

How to Configure the Allworx 6x, 24x and 48x for use with Integra Telecom SIP Solutions

Overview: This document provides a reference for configuration of the Allworx 6x IP PBX to connect to Integra Telecom SIP Trunks. The document covers a basic setup with required steps for interoperability with Integra Telecom only.

Hardware and Software: The following hardware and software were employed to test interoperability between the Allworx IP PBX and Integra.

Manufacturer	Model	Software Version
Allworx	6x	7.2.5.1
MetaSwitch	MetaSphere	7.2
Adtran	NV3305	17.09.02

Tested Features: The following is a list of features that were tested.

Feature	Description	Issue (if any)
Basic Call	Making and receiving a call between the IP-PBX and Integra Telecom service provider with both G.711 and G.729 codec.	None
Call Hold	Placing a call in On Hold state and retrieval of a call from same station.	None
Call Transfer	Relocation of an active call from one station to another. Both internal and external transfers were tested.	Transfer with SIP REFER (RFC 3515) not currently supported.
Call Forward	Forwarding of calls from one station to another.	Call Redirect method not currently supported.
Remote Handset	Operation of a SIP handset from remote network	None.
Fax	Fax Transmission	T.38 fax not supported on Allworx 6x. G.711 fax is supported.

Network Topology: Figure 1 shows how the network was configured for interoperability testing.

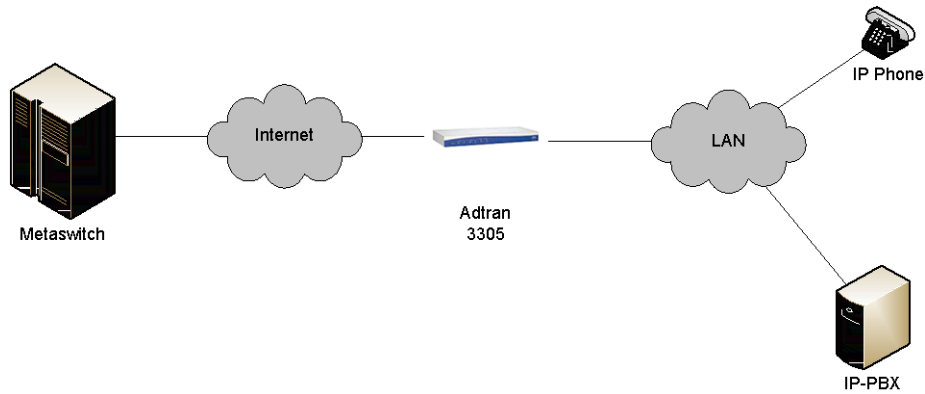


Figure 1: interoperability network diagram

Configuration Notes: This section contains a detailed description of how the Allworx 6x was configured for interoperability testing with Integra Telecom services.

Network Requirements: As in any VoIP deployment there must be adequate bandwidth to support VoIP traffic. A proper network assessment should be performed before any VoIP deployment.

Assumptions:

All SIP Signalling uses UDP on port 5060.

SIP Signalling packets use Differentiated Services Code Point (DSCP) 24.

Real-Time Transport Protocol (RTP) uses DSCP 46.

Licenses: The Allworx Ip PBX must be equipped with licensing to support SIP Trunks.

DID Block Setup

Direct Inward Dial Blocks add new DID Block	
Block	Action
(360) 852-9765 Numbers: 4 Plan: Routing Plan 1	Modify Delete

1. Browse to Home >> Phone System >> Outside Lines. Click on “add new DID block”.

DID Block	
Starting Phone Number	(360) 852-9765 (include Area Code and Exchange)
Total number of phone numbers in DID Block	4
DID Routing Plan	Routing Plan 1
<input type="button" value="Update"/> <input type="button" value="Cancel"/>	

2. Enter the “Starting Phone Number” and “Total number of phone numbers in DID Block” as provided by the Integra implementation team. Select “make a new Routing Plan from the “DID Routing Plan” pulldown and click “Update.
3. Configure “Phone Number to Extension Mapping” as required for your deployment.

SIP Proxy Setup

Proxy	Action
Integra SIP Solutions User ID: 3608529765 Proxy Address: proxy1.integravoip.net:5060 (expires: Feb 14, 2011 01:16 pm)	<input type="button" value="Modify"/> <input type="button" value="Delete"/> <input type="button" value="Register Now"/>

