ALLWORX



SIP Trunking using Optimum Business® SIP Trunk Adaptor and the Allworx 6x IP PBX 7.1.6.1

Goal

The purpose of this configuration guide is to describe the steps needed to configure the Allworx 6x IP PBX 7.1.6.1 for proper operation with Optimum Business SIP Trunking.

Prerequisites

Please follow the instructions in the Optimum Business SIP Trunk Set-up Guide. The Set-up Guide was left by the Optimum Business technician at installation. If you do not have the Set-up Guide, go to <u>www.optimumbusiness.com/SIP</u> to download a copy.

Allworx 6x IP PBX Configuration

The steps on the next page describe the minimum configuration required to enable the Allworx 6x IP PBX to use Optimum Business SIP Trunking for inbound and outbound calling. Please refer to the Allworx System Administration screen 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 Allworx 6x IP PBX 7.1.6.1.

Set up the Allworx 6x IP PBX for SIP Trunk provisioning.

The IP PBX may be configured to communicate with the Optimum Business SIP Trunk Adaptor by using static IP address or SIP registration.

The Allworx 6x works well with the Allworx 9112 or 9212 phones.

The PBX, the phones and the Optimum Business SIP Trunk Adaptor must be in the same LAN segment. The PBX is shipped with a default IP address for the LAN port of 192.168.2.254/24. The DHCP server must be enabled to provide IP addresses for the phones. To work with the Optimum Business SIP Trunk service, the LAN port should be in the same subnet as the Optimum SIP Trunk Adaptor's LAN port 1 and use the Optimum SIP Trunk Adaptor's port 1 IP address as its SIP server or gateway. This is step 2 in the Optimum Business SIP Trunk Set-up Guide. The IP phones communicate with the PBX via this IP address as well, using the SIP VoIP protocol. The IP phones by default will need IP address assignments.

The IP PBX can be set up with the following procedures:



1. To configure the IP PBX, run http://192.168.2.254:8080 on your PC, and you will see the Allworx System Administration screen for login.

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About	PHONE SYSTEM	Network	Reports
hone Custom	Audit PIN Codes	Configuration	Call Details
one system	Auto Attendants	Multi-Site	Configuration
siness	Call Monitors	Port Expanders	Live Calls
twork	Call Park	Static Routes	System Events
Diore .	Call Queues	VPN	Users
ervers	Conference Center		
eports	Dial Plan		
laintenance	Extensions		
	Handsets		
eed heln?	Languages		
eeu neip:	Outside Lines		
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	Speed Dial		
ogout]	BUSINESS	Servers	MAINTENANCE
	Contact Information	DHCP	Backup
	Day-Night Mode	DNS	Feature Keys
		Email	Import / Export
	Message Aliases	Lettron .	
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2. Log in with "admin" as Password, and you will see the Home screen.

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File Edit View Favo	rites Tools Help						
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allworx	Home > Servers > DF	HCP Server					
About	DHCP Server						
Phone System		с	urrent Value	Action			
Business	Server	e	nabled				
Network	Dynamic DNS	e	nabled				
Servers	Dynamic Start A	ddress 1	0.10.100.2	Modify			
DHCP	Dynamic End Ad	dress 10	0.10.100.99				
DNS	DHCP Address R	eservations					
Email	L						
VoIP	Active Leases						_
Web	IP Address Hard	dware Address	Client Ident	tifier Ho	st Name	Expires	
Reports	10.10.100.4 00-0	A-DD-83-05-F1	000add8305f	f1 sip8	3305F1	08/04/2010 01:19 pm	
Maintenance	10.10.100.3 00-0	A-DD-81-D7-A4	000add81d7a	a4 sip8	31D7A4	08/04/2010 01:16 pm	
	10.10.100.5 00-1	0-DC-F8-20-7E	0010dcf8207	7e dou	igtest	08/04/2010 01:24 pm	
Need help?	10.10.100.6 00-0	A-CD-18-D7-DF	000acd18d7d	df QAL	Lab-PC	08/04/2010 01:18 pm	
Install Checklist	10.10.100.2 00-0/	A-DD-83-07-70	000add83077	7c sip8	33077C	08/04/2010 01:25 pm	
[logout]	Known Hosts						1
[Logout]	IP Address Hard	lware Address	Host Name	Action			
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3. Go to Home>Server>DHCP Server and make sure DHCP is enabled for the phones.

