



ShoreTel Mobility Router Integration Guide for ShoreTel IP-PBX Versions 14, 14.1, and 14.2

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Version Information

ShoreTel Mobility Router Integration Guide for ShoreTel IP-PBX Versions 14, 14.1, and 14.2
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CHAPTER

1

ShoreTel Mobility Router Integration

This document describes the integration of ShoreTel IP-PBX with ShoreTel Mobility solution, and contains the following sections:

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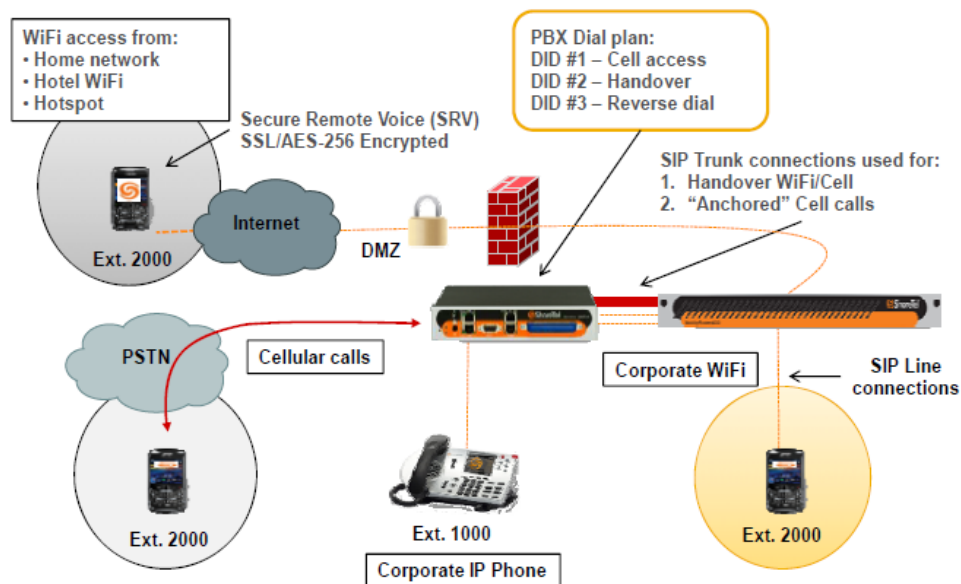
Introduction

In the topology described below, the Mobility Router connects to the ShoreTel IP-PBX via SIP trunk connections and via SIP device connections. The SIP trunks are used by the ShoreTel Mobility Router to receive inbound calls (such as those placed by mobile devices to the Mobility Router's hand-over numbers), and to place outbound PSTN calls (when placing a PSTN call on behalf of a mobile user or when dialing a mobile user's cellular number directly). SIP devices are used to register each mobile device as a SIP end-point/extension to the ShoreTel IP-PBX. Features that this topology supports include short number dialing, automatic (sub-100 msec) handover between Wi-Fi and cellular networks, call forwarding, three-way conferencing, music on hold, RoamAnywhere Dual Persona™, Secure Remote Voice, Secure Enterprise Services, remote over-the-air provisioning, simultaneous ring of the desk phone and dual-mode devices.



Note

All features not available on all devices.



Hardware Requirements

- ShoreTel Mobility Router
- ShoreTel IP-PBX
- Supported handsets (dual mode and single mode)
- One ShoreTel IP desk phone, configured to use an internal extension

- Three DID numbers—one for handout, one for cellular access, one for reverse dial
- ShoreTel IP desk phone
- Three DID numbers—one for handover, one for cellular access, one for reverse dial

**Note**

Refer to the ShoreTel Mobility Router Platform Support Guide for more information on supported handsets.

System Requirements

Sufficient SIP trunks to support the expected maximum number of simultaneous calls. Refer to the ShoreTel Planning and Installation Guide before continuing with this configuration.

Licensing Requirements

- Sufficient SIP trunk licenses (SKU 30043) to support the expected maximum number of simultaneous cellular calls when users do not have Wi-Fi available.
- One unit of the ShoreTel RoamAnywhere Client Access License (SKU 30105) for each user. This SKU 30105 includes the following sub-licenses: Mobile Access license (30051), SIP Device License (30053), Extension-only License (30039).

Configuring the ShoreTel IP-PBX

This section describe the steps to integrate the ShoreTel Mobility Router with the ShoreTel IP-PBX. It is assumed that the ShoreTel IP-PBX is fully configured and otherwise fully operational.

