



CHAPTER 8

Calling Party Normalization

In line with E.164 standards, calling party normalization enhances the dialing capabilities of some phones and improves call back functionality when a call is routed to multiple geographical locations; that is, the feature ensures that the called party can return a call without the need to modify the directory number in the call log directories on the phone. Additionally, calling party normalization allows you to globalize and localize phone numbers, so the appropriate calling number presentation displays on the phone.



Tip

Configuring calling party normalization alleviates issues with toll bypass where the call is routed to multiple locations over the IP WAN. In addition, it allows Cisco Unified Communications Manager to distinguish the origin of the call to globalize or localize the calling party number for the phone user.

This chapter provides the following information about calling party normalization:

- [Configuration Checklist for Calling Party Normalization, page 8-1](#)
- [Introducing Calling Party Normalization, page 8-4](#)
 - [Globalizing the Calling Party Number, page 8-5](#)
 - [Localizing the Calling Party Number, page 8-7](#)
 - [Mapping the Global Party Calling Number to Its Local Variant, page 8-9](#)
- [System Requirements, page 8-10](#)
- [Interactions and Restrictions, page 8-10](#)
- [Installing and Activating Calling Party Normalization, page 8-15](#)
- [Configuring Calling Party Normalization, page 8-15](#)
- [Providing Information to End Users, page 8-26](#)
- [Related Topics, page 8-27](#)

Configuration Checklist for Calling Party Normalization

In line with E.164 standards, calling party normalization enhances the dialing capabilities of some phones and improves call back functionality when a call is routed to multiple geographical locations; that is, the feature ensures that the called party can return a call without needing to modify the directory number in the call log directories on the phone. Additionally, calling party normalization allows you to globalize and localize phone numbers, so the appropriate calling number presentation displays on the phone.

**Tip**

Configuring calling party normalization alleviates issues with toll bypass where the call is routed to multiple locations over the IP WAN. In addition, it allows Cisco Unified Communications Manager to distinguish the origin of the call to globalize or localize the calling party number for the phone user.

Table 8-1 lists the tasks that you perform to globalize and localize the calling party number. For more information on calling party normalization, see the “[Introducing Calling Party Normalization](#)” section on page 8-4 and the “[Related Topics](#)” section on page 8-27.

Table 8-1 Configuration Checklist for Calling Party Normalization

Configuration Steps		Related Procedures and Topics
Step 1	Review the interactions and restrictions for this feature.	Globalizing the Calling Party Number, page 8-5 Localizing the Calling Party Number, page 8-7 Interactions, page 8-11 Restrictions, page 8-14
Step 2	If you have not already done so, activate the Cisco CallManager service in Cisco Unified Serviceability.	<i>Cisco Unified Serviceability Administration Guide</i>
Globalizing the Calling Party Number		
Step 1	If you want to do so, configure the Calling Party Number Type.	Globalizing the Calling Party Number, page 8-5 Configuring the Calling Party Number Type, page 8-17
Step 2	For incoming national, international, subscriber, and unknown calls via the PSTN, create the prefixes that you want to associate with these types of calls. You create prefixes for device types; for example, phones, MGCP gateways, H.323 gateways/trunks, SIP trunks, and so on.	Globalizing the Calling Party Number, page 8-5 Setting the Service Parameters for Calling Party Normalization, page 8-15
Step 3	If your service provider prepends leading digits (for example, a zero) to the calling party number and you want to strip these digits before prepending other digits (for example, if the leading digits are not part of the E.164 number and you want to transform the calling party number to the E.164 format), you can configure the fields in Table 8-7 to ensure that Cisco Unified Communications Manager strips the leading digits before applying the prefixes to an incoming calling party number.	Applying the Calling Party Transformation Calling Search Spaces (CSS) to Localize the Calling Party Number, page 8-25
Step 4	<p>Create various partitions for the calling party transformation patterns under Call Routing > Class of Control > Calling Search Space.</p> <p>Create different partitions and calling search spaces for different calling party transformation patterns and different number types, respectively.</p>	Partition Configuration Settings, Cisco Unified Communications Manager Administration Guide

Table 8-1 Configuration Checklist for Calling Party Normalization (continued)

Configuration Steps		Related Procedures and Topics
Step 5	<p>Create incoming calling party number calling search spaces (CSS) for the various calling party number types under Call Routing > Class of Control > Calling Search Space; for example, create a CSS for the national calling party number type, a CSS for the international calling party number type, and so on.</p> <p>In the Calling Search Space Configuration window for the CSS, move the partition that you created for the calling party transformation pattern to the Available Partitions pane. Perform this task for each CSS that you create.</p>	Calling Search Space Configuration Settings , <i>Cisco Unified Communications Manager Administration Guide</i>
Step 6	<p>Choose Call Routing > Transformation Patterns > Calling Party Transformation Pattern to create the Calling Party Transformation Pattern; in the Calling Party Transformation Pattern Configuration window, assign the partition that you associated with the incoming calling party transformation CSS to the calling party transformation pattern.</p>	Calling Party Transformation Pattern Configuration Settings , <i>Cisco Unified Communications Manager Administration Guide</i>
Step 7	<p>Choose the appropriate Incoming Calling Party Transformation CSS in the device configuration window; for example, in the Gateway Configuration, SIP Trunk Configuration, and so on.</p> <p>Tip To choose the incoming calling party number CSS in the device configuration window, configure the Calling Search Space settings for the calling party number types in the Incoming Calling Party Number Settings pane.</p>	Applying the Calling Party Transformation Calling Search Spaces (CSS) to Localize the Calling Party Number , page 8-25
Localizing the Calling Party Number		
Step 1	<p>Create a partition for the calling party transformation pattern under Call Routing > Class of Control > Calling Search Space.</p>	Partition Configuration Settings , <i>Cisco Unified Communications Manager Administration Guide</i>
Step 2	<p>Create the Calling Party Transformation calling search space (CSS) under Call Routing > Class of Control > Calling Search Space; in the Calling Search Space Configuration window for the calling party transformation CSS, move the partition that you created for the calling party transformation pattern to the Available Partitions pane.</p>	Calling Search Space Configuration Settings , <i>Cisco Unified Communications Manager Administration Guide</i>

Table 8-1 Configuration Checklist for Calling Party Normalization (continued)

Configuration Steps	Related Procedures and Topics
Step 3 Choose Call Routing > Transformation Patterns > Calling Party Transformation Pattern to create the Calling Party Transformation Pattern; in the Calling Party Transformation Pattern Configuration window, assign the partition that you associated with the calling party transformation CSS to the calling party transformation pattern.	Calling Party Transformation Pattern Configuration Settings , <i>Cisco Unified Communications Manager Administration Guide</i>
Step 4 Choose the Calling Party Transformation CSS in the device configuration window; for example, in the Gateway Configuration, Phone Configuration, Trunk Configuration, and the CTI Route Point Configuration window. Tip To choose the Calling Party Transformation CSS in the device configuration window, configure the Calling Party Transformation CSS setting (not the Calling Search Space setting). If you want the device to use the Calling Party Transformation CSS that is assigned to the device pool that the device uses, check the Use the Device Pool Calling Party Transformation CSS.	Applying the Calling Party Transformation Calling Search Spaces (CSS) to Localize the Calling Party Number , page 8-25

Introducing Calling Party Normalization

In line with E.164 standards, calling party normalization enhances the dialing capabilities of some phones and improves call back functionality when a call is routed to multiple geographical locations; that is, the feature ensures that the called party can return a call without the need to modify the directory number in the call log directories on the phone. Additionally, calling party normalization allows you to globalize and localize phone numbers, so the appropriate calling number presentation displays on the phone.



