

Optimum Business Trunking and the Samsung OfficeServ 7100 IP-PBX Configuration Guide

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1 Overview

The purpose of this configuration guide is to describe the steps needed to configure the Samsung OfficeServ 7100 IP-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: slptrunk



Step 2:

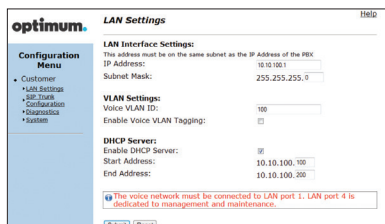
Click on the LAN Settings Link

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.

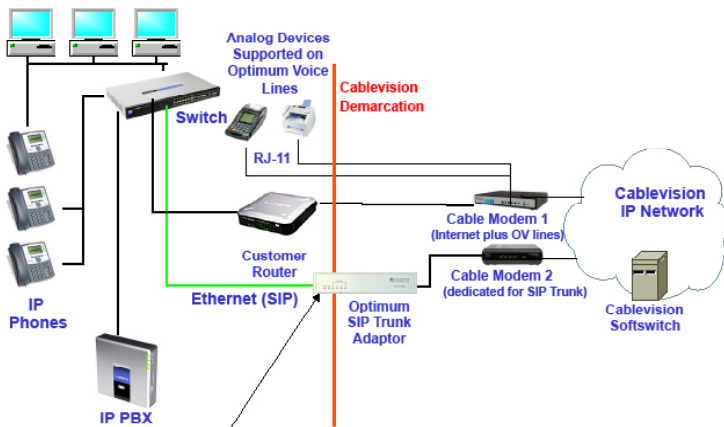
2. Optional: Specify a VLAN for your voice traffic. Click the 'Enable Voice VLAN Tagging' check box. The default VLAN ID is 100.

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



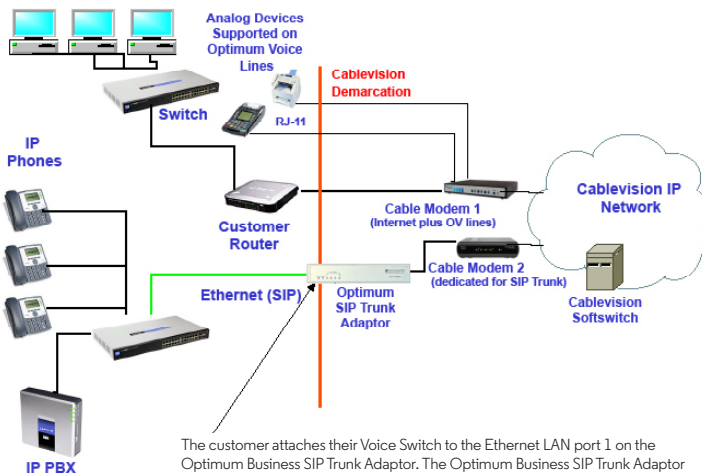
- Optional: Enable the DHCP server. This will allow the SIP Trunk Adaptor to act as a DHCP server, which will provide IP addresses to the voice network, and create a dedicated voice LAN, as per diagram 2.
- Click 'Submit'.

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'.

The screenshot shows the 'SIP Trunk Configuration' page. On the left is a 'Configuration Menu' with links: Customer, LAN Settings, SIP Trunk Configuration (selected), Diagnostics, and System. The main content area has a 'Select your PBX:' dropdown menu with 'Asterisk' selected. Below this are two radio button options: 'Passive connection using the local, private IP address of the PBX interface' (unselected) and 'Active connection using registration' (selected). The 'Active connection' section includes fields for 'PBX Address:', 'User Id:' (set to 'secret'), and 'Password:' (masked with asterisks). There is a checkbox for 'Convert Inband DTMF:' which is currently unchecked. 'Submit' and 'Reset' buttons are present. A 'Status:' section shows 'Trunk Status:' as 'Not Registered' and a list of 'DID's' (0164030809, 0164030760, 0164030769, 0164030765, 0164030841).

Step 4:

Diagnostics Link

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

The screenshot shows the 'Network Test Tools' page. The left 'Configuration Menu' is the same as in Step 3. The main content area has a title 'Network Test Tools' and a description: 'A network administrator may use the test tools on this page to verify connectivity of the System and trace the path of data throughout the network.' It features three test sections: 1. 'Outbound Call Test:' with a description and a 'Pilot Number:' field (containing 0164030809) and 'Call'/'Reset' buttons. 2. 'Inbound Call Test:' with a description, radio buttons for 'Enabled' (selected) and 'Disabled', and a 'Submit' button. 3. 'Ping Test:' with an 'IP Address to Ping:' field and 'Ping'/'Reset' buttons. 4. 'Traceroute Test:' with an 'IP Address to Trace:' field and 'Traceroute'/'Reset' buttons.

