Optimum Business Trunking and the CudaTel 2.6.004 IPPBX Configuration Guide

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Table of Contents

1 Overview

The purpose of this configuration guide is to describe the steps needed to configure the Cudatel PBX for proper operation Optimum Business Sip Trunking.

2 SIP Trunk Adaptor Set-up Instructions

These instructions describe the steps needed to configure the LAN side of the Optimum Business SIP Trunk Adaptor.

Step 1:

Log on to the Optimum Business SIP Trunk Adaptor

1. Connect a PC to port 4 of the Optimum Business SIP Trunk Adaptor, the silver device labeled Edgewater Networks, 4550 series.

2. Open a Web browser and go to IP Address http://10.10.200.1. A login box will appear.

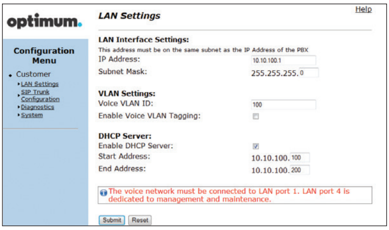
3. Enter login and password and click 'OK'.
   Login: pbxinstall
   Password: s1ptrunk

Step 2:

Click on the LAN Settings Link

1. Assign an IP Address to the LAN interface of the SIP Trunk Adaptor. The IP address must be on the same subnet as the IP PBX. This changes the address on port 1 of the Optimum Business SIP Trunk Adaptor.

   Note: This will become your local SIP proxy IP address. No other IP addresses will be provided by Cablevision.



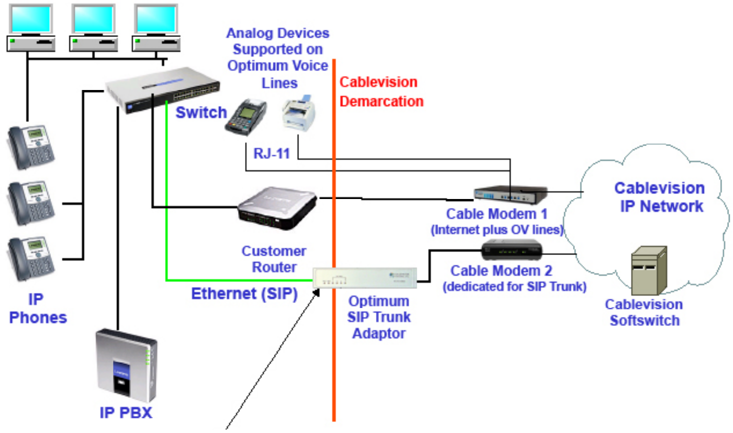
2. Optional: Specify a VLAN for your voice traffic. Click the 'Enable Voice VLAN Tagging' check box. The default VLAN ID is 100.

   Note: VLAN 200 should not be used. It is dedicated to port 4 for management.

3. Optional: Enable the DHCP server. This will allow the SIP Trunk Adaptor to act as a DHCP server, which will provide IP addresses to the voice network, and create a dedicated voice LAN, as per diagram 2.

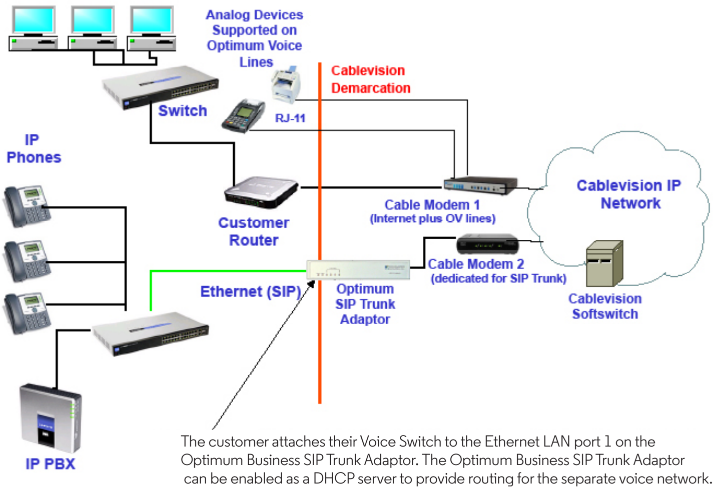
4. Click 'Submit'.

