

# **Allworx<sup>®</sup> Server Administrator's Guide**

**Version 7.6**

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# Allworx® Server Administrator's Guide

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Version 7.6





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# 1 Introduction

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## 1.1 Who Should Read This Guide

Users that install and maintain Allworx servers should read this guide. This guide expects the reader to have computer networking and basic telephony background, and completed the Allworx Partner technical training.

## 1.2 Guide Purpose

The Allworx server web administration interface has built-in descriptions, help, and tips on many of its pages. Therefore, not all the features or all the parameters of each feature are discussed in this guide. This guide discusses only those features and parameters that require additional explanation beyond what is on the web pages.

This manual applies to Allworx Server 7.6. The following are additional documents related to Allworx Server 7.6:

- Allworx User's Guide, Release 7.6
- Allworx Server Software Release Notes, Release 7.6
- Allworx Phone Guides
- Allworx Queuing and Automated Call Distribution Guide, Release 7.6
- Allworx Advanced Multi-site Setup Guide, Release 7.6
- Multi-Tech FaxFinder Setup Application Notes
- Allworx SNMP User's Guide, Release 7.6

These publications as well as System Administrator's Guides for Releases 7.5 and lower are available on the Allworx Partner Portal ([www.allworxportal.com](http://www.allworxportal.com)).

## 1.3 Allworx Family of Servers

The award-winning Allworx family of servers includes the Allworx 6x, 6x12, Allworx 24x, and Allworx 48x servers. The servers differ in features and capabilities.

**Table 1: Allworx Server Capabilities**

Features	Allworx 6x12	Allworx 6x	Allworx 24x	Allworx 48x
Number of users	12	30 (up to 60 with Feature Key)	24 (up to 250 with Feature Key)	48 (up to 250 with Feature Key)
CO Lines	6 FXO Ports	6 FXO Ports	3 FXO Ports	3 FXO Ports
T1 Support	N/A	N/A	Integrated single PRI or RBS	Integrated NFAS, Dual PRI or RBS
Extensions	24	60 (up to 120 with Feature Key)	48 (up to 500 with Feature Key)	96 (up to 500 with Feature Key)
Analog phones	2 FXS Ports	2 FXS Ports	5 FXS Ports	5 FXS Ports
VoIP	SIP 2.0	SIP 2.0	SIP 2.0	SIP 2.0
Multi-site	Branch site only	100 Sites	100 Sites	100 Sites
Voicemail	8-port Voicemail	8-port Voicemail	16-port Voicemail	16-port Voicemail
Presence Management	7 per User with Individual Greetings	7 per User with Individual Greetings	7 per User with Individual Greetings	7 per User with Individual Greetings
Auto Attendants	9	9	9	9
Conference Bridges	One (1) 8-seat Bridge	One (1) 8-seat Bridge	Four (4) 8-seat Bridges	Four (4) 30-seat Bridges
Door Relay	Included	Included	Included	Included
Paging Output	Included	Included	Included	Included
Paging Zones	10 Customizable Zones	10 Customizable Zones	10 Customizable Zones	10 Customizable Zones
Storage	Compact Flash	Compact Flash	Hard Disk with Mirror Option	Solid State Drive
Email SMTP Server	Supported with Optional External USB Hard Drive	Supported with Optional External USB Hard Drive	Supported	Supported with Optional External USB Hard Drive
Email POP3 Server	Included	Included	Included	Included
Email IMAP4 Server	Enabled by Mobile Link Feature Key	Enabled by Mobile Link Feature Key	Enabled by Mobile Link Feature Key	Enabled by Mobile Link Feature Key
Unified Messaging	Included	Included	Included	Included
Network Integration	LAN: Ethernet WAN: Ethernet, PPPoE	LAN: Ethernet WAN: Ethernet, PPPoE	LAN: Ethernet WAN: Ethernet, T1, PPPoE	LAN: Ethernet WAN: Ethernet, T1, PPPoE
Automatic Call Distribution	N/A	10 queues; 16 total calls in all queues	10 queues; 32 total calls in all queues	10 queues; 64 total calls in all queues
Firewall Security	Stateful Packet Inspection	Stateful Packet Inspection	Stateful Packet Inspection	Stateful Packet Inspection