Tip

Configuring calling party normalization alleviates issues with toll bypass where the call is routed to multiple locations over the IP WAN. In addition, it allows Cisco Unified Communications Manager to distinguish the origin of the call to globalize or localize the calling party number for the phone user.

This section contains information on the following topics:

- [Globalizing the Calling Party Number](#), page 8-5
- [Localizing the Calling Party Number](#), page 8-7
- [Mapping the Global Party Calling Number to Its Local Variant](#), page 8-9

Globalizing the Calling Party Number

**Tip**

This section does not describe the international escape character, +, which you can configure for globalizing the calling party number. For information on the international escape character, see the [“Using the International Escape Character +”](#) in the *Cisco Unified Communications Manager System Guide*.

This section contains information on the following topics:

- [Globalization of the Calling Party Number Description, page 8-5](#)
- [Configuration Windows in Cisco Unified Communications Manager Administration for Globalizing the Calling Party Number, page 8-6](#)

Globalization of the Calling Party Number Description

To globalize the calling party number for calls that get routed to multiple geographical locations, Cisco Unified Communications Manager allows you to configure prefixes for required access codes, escape codes, country codes, and so on, based on the calling party number type that the PSTN provides. The calling party number type that the PSTN provides determines whether the incoming call arrives from the PSTN as a national, international, subscriber, or unknown call. For example, if the call comes from a caller in Hamburg to an enterprise gateway in Hamburg, the call arrives to Cisco Unified Communications Manager with calling party number 69XXXXXXXX with number type of Subscriber. However, if the call comes from a caller in Frankfurt to an enterprise gateway in Hamburg, the call arrives to Cisco Unified Communications Manager with caller party number 69XXXXXXXX with number type of National.

Configuring the Calling Party Number Type setting and prefixes in Cisco Unified Communications Manager Administration allows Cisco Unified Communications Manager to reformat the calling party number from the PSTN-localized version to the globally dialable version by prefixing required access codes, international access codes, and so on, to the calling party number. You can configure the Calling Party Number Type setting for various patterns, for example, translation patterns, calling party transformation patterns, and route patterns, for both called and calling parties to ensure that Cisco Unified Communications Manager stamps the number type during various stages of incoming and outgoing calls. After Cisco Unified Communications Manager globalizes the calling party number, the call gets routed as expected to its destination.

**Tip**

If your service provider prepends leading digits (for example, a zero) to the calling party number and you want to strip these digits before prepending other digits (for example, if the leading digits are not part of the E.164 number and you want to transform the calling party number to the E.164 format), you can configure the digits to strip fields to ensure that Cisco Unified Communications Manager strips the leading digits before applying the prefixes to an incoming calling party number. For more information, see the [“Considerations for Configuring the Strip Digits Field”](#) section on page 8-19.

Depending on your configuration for globalizing and localizing the calling party number, the phone user may see a localized number, a globalized number with access codes and prefixes, and/or the international escape character, +, in the calling party number. For example, the phone can show the localized calling party number on the phone screen and the globalized number in the call log directories on the phone. For example, the phone may show both the globalized and localized calling party number in the Call Details.

To ensure that the phone user does not need to edit the call log directory entry on the phone before placing a call, map the global calling party number to its local variant to route calls to the correct gateway; you can use route patterns and called party transformation patterns to route the call correctly, as the “[Mapping the Global Party Calling Number to Its Local Variant](#)” section on page 8-9 describes.

Configuration Windows in Cisco Unified Communications Manager Administration for Globalizing the Calling Party Number

Table 8-2 lists the configuration windows in Cisco Unified Communications Manager Administration where you can configure prefixes, the number of leading digits that you want to strip from the calling party number before applying the prefix, and the incoming calling party transformation CSS for various calling party number types (subscriber, national, and so on).

Table 8-2 Configuration Windows for Globalizing the Calling Party Number

Configuration Window	Considerations
Device Pool	<p>You can configure prefixes in the device pool, which support digital gateways or trunks.</p> <p>In addition, if your service provider prepends digits to the calling party number, you can configure the number of leading digits that Cisco Unified Communications Manager must strip from the calling party number before applying the prefix.</p> <p>In this window, you can apply an incoming calling party transformation CSS for various calling party number types; for example, subscriber, unknown, and so on, depending on the device type. Configuring this CSS ensures that the device can globalize the calling party number based on the calling party number type.</p>
Gateway	<p>You can configure prefixes for H.323, MGCP (T1-PRI/BRI), and MGCP (E1-PRI/BRI) gateways.</p> <p>If you have gateways in multiple geographical locations, configure the prefix settings for each gateway in the Gateway Configuration window. For example, if you have a gateway in RTP and an incoming call arrives with caller ID 555 1212, you want to prefix the caller ID with 919 to yield 9195551212. However, if the call routes to another gateway, for example, in Dallas, which uses area code 214, before reaching its final destination, you want 91214 to display for the prefix instead of 91919.</p> <p>To globalize calling party numbers for incoming calls, you must configure the prefixes for gateways that handle incoming calls. In addition, if your service provider prepends digits to the calling party number, you can configure the number of leading digits that Cisco Unified Communications Manager must strip from the calling party number before applying the prefix.</p> <p>In this window, you can apply the incoming calling party transformation CSS for various calling party number types; for example, subscriber, unknown, and so on, depending on the device type. Configuring this CSS ensures that the device can globalize the calling party number based on the calling party number type.</p> <p>If you want to do so, you can apply the calling party transformation CSS that you chose in the device pool and applied to the device.</p>

Table 8-2 Configuration Windows for Globalizing the Calling Party Number (continued)

Configuration Window	Considerations
Trunk	<p>You can configure prefixes for all trunk types. SIP trunks only support the incoming calling party settings (prefix, strip digits, and so on) for calling party number types of Unknown.</p> <p>In addition, if your service provider prepends digits to the calling party number, you can configure the number of leading digits that Cisco Unified Communications Manager must strip from the calling party number before applying the prefix.</p> <p>In this window, you can apply incoming calling party transformation CSS for various calling party number types; for example, subscriber, unknown, and so on, depending on the device type. Configuring this CSS ensures that the device can globalize the calling party number based on the calling party number type.</p> <p>If you want to do so, you can apply the calling party transformation CSS that you chose in the device pool and applied to the device.</p>
Service Parameter	<p>The prefix service parameters, Incoming Calling Party National Number Prefix, Incoming Calling Party International Number Prefix, Incoming Calling Party Subscriber Number Prefix, and Incoming Calling Party Unknown Number Prefix, each display for the phone, H.323, MGCP, and SIP (Unknown only for SIP) in the Service Parameters Configuration window.</p> <p>If you have a single H.323, MGCP (T1-PRI/BRI), or MGCP (E1-PRI/BRI) gateway in your network, you can configure the prefix service parameters, which support the Cisco CallManager service, for the particular gateway type in the Service Parameter Configuration window. If you configure the prefix service parameters for a particular gateway type, for example, H.323, be aware that all H.323 gateways that you configure in Cisco Unified Communications Manager Administration use the configuration from the service parameter unless you configure the prefix settings for a particular gateway in the Gateway Configuration window.</p> <p>The prefix service parameters allow you to configure a colon (:), which indicates that Cisco Unified Communications Manager must strip leading digits from the calling party number before applying the prefix. For more information, see the “Setting the Service Parameters for Calling Party Normalization” section on page 8-15.</p>

Localizing the Calling Party Number

For the final presentation of the calling party number, Cisco Unified Communications Manager allows you to configure calling party transformation patterns for each calling party number type (National, International, Subscriber, and Unknown), so the number displays on the phone as the end user expects it to display; that is, you can configure the calling party transformation pattern to strip digits or add digits to the calling party number. To present the shortest recognizable number on the phone, you can strip unnecessary country codes, international access codes, and so on, depending on the locations of the caller and the called parties.