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

optimum.

System [Help](#)

Configuration Menu

- Customer
 - LAN Settings
 - SIP Trunk Configuration
 - Diagnostics
 - System

Software Version:
Version 11.6.14.1 -- Fri Jan 4 17:49:28 PST 2013

Hostname:
5164939899

Model:
EdgeMarc 4552

Vendor:
Cablevision

LAN Interface MAC Address:
A8:70:A5:00:D8:18

Registration Status:
The ALG feature is registered. View [license key](#).

System Date:
02/29/2016 15:03:40 UTC

Change Password:

- [pbxinstall](#)

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

optimum.

Set Password [Help](#)

Configuration Menu

- Customer
 - LAN Settings
 - SIP Trunk Configuration
 - Diagnostics
 - System

Change the GUI password by filling in the fields below. The password must be between 6 and 8 characters in length.

Username:

Current Password:

New Password:

Confirm 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.

5 PBX Configuration

The steps below describe the minimum configuration required to enable the PBX to use Optimum Business Sip Trunking for inbound and outbound calling. Please refer to the OfficeServ 7100 product documentation for more information on advanced PBX features.

The configuration described here assumes that the PBX is already configured and operational with station side phones using assigned extensions or DIDs. This configuration is based on Samsung OfficeServ 7100 v4.82.

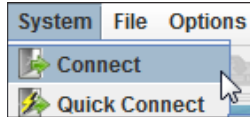
This guide provides the configuration steps for both PBX registration and static or non-registration modes of PBX operation.

Table 1 – PBX Information

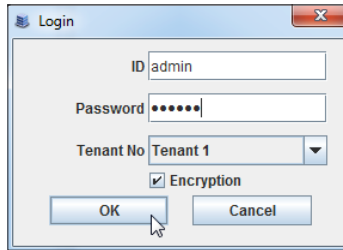
Manufacturer:	Samsung
Model:	OfficeServ 7100
Software Version:	4.82
Does the PBX send SIP Registration messages (Yes/No)?	Yes
Vendor Contact:	www.samsung.com

6 Network Settings

To connect to the PBX navigate to System from above and click **Connect**.



Enter the password and leave the **Encryption** box checked. Thereafter click **OK**.



Login

ID: admin

Password: [masked]

Tenant No: Tenant 1

☒ Encryption

OK Cancel

Navigate to **2.1.0** to configure initial settings. Enter the PBX IP address next to **IP Address** and the Optimum Business Sip Trunk Adaptor's (Edgewater device) IP address next to **Gateway**.

2.1.0. System Selection	
Item	Value
System Country	USA
IP Version	IPv4
IP Address	10.10.159.11
Gateway	10.10.159.1
Subnet Mask	255.255.255.0
WBS Select	Dual

When done click Save.



Navigate to **2.1.5** and next to **DTMF Type** select **Inband (RFC283)**. Also the **SIPT Ringback Message** should be **183**.

VoIP RTP Option	DTMF Type	Inband(RFC2833)
	MPS Service	On
	No MPS >> MGI	On
	SIPT >> SIPT MGI Use	Off
	SIPT Ringback Message	183

NOTE: Checking Convert Inband to DTMF is not required on the Optimum Business Sip Trunk Adaptor. Further DTMF tone duration cannot be modified on the GUI nor on the phones.

When done click Save.



7 SIP Configuration

To configure SIP navigate to **5.2.13**. Enter a name for the Optimum Business Sip Trunk Adaptor next to **SIP Carrier Name** (EM-4552 was entered for this example). Select **Enable** next to **SIP Server Enable**. Enter the address of the Optimum Business Sip Trunk Adaptor next to **Registrar Address** and **Outbound Proxy**. The **Registrar Port** should be **5060**. Enter necessary SIP credentials next to **User Name**, **Auth User Name**, and **Auth Password**. Change the **Supplementary Type** to **PBX Managed 1**. This should match the User name and Password entered in the Optimum Business Sip Trunk Adaptor.