**Table 1: Allworx Server Capabilities**

<b>Features</b>	<b>Allworx 6x12</b>	<b>Allworx 6x</b>	<b>Allworx 24x</b>	<b>Allworx 48x</b>
Call Assistant	Available	Available	Available	Available
Mobile Link	Available	Available	Available	Available
VPN	One user Included	One user Inc. Multi-user Available	One user Inc. Multi-user Available	One user Inc. Multi-user Available
Audio Prompt Languages	English; Castilian Spanish, French Canadian available	English; Castilian Spanish, French Canadian available	English; Castilian Spanish, French Canadian available	English; Castilian Spanish, French Canadian available





## 2 Accessing Web Administration

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Supported web browsers for Allworx server administration web pages include:

- IE 8, 9, 10 and later
- Google Chrome (Latest Release)
- Mozilla Firefox (Latest Release)

For upgrades to the software on the server, navigate to the **Maintenance > Update** web administration page.

Use a web browser via the LAN interface on TCP port 8088 to access the administrative interface of the Allworx server.

**To connect to the Allworx server admin page when the network settings are set to factory default:**

1. Plug the PC into the server LAN port.
2. Set up the network interface on the PC to obtain an IP address automatically (using DHCP).
3. Verify the PC has an IP address on the 192.168.2.x network. It may be necessary to release and renew the IP address on the PC to get an address from the server.
  - a. Click **Start** and type **cmd** in the Search field. A command window opens.
  - b. Type **ip config/release** at the prompt and press enter. This clears the current IP settings from the PC.
  - c. Type **ip config/renew** at the prompt and press enter. This obtains a new IP address for the PC.
4. Open the browser and enter the URL <http://192.168.2.254:8080>. When the Welcome to Allworx page displays, log in using **admin** as the default username and password.

When the Allworx server mode is set to NAT/Firewall, NAT/Firewall with DMZ or NAT/Firewall with Stealth DMZ, the Allworx Server Administrator can also access the administrative interface via the WAN interface on TCP port 8080. To enable this feature, click the checkbox labeled admin configuration on WAN interface on the Network

Configuration page. After enabling this feature and rebooting the Allworx server, open the browser and enter the URL of `http://<Server WAN IP Address>:8080`.

<b>Note:</b>	The WAN administrative option is not available with T1 or PPPoE WAN configurations.
<b>Note:</b>	Prior to accessing the server via the WAN, see "General Network Configuration Requirements" on page 25, for security requirements.

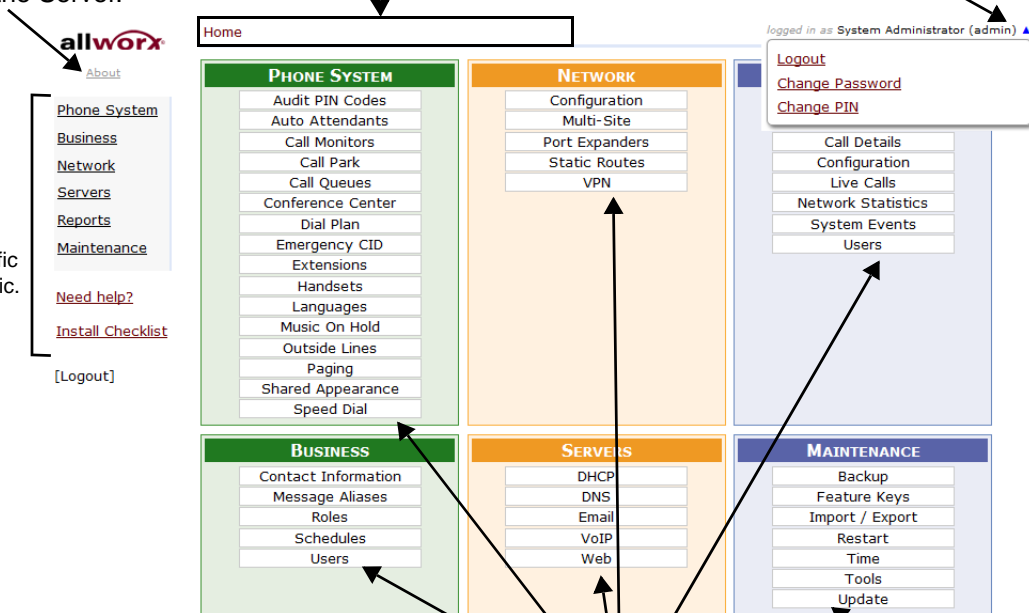
## 2.1 Home Screen

About: Opens the About window which provides information specific to the Server.