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File Edit View F	avorites Tools Help	
🚖 Favorites 🛛 👩 All	worx System Administration	
allworx	Home > Phone System > Outside Lines > Modify DID Block	
About	DID Block	
Phone System <u>Audit PIN Codes</u> <u>Auto Attendants</u> <u>Call Monitors</u>	Starting Phone Number [718) 708-8980 (include Area Code and Exchange) Total number of phone numbers in DID Block 4	
Call Park Call Queues	Update Cancel	
Conference Center Dial Plan Extensions Languages Outside Lines Paging Speed Dial Business Network Servers Dependie		ш
Reports Maintenance Need help? Install Checklist		•

4. Go to Home>Phone System>Outside Lines and create DID blocks for this SIP trunk.

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File Edit View Fav	orites Tools Help	
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allworx	Home > Phone System > Outside Lines > Modify SIP Proxy	- Â
About	SIP Proxy 2	
Phone System	Description allwrok 6x	
Audit PIN Codes	liser ID 7187088980	
Auto Attendants	SIP Server 10.10.10.1 Port 5050	=
Call Monitors	(customer domain/realm) (enter IP Address or Domain Name)	
Call Park	Outbound Proxy Port	
Call Queues	(if different from SIP Server) (enter IP Address or Domain Name)	
Conference Center	SIP Registration required	
Dial Plan	Login ID 7187088980	
Extensions	Password	
Handsets	Registrar 10.10.100.1 Port 5060	
Languages	(if different from Outbound Proxy) (enter IP Address or Domain Name)	
Outside Lines	Caller ID Name	
Paging	(b) to 47 characters letters digits (, (_ +)	
Speed Dial	Ilse Caller ID Name from external sources (# received)	
Business	Caller ID Number 7187088980 (up to 24 digita)	
Network	Ilse External Caller ID Number from handset (if sperified)	
Servers	Use Caller ID Number from external sources (if received)	
Reports	Maximum Active Calls 10 (1 to 99, should not exceed proxy capabilities or available bandwidth)	
Maintenance	Number of Line Appearances 10 (0 to Maximum Active Calls)	
	Send digits as dialed (without prepending 1 and/or area code)	
Need help?	Digits Sent all digits (digits from the full number, 1-300-3000, to send to the proxy)	-
•		•

For Registration Mode, go to Home>Phone System>Outside Lines>Modify SIP Proxy and check the SIP Registration Required check box. Fill in the field with the Pilot DID, your password, the IP address of the Optimum Business SIP Trunk Adaptor as the registrar and 5060 for the Port. Fill in the Caller ID Number with the Pilot DID and uncheck the item Use External Caller ID Number from handset.



 For non-registration mode, go to Home>Phone System>Outside Lines>Modify SIP Gateway and select Gateway uses static IP address. Check the box under Caller ID Number marked Use External Caller ID Name from handset.

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allworx	Home > Phone System > Dial Plan > Modify Internal Extension Length	
About	Internal Dialing Rules	
Phone System	User and System Extensions are 3 digits in length	
Auto Attendants Call Monitors Call Park	You can change from 3 digit to 4 digit extension length at any time. Existing User and System extensions will be changed as follows: Extensions 100-299 map to 1100-1299	
Call Queues Conference Center		
<u>Dial Plan</u> Extensions Handsets	ROTE It is necessary to reboot all Allworx handsets for new extension length settings to take effect.	
Languages Outside Lines Paging		-
Speed Dial Business		
Network Servers		
Reports Maintenance		
Need help? Install Checklist		
[Logout]		

6. Go to Home>Phone System >Dial Plan and set the internal extension length.

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File Edit View Fa	avorites Tools Help	
🚖 Favorites 🛛 👩 Allw	vorx System Administration	
allworx	Home > Phone System > Extensions	
About	Extensions add new Extension (30 system extensions may be added)	
Phone System	Search match extension, description, login name, or site	
Auto Attendants	Ext. Description Site Action	
Call Monitors	0 Operator (local) View Call Routes	
Call Park	101 ga user 01 (qauser01) (local) View Call Routes	
Call Queues	102 ga user 02 (qauser02) (local) View Call Routes	
Conference Center	103 <u>qa user 03</u> (qauser03) (local) <u>View Call Routes</u>	
Dial Plan	199 System Administrator (admin) (local) View Call Routes	
Extensions		
Handsets		
Languages		
Outside Lines		
Paging		
Speed Dial		
Business		
Network		
Servers		
Reports		
Maintenance		
Need help?		
Install Checklist		
[Logout]		