Configuring a SIP Profile for the ShoreTel Mobility Router

In ShoreWare Director, under **Administration > IP Phones > SIP Profiles**, create a SIP profile for the Mobility Router per the example below.

1. In the Name field, enter **ShoreTel Mobility Router**.
2. In the User Agent agent field, enter **^ShoreTelIMR.*|^AgitoRAMR.***
3. In the Priority field, enter **100**.
4. Check **Enable**.
5. In the **Custom Parameters** field, enter the following:

IgnoreEarlyMedia=1, or
 SendEarlyMedia=0
 NoFakeRingBackSupport=Yes

6. Click Save.

Configuring Jitter Buffer

1. In ShoreWare Director, select **Administration > Call Control > Options**.
2. In the Maximum Inter-Site Jitter Buffer (msec) field, enter 300 to optimize voice quality for Wi-Fi networks.

The screenshot shows the 'SIP' configuration page in ShoreWare Director. The 'Maximum Inter-Site Jitter Buffer' field is highlighted with a red box and set to 300 msec. Other visible fields include 'Delay before sending DTMF to Fax Server' (2000 msec), 'DTMF Payload Type (96 - 127)' (102), 'SIP Realm' (ShoreTel), 'Session Interval (90 - 3600)' (1800 sec), 'DiffServ / ToS Byte (0-255)' (184), and 'Video Quality of Service' (0).

Configuring Switch Resources

Configure resources on at least one ShoreGear voice switch at the site where the Mobility Router is located. Configure enough IP Phone resources and SIP Proxy resources for use with the line side client integration. One Extension Only or Extension & Mailbox license is required for each user on the Mobility Router. In addition, one SIP Phone License is required per user on the Mobility Router. Configure as many SIP trunks as the number of simultaneous calls that will pass from the Mobility Router through the ShoreTel IP-PBX to the PSTN.



Note

Create as many individual SIP trunks as needed for your environment. A RoamAnywhere Client placing or receiving an enterprise-anchored PSTN call while on the cellular network requires two SIP trunks for each call. A RoamAnywhere client placing or receiving an enterprise anchored PSTN call while on a VoIP network (e.g., Wi-Fi) requires one SIP trunk for each call.

**Note**

The number of required SIP trunks can vary greatly. Further explanation as to how many SIP trunks is required is explained below in [Configuring Individual Trunks](#) on page 13. Refer to the ShoreTel Mobility Router Administration Guide for more information.

Configuring SIP Proxies

1. In ShoreWare Director, select **Administration > Sites**.
2. Click to edit the site being used for the Mobility Router integration.
3. Under **Proxy Switch 1**, select the ShoreGear switch that hosts the SIP Proxy resources.
4. Optionally, enter a Virtual IP address value. .

SIP Proxy:

Virtual IP Address:

Proxy Switch 1:

Proxy Switch 2:

Emergency Number List:

Trunk Access Code Required [Add More...](#)

**Note**

If there is no second proxy switch, the Virtual IP Address must not be configured.

Configuring the SIP Trunk Group for the ShoreTel Mobility Router

1. In ShoreWare Director, select **Administration > Trunks > Trunk Groups**.
2. In the **Add new trunk group at site** dropdown, select the site where the Mobility Router is located.
3. Select type **SIP**.
4. Click **Go**. The **Edit SIP Trunk Group** page appears.

Trunk Groups [Help](#)

Add new trunk group at site: of type: [Go](#)

Name	Type	Site	Trunks	DID	Destination	Access Code
Analog Loop Start	Analog Loop Start	Headquarters	0	No	1700	9
Digital Loop Start	Digital Loop Start	Headquarters	0	No	1700	9
Digital Wink Start	Digital Wink Start	Headquarters	0	No	1700	9

5. In the **Name** field, enter **SMR** (or other appropriate name).

10. Under **Trunk Digit Manipulation**, uncheck all options.

Trunk Services:

Local

Long Distance

International

Enable Original Called Information

n11 (e.g. 411, 611, except 911 which is specified below)

Emergency (e.g. 911)

Easily Recognizable Codes (ERC) (e.g. 800, 888, 900)

Explicit Carrier Selection (e.g. 1010xxx)

Operator Assisted (e.g. 0+)

Caller ID not blocked by default

Trunk Digit Manipulation:

Remove leading 1 from 1+10D

Hint: Required for some long distance service providers.