Diagram 1 SIP Trunk Adaptor for IP-PBXs Example: Single LAN Configuration



Using a connection from the customer's LAN, the SIP Trunk Adaptor's address can be a statically assigned private IP address. It may not be assigned a Public IP address.

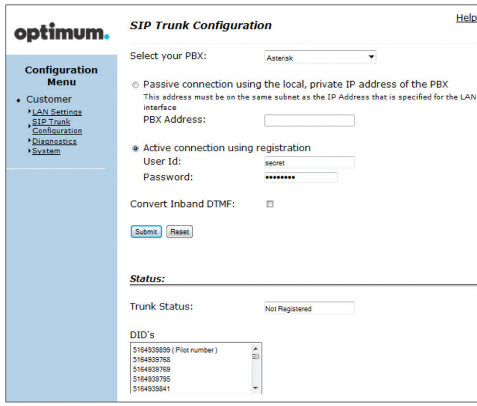
Diagram 2 SIP Trunk Adaptor for IP-PBXs Example: Separate Voice and Data Networks Configuration



The customer attaches their Voice Switch to the Ethernet LAN port 1 on the Optimum Business SIP Trunk Adaptor. The Optimum Business SIP Trunk Adaptor can be enabled as a DHCP server to provide routing for the separate voice network.

Step 3:

Click on the SIP Trunk Configuration Link



1. Select your IP PBX make and model from the drop-down menu.

2. Specify how the IP PBX will register to the Optimum Business SIP Trunk Adaptor.

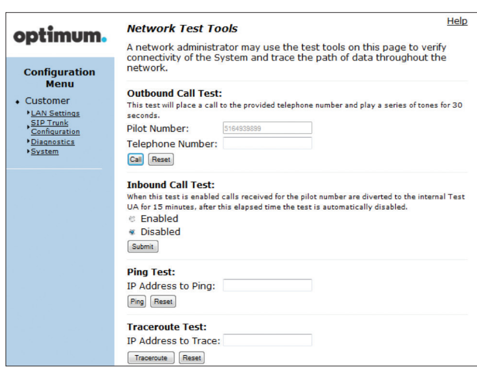
3. The Cablevision network only supports Inband DTMF. Click on the check box next to “Convert Inband DTMF” if you cannot configure your IP PBX to send out Inband DTMF. The DTMF tone duration generated by the phones and/or PBX may need to be increased from their default setting. Some phones and/or PBX have a default setting between 180ms to 200ms. This setting is too low. The recommended setting is 600ms.

4. Click ‘Submit’.

Step 4:

Diagnostics Link

You can make a test call directly from your phone or use the test call application under the Diagnostics link.



Step 4 continued

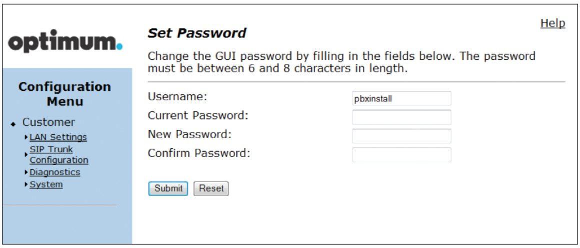
Field	Description
Outbound Call Test TelephoneNumber	Specifies an outside phone number to which an outbound call will be initiated. The pilot telephone number of the SIP Trunk will be prepopulated.
Pilot Number	Displays the provisioned pilot number, which is used for outbound and inbound call tests.
Call	Initiates a call outbound to a telephone number entered or inbound to the pilot number displayed.
Inbound Call Test (radio button)	Indicates whether inbound test call will be enabled or disabled. If inbound test calls are enabled, calls made to the pilot number will be redirected to the test UA for fifteen minutes. When the pilot number is dialed, you will hear a test message play.
Submit	Enables or disables the inbound call test.
IP Address to Ping	Verifies basic connectivity to a networking device. Successful ping test results indicate that both physical and virtual path connections exist between the system and the test IP address.
Ping Button	Sends a ping to the IP address specified in the field "IP Address to Ping".
IP Address to Trace	Tracks the progress of a packet through the network. The packet can be tracked through the WAN or LAN interfaces of the adaptor.
Interface (radio button)	Indicates whether a packet will be tracked through the LAN or the WAN.
Traceroute Button	Initiates a traceroute to the specified IP address on either the LAN or the WAN.
Reset	Clears all fields and selections and allows you to enter new information. Reset applies to outbound call test, ping and traceroute.