**Tip**

You configure calling party transformation patterns to provide context-sensitive modifications to a calling party, not for routing purposes.

[Example 8-1](#) shows how you can configure transformation patterns to localize a globalized calling party number.

Example 8-1 Localizing the Calling Party Presentation

**Tip**

You can globalize the calling party number before localizing the number. To globalize the calling party number in [Example 8-1](#) before localizing the number, the administrator can configure the incoming gateway in Hamburg with the following information: Number Type of Subscriber with +4940 prefix; Number Type of National with +49 prefix; Number Type of International with + prefix. After the administrator configures the gateway, he configures the transformation patterns in [Table 8-3](#).

To globalize the calling party number before localizing the number, Cisco Unified Communications Manager applies the prefix and digits-to-strip configuration based on the calling party number type before applying the calling party transformation.

For example, a call occurs between two parties in Hamburg. The incoming call over the PSTN in Hamburg gets globalized as +49 40 69XXXXXXX, but the administrator has configured multiple transformation patterns to localize the calling party number before it reaches the desktop phone of the called party in Hamburg. These transformation patterns, which use closest match routing to strip unnecessary digits, contain the configuration, as shown in [Table 8-3](#):

Table 8-3 Calling Party Transformation Patterns (Example)

Calling Party Transformation Pattern 1	Calling Party Transformation Pattern 2	Calling Party Transformation Pattern 3
\+4940.! (Pattern Setting)	\+49.!	\+.!!
discard Predot (Discard Digits Instructions Setting)	discard Predot	discard Predot
prefix 0 (Prefix Digits Setting)	prefix 00	prefix 000
Subscriber (Calling Party Number Type Setting)	National	International

By using digit analysis matching semantics, all the patterns in [Table 8-3](#) match the provided dial string; however, Transformation Pattern 1, which constitutes the closest match for a call within Hamburg, indicates that if the call is from Germany and from Hamburg, strip the German country code, 49, and the Hamburg city code, 40, and add the prefix 0 to the calling party number. So, when both parties in a call are in Hamburg, +494069XXXXXXX changes to 069XXXXXXX.

If the caller is from Frankfurt, Transformation Pattern 1 does not match, but Transformation Patterns 2 and 3 match. Representing the best match, Transformation Pattern 2 indicates that the system needs to strip the + and the German country code, 49, and then prefix 00 to the calling party number. So, for a long-distance call from Frankfurt to Hamburg, +494069XXXXXXX changes to 0069XXXXXXX.

If the caller is international, Transformation Pattern 3 works because Cisco Unified Communications Manager strips the international escape character, +, and prefixes the German international code, 000, to the calling party number.

**Tip**

All phone device types, CTI route points, gateways, remote destination profiles, and trunks in Cisco Unified Communications Manager Administration localize the calling party number for themselves; to ensure that the device can localize the calling party number, you must configure the Calling Party Transformation CSS (calling search space) and assign this calling search space to the device. The Calling Party Transformation CSS takes on the attributes of the calling party transformation pattern, which you assign to the partition where the Calling Party Transformation CSS exists. If you want to do so, you can choose the Calling Party Transformation CSS in the device pool; when you assign the device pool to the device, the device uses the Calling Party Transformation CSS in the device pool; that is, if you check the Use Device Pool Calling Party Transformation CSS check box in the device configuration window.

The Calling Party Transformation CSS settings do not apply to T1-CAS and FXO ports on the gateway.

Before the call occurs, the device must apply the transformation by using digit analysis. If you configure the Calling Party Transformation CSS as None, the transformation does not match and does not get applied. Ensure that you configure the Calling Party Transformation Pattern in a non-null partition that is not used for routing.

Mapping the Global Party Calling Number to Its Local Variant

To ensure that the phone user does not need to edit the call log directory entry on the phone before placing a call, map the global calling party number to its local variant to route calls to the correct gateway; you can use route patterns and called party transformation patterns to route the call correctly, as [Example 8-2](#) describes.

Example 8-2 Mapping the Global Calling Party Number to Its Local Variant

A Cisco Unified IP Phone in Hamburg (Phone Q) receives calls over the Hamburg or Frankfurt PSTN from different localized and globalized calling party numbers. To ensure that the phone user for the Phone Q does not need to edit the call log directory entry on the phone to return the call, you can associate the route patterns in [Table 8-4](#) to the calling search space in the Phone Configuration window for Phone Q.

In Cisco Unified Communications Manager Administration, you configure the route patterns in [Table 8-4](#) in the Route Patterns Configuration window (Call Routing > Route/Hunt > Route Patterns).

Table 8-4 Mapping the Global Calling Party Number to Its Local Variant (Example)

Route Pattern	Configuration for Route Pattern Setting	Configuration for Discard Digits Setting
Route Pattern 1	\+4940.! Configured for local Hamburg callers that call by using a globalized calling party number.	discard Predot
Route Pattern 2	0.! Configured for local Hamburg callers that call by using a localized calling party number.	discard Predot

Table 8-4 Mapping the Global Calling Party Number to Its Local Variant (Example) (continued)

Route Pattern	Configuration for Route Pattern Setting	Configuration for Discard Digits Setting
Route Pattern 3	0.0! Configured for Germany callers that do not have a Hamburg directory number that is associated with their device; these callers use a localized calling party number from Frankfurt or other cities in Germany.	discard Predot
Route Pattern 4	\+49.! Configured for German callers that do not have a Hamburg directory number that is associated with their device; these callers use a globalized calling party number from Frankfurt or any other city in Germany.	discard Predot

When Phone Q in [Example 8-2](#) receives a call from the Hamburg calling party number, 69XXXXXXX, via the PSTN, the calling party number +49406XXXXXXX displays on the phone screen for Phone Q. If the phone user for Phone Q returns the call by using the globalized calling party number, Cisco Unified Communications Manager matches the pattern, \+49.!, routes the call to the correct gateway, and sends the relevant digits. If the phone user for Phone Q returns the call by using the localized calling party number, Cisco Unified Communications Manager matches the pattern, 0.!, routes the call to the correct gateway, and sends the relevant digits.

When Phone Q in [Example 8-2](#) gets a call from the Frankfurt calling party number XXXXXXXX via the PSTN, the globalized calling party number +4969XXXXXXX displays on the phone screen for Phone Q, and the localized calling party number displays as 0069XXXXXXX. If the phone user for Phone Q returns the call by using the globalized calling party number, Cisco Unified Communications Manager matches the pattern, \+49.!, routes the call to the correct gateway, and sends the relevant digits. If the phone user for Phone Q returns the call by using the localized calling party number, Cisco Unified Communications Manager matches the pattern, 0.0!, routes the call to the correct gateway, and sends the relevant digits.