Indicates where the user is within the application.

Logged in user. Drop-down menu provides short cuts to Logout, Change Password, or Change PIN.

Side Navigation: Opens the options navigation window specific to the link topic.



Links to specific topic windows.

## 2.2 User Roles and Permissions

The Allworx Server Administrator can assign User Permission Levels to users to delegate some of the administrative task management. See “Role Permissions” on page 8 to see the administrative tasks and delegation permissions. The users can access the management task administrative web pages using their Allworx username and password.

### 2.2.1 User Roles

The available user roles include:

**Server Administrator:** predefined system administrator with access to manage all functions of the server. The Allworx Server Administrator assigns roles, manages the server administrative functions, manages day-to-day phone system settings, manages the network and VoIP settings, and initiates system backups and/or reboots.

**System Administrator:** access to manage the administrative functions of the server. The user permission setting does not enable this role to change the password of the Allworx Server Administrator. However, the Allworx Server Administrator can change the password of the System Administrator.

**Phone Administrator:** access to manage day-to-day phone system settings including changes to system recordings as well as adding, changing, and deleting users, extensions, and handsets.

**Network Administrator:** access to manage the Network and VoIP settings, as well as SIP proxies and SIP gateways outside lines.

**Support Technician:** access to initiate system backups and reboots as well as managing logging operations.

<b>Note:</b>	To enable one user to have roles on different servers in a multi-site network, the Allworx Server Administrator must create separate user accounts for the user on each server, and then assign the roles on each server. Use different usernames for each user account.
<b>Note:</b>	The Allworx Server Administrator can assign users to manage queue and auto attendant recordings. See “User Template Settings” on page 51 for more information.
<b>Note:</b>	The Allworx Server Administrator can assign users to manage individual queue settings or queue supervisor. See “User Template Settings” on page 51 for more information.

### To assign or remove user roles:

1. Log in to the Allworx server admin page, and navigate to **Business > Roles**. The Roles page displays.
2. Locate the role. The Allworx Server admin page displays a list of users assigned to each role.
3. Click the **show unassigned users**. A list of available users to assign displays on the page.
4. Locate the user or users in the list, and click:
  - **Assign Role** - to assign the role to the user. The designated users have access to the administration functions that are included in the roles.
  - **Remove Role** - to remove the user from the assigned role.

When changing a user's role and the user is logged into the server, the user must log out and re-login in order to access the changes.

## 2.2.2 Role Permissions

Each assigned user role has access to specific management tasks. Use the table to identify the administrative management access level of each User Role.

Allworx Server Page	Link	Phone	Network	Support
Home	About	Yes	Yes	Yes
Home	Emergency number dialing rules "Set"	Yes	No	No
Home	Phone System	Yes	Yes	Yes
Home	Business	Yes	Yes	Yes
Home	Network	Yes	Yes	Yes
Home	Servers	Yes	Yes	Yes
Home	Reports	Yes	Yes	Yes
Home	Maintenance	Yes	Yes	Yes
Home	Need help?	No	No	No
Home	Install Checklist	No	No	No
Home	Logout	Yes	Yes	Yes
Phone System	Audit PIN Codes	Yes	No	No