3 Additional Set-up Information

Systems

Field	Description
Pbxinstall Link	Select to change the default password for the pbxinstall login ID. Only the password can be changed. The login ID cannot be changed.

Password



Field	Description
Username	Specifies the username for which the password can be changed.
Current Password	Specifies the current password.
New Password	Specifies the new password.
Confirm Password	Confirms the new password.
Submit	Applies the settings configured on this page.
Reset	Clears all fields and selections and allows you to enter new information.

4 International Calling

Optimum Voice Business Trunking offers an optional International Calling Service for direct-dialed calls made from the Customer's business or from any phone via the Optimum Voice International Calling remote access number to destinations outside of the United States, Puerto Rico, Canada and the U.S. Virgin Islands at per minute rates. The Customer must login to the Optimum Business Account Center and activate the service on the Optimum Business Trunk Pilot telephone number to activate the service and manage the monthly International spending limit for the account.

Activating International calling on the Pilot TN will enable International calling for all Direct Inward Dial (DIDs) telephone numbers as well. Blocking International calling for one or more DIDs is managed by the customer directly from the PBX phone system configuration. To minimum the exposure to fraudulent calling, It is recommended to limit International calling capability to those DID's that require it and set up an account spending limit that reflects what is necessary to run the business.

It is the Customer (and/or the Customer Agent's) responsibility to properly secure the customer's PBX to prevent the PBX from being compromised and fraudulent calls from being made by unauthorized (internal or external) users. If fraudulent calls are detected, Cablevision reserves the right to disable International Calling until the PBX is properly secured by the customer.

Important:

The Cablevision network supports only inband DTMF tones. The CudaTel PBX supports only sending out-of-band DTMF tones. In order for the CudaTel PBX to operate correctly with the Cablevision network, the Optimum SIP Trunk Adaptor must be enabled to convert out-of-band DTMF tones sent by the CudaTel PBX to inband DTMF tones. To enable this conversion, log into the Optimum SIP Trunk Adaptor using the login and password specified in the Optimum SIP Trunk Adaptor Set-up Guide. On the **SIP Trunk Configuration** page, you **must** check the **Convert Inband DTMF** checkbox, and click the **Submit** button to update this setting. This is Step 3 of the Optimum Sip Trunk Set-up Guide.

This configuration guide provides the configuration steps for both PBX registration and static or non-registration modes of PBX operation.

5 PBX Configuration

To access the PBX configuration GUI point the browser to 192.168.200.200 (unless changed from the default IP previously). The below login page will appear.

Figure-1

The default username and password login is:

Username: admin

Password: admin

A screen similar to the below image will be displayed upon successfully logging into the PBX.

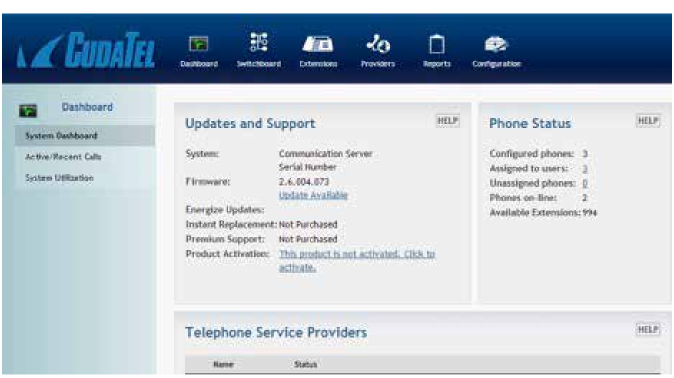


Figure-2

Confirm the firmware is 2.6.004.