System Requirements

The following system requirements apply to calling party normalization:

- Cisco Unified Communications Manager 7.1
- Cisco Unified IP Phones 7906, 7911, 7931, 7961, 7962, 7965, 7970, 7971, and 7975

Interactions and Restrictions

The following sections describe the interactions and restrictions for calling party normalization:

- [Interactions, page 8-11](#)
- [Restrictions, page 8-14](#)

Interactions

The following sections describe how calling party normalization interacts with Cisco Unified Communications Manager features and applications:

- [Globalizing and Localizing Calling Party Numbers for Transferred Calls, page 8-11](#)
- [Globalizing and Localizing Calling Party Numbers for Forwarded Calls, page 8-11](#)
- [Bulk Administration Tool, page 8-12](#)
- [Call Detail Records, page 8-12](#)
- [Cisco Unified Communications Manager Assistant, page 8-12](#)
- [Cisco Unified Communications Manager CDR Analysis and Reporting, page 8-12](#)
- [Cisco Unity Connection, page 8-12](#)
- [Cisco Extension Mobility, page 8-13](#)
- [Device Mobility, page 8-13](#)

Globalizing and Localizing Calling Party Numbers for Transferred Calls

The transfer feature relies on midcall updates, so depending on the scenario, a transferred call may not support globalization and localization of the calling party number. (Calling party normalization supports globalization and localization during call setup for each hop of the call, not for midcall updates.) For examples of how calling party normalization works for transferred calls, see the following sections:

- [Calling Party Normalization for On Net Transferred Call Across a Gateway, page 8-11](#)
- [Calling Party Normalization for Transferred Call Through an Incoming Gateway, page 8-11](#)

Calling Party Normalization for On Net Transferred Call Across a Gateway

Phone A with extension 12345 and phone number of 972 500 2345 calls Phone B with extension 54321 and phone number 972 500 4321; when the call arrives on extension 54321, calling party number 12345 displays on Phone B. Phone B transfers the call to Phone C in San Jose through a San Jose gateway. During the initiation of the transfer, Phone C displays the calling party number for Phone B as 972 500 4321. After the transfer completes, Phone C displays the calling party number for Phone A as 12345.

Calling Party Normalization for Transferred Call Through an Incoming Gateway

Via the PSTN in Dallas, a caller (Phone D) calls Phone E (Cisco Unified IP Phone), which uses extension 7891 and phone number 972 500 6789. On the incoming Dallas gateway, the caller information for Phone D displays as 500 1212/<Subscriber>. Phone E displays +1 972 500 1212 for the globalized calling party number and 500 1212 for the localized calling party number for Phone D. Phone E initiates a transfer to Phone C in San Jose across the San Jose gateway. During the initiation of the transfer, Phone C displays the calling party number for Phone E as 972 500 6789. After the transfer completes, Phone C displays the calling party number for Phone D as +1 972 500 1212.

Globalizing and Localizing Calling Party Numbers for Forwarded Calls

Forwarded calls support globalized and localized calling party numbers. Globalization and localization of the call occur during call setup for each hop of the call. Depending on the hop for the call and the configuration of the gateway, that is, the calling party transformation and prefix configuration on the

gateway, the globalized version or the localized version (or both) may display on the phone. See the following example, which describes how an incoming call via the PSTN gets forwarded to another geographic location.

For example, via the PSTN in Dallas, a caller with Phone F calls Phone G (Cisco Unified IP Phone), which has forwarded all calls to Phone H (Cisco Unified IP Phone) in San Jose. On the incoming Dallas gateway, the caller information for Phone F displays as 500 5555/<Subscriber>. On the outgoing gateway from Dallas to San Jose, the outgoing caller information for the Calling Party Transformation CSS comprises 972 500 5555/National. On the incoming gateway in San Jose, the calling party number gets prefixed with +1 for the National number type; on Phone H in San Jose, the localized calling party number for Phone F displays as 972 500 5555, and the globalized calling party number displays as +1 972 500 5555.

Bulk Administration Tool

For information on how calling party normalization relates to the Bulk Administration Tool, see the *Cisco Unified Communications Manager Bulk Administration Guide*.

Call Detail Records

For information on how calling party normalization impacts call detail records (CDRs), see the *Cisco Unified Communications Manager Call Detail Records Administration Guide*.

Cisco Unified Communications Manager Assistant

Cisco Unified Communications Manager Assistant automatically supports localized and globalized calls if you configure the calling party normalization feature. Cisco Unified Communications Manager Assistant can display localized calling party numbers on the user interfaces. In addition, for an incoming call to the manager, Cisco Unified Communications Manager Assistant can display localized and globalized calling party numbers when filter pattern matching occurs. For information on configuring Cisco Unified Communications Manager Assistant, see the [“Cisco Unified Communications Manager Assistant With Proxy Line Support”](#) section on page 11-1 or the [“Cisco Unified Communications Manager Assistant With Shared Line Support”](#) section on page 12-1.

Cisco Unified Communications Manager CDR Analysis and Reporting

For information on how calling party normalization impacts Cisco Unified Communications Manager CDR Analysis and Reporting (CAR), see the *Cisco Unified Communications Manager CDR Analysis and Reporting Administration Guide*.

Cisco Unity Connection

Cisco Unity Connection does not support the international escape character (+). Because this application does not support the +, you must ensure that calls to Cisco Unity Connection do not contain the +, which ensures that voice-messaging features work as expected.

If you configure the + for the incoming prefix settings in Cisco Unified Communications Manager Administration to globalize the calling party number, the + gets inserted as a prefix to an incoming calling party number on a H.323, MGCP, or SIP gateway (or trunk, if applicable). If you configure calling party transformations, the device can localize the calling party number to transform the number to display differently than the globalized version. For example, a call from the North American

Numbering Plan arrives as a 10-digit calling party number, 2225551234. Cisco Unified Communications Manager prefixes +1 to the calling party number to display the E.164 formatted number as +12225551234. On a phone in North America, Cisco Unified Communications Manager uses a calling party transformation to convert +12225551234 to 10 digits before the number displays on the phone; on a phone outside of North America, Cisco Unified Communications Manager may transform the number to only strip the + and to prefix the 00, as in 0012225551234.

For Cisco Unity Connection to work as expected, treat this application as a device and configure calling party transformations that ensure that the + does not get sent to this voice-messaging application. If the Cisco Unity Connection server uses a North American-based dial plan, localize the calling party number to NANP format before Cisco Unity Connection receives the calling party number. Because no calling party transformation options exist in Cisco Unified Communications Manager Administration for voice-messaging ports, make sure that you configure the calling party number transformations in the device pool that is associated with the voice-messaging ports. To localize the calling party number, also consider prefixing access codes, so the voice-messaging application easily can redial the number for certain features, such as Live Reply. For example, you can convert +12225551234 to 912225551234, and you can convert international number, +4423453456, to include the international escape code, 90114423453456.

Cisco Extension Mobility

Cisco Extension Mobility works as expected; that is, a phone user that is logged in to a Cisco Extension Mobility phone may see globalized or localized calling party numbers on the phone screen or in the call log directories on the phone.

Device Mobility

The following example shows how calling party normalization works when you move a phone from its home location, as supported with the device mobility feature in Cisco Unified Communications Manager.