Allworx Server Page	Link	Phone	Network	Support
Phone System > Audit PIN Codes	Audit PIN Codes - add new PIN Code	Yes	No	No
Phone System > Audit PIN Codes	Audit PIN Codes - Dialing Rules > Modify	No	No	No
Phone System > Audit PIN Codes	Audit PIN Codes - modify	Yes	No	No
Phone System > Audit PIN Codes	Audit PIN Codes Configuration - modify	Yes	No	No
Phone System > Audit PIN Codes	Audit PIN Codes - Delete	Yes	No	No
Phone System	Auto Attendants	Yes	No	No
Phone System > Auto Attendants	"Manage" the custom recordings link	Yes	No	No
Phone System > Auto Attendants	"View" and manage the language settings for the Auto Attendants	No	No	No
Phone System > Auto Attendants	Auto Attendant n "Modify"	Yes	No	No
Phone System	Modify	Yes	No	No
Phone System > Call Monitors	Call Monitors "Modify"	Yes	No	No
Phone System	Call Park	Yes	No	No
Phone System > Call Park	Call Park "Modify"	Yes	No	No
Phone System > Call Park	Multi-Site Parking "Modify"	Yes	No	No
Phone System	Call Queues	Yes	No	No
Phone System > Call Queues	"manage" the custom recordings link	Yes	No	No
Phone System > Call Queues	"View" and manage the language settings for the Auto Attendants	No	No	No
Phone System > Call Queues	Call Queue n "Modify"	Yes	No	No
Phone System > Call Queues	Queue Streaming Settings "Modify"	Yes	No	No
Phone System > Call Queues	Queue Busy Reasons modify	Yes	No	No
Phone System	Conference Center	Yes	No	No
Phone System > Conference Center	Conference X "modify"	Yes	No	No
Phone System	Dial Plan	Yes	No	No
Phone System > Dial Plan	[Reboot phones]	Yes	No	No
Phone System > Dial Plan	Internal Extension Length "modify"	Yes	No	No
Phone System > Dial Plan	Internal Dial Plan "modify"	Yes	No	No

Allworx Server Page	Link	Phone	Network	Support
Phone System > Dial Plan	Internal Dial Plan "view" phone functions reference card	Yes	No	No
Phone System > Dial Plan	External Dialing Rules "Modify" NANPA	Yes	No	No
Phone System > Dial Plan	External Dialing Rules "Modify" Area Code / Exchange	Yes	No	No
Phone System > Dial Plan	External Dialing Rules "Modify" Emergency	Yes	No	No
Phone System > Dial Plan	External Dialing Rules "Modify" Emergency Call Email Notification	Yes	No	No
Phone System > Dial Plan	External Dialing Rules "Modify" Type / Service Group	No	No	No
Phone System > Dial Plan	Dialing Privileges Groups "view"	Yes	No	No
Phone System > Dial Plan	Dialing Privileges Groups "copy"	Yes	No	No
Phone System > Dial Plan	Dialing Privileges Groups "modify"	Yes	No	No
Phone System > Dial Plan	Dialing Privileges Groups "delete"	Yes	No	No
Phone System > Dial Plan	Service Groups "add new Service Group"	Yes	No	No
Phone System > Dial Plan	Service Groups "modify"	Yes	No	No
Phone System > Dial Plan	Service Groups "copy"	Yes	No	No
Phone System > Dial Plan	Service Groups "delete"	Yes	No	No
Phone System	Emergency CID	Yes	No	No
Phone System > Emergency CID	Emergency Caller ID number "add new caller ID number"	Yes	No	No
Phone System > Emergency CID	Emergency Caller ID number "modify"	Yes	No	No
Phone System > Emergency CID	Emergency Caller ID number "delete"	Yes	No	No
Phone System > Emergency CID	Emergency Caller ID numbers "Modify"	Yes	No	No
Phone System	Extensions	Yes	No	No
Phone System > Extensions	Extensions "add new extension"	Yes	No	No
Phone System > Extensions	Extensions "view call routes"	Yes	No	No
Phone System > Extensions	Extensions "delete"	Yes	No	No

Allworx Server Page	Link	Phone	Network	Support
Phone System > Extensions	Extensions "username"	Yes	No	No
Phone System > Extensions	Extensions - Bulk Edit	Yes	No	No
Phone System	Handsets	Yes	No	No
Phone System > Handsets	Analog Handsets "new analog handset"	Yes	No	No
Phone System > Handsets	Analog Handsets "modify"	Yes	No	No
Phone System > Handsets	Analog Handsets "delete"	Yes	No	No
Phone System > Handsets	Analog Handsets "ring"	Yes	No	No
Phone System > Handsets	SIP Handsets [Reboot Allworx Handsets]	Yes	No	No
Phone System > Handsets	SIP Handsets "add new Allworx Handset"	Yes	No	