Remove leading 1 for Local Area Codes (for all prefixes unless a specific local prefix list is provided below)

Hint: Required for some local service providers with overlay area codes.

Dial 7 digits for Local Area Code (for all prefixes unless a specific local prefix list is provided below)

11. Scroll to the top and click **Save** to save the new SIP trunk group.
12. Click **Edit** in the **Off System Extension** area.
13. Add three extensions to be used as Off-System Extensions (OSEs). These OSE extensions are used to route incoming calls from the PSTN to the ShoreTel Mobility Router. When possible, set these three extensions to match the trailing digits of the three DID numbers that are used for the Access Number, Handover Number and Reverse Dial Number. These OSE extensions are used later by a DNIS Map.

Range:

2167 to 2168

2258 to 2258

New...

Edit...

Remove

OK Cancel

14. Click **OK** to save the off system extension list.

Configuring Individual Trunks

1. Select **Administration > Trunks > Individual Trunks** to configure the appropriate number of trunks for your infrastructure.
2. In the **Add new trunk at site** dropdown, select the site where the new SIP Trunk Group was created.
3. Select the newly created **SIP Trunk Group**.
4. Click **Go**.
5. Enter a **Name**.
6. For **Switch**, choose a ShoreTel voice switch that has allocated sufficient SIP Trunk resources from the dropdown menu.
7. Under **IP Address**, enter the ShoreTel Mobility Router's **ETH0** address.
8. Enter the appropriate **Number of Trunks**.
9. Click **Save**.

The screenshot shows the 'Trunks' configuration page in the ShoreTel web interface. At the top, there are buttons for 'New', 'Copy', 'Save', 'Delete', and 'Reset'. Below these is a table with one row: 'Edit this record' and 'Refresh this page'. The main form contains the following fields:

- Site: Sunnyvale, CA
- Trunk Group: SMR SIP Trunk Group
- Name: SMR SIP Trunks
- Switch: Sunnyvale-90
- IP Address: 192.168.6.240
- Number of Trunks (1 - 220): 20

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The example above shows using 20 SIP trunks. This needs to match the number of SIP trunks that were allocated on the switch in [Configuring Switch Resources](#) on page 15. If you created SIP trunks on two separate switches, create another set of trunks and reference the second switch.

Configuring Off System Extensions

When the ShoreTel RoamAnywhere Client needs to access the ShoreTel Mobility Router via the cellular network, it calls the Mobility Router's Access Number DID. The ShoreTel IP-PBX then routes the call to the ShoreTel Mobility Router via a SIP trunk group. Three unique DID numbers are used by the Mobility Router: an Access Number DID, a Handover Number DID, and a Reverse Dial DID. These three numbers are configured in the Mobility Router; these numbers must be noted and used in these steps to set up the proper digit manipulation and forwarding.



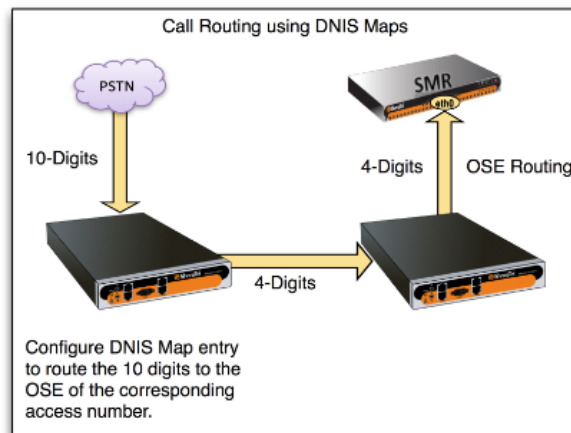
Note

A minimum of two DIDs are required. The third DID (Reverse Dial) is used in a Blackberry environment.

To route the incoming call to the Mobility Router, configure OSEs on the SIP Trunk Group used between the ShoreTel PBX and the Mobility Router. Inbound calls received by the ShoreTel PBX are routed to the Off-System Extensions by configuring DNIS Maps. A DNIS map for each DID Number must be created. Refer to *Application Note: Numbering Plan* or the Numbering Plan section of the *ShoreTel Mobility Router Administrator's Guide* for more information.

Configure DNIS Mapping

Create a DNIS map that maps the received DID digits to the off-system extension to route incoming DID digits (10 digits in this example) to the off-system extensions (4 digits in this example).