A Cisco Unified IP Phone (Phone N) with home location in Dallas moves to San Jose. The Cisco Unified IP Phone in Dallas uses device pool, DP_Dallas, which has the Calling Party Transformation CSS as CallingTransform_Dallas; the Calling Transform_Dallas CSS contains the DallasPhone and the CommonTransform partitions. The roaming device in San Jose uses device pool, DP_SanJose, which has the Calling Party Transformation CSS as CallingTransform_SJ; the CallingTransform_SJ CSS contains the SJPhone and the CommonTransform partitions. Cisco Unified Communications Manager Administration contains the configuration in [Table 8-5](#):

Table 8-5 Globalizing and Localizing Calling Party Numbers with Device Mobility (Example)

Calling Party Transformation Pattern 1	Calling Party Transformation Pattern 2	Calling Party Transformation Pattern 3
<ul style="list-style-type: none"> • Pattern— \+.@ • Partition—CommonTransform • Disregard Digits Instructions—Predot • Calling Party Number Type—National 	<ul style="list-style-type: none"> • Pattern—\+1.408! • Partition—SJPhone • Disregard Digits Instructions—Predot • Prefix—9 • Calling Party Number Type—Subscriber 	<ul style="list-style-type: none"> • Pattern—\+1972.! • Partition—DallasPhone • Discard Digits Instructions—Predot • Prefix—9 • Calling Party Number Type—Subscriber

When the phone is in its home location in Dallas, a call comes via the PSTN from 408 500 1212 <National> in San Jose. On the incoming Dallas gateway, the calling party number gets converted to the global format of + 1 408 500 1212. On the phone that currently is in Dallas, the calling party number displays as 1 408 500 1212.

When the phone is in its home location in Dallas, a call comes via the PSTN from 400 2323 <Subscriber> from a seven-digit dialing area in Dallas. On the incoming Dallas gateway, the calling party number gets converted to the global format of + 1 972 400 2323. On the phone that currently is in Dallas, the calling party number displays as 9 400 2323.

When the phone is roaming in San Jose, a call comes via the PSTN from 972 500 1212 <National> in Dallas. On the incoming San Jose gateway, the calling party number gets converted to the global format of + 1 408 500 1212. On the phone that currently is in San Jose, the calling party number displays as 1 972 500 1212.

When the phone is roaming in San Jose, a call comes via the PSTN from 500 1212 <Subscriber> from a seven-digit dialing area in San Jose. On the incoming San Jose gateway, the calling party number gets converted to the global format of + 1 408 500 1212. On the phone that currently is in San Jose, the calling party number displays as 9 500 1212.

**Note**

The Calling Party Transformation CSS of the roaming device pool overrides the device level configuration of the phone roaming within same DMG, even when the Use Device Pool Calling Party Transformation CSS check box in the phone configuration window remains unchecked.

Restrictions

Before you configure calling party normalization, review the following restrictions:

- The calling party number that displays for a shared line depends on the sequence of call control events in Cisco Unified Communications Manager. To avoid displaying an incorrect localized calling party number on a shared line, especially when the shared line occurs in different geographical locations, make sure that you configure the same Calling Party Transformation CSS for different devices that share the same line.
- SIP trunks and MGCP gateways can support sending the international escape character, +, for calls. H.323 gateways do not support the +. QSIG trunks do not attempt to send the +. For outgoing calls through a gateway that supports +, Cisco Unified Communications Manager can send the + with the dialed digits to the gateway. For outgoing calls through a gateway that does not support +, the international escape character + gets stripped when Cisco Unified Communications Manager sends the call information to the gateway.
- SIP does not support the number type, so calls through SIP trunks only support the Incoming Number settings for calling party number types of Unknown.
- A QSIG configuration usually supports a uniform dial plan. Transformation of numbers and prefixes may cause feature interaction issues if you use QSIG.
- For localizing the calling party number, the device must apply the transformation by using digit analysis. If you configure the Calling Party Transformation CSS as None, the transformation does not match and does not get applied. Ensure that you configure the Calling Party Transformation Pattern in a non-null partition that is not used for routing.
- The Calling Party Transformation CSS settings do not apply to T1-CAS and FXO ports on the gateway.

- Cisco Unity Connection does not support the international escape character (+). Because this application does not support the +, you must ensure that calls to Cisco Unity Connection do not contain the +, which ensures that voice-messaging features work as expected. For more information, see the “[Cisco Unity Connection](#)” section on page 8-12.

Installing and Activating Calling Party Normalization

After you install Cisco Unified Communications Manager, you can configure calling party normalization. Calling party normalization service parameters support the Cisco CallManager service, so activate the Cisco CallManager service in Cisco Unified Serviceability before you configure calling party normalization.

Configuring Calling Party Normalization

This section contains information on the following topics:

- [Setting the Service Parameters for Calling Party Normalization, page 8-15](#)
- [Configuring the Calling Party Number Type, page 8-17](#)
- [Configuring the Incoming Calling Party Settings in the Device Pool, Gateway, or Trunk Configuration Windows, page 8-18](#)
- [Applying the Calling Party Transformation Calling Search Spaces \(CSS\) to Localize the Calling Party Number, page 8-25](#)



Tip

Before you configure calling party normalization, review the “[Configuration Checklist for Calling Party Normalization](#)” section on page 8-1.

Setting the Service Parameters for Calling Party Normalization



Tip

To locate the service parameters in Cisco Unified Communications Manager Administration, choose **System > Service Parameters**; choose the server and the Cisco CallManager service. After the parameters display, click **Advanced**. For information on the service parameter, click the hyperlink for the service parameter name or the question mark that displays in the upper, right corner of the window.

If your service provider prepends leading digits (for example, a zero) to the calling party number and you want to strip these digits before prepending other digits (for example, if the leading digits are not part of the E.164 number and you want to transform the calling party number to the E.164 format), you can enter a colon (:) followed by the number of digits that you want to strip in the Incoming Calling Party National Number Prefix, Incoming Calling Party International Number Prefix, Incoming Calling Party Unknown Number Prefix, and/or Incoming Calling Party Subscriber Number Prefix service parameters to ensure that Cisco Unified Communications Manager strips the leading digits before applying the prefixes to an incoming calling party number. The value that you configure before the colon (:)

represents the prefix; the value that you configure after the colon (:) specifies the number of digits that you want Cisco Unified Communications Manager to strip from the calling party number before it applies the prefix.

For example, you configure +:1 in the incoming prefix service parameters, which alerts Cisco Unified Communications Manager to strip the first digit from the calling party number and then apply the international escape character +. If an incoming call arrives as 04423452345, Cisco Unified Communications Manager strips the first digit, in this case, zero, from the calling party number and prefixes the international escape character + to the calling party number. As a result, the calling party number gets transformed to +4423452345.

To strip digits without prefixing anything, you can configure the colon (:) in the incoming prefix service parameters without configuring a prefix. If you do not enter a prefix before the colon (:), Cisco Unified Communications Manager strips the number of leading digits that you specify and does not apply a prefix to the calling party number. For example, if you configure :2, Cisco Unified Communications Manager strips 2 leading digits without applying a prefix.

If you want Cisco Unified Communications Manager to strip a certain number of leading digits, and the entire number of digits for the calling party number equals or specifies less than the value that you configure, Cisco Unified Communications Manager strips all digits but still applies the prefix; that is, if you configure a prefix. For example, if you enter +1:6 in the incoming prefix fields, and the calling party number contains 6 or fewer digits, Cisco Unified Communications Manager strips all digits and applies the prefix +1.

If you configure Cisco Unified Communications Manager to strip more digits than exist in the calling party number, Cisco Unified Communications Manager clears the calling party number (makes it blank).

If you do not configure a colon (:) in the incoming prefix service parameters, Cisco Unified Communications Manager does not strip any digits from the calling party number; that is, unless you configure the incoming fields that are described [Table 8-7](#), which support the configuration at the device level.