7. Go to Home>Phone System >Extensions and create new extensions.

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allworx	Home > Phone System	n > <u>Outside L</u>	ines > DID Rou	ting Plan		
About	Routing Plan Inform	mation mo	lify			
Phone System	Description	Rou	iting Plan 1			
Audit PIN Codes	Default Extension	0 -	Operator			
Auto Attendants	Default DNIS Nam	e				
Call Monitors	DID Blocks using	this plan (71	8) 708-8980 /	4 number	S	
Call Park						
Call Queues	Phone Number to I	Extension M	apping add n	umber to	table	
Conference Center	Dhono Numbor	Extension	DNIE Namo	Action		
Dial Plan	(718) 708-8080 10		DNIS Name	Modify		
Extensions	(710) 700 0900 10	2 - da user (2	Modify		
Handsets	(718) 708-8982 10	2 - qa user ()3 - qa user (12	Modify		
Languages	(/10)/00 0002 10	o qu'user (mouny		
Outside Lines	TIP					
Paging	Phone Numbers that	at do not app	ear in the table	e above u	se the Default Extension for this DID Block as defined	4
Speed Dial	above.					
Business	To remove a phone	e number fron	the table, sel	ect Modif	y, then change the number to use the default extens	sion.
Network	· · · ·					
Servers						
Reports						
Maintenance						
Need help?						
Install Checklist						
Instan Checklist						
[Logout]						

8. Go to Home>Phone System >Outside Lines>DID Routing Plan and map the phone numbers to the extensions.

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allworx	Home > Phone System >	Dial Plan	- ^		
About	Internal Extension Length Internal Dial Plan External Dialing Rules Dialing Privileges Groups Service Groups				
Phone System Audit PIN Codes	Phone System Audit PIN Codes Internal Extension Length modify				
Auto Attendants	User and System Exten	nsions are 3 digits in length.			
Call Monitors Call Park	Internal Dial Plan mo	dify view the Phone Functions Reference Card			
Call Queues		Plan			
Conference Center Dial Plan	1xx 2xx	User and System Extensions			
Extensions	0	Operator			
Handsets	9 + external number	External Call access (follows External Dialing Rules below)			
Languages	8 + enterprise number	Enterprise calling			
Outside Lines	5nnn	Internal station access (reserved for system)			
Paging Consol Dial	350-399 34nnn	Speed dial numbers			
Business	6 + user extension	Message Center			
Network Servers	700 call park 701-709 call retrieve 7xxx call pickup 78 + pin code	Call Functions (park/pickup/audit pin code)			
Reports	3 + user extension	Leave a voicemail for extension			
Maintenance Need help? Install Checklist	403 door relay 408 conference center 42n do not disturb 43n auto attendants 44nn call queues 45xxx call forwarding 46n paging	PBX Functions			
[Logout]	External Dialing Rules	ŝ			
	North American Num	bering Plan Administration (NANPA) enabled Modify			
4		III	•		



9. Go to Home>Phone System >Dial Plan and add the external dialing rules if needed.

Note: Allworx 6x PBX does not have a default external dialing rule for "9+ 10-digit number" dialing, and such dialing rule can only be created for the home area code. In this example, "9+ 10-digit number" dialing can only work for the "408" area code.

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allworx	Home > Phone System > Handsets > Modify Handset					
About	Call Appearance					
Phone System	Call Forwarding: disabled					
Audit PIN Codes	Phone Type: SIP Model: Allworx 9212					
Auto Attendants	MAC Address: 00-0A-DD-83-07-7C					
Call Monitors	Owner qa user 03 (qauser03)					
Call Park	Internal Caller ID Name 103 - qa user 03 (up to 47 characters: letters digits . , _'-)					
Call Queues	Internal Caller ID Number use owner's extension					
Conference Center	External Caller ID Name 718-708-8982 (up to 47 characters: letters digits . , _'-)					
Dial Plan	External Caller ID Number 7187088982 (up to 24 digits)					
Extensions	Description ga user 03					
Handsets	Dialing Privileges Group Dialing Privileges (Default)					
Languages						

10. Go to Home>Phone System>Handsets and configure Caller ID for each handset.

In non-registration mode, each handset can be set to use its assigned DID. In registration mode, each handset **must** be set to use the Pilot DID in order to make outgoing calls.

11. The Cablevision network only supports inband DTMF tones. The Allworx PBX only supports sending out-of-band DTMF tones. In order for the Allworx 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 Allworx 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.

Configuration Menu	SIP Trunk Configuration
Customer	Select your PBX: Allworx 6x/24x v7.1.6.1
 LAN Settings SIP Trunk Configuration 	${\scriptstyle \circledast}$ Passive connection using the local, private IP address of the ${\scriptstyle \circledast}$ PBX
 Diagnostics System 	This address must be on the same subnet as the IP Address that is specified for the LAN interface
	PBX Address: 192.168.1.10
	Active connection using registration
	User Id:
	Password:
	Convert Inband DTMF:
	Submit Reset
	Status:
	Trunk Status: Registered
	DID's
	6316789522 (Pilot number) = 6316769523 6316769524 6316769525 •
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