Select the **Configuration** button in the upper panel on the far right, select the **Network** link on the left panel.

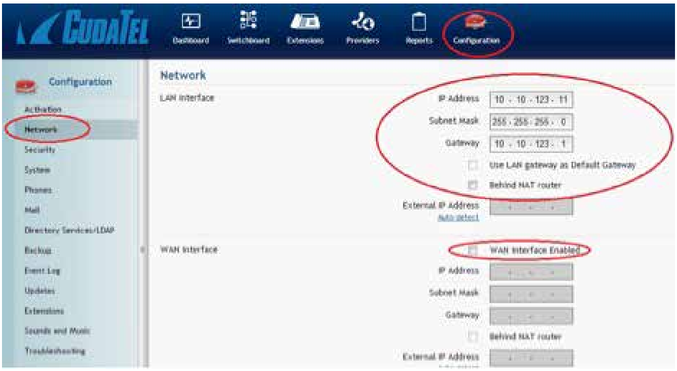


Figure-3

Modify the following settings:

LAN Interface: This section will configure the static IP address of the PBX.

IP Address: Enter in the IP address to be assigned to the PBX.

Subnet Mask: Enter in the subnet mask for the network assigned to the PBX.

Gateway: Enter in the Gateway IP address to the network. By default, this is the LAN side IP address of the upstream Optimum Business SIP Trunk Adaptor.

Use LAN Gateway as Default Gateway: Uncheck this box.

Behind NAT Router: Uncheck this box.

WAN Interface Enabled: Uncheck this box. No other fields should be populated.

Scroll to the bottom of the page, click on the **Apply Changes** button.

With this Network configuration, the WAN port on the PBX will no longer be in use. The LAN port will be plugged into the Optimum Business SIP Trunk Adaptor's LAN port or the switch that plugs into the Optimum Business SIP Trunk Adaptor's LAN port.

On the left panel, click the **Phones** link. The page below will appear.

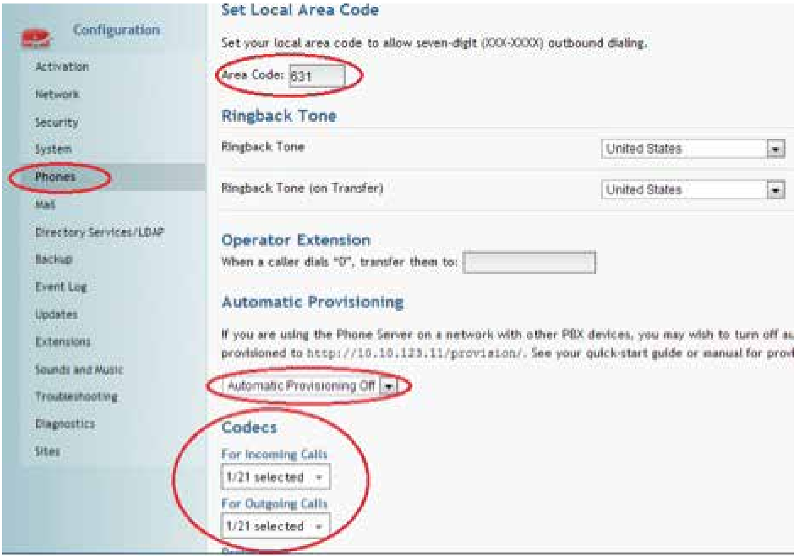


Figure-4

Set Local Area Code: Enter in the Area Code the DID's will use.

Automatic Provisioning: Set this drop-down box to Automatic Provisioning Off.

Codecs: For Incoming Calls, and For Outgoing Calls unselect ALL codecs except the G.711u and G.711a option.

All other options and fields should be left blank or left to the default configuration. On this page there is no Apply Settings options, this is done automatically as soon as the options are set.

Click the **Extensions** link on the left panel. The below page will appear.

Figure-5

Click the **Add an Extension Block** link.

A new field will prompt for an extension range, in the first box enter the starting extension such as 2000, enter 2999 in the second box.

Click the blue **Add New Extension Block** button to complete this change.