If you configure a prefix but the calling party number that arrives is empty, Cisco Unified Communications Manager does not apply the prefix.

Cisco Unified Communications Manager can strip up to 24 digits from the calling party number. If you enter :26 in the incoming prefix service parameters, Cisco Unified Communications Manager Administration displays a message and does not allow the configuration.

If an error occurs when Cisco Unified Communications Manager attempts to strip the digits and apply the prefix to the calling party number, Cisco Unified Communications Manager does not manipulate the digits or apply the prefixes; instead, Cisco Unified Communications Manager uses the calling party number that arrived for the call.


Tip

If you configure the incoming fields that display in the device configuration windows and the service parameters, Cisco Unified Communications Manager uses the configuration that you configured in the device configuration window.

Clusterwide Parameters (Device - PRI and MGCP Gateway)

- Incoming Calling Party National Number Prefix - MGCP
- Incoming Calling Party International Number Prefix - MGCP
- Incoming Calling Party Subscriber Number Prefix - MGCP
- Incoming Calling Party Unknown Number Prefix - MGCP

**Tip**

If you have a single H.323, MGCP (T1-PRI/BRI), or MGCP (E1-PRI/BRI) gateway in your network, you can configure the prefix service parameters, which support the Cisco CallManager service, for the particular gateway type in the Service Parameter Configuration window. If you configure the prefix service parameters for a particular gateway type, for example, H.323, be aware that all H.323 gateways that you configure in Cisco Unified Communications Manager Administration use the configuration from the service parameter unless you configure the prefix settings for a particular gateway in the Gateway Configuration window.

Clusterwide Parameters (Device - H323)

- Incoming Calling Party National Number Prefix - H.323
- Incoming Calling Party International Number Prefix - H.323
- Incoming Calling Party Subscriber Number Prefix - H.323
- Incoming Calling Party Unknown Number Prefix - H.323

**Tip**

If the incoming prefix service parameters for H.323 use the same prefix as the incoming prefix service parameters for the phone, the prefix gets used twice for the calling party; first, when the incoming call gets to the gateway and again, when the call terminates at the phone.

Clusterwide Parameters (Device - SIP)

Incoming Calling Party Unknown Number Prefix - SIP

Configuring the Calling Party Number Type

Configuring the Calling Party Number Type setting and prefixes in Cisco Unified Communications Manager Administration allows Cisco Unified Communications Manager to reformat the calling party number from the PSTN-localized version to the globally dialable version by prefixing required access codes, international access codes, and so on, to the calling party number. You can configure the Calling Party Number Type setting for various patterns for both called and calling parties to ensure that Cisco Unified Communications Manager stamps the number type during various stages of incoming and outgoing calls.

You configure the Calling Party Number Type setting in the Calling Party Transformation Pattern Configuration, Route Pattern Configuration, Hunt Pilot Configuration, Translation Pattern Configuration, and the Route List Detail Configuration windows in Cisco Unified Communications Manager Administration.

- [Route Pattern Configuration](#), *Cisco Unified Communications Manager Administration Guide*
- [Hunt Pilot Configuration](#), *Cisco Unified Communications Manager Administration Guide*
- [Calling Party Transformation Pattern Configuration Settings](#), *Cisco Unified Communications Manager Administration Guide*

Table 8-6 describes the Calling Party Number Type setting that displays in Cisco Unified Communications Manager Administration.

Table 8-6 Description for Calling Party Number Type

Setting	Description
Calling Party Number Type	<p>Choose the format for the number type in calling party directory numbers.</p> <p>Cisco Unified Communications Manager sets the calling directory number (DN) type. Cisco recommends that you do not change the default value unless you have advanced experience with dialing plans such as NANP or the European dialing plan. You may need to change the default in Europe because Cisco Unified Communications Manager does not recognize European national dialing patterns. You can also change this setting when you are connecting to a PBX that expects the calling directory number to be encoded to a non-national numbering plan type.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • Cisco CallManager—The Cisco Unified Communications Manager sets the directory number type. • Unknown—Choose when the dialing plan is unknown. • National—Use when you are dialing within the dialing plan for your country. • International—Use when you are dialing outside the dialing plan for your country. • Subscriber—Use when you are dialing a subscriber by using a shortened subscriber number. <p>In the following windows in Cisco Unified Communications Manager Administration, you can configure the Calling Party Number Type setting:</p> <ul style="list-style-type: none"> • Hunt List Detail Configuration—Call Routing > Route/Hunt > Hunt List (Add the hunt list; after you click Save, the Add Line Group button displays. To display the Hunt List Detail Configuration window, click the Add Line Group button.) • Route Pattern Configuration—Call Routing > Route/Hunt > Route Pattern • Hunt Pilot Configuration—Call Routing > Route/Hunt > Hunt Pilot • Translation Pattern Configuration—Call Routing > Translation Pattern • Calling Party Transformation Pattern Configuration—Call Routing > Transformation Pattern > Calling Party Transformation Pattern <p>Tip In the Gateway and Trunk Configuration window, you can configure the Calling Party IE Number Type Unknown setting. If you can configure this setting and choose any other option except for Cisco CallManager, which is the default, your configuration for this field overwrites the Calling Party Number Type setting for the outgoing call through a particular gateway.</p>

Configuring the Incoming Calling Party Settings in the Device Pool, Gateway, or Trunk Configuration Windows

This section contains information on the following topics:

- [Considerations for Configuring the Prefix Field, page 8-19](#)
- [Considerations for Configuring the Strip Digits Field, page 8-19](#)
- [Incoming Calling Party Number Settings, page 8-20](#)

Considerations for Configuring the Prefix Field

Before you configure the prefix fields that are described in [Table 8-7](#), consider the following information.

- In the Device Pool, Gateways, and Trunk Configuration windows, to delete the prefixes in all incoming calling party settings at the same time, click **Clear Prefix Settings**; to enter the default value for all incoming calling party settings at the same time, click **Default Prefix Settings**.
- If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.
- To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.
- When the prefix gets applied to the incoming calling party number on the device, Cisco Unified Communications Manager includes the prefix in the calling party number field for all additional actions, such as supplementary services including call forwarding, call park, voice messaging, CDR data, and so on, that pertain to the call.
- If you configure a prefix but the calling party number that arrives is empty, Cisco Unified Communications Manager does not apply the prefix. (For example, the calling party number arrives empty because you chose Restricted from the Calling Line ID Presentation drop-down list box in the Route Pattern, Gateway, or Trunk Configuration windows.)
- If an error occurs when Cisco Unified Communications Manager attempts to strip the digits and apply the prefix to the calling party number, Cisco Unified Communications Manager does not manipulate the digits or apply the prefixes; instead, Cisco Unified Communications Manager uses the calling party number that arrived for the call.
- Configure the incoming prefix fields in conjunction with the strip digit fields; that is, if your service provider prepends leading digits (for example, a zero) to the calling party number. For more information on stripping leading digits from the calling party number, see the [“Considerations for Configuring the Strip Digits Field”](#) section on page 8-19.

Considerations for Configuring the Strip Digits Field

If your service provider prepends leading digits (for example, a zero) to the calling party number and you want to strip these digits before prepending other digits (for example, if the leading digits are not part of the E.164 number and you want to transform the calling party number to the E.164 format), you can configure the fields in [Table 8-7](#) to ensure that Cisco Unified Communications Manager strips the leading digits before applying the prefixes to an incoming calling party number.

Before you configure the number of leading digits that Cisco Unified Communications Manager must strip from the calling party number, consider the following information.