5.2.13.SIP Carrier Options

SIP Carrier1

Item	Value
SIP Carrier Name	EM-4552
SIP Server Enable	Enable
SIP Service Available	Yes
Registra Address	10.10.159.1
Registra Port	5060
Outbound Proxy	10.10.159.1
Alternative Outbound Proxy	0.0.0.0
Outbound Proxy Port	5060
Proxy Domain Name	
Local Domain Name	
DNS Server 1	0.0.0.0
DNS Server 2	0.0.0.0
User Name	4085555555
Auth User Name	4085555555
Auth Password	*****
Regist Per User	Disable
Session Timer	Re-Invite
Session Expire Time (sec)	1800
Trunk Reg Expire Time (sec)	1800
Alive Notify	Options
Alive Notify Time (sec)	1800
IMS Option	Disable
P Asserted ID Use	None
SIP Peering	Disable
Send CLI Table	1
Supplementary Type	PBX Managed 1

When done click Save.



For Static mode simply leave the **Registrar Address** and SIP credential fields empty and click Save.

Registra Address	
Registra Port	5060
Outbound Proxy	10.10.159.1
Alternative Outbound Proxy	0.0.0.0
Outbound Proxy Port	5060
Proxy Domain Name	
Local Domain Name	
DNS Server 1	0.0.0.0
DNS Server 2	0.0.0.0
User Name	
Auth User Name	
Auth Password	

8 DID/Extensions

To begin by assigning names to extensions, navigate to **2.4.2** and scroll to the extensions being used. In this example extensions **3201** and **3202** are being used. Enter appropriate names.

2.4.2.Port Common Data	
Tel Number	Name
3416	
3201	UserA
3202	UserB

When done click Save.



To match the above extensions to DIDs navigate to **3.2.3** and enter each corresponding DID under **Incoming Digits**.

3.2.3.DID Ringing		
Entry No	Incoming Digits	Ring
		Ring Port
1	4085555556	3201
2	4085555557	3202

To configure Auto Attendant simply enter **519** under **Ring Port** and enter again a corresponding DID in the same row and that would be the DID of the Auto Attendant. The number **519** is entered because it is the default IVR number.

3.2.3.DID Ringing		
Entry No	Incoming Digits	Ring
		Ring Port
1	4085555556	3201
2	4085555557	3202
3	4085555558	519

When done click Save.



Navigate to **2.7.1** and next to each extension select **Disable** under **Use IP White List**.

2.7.1.JTP Information									
Tel Number	Password	DSP Type	Time Zone	Signal Type	Video Codec	Video Size	QoS Enable	Multicast Page	Use IP White List
3201	*	G.711	+00/00	UDP	H.263	CIF	Disable	Auto	Disable
3202	*	G.711	+00/00	UDP	H.263	CIF	Disable	Auto	Disable

When done click Save.



To enter the DID for each extension's Caller ID, navigate to **2.4.3** and enter each DID next to its corresponding extension.

3201	4085555556
3202	4085555557

When done click Save.



Navigate to **3.2.3** and under **Call Wait** for each extension, make sure **Yes** is selected. This will allow multiple calls to same extension.

Call Wait
Yes
Yes

When done click Save.



To configure Call Forward navigate to **2.5.4**. Find the extension to be configured and under **External Forward** enter **1**.

External Forward
Delay (sec)
1

Thereafter navigate to **5.15.6**. Call Forwarding has several options but in this example All will be used. Next to the same extension change the **Forward Type** to **All** and under **All Forward** enter **9** under **T/S No**. Enter the DID destination under **Outgoing Digit**.

3201	All
3202	Forward Cancel
3203	All
3204	Busy
3205	No Answer
3206	Busy/No Answer
	Follow Me set to

All Forward	
T/S No	Outgoing Digit
9	408555559

When done click Save.



To configure Call Park navigate to **4.9.2**. First select the appropriate extension next to **Tel Number**. Select **PARK** twice next to two keys under **Feature**. Then enter **1** and **2** under **Extension** and these numbers will be used for park and retrieve. This process needs to be repeated for other extensions as well for retrieving the parked call.

4.9.2.Station Key

Tel Number 3201

Key No	Feature	Extension	Name
1	DT	8501	
2	DT	8502	
3			
4	PARK	1	
5	PARK	2	
6	CALL	1	
7	MSG		

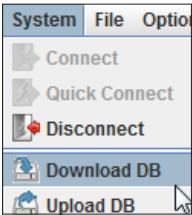
When done click Save.



NOTE: By default general Dial Plan numbers are all allowed unless specifically denied under Toll Restriction.

9 Backup/Restore

To backup the current configuration file navigate to **System→Download DB**.



To restore a previously saved configuration file navigate to **System**→Upload DB.