1. In ShoreWare Director, select **Administration > Trunks > Trunk Groups** and select the trunk group on which the DIDs are received. This will usually be the primary, or main, trunk group at your HQ site such as the “Main PSTN PRI” or “Main SIP trunk group” from the Telco.
2. Check the **DNIS** checkbox and select the **Edit DNIS Map** button.

Inbound:

Number of Digits from CO:

DNIS

DID

Extension

Translation Table:

Prepend Dial In Prefix:

Use Site Extension Prefix

3. Add a DNIS map entry for each Access Number DID..

DNIS Digit Map
PSTN Trunk Group [Save](#) [Reset](#) [Help](#)

* modified

[Edit this record](#) [Refresh this page](#)

Received Digits Dialed Number	Access	Destination	
4089142167	Access	2167	Delete
4089142168	Rev. Dial	2168	Delete

[Add this record](#) Extension

Off System



Note

Select the Off System radio button to see the range of off-system extensions configured on your system.

4. Click **Save**.



Note

Refer to [Numbering Plan Parameters](#) on page 40 below for more information on configuring the ShoreTel Mobility Router to properly receive and route these inbound DID numbers.

Configuring Users—Enabling Mobility Access for Individual Users

1. In ShoreWare Director, select **Administration > Users > Individual Users**.
2. Select a User.
3. On the **General** tab, scroll down to the **Mobility Options** section.
4. Select **Allow Enhanced Mobility with Extension**. Select the extension displayed or enter another available extension.
5. Scroll down to the **SIP Password** field. Enter a new SIP password and note this information. This is used to configure the line-side password on the Mobility Router in the **PBX-Side Security > Digest Password** field. Refer to [Line Tab](#) on page 44.
6. Select **Save**. The mobile extension is added to the user's list of additional phones. If the user's two additional phones are already allocated, you can replace one with the number of the new mobile extension.
7. Go to the newly created Mobility User in ShoreWare Director. Note the **Client User ID** information. This is used to configure the **PBX-Side Security > Digest User ID** field. Refer to [Line Tab](#) on page 44.

Configuring Users—Mobile Extension Only

1. In ShoreWare Director, select **Administration > Users > Individual Users**.
 - a. Select a User to be used with the RoamAnywhere Client, or create a new user (refer to the *ShoreTel Administration Guide*).
 - b. Make note of the **Client User ID** field. This is used to configure the **PBX-Side Security > Digest User ID** field. Refer to [Line Tab](#) on page 44.
 - c. Enter a new **SIP Password** and note this information. This is used to configure the line-side password on the Mobility Router in the **PBX-Side Security > Digest Password** field. Refer to [Line Tab](#) on page 44.
2. Click **Save**.

Users
[Help](#)

Edit User

▼ **General**
 ▶ Personal Options
 ▶ Distribution Lists
 ▶ Workgroups
 [Refresh this page](#)

First Name:
Last Name:
Number:
License Type:
Caller ID:
DID Range:
DID Number:
PSTN Failover:
User Group:

 Site:
Language:
Primary Phone Port:

 Current Port:
Jack #

 Mailbox Server:

 Accept Broadcast Messages
 Include in System Dial By Name Directory
 Make Number Private
 Fax Support:
 Client Type:
 Allow Video Calls:
 Allow Telephony Presence

Christian
 Gilby
 8833
 Extension and Mailbox
 (e.g. +1 (408) 331-3300)
 +14089198830 (4 of 8 available) VG [View System Directory](#)
 +14089198833 (Range: +14089198830 - 14089198837)
 None
 Executives [Go to this User Group](#)

 Headquarters
 English(US)
 IP Phones: Any IP Phone
 Ports:
 SoftSwitch: SoftSwitch
 Any IP Phone

 Headquarters [Escalation Profiles and Other Mailbox Options](#)

 User - Redirect
 Personal Enable Contact Center Integration
 None



Note

Mobile users must belong to a group that enables Allow Trunk-to-Trunk Transfer in the Telephony class of service. ShoreTel desk phone users do not require access to the SIP trunks that Mobility Routers use.