On this page there is no Apply Settings button, settings are saved by default.

On the upper panel, click the **Providers** link. Click the **New SIP Account** link. The below window will appear.

For Registration Mode: Follow the below settings.

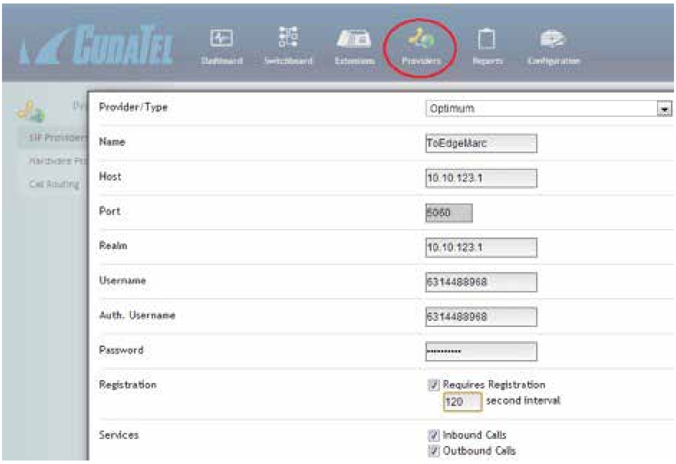


Figure-6

Provider/Type: Select the **Optimum** option from the drop-down list.

Name: Set a Name. ToEdgeMarc was selected for this example

Host: The LAN IP address of the Optimum Business SIP Trunk Adaptor.

Port: Cannot change this setting, defaults to 5060.

Realm: Set this to the Optimum Business SIP Trunk Adaptor's LAN IP address, should match the Host field.

Username: Pilot DID or assigned username for registration to the Optimum Sip Trunk Adaptor. This must match what was entered in the Optimum Business SIP Trunk Adaptor in Step 3 of the SIP Trunk Set-up Guide.

Auth. Username: Same as Username field. This must match what was entered in the Optimum Business SIP Trunk Adaptor in Step 3 of the SIP Trunk Set-up Guide.

Password: Registration password. This must match what was entered in the Optimum Business SIP Trunk Adaptor in Step 3 of the SIP Trunk Set-up Guide.

Registration: Check the **Require Registration** box and set the second interval field to the recommended value of 120.

Services: Check both **Inbound Calls** and **Outbound Calls**.

Leave all other settings as default. Scroll to bottom and click the **Create Gateway** button.

For Non-Registration Mode: Follow the below settings.

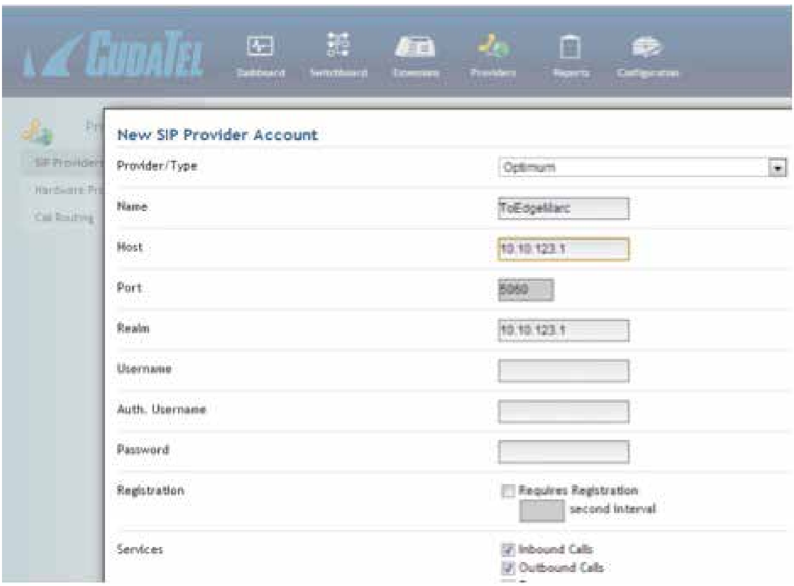


Figure-7

Provider/Type: Select the **Optimum** option from the drop-down menu.