1. Browse to Home >> Phone System >> Outside Lines. Select “add new SIP Proxy.

SIP Proxy	
Description	Integra SIP Solutions
User ID	3608529765
SIP Server <small>(customer domain/realm)</small>	proxy1.integravoip.net Port 5060 <small>(enter IP Address or Domain Name)</small>
Outbound Proxy <small>(if different from SIP Server)</small>	proxy1.integravoip.net Port 5060 <small>(enter IP Address or Domain Name)</small>
<input checked="" type="checkbox"/> SIP Registration required	
Login ID	3608529765
Password	*****
Registrar <small>(if different from Outbound Proxy)</small>	proxy1.integravoip.net Port 5060 <small>(enter IP Address or Domain Name)</small>
Caller ID Name	<input type="text"/> <small>(up to 47 characters: letters digits . _ ' -')</small>
	<input type="checkbox"/> Use External Caller ID Name from handset <small>(if specified)</small> <input type="checkbox"/> Use Caller ID Name from external sources <small>(if received)</small>
Caller ID Number	<input type="text"/> <small>(up to 24 digits)</small>
	<input type="checkbox"/> Use External Caller ID Number from handset <small>(if specified)</small> <input type="checkbox"/> Use Caller ID Number from external sources <small>(if received)</small>
Maximum Active Calls	8 <small>(1 to 99, should not exceed proxy capabilities or available bandwidth)</small>
Number of Line Appearances	8 <small>(0 to Maximum Active Calls)</small>
<input type="checkbox"/> Send digits as dialed <small>(without prepending 1 and/or area code)</small>	
Digits Sent	all digits <small>(digits from the full number, 1-XXX-XXX-XXXX, to send to the proxy)</small>
Default Language	Primary Language

2. Input Integra in the “Description” field. Input “User Name” and “Password” as provided by the Integra implementation team. Populate the fields “SIP Server”, “Outbound Proxy” and “Registrar” as provided by the Integra implementation team and “Port” with 5060. Input the “Maximum Active Calls” as provided by the Integra implementation team.

Advanced Settings [?](#)

Pad DTMF RTP Packets

Enable Early Media (allow audio from 183 Session Progress responses)

Supports Symmetric Response Routing (RFC 3581 - include "rport" in requests)

Use SIP Diversion for deflected calls (draft-levy-sip-diverison-08.txt)

Supports SIP REFER (when calls from this proxy are transferred back to this proxy)

Supports SIP Redirect (when call requests from this proxy are routed back to the proxy)

Use E.164 format for phone numbers

Offer '100rel' support (RFC 3262 - PRACK)

Obtain DID/DNIS number from

Use in Request URI of outbound calls

- In Advanced Settings verify that “Enable Early Media” is checked, “Obtain DID/ DNIS number from is set to SIP To: header field and “Use” _____ “in Request URI of outbound calls is set to dialed number.

Call Route [?](#)

Proxy is an "Enterprise Server" (calls received from this proxy follow the server's internal dial plan)

Calls received from this SIP Proxy go to:

Extension

Auto Attendant

Voicemail for user

Routed using DID Block(s):

check all uncheck all

(360) 852-9765 / 4 Numbers / Routing Plan 1

- In the Call Route section, ensure that “Routed using DID Block(s)” is selected and check the appropriate DID block(s) as previously defined in DID Block Setup.

Service Groups [add new Service Group](#)

Group	Service(s)	Action
All CO Lines	(no services)	
All CO Lines & SIP Gateways	(no services)	
All Digital Lines	(no services)	
All SIP Gateways	(no services)	
All SIP Proxies	Integra SIP Solutions (SIP Proxy)	
All Trunk Devices	Integra SIP Solutions (SIP Proxy)	
Integra Telecom	Integra SIP Solutions (SIP Proxy)	Modify Delete

- In the Service Groups section click on “add new Service Group”.

Service Group

A **Service Group** is an ordered list of services (CO Lines, SIP Gateways, SIP Proxies) the system will use when attempting to make an outside call. Services in a group are tried in order until the outside call can be placed.

Select a service from the list of Services and move it to the Service Group. You can also move services in a group up or down to change the order the system will use.

Description

Services

move ->

<- move

Service Group

move up

move down

6. Enter Integra in the Description field. Select Integra from the list of Services and click Move to add it to the Service Group.

External Dialing Rules

North American Numbering Plan Administration (NANPA) enabled [Modify](#)

Area Code	Exchange	Number Dialed	Service Group	Action
Home 360		9+360-xxx-nnnn 9+1+360-xxx-nnnn	Integra Telecom	Modify
all others		9+1+aaa-xxx-nnnn	Integra Telecom	

7. Browse to Home >> Phone System >> Dial Plan. In the External Dialing Rules section click on Modify.

Dialing Rules

The Allworx uses the table below to determine how numbers in your region are dialed and which Service Group is used to complete the call. Enter your **Home** Area Code and any area codes that do not require dialing 1 before the area code. If some exchanges inside an area code require dialing 1 while others do not, you need only to enter the area code/exchanges that require dialing 1. You may also enter any area codes or area code/exchanges for which you require a specific Service Group to be used to complete the call.

Area Code	Exchange	Dial Method	Service Group
add new row			
Home 360		Area Code dialed	Integra Telecom
all others		1 + Area Code dialed	Integra Telecom

8. Enter your Home area code and chose an appropriate Dial Method for your local calling area. Select Integra from the Service Group pull down. Repeat these steps for as many area codes that do not require dialing 1 for your local calling area, adding new rows as necessary. For all others select Integra from the Service Group pull down.