Configuring Users—Simultaneous Ring (Deskphone and Mobile)

1. In ShoreWare Director, select **Administration > Users > Individual Users**.
2. Select a User to be used with the RoamAnywhere Client, or create a new user (refer to the ShoreTel Administration Guide).
 - a. Set the **Caller ID** to be the deskphone user's caller ID.
 - b. In the **Primary Phone Port** area, select the **Softswitch** radio button.
 - c. Make note of or copy the **Enhanced Mobility Extension**. This is used to configure the **PBX-Side Security > Digest User ID** field. Refer to [Line Tab](#) on page 44.
 - d. Make note of or copy the **SIP Password**. This is used to configure the line-side password on the Mobility Router in the **PBX-Side Security > Digest Password** field. Refer to [Line Tab](#) on page 44.
 - e. Uncheck **Include in System Dial By Name Directory**.
 - f. Uncheck **Make Number Private**.
 - g. Uncheck **Allow Use of Softphone**.
 - h. Uncheck **Allow Phone API**.
3. Click **Save**.

**Note**

On most Mobility Router integrations, the client on the smartphone rings at the same time as the user desk phone. The next step assumes you already have a user desk phone configured and running. If you do not, then create a user with an extension and mailbox. Consult the ShoreTel Administration Guide for more details.

**Note**

Mobile users must belong to a group that enables Allow Trunk-to-Trunk Transfer in the Telephony class of service. ShoreTel desk phone users do not require access to the SIP trunks that Mobility Routers use.

These steps describe how to modify an existing desk phone user and add the Mobility client user as an additional extension to ring at the same time.

1. In ShoreWare Director, edit the user that will also be using the Mobility Client. On the **Personal Options** tab, select **External Assignment and Additional Phones**.

The screenshot shows the 'Edit User' interface for user 'Christian Gilby' (Extension: 8834). The 'Personal Options' tab is active. Under the 'Call Control Options' section, the 'External Assignment and Additional Phones' link is highlighted with a red arrow and the text 'Select this option'. Other visible options include 'Call Control Options', 'Call Handling Mode Options', and 'Mailbox Options'.

2. Under **Additional Phones: First Phone** select **Extension**.
3. Enter the user which was previously created for the Mobile Client.

The screenshot shows the 'Additional Phones' configuration page. The 'First Phone' section is selected. The 'Ring Delay' is set to '<None>'. The 'First Phone' section has three radio buttons: 'None', 'Extension', and 'External'. The 'Extension' radio button is selected, and the extension field contains '8833 : Christian Gilby'. The 'Number of Rings' is set to '5' and the 'Activation' is set to 'Accept call by answering'.

4. Click **Save**.

Configuring the Mobility Router

This section describes the steps to integrate the ShoreTel Mobility Router with the ShoreTel IP-PBX. In this example, the Mobility Router integrates end-points/devices via SIP lines to the ShoreTel telephony infrastructure.

General Parameters

1. On the Mobility Router Administration portal, select **Configuration > Voice > IP PBXs**.
2. Click **Add** and fill in the fields:

- a. Enter a name in the **Name** field. In this example **ShoreTel-interop** is used.
- b. Select the Type **ShoreTel**.
- c. Select the desired Numbering Plan, for example **North America** if the PBX resides in North America.
- d. Verify **Line-Side Support** is checked (enabled).
- e. In the **FQDN or IP Address** field, enter the IP address of the ShoreGear voice switch that will be acting as the SIP Device Proxy for the ShoreTel site.



Note

The ShoreGear voice switch is the IP address configured in [Configuring Switch Resources](#) on page 9.

- f. In the **Port** field, enter **5060**.
 - g. All other fields can remain at their defaults.
3. Select **Apply** to configure the SIP trunk.

The screenshot shows the ShoreTel configuration interface for adding an IP PBX. The 'General' tab is selected, and the following fields are visible:

- Name:** Shoretel-interop
- Type:** Generic
- Numbering Plan Template:** North America
- Line-Side Support:**
- FQDN or IP Address:** 10.1.1.10
- Port:** 5060 (range 1024 - 49151)
- SIP Transport:** udp
- SIP Domain Name:** (empty)
- Keep Alive Time:** 3600 (range 60 - 3600 seconds)

A 'Next' button is located at the bottom of the form.

SIP Trunk Parameters

On the SIP Trunk tab, enter the following information.

1. In the **Local SIP End Point** area:
 - a. Verify the value of the eth0 **Interface**, as shown on the Interfaces page. This IP address is also entered as the destination IP address when you configure the SIP trunk on the IP-PBX.

3. Select **Apply**.
4. Select the **Numbering Plan** tab to configure a numbering plan.

Numbering Plan Parameters



Note

Refer to the ShoreTel Mobility Router Administrator's Guide for detailed information on numbering plans.