Name: Set a Name. ToEdgeMarc was selected for this example.

Host: The LAN IP address assigned to the Optimum Business SIP Trunk Adaptor.

Port: Cannot change this setting, defaults to 5060.

Realm: Set this to the Optimum Business SIP Trunk Adaptor's LAN IP address, should match the Host field.

Username: Leave blank.

Auth. Username: Leave blank.

Password: Leave blank.

Registration: Uncheck and Leave blank.

Services: Check both **Inbound Calls** and **Outbound Calls**.

Leave all other settings as default. Scroll to bottom and click the **Create Gateway** button.

A new Gateway will appear in the Provider's page. Click on the new Gateway. The below page will appear.

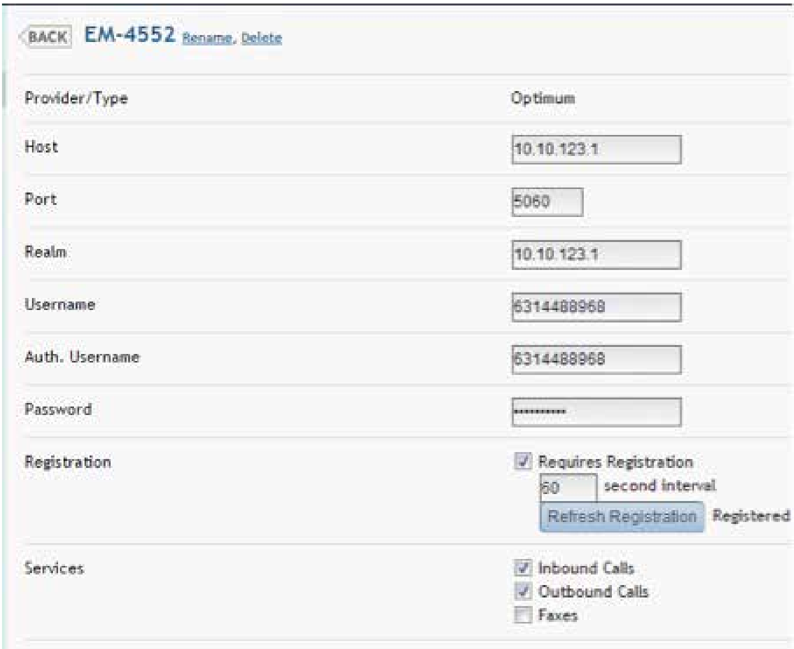


Figure-8

Scroll to the bottom to continue the configuration.

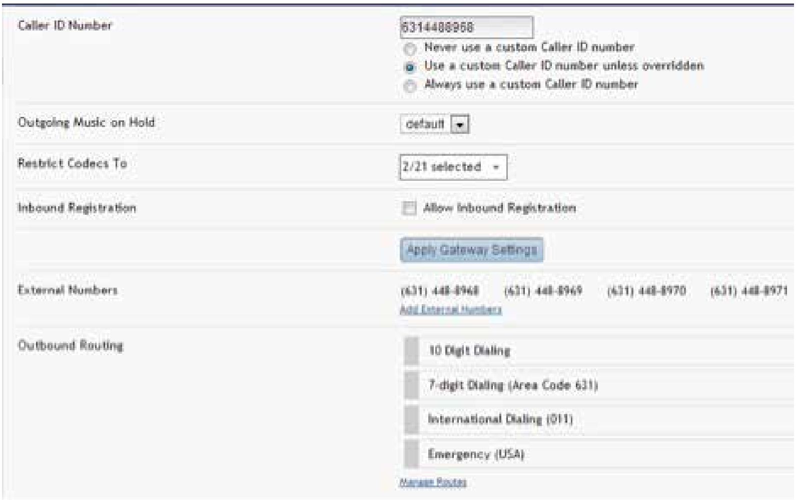


Figure-9

Caller ID Number: In this field enter the Pilot DID.
Select the **Use a Custom Caller ID Number Unless Overridden** radio button.This setting will use the Pilot DID by default unless an extension specifically overrides it. To force the extensions Caller ID, select the **Never Use a Custom Caller ID Number**. To always force the Pilot DID on outbound calls select the Always **Use a Custom Caller ID Number**.

