processing features.

Feature	Interaction
Call Park	When you use the Call Display Restrictions feature with Call Park, you must configure an associated translation pattern for each individual call park number to preserve the Call Display Restrictions feature. You cannot configure a single translation pattern to cover a range of call park numbers. Consider the following scenario as an example: **1.** The system administrator creates a call park range of 77x and places it in a partition called P_ParkRange. (The phones in the guest rooms can see that the P_ParkRange partition is made visible to the phones in the guest rooms by inclusion of it in the calling search space of the phones [CSS_FromRoom]). **2.** The administrator configures a separate translation pattern for each call park directory number and configures the display fields to Restricted. (In the current scenario, the administrator creates translations patterns for 770, 771, 772...779.) **Note** For the Call Display Restrictions feature to work correctly, the administrator must configure separate translation patterns and not a single translation pattern for a range of numbers (such as 77x or 77[0-9]). **3.** Room-1 calls Room-2. **4.** Room-2 answers the call, and Room-1 parks the call. **5.** When Room-1 retrieves the call, Room-2 does not see Room-1 call information display. See Call Park and Directed Call Park
Conference List	When you use Call Display Restrictions, you restrict the display information for the list of participants in a conference. See Ad Hoc Conferencing
Conference and Voice Mail	When you use Call Display Restrictions with features, such as conference and voice mail, the call information display on the phones reflects that status. For example, when the conference feature is invoked, the call information display shows **To Conference**. When voice mail is accessed by choosing the Messages button, the call information display shows **To Voicemail**.
Extension Mobility	To use Call Display Restrictions with Extension Mobility, enable the **Ignore Presentation Indicators (internal calls only)** parameter in both the Cisco Unified Communications Manager Administration Phone Configuration window and the Cisco Unified Communications Manager Administration Device Profile Configuration window. When you enable Call Display Restrictions with Extension Mobility, the presentation or restriction of the call information depends on the line profile that is associated with the user who is logged in to the device. The configuration that is entered in the user device profile (associated with the user) overrides the configuration that is entered in the phone configuration (of the phone that is enabled for Extension Mobility).

Feature	Interaction
Call Forwarding	The Connected Number Display restriction applies to all calls that originate in the system. When this value is set to **True**, this field interacts with existing Cisco Unified Communications Manager applications, features, and call processing. This value applies to all calls that terminate inside or outside the system. The Connected Number Display is updated to show the modified number or redirected number when a call is routed to a Call Forward All or Call Forward Busy destination, or gets redirected through a call transfer or CTI application.

Call Display Restrictions Feature Restrictions

Translation Patterns—Duplicate entries are not allowed in translation patterns.