1. Use the **Change Numbering Plan** hyperlink to select a different country if appropriate. A popup window displays **Change Numbering Plan**.
 - Enter the following information in the fields at the top of the page:
 - In the **Anonymous Caller ID** field, enter the phone number the Mobility Router uses as the caller ID when it forwards an anonymous call to the mobile device when it is on the cellular network. The anonymous caller ID must be in the form of a valid PSTN number but does not need to be valid, such as 4085555555.
 - Enter the appropriate number in the **International Access Code** field. For example, in the United States this field would be **011**, for Australia, **0011**, for the UK it would be **00**, etc.
 - In the **Note** field, enter a description as desired.
 - Enter the appropriate number in the **Local Country Code** field.
 - Enter the appropriate number in the **National Code Number** field.

2. Click **Apply**.

IP-PBXs > Cisco-Interop

General SIP Trunk Numbering Plan Media Options

Basic Advanced [Change Numbering Plan](#) [Save Numbering Plan as Template](#)

Anonymous Caller ID: 4085555555 Local Country Code: 1

International Access Code: 011 National Number Code: 1

Note: (default numbering plan) North America

Enterprise Extension Pattern	Local Area Code	Local Exchange Code	Numbering Plan Area Code	Numbering Plan Local Number	Outside Line Access Code
8[0138]XX	408	919	[2-9][0-8]X	[2-9]XXXXXX	9

3. Select the numbering plan and click **Modify** to view the **Modify Parameter Set** window. The figure below displays a sample set of parameters.

Modify Parameter Set

Enterprise Extension Pattern (EEP): 8[0138]XX

Local Area Code (LAC): 408

Local Exchange Code (LEC): 919

Numbering Plan Area Code (NPA): [2-9][0-8]X

Numbering Plan Local Number (NPL): [2-9]XXXXXX

Outside Line Access Code (OLC): 9

4. If modifying the parameters, click **Apply** to continue.

5. Use the **Advanced** page to modify the details of the plan. Refer to the *ShoreTel Mobility Router Administrator's Guide* for details.

6. Using the North American example, ShoreTel extensions in the 2xxx range display. Create a number plan entry that expands these 4 digits into fully qualified (canonical) 10-digit numbers. Select **Add** to view the **Add Parameters Set** pop up. Enter the appropriate information and click **Apply**.

The screenshot shows the 'Numbering Plan' configuration page. At the top, there are tabs for 'General', 'SIP Trunk', 'Numbering Plan', 'Media', and 'Options'. The 'Numbering Plan' tab is active, showing a 'Basic' configuration with fields for 'Anonymous Caller ID', 'International Access Code', 'Local Country Code', and 'National Number Code'. Below this is a table of existing numbering plans:

Enterprise Extension Pattern	Local Area Code	Local Exchange Code	Numbering Plan Area Code	Numbering Plan Local Number	Outside Line Access Code
8[0138]XX	408	919	[2-9][0-8]X	[2-9]XXXXXX	9

An 'Add Parameter Set' dialog box is overlaid on the table, containing the following fields:

- Enterprise Extension Pattern (EEP): 2[12]XX
- Local Area Code (LAC): 408
- Local Exchange Code (LEC): 914
- Numbering Plan Area Code (NPA): [2-9][0-8]X
- Numbering Plan Local Number (NPL): [2-9]XXXXXX
- Outside Line Access Code (OLC): 9

Below the dialog, the table is updated with the new entry highlighted in blue:

Enterprise Extension Pattern	Local Area Code	Local Exchange Code	Numbering Plan Area Code	Numbering Plan Local Number	Outside Line Access Code
8[0138]XX	408	919	[2-9][0-8]X	[2-9]XXXXXX	9
2[12]XX	408	914	[2-9][0-8]X	[2-9]XXXXXX	9

At the bottom of the page, there are buttons for 'Add', 'Modify', and 'Delete'.