Outgoing Music on Hold: There are two options, default and silence. Set this option to determine what the remote user hears when put on hold.

Restrict Codecs To: Select G.711 ulaw and G.711 alaw.

Inbound Registration: Uncheck for security reasons.

External Numbers: Click the **Add External Numbers** link. Starting with the Pilot DID, add each DID the PBX will use.

Outbound Routing: Leave to default, this will auto-populate.

Click the **Apply Gateway Settings** button.

In the upper panel, click the **Extensions** link. In the new left panel, click the **People** link then click the **Add New Person** link. The below window will appear.

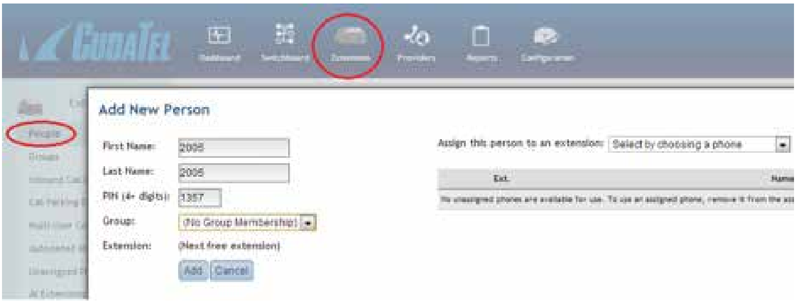


Figure-10

Fill in the **First Name, Last Name**, and a **4 digit PIN** for the new extension. Leave all other options to default. Click the blue **Add** button.

After the creation of the user, click on the new user listed under the **People** link and the below page will appear.

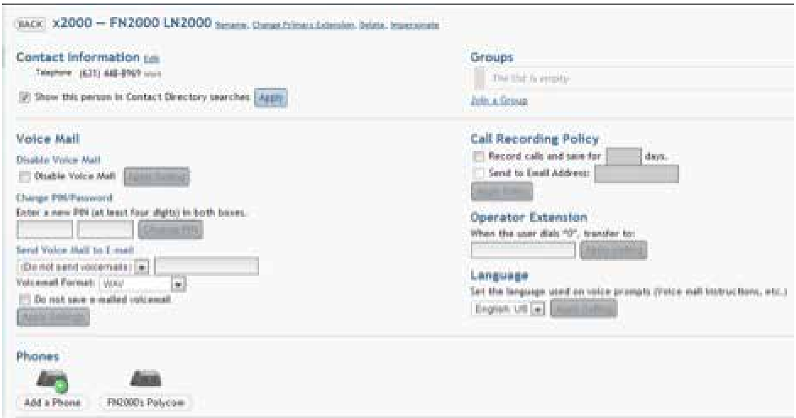


Figure-11

Contact Information (Optional): Click the **Edit** link to modify the user's contact details.

Phones: Click the **Add a Phone** button, the below will appear.

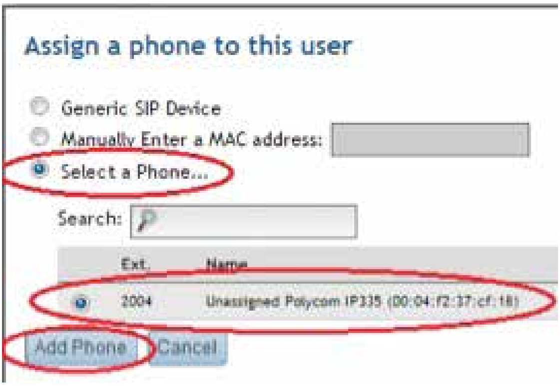


Figure-12

Click the **Select a Phone** button, click an unassigned phone listed. Click the blue **Add Phone** button to complete. The User page should reappear with the phone listed.