- You can either strip digits by configuring the Incoming Prefix service parameters in the Service Parameter Configuration window or by configuring the Strip Digits fields in the Device Pool, Gateway, or Trunk Configuration windows. For information on how to configure the service parameters for this functionality, see the [“Setting the Service Parameters for Calling Party Normalization”](#) section on page 8-15.

- If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.
- To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.
- Be aware that Cisco Unified Communications Manager can strip up to 24 digits. If you enter a value that is larger than 24 in the field, for example, 26, Cisco Unified Communications Manager Administration does not allow the configuration.
- If you want Cisco Unified Communications Manager to strip a certain number of leading digits, and the entire number of digits for the calling party number equals or specifies less than the value that you configure, Cisco Unified Communications Manager strips all digits but still applies the prefix; that is, if you configure a prefix.
- If you configure Cisco Unified Communications Manager to strip more digits than exist in the calling party number, Cisco Unified Communications Manager clears the calling party number (makes it blank).
- If you do not configure a value for the Strip Digits fields, Cisco Unified Communications Manager does not strip any digits from the calling party number.
- If an error occurs when Cisco Unified Communications Manager attempts to strip the digits and apply the prefix to the calling party number, Cisco Unified Communications Manager does not manipulate the digits or apply the prefixes; instead, Cisco Unified Communications Manager uses the calling party number that arrived for the call.

Incoming Calling Party Number Settings

The settings in [Table 8-7](#) display in the following windows in Cisco Unified Communications Manager Administration:

- Device Pool (System > Device Pool)—Applies the configuration to all digital gateways and trunks; that is, if you choose the device pool for the device.
- Gateway (Device > Gateway)—Displays settings in the H.323 gateway configuration window and in the port windows (Gateway Configuration window) for MGCP (T1-PRI/BRI) and MGCP (E1-PRI/BRI).
- Trunk (Device > Trunk)—Displays all settings in all trunk configuration windows except the SIP trunk.



Tip The SIP Trunk Configuration window only displays the Incoming Number settings, which is used for the Unknown calling party number type.

For configuration procedures for each configuration window, see the following sections:

- [Device Pool Configuration Settings](#), *Cisco Unified Communications Manager Administration Guide*
- [Gateway Configuration](#), *Cisco Unified Communications Manager Administration Guide*
- [Configuring a Trunk](#), *Cisco Unified Communications Manager Administration Guide*

Table 8-7 Incoming Calling Party Number Settings for Device Pools, Gateways, and Trunks

Setting	Description
Clear Prefix Setting	To delete all prefixes for all calling party number types, click Clear Prefix Settings .
Default Prefix Setting	To enter the default value for all prefix fields at the same time, click Default Prefix Settings .
National Number	<p>Configure the following settings to globalize calling party numbers that use National for the Calling Party Number Type.</p> <ul style="list-style-type: none"> • Prefix—Cisco Unified Communications Manager applies the prefix that you enter in this field to calling party numbers that use National for the Calling Party Numbering Type. You can enter up to 8 characters, which include digits, the international escape character (+), asterisk (*), or the pound sign (#). You can enter the word, Default, instead of entering a prefix. <p>Tip If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.</p> <p>Tip To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.</p> <ul style="list-style-type: none"> • Strip Digits—Enter the number of digits that you want Cisco Unified Communications Manager to strip from the calling party number of National type before it applies the prefixes. • Use Device Pool CSS—This setting displays in the Gateway and Trunk Configuration windows, not the Device Pool Configuration window. Check this check box to use the calling search space for the National Number field that is configured in the device pool that is applied to the device. • Calling Search Space—This setting allows you to globalize the calling party number of National calling party number type on the device. Make sure that the calling search space that you choose contains the calling party transformation pattern that you want to assign to this device.

Table 8-7 Incoming Calling Party Number Settings for Device Pools, Gateways, and Trunks (continued)

Setting	Description
International Number	<p>Configure the following settings to globalize calling party numbers that use International for the Calling Party Number Type.</p> <ul style="list-style-type: none"> • Prefix—Cisco Unified Communications Manager applies the prefix that you enter in this field to calling party numbers that use International for the Calling Party Numbering Type. You can enter up to 8 characters, which include digits, the international escape character (+), asterisk (*), or the pound sign (#). You can enter the word, Default, instead of entering a prefix. <p>Tip If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.</p> <p>Tip To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.</p> <ul style="list-style-type: none"> • Strip Digits—Enter the number of digits that you want Cisco Unified Communications Manager to strip from the calling party number of International type before it applies the prefixes. • Use Device Pool CSS— This setting displays in the Gateway and Trunk Configuration windows, not the Device Pool Configuration window. Check this check box to use the calling search space for the International Number field that is configured in the device pool that is applied to the device. • Calling Search Space—This setting allows you to globalize the calling party number of International calling party number type on the device. Make sure that the calling party transformation CSS that you choose contains the calling party transformation pattern that you want to assign to this device. <p>Tip Before the call occurs, the device must apply the transformation by using digit analysis. If you configure the CSS as None, the transformation does not match and does not get applied. Ensure that you configure the calling party transformation pattern in a non-null partition that is not used for routing.</p>

Table 8-7 Incoming Calling Party Number Settings for Device Pools, Gateways, and Trunks (continued)

Setting	Description
Subscriber Number	<p>Configure the following settings to globalize calling party numbers that use Subscriber for the Calling Party Number Type.</p> <ul style="list-style-type: none"> • Prefix—Cisco Unified Communications Manager applies the prefix that you enter in this field to calling party numbers that use Subscriber for the Calling Party Numbering Type. You can enter up to 8 characters, which include digits, the international escape character (+), asterisk (*), or the pound sign (#). You can enter the word, Default, instead of entering a prefix. <p>Tip If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.</p> <p>Tip To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.</p> <ul style="list-style-type: none"> • Strip Digits—Enter the number of digits that you want Cisco Unified Communications Manager to strip from the calling party number of Subscriber type before it applies the prefixes. • Use Device Pool CSS—Check this check box to use the calling search space for the Subscriber Number field that is configured in the device pool that is applied to the device. • Calling Search Space—This setting allows you to globalize the calling party number of Subscriber calling party number type on the device. Make sure that the CSS that you choose contains the calling party transformation pattern that you want to assign to this device. <p>Tip Before the call occurs, the device must apply the transformation by using digit analysis. If you configure the CSS as None, the transformation does not match and does not get applied. Ensure that you configure the calling party transformation pattern in a non-null partition that is not used for routing.</p>

Table 8-7 Incoming Calling Party Number Settings for Device Pools, Gateways, and Trunks (continued)

Setting	Description
Unknown Number (does not display in the SIP Trunk Configuration window)	<p>Configure the following settings to globalize calling party numbers that use Unknown for the Calling Party Number Type.</p> <ul style="list-style-type: none"> • Prefix—Cisco Unified Communications Manager applies the prefix that you enter in this field to calling party numbers that use Unknown for the Calling Party Numbering Type. You can enter up to 8 characters, which include digits, the international escape character (+), asterisk (*), or the pound sign (#). You can enter the word, Default, instead of entering a prefix. <p>Tip If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.</p> <p>Tip To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.</p> <ul style="list-style-type: none"> • Strip Digits—Enter the number of digits that you want Cisco Unified Communications Manager to strip from the calling party number of Unknown type before it applies the prefixes. • Use Device Pool CSS—This setting displays in the Gateway and Trunk Configuration windows, not the Device Pool Configuration window. Check this check box to use the calling search space for the Unknown Number field that is configured in the device pool that is applied to the device. • Calling Search Space—This setting allows you to globalize the calling party number of Unknown calling party number type on the device. Make sure that the calling party transformation CSS that you choose contains the calling party transformation pattern that you want to assign to this device. <p>Tip Before the call occurs, the device must apply the transformation by using digit analysis. If you configure the CSS as None, the transformation does not match and does not get applied. Ensure that you configure the calling party transformation pattern in a non-null partition that is not used for routing.</p>