Media Parameters

- On the **Media** tab, enter or check the following information.
 - Ringback Detection** — Check
 - Initial Invite requires SDP** — Check
 - Re-Invite requires SDP** — Check
 - Default Payload (RFC 2833)** — 102
 - Voice Prompt Profile Name** — default

→ IP PBXs > CBAL-WB2-PBX

General	SIP Trunk	Numbering Plan	Media	Options
Inband DTMF Detection		<input type="checkbox"/>		
Ringback Detection		<input checked="" type="checkbox"/>	Extends the cellular call confirmation timeout	
Initial Invite requires SDP		<input checked="" type="checkbox"/>		
Re-Invite requires SDP		<input checked="" type="checkbox"/>		
Default Payload (RFC 2833)		<input type="text" value="101"/>	range 96 - 127	
Voice Prompt Profile Name		<input type="text" value="default"/>		
Voice Activity Detection		<input type="checkbox"/>	?	
Force RTP Bridging through the Mobility Router		<input type="checkbox"/>		
Mobility Router Transcoding		<input checked="" type="checkbox"/>	?	



Note

*Uncheck/disable Force RTP Bridging through the Mobility Router for ShoreWare Director 14+.

2. Select **Apply** to save changes.

IP-PBX Options

The features on the Options tab need not be modified. Refer to the *ShoreTel Mobility Administrator's Guide* for details on these features and configuration information.

Configuring Access Numbers

Access Numbers are used to terminate calls made on the Cellular network into the Enterprise Access Number (on the Mobility Router), anchoring the call through the enterprise PBX.

1. Select **Configuration > Voice > Access Numbers**.
2. Click **Add** at the bottom of the page.
3. Enter a name in the **Name** field.
4. Enter a description in the **Description** field.
5. In the **VoIP Handover Number** field, enter a unique number. Like the anonymous caller ID number, the VoIP Handover Number must be in the form of a valid PSTN number but does not need to be valid. For this example, use **1234567890**.
6. In the **Voice Mail Access Number** field, enter the number that users will dial to access their voice mail box. Log into ShoreWare Director and select **System Parameters > System Extensions** and use the extension that is in the **Voice Mail Login** field. For example, use **1102**.

7. In the **Mobile to Fixed Reverse Call Indicator** field, select **None** (will not show the reverse dial number caller ID).
8. For this deployment example, in the **Default Cellular Access Numbers** area:
 - a. Select **(310) United States of America** from the **Mobile Country Code** dropdown list.
 - b. In the **Access Number** field, enter the DID that was configured above in [Configuring DNIS Mapping](#).
 - c. In the **Reverse Dial** field, enter the DID that was configured above in [Configuring DNIS Mapping](#).
 - d. In the **Handover Number** field, enter the DID that was configured above in [Configuring Off System Extensions](#).
9. Click **Apply**.

Access Numbers > Add Access Numbers

Name	ShoreTel-interop								
Description	ShoreTel Access Numbers								
VoIP Handover Number	123456789								
Voice Mail Access Number	1102								
Mobile to Fixed Reverse Call Indicator	<input checked="" type="radio"/> None <input type="radio"/> Reverse Dial Number as Caller ID								
Default Cellular Access Numbers	<table border="1"> <tr> <td>Mobile Country Code</td> <td>(310) United States of America</td> </tr> <tr> <td>Access Number</td> <td>4089142067</td> </tr> <tr> <td>Reverse Dial Number</td> <td>4089142068</td> </tr> <tr> <td>Handover Number</td> <td>4089142258</td> </tr> </table>	Mobile Country Code	(310) United States of America	Access Number	4089142067	Reverse Dial Number	4089142068	Handover Number	4089142258
Mobile Country Code	(310) United States of America								
Access Number	4089142067								
Reverse Dial Number	4089142068								
Handover Number	4089142258								

Apply

10. Leave all **Country Specific Cellular Access Numbers** parameters at their defaults.

Configuring Groups

This section creates the ShoreTel Mobility Group.



Note

The following screenshots and examples are for demonstration purposes only and are not intended to supply site-specific details.

1. Select **Configuration > Groups and Users > Groups**.
2. Click **Add** to configure **General** settings.
3. Enter a name in the **Name** field.
4. Select the **IP PBX** previously created (**ShoreTel-interop**).

5. Select the Access Numbers (ShoreTel-interop).

Groups > Add Group

General | Security | Options | Calling Rules

Name: shoreTel-interop

IP PBX: ShoreTel-interop [Add](#)

Access Numbers: ShoreTel-interop [Add](#)

External Group Authorization:

[Next](#)

6. Click **Next** to go the **Security** tab.

Security Tab

Security settings are for user authentication between the Mobility Router and the ShoreTel IP-PBX. In addition, this tab configures security settings for communication between the ShoreTel-enabled mobile device(s) and the Mobility Router.