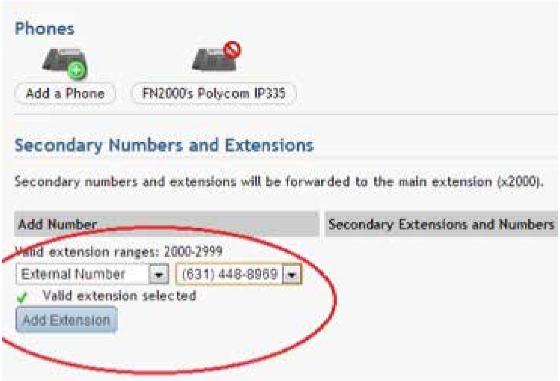


Figure-13

Under the **Add Number** section select **External Number** in the drop-down box. A second drop-down box will appear, select a DID to assign to this extension. Click the **Add Extension** button.

Click the **Apply Setting** button.

Click the **Call Parking Extensions** on the left panel. Then click the **Add New Parking Extension** link.

Figure-14

The below window will appear.

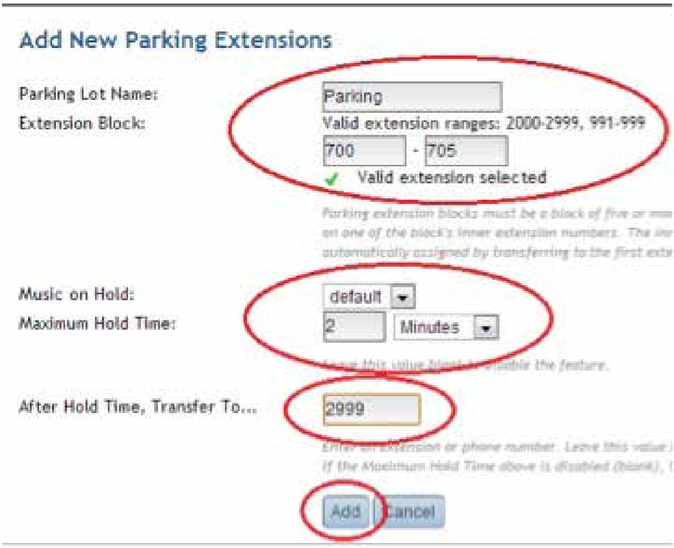


Figure-15

Parking Lot Name: Name the Parking lot.

Extension Block: Enter 700 in the first field, 705 in the second field.

Music on Hold: Set to **Default** or **Silence**. The party transferred into the Parking Lot will hear what is defined.

Maximum Hold Time: The duration the party is allowed to be parked.

After Hold Time, Transfer To...: Where to send the caller after the hold time is up. 2999 in this example is the Automated Attendant (recommended).

Click the blue **Add** button to apply changes.

In the left panel click the **Automated Attendants** then click the **Add New Automated Attendant** link.

Figure-16

The below window will appear.

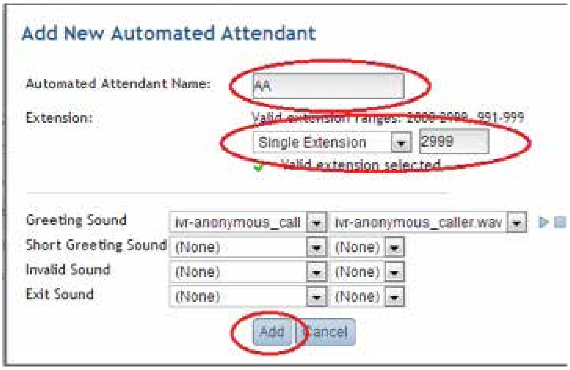


Figure-17

Automated Attendant Name: Give the AA a name.

Extension: In the drop-down box select **Single Extension**, enter in the Automated Attendants extension in the field.

Leave other options as default.

Click the blue **Add** button to save the changes.

Click on the new **Automated Attendant** that now appears under the Automated Attendant page. Configure to each option as desired.

Important: The DTMF tone duration generated by the phones needs to be increased from the default value of 180ms-200ms to 600ms. The PBX does not have the capability to change the DTMF settings, the change must be done on the phones. The Optimum Business Sip Trunk Adaptor needs to be configured to Convert Inband DTMF. This is Step 3 in the Optimum Business Sip Trunk Set-up Guide.