Table 8-7 Incoming Calling Party Number Settings for Device Pools, Gateways, and Trunks (continued)

Setting	Description
Incoming Number (displays in the SIP Trunk Configuration window only)	<p data-bbox="393 308 1523 409">SIP trunks support calling party number type of Unknown only. For SIP trunks only, configure the following settings to globalize calling party numbers that use Unknown for the Calling Party Number Type.</p> <ul data-bbox="393 420 1523 546" style="list-style-type: none"> <li data-bbox="393 420 1523 546">• Prefix—Cisco Unified Communications Manager applies the prefix that you enter in this field to calling party numbers that use Unknown for the Calling Party Numbering Type. You can enter up to 8 characters, which include digits, the international escape character (+), asterisk (*), or the pound sign (#). You can enter the word, Default, instead of entering a prefix. <p data-bbox="393 556 1523 787">Tip If the word, Default, displays in the Prefix field in the Gateway or Trunk Configuration window, you cannot configure the Strip Digits field in the Gateway or Trunk Configuration window. In this case, Cisco Unified Communications Manager takes the configuration for the Prefix and Strip Digits fields from the device pool that is applied to the device. If the word, Default, displays in the Prefix field in the Device Pool Configuration window, Cisco Unified Communications Manager applies the service parameter configuration for the incoming calling party prefix, which supports both the prefix and strip digit functionality.</p> <p data-bbox="393 798 1523 934">Tip To configure the Strip Digits field in the Device Pool, Gateway, or Trunk Configuration window, you must leave the Prefix field blank or enter a valid configuration in the Prefix field. To configure the Strip Digits fields in these windows, do not enter the word, Default, in the Prefix field.</p> <ul data-bbox="393 945 1523 1249" style="list-style-type: none"> <li data-bbox="393 945 1523 1029">• Strip Digits—Enter the number of digits that you want Cisco Unified Communications Manager to strip from the calling party number of Unknown type before it applies the prefixes. <li data-bbox="393 1039 1523 1134">• Use Device Pool CSS—This setting displays in the Gateway and Trunk Configuration windows, not the Device Pool Configuration window. Check this check box to use the calling search space for the Unknown Number field that is configured in the device pool that is applied to the device. <li data-bbox="393 1144 1523 1249">• Calling Search Space—This setting allows you to globalize the calling party number of Unknown calling party number type on the device. Make sure that the calling party transformation CSS that you choose contains the calling party transformation pattern that you want to assign to this device. <p data-bbox="393 1260 1523 1379">Tip Before the call occurs, the device must apply the transformation by using digit analysis. If you configure the CSS as None, the transformation does not match and does not get applied. Ensure that you configure the calling party transformation pattern in a non-null partition that is not used for routing.</p>

Applying the Calling Party Transformation Calling Search Spaces (CSS) to Localize the Calling Party Number

Before you configure the Calling Party Transformation CSS, make sure that you understand the steps that are required to localize the calling party number; for example, configuring the partition, configuring the calling search space, and so on. For more information, see the [“Configuration Checklist for Calling Party Normalization”](#) section on page 8-1.

Table 8-8 describes the various Calling Party Transformation CSS settings and lists the configuration windows in Cisco Unified Communications Manager Administration where you assign the settings.

Table 8-8 Configuring the Calling Party Transformation CSS to Localize the Calling Party Number

Setting	Description
Calling Party Transformation CSS	<p>This setting allows you to localize the calling party number on the device. Make sure that the Calling Party Transformation CSS that you choose contains the calling party transformation pattern that you want to assign to this device.</p> <p>Tip Before the call occurs, the device must apply the transformation by using digit analysis. If you configure the Calling Party Transformation CSS as None, the transformation does not match and does not get applied. Ensure that you configure the Calling Party Transformation Pattern in a non-null partition that is not used for routing.</p> <p>All phone device types, CTI route points, gateways, remote destination profiles, and trunks in Cisco Unified Communications Manager Administration can localize the calling party number for themselves; therefore, you can access this setting in the following windows in Cisco Unified Communications Manager Administration:</p> <ul style="list-style-type: none"> • Device Pool (System > Device Pool) • Phone (Device > Phone) • CTI Route Points (Device > CTI Route Point) • Gateway (Device > Gateway)—Depending on the gateway type, the setting may display in the port configuration window or the gateway configuration window. • Trunk (Device > Trunk) • Remote Destination Profile (Device > Device Settings > Remote Destination Profile)
Use Device Pool Calling Party Transformation CSS	<p>To use the Calling Party Transformation CSS that is configured in the device pool that is assigned to this device, check this check box. If you do not check this check box, the device uses the Calling Party Transformation CSS that you configured in the device configuration window.</p> <p>All phone device types, CTI route points, gateways, remote destination profiles, and trunks in Cisco Unified Communications Manager Administration can localize the calling party number for themselves; therefore, you can access this setting in the following windows in Cisco Unified Communications Manager Administration:</p> <ul style="list-style-type: none"> • Phone (Device > Phone) • CTI Route Points (Device > CTI Route Point) • Gateway (Device > Gateway)—Depending on the gateway type, the setting may display in the port configuration window or the gateway configuration window. • Trunk (Device > Trunk) • Remote Destination Profile (Device > Device Settings > Remote Destination Profile)

Providing Information to End Users

Depending on your configuration, a phone user may not need to edit the call log directory entry on the phone before placing a call. Depending on your configuration, the phone user may see the international escape character, +, in the call log directories on the phone.

Related Topics

- [Globalizing the Calling Party Number, page 8-5](#)
- [Localizing the Calling Party Number, page 8-7](#)
- [Mapping the Global Party Calling Number to Its Local Variant, page 8-9](#)
- [System Requirements, page 8-10](#)
- [Interactions and Restrictions, page 8-10](#)
- [Installing and Activating Calling Party Normalization, page 8-15](#)
- [Configuration Checklist for Calling Party Normalization, page 8-1](#)
- [Setting the Service Parameters for Calling Party Normalization, page 8-15](#)
- [Configuring the Calling Party Number Type, page 8-17](#)
- [Configuring the Incoming Calling Party Settings in the Device Pool, Gateway, or Trunk Configuration Windows, page 8-18](#)
- [Applying the Calling Party Transformation Calling Search Spaces \(CSS\) to Localize the Calling Party Number, page 8-25](#)
- [Providing Information to End Users, page 8-26](#)
- [Device Mobility, page 20-1](#)
- [Using the International Escape Character +, *Cisco Unified Communications Manager System Guide*](#)

Additional Cisco Documentation

- *Cisco Unified Communications Manager System Guide*
- *Cisco Unified Communications Manager Administration Guide*
- *Cisco Unified Serviceability Administration Guide*
- *Cisco Unified Communications Manager CDR Analysis and Reporting Administration Guide*
- *Cisco Unified Communications Manager Bulk Administration Guide*
- Cisco Unified IP Phone documentation that supports your phone model and this version of Cisco Unified Communications Manager