1. In the **PBX-Side Security** area, enter the following:
 - a. Select **Digest**.
 - b. Select **Same as RA user ID**.
 - c. Leave the **Password** field blank. Set each user's password in "[Configuring Users](#)" on page 24.
2. In the **Client-side Security (WiFi)** area, select **None**.
3. In the **Client-side Security (Cellular)** area, select **None**.
4. Click **Apply**.

Groups > shoreTel-interop

General | Security | Options | Calling Rules

PBX-Side Security

None

Digest User ID Same as RA User ID

Same as RA User Enterprise Extension

Default

Password:

Client-Side Security (WiFi)

None

Certificate

Client-Side Security (Cellular)

None

Generate random pin per user

Default Pin

[Apply](#) Apply to all existing users in this group

Options Tab

The features on the Options tab need not be modified. Leave these parameters at their defaults. Refer to the *ShoreTel Mobility Administrator's Guide* for details on these features and configuration information.

Configuring Users

This section creates the Mobility Router Users, and sets up the supporting elements previously configured. The fields on this tab are used in conjunction with the RoamAnywhere Client settings.

1. Select **Configuration > Groups and Users > Users**.
2. Click **Add**.
3. Select the appropriate **Group**.
4. Enter a **User ID** in the field. This field must match the Client User ID field noted when configuring the parameters in [Configuring Users—Mobile Extension Only](#).
5. Enter a the user's **Full Name** in the field.
6. Check **Local User**.
7. Enter an end user **Password**. This password is required if the user accesses any of the Mobility Router services, including provisioning, directory query searches, the User Portal pages, etc.
8. Check **Enabled**.

The screenshot shows the configuration interface for a user. The 'Options' tab is selected, and the following fields are visible:

- Group:** shoreTel-interop (dropdown menu)
- User ID:** cgilby (text input)
- Full Name:** christian gilby (text input)
- Local User:**
- Password:** [masked with asterisks] (password input)
- Enabled:**

An **Apply** button is located at the bottom of the form.

9. Click **Next** to configure the **Line** parameters.

Line Tab

On the **Line** tab, enter the information that aligns with the mobile user created on the ShoreTel ShoreGear.

1. Enter the **Enterprise Extension**. This setting must match the information on the ShoreTel ShoreGear as configured in [Configuring Users—Mobile Extension Only](#) on page 16.
2. Enter the **Full Enterprise** number. This setting must match the information on the ShoreTel ShoreGear as configured in [Setting Mobility Only Extension Profiles](#) on page 35.

3. In the **PBX-Side Security** area, enter the following:
 - a. Select **Digest**. For a Mobility Only user, use the User ID. For an enhanced Mobility users, use the Enhanced Mobility Extension as created in ShoreWare Director.
 - b. Enter a password in the **Password** field. Ensure this is the same password used in the ShoreTel ShoreGear **SIP Password** field noted in [Configuring Users—Enabling Mobility Access for Individual Users](#) on page 15.
4. In the **Client-side Security (WiFi)** area, select **None**.
5. In the **Client-side Security (Cellular)** area, select **None**.

The screenshot shows the configuration page for a Mobile Device. The tabs at the top are General, Line, Mobile Device, Additional Device, Calling Rules, Home Locations, and Options. The Mobile Device tab is active. The form contains the following fields and options:

- Enterprise Extension: 8833
- Enterprise Full Number: +14089198833
- Forwarding Number: (empty)
- PBX-Side Security:
 - None
 - Digest
 - User ID: cgilby
 - Password: *****
- Client-Side Security (WiFi):
 - None
 - Certificate
- Client-Side Security (Cellular):
 - None
 - Pin

An **Apply** button is located at the bottom of the form.

Other Users Tabs

The features on the Mobile Device, User Device, Calling Rules, Home Locations and Options tab need not be modified. Leave these parameters at their defaults. Refer to the *ShoreTel Mobility Administrator's Guide* for details on these features and configuration information.

References and Resources

This completes the integration of the ShoreTel Mobility Router with the ShoreTel IP-PBX. For more details on installation and complete usage instructions, refer to the following resources:

- ShoreTel Planning and Installation Guide, Version 14.x.
- ShoreTel System Administration Guide, Version 14.x.
- ShoreTel Release Notes, Version 14.x.
- ShoreTel Mobility Router Administrator's Guide, Version 8.0.
- ShoreTel Mobility Release Notes, Version 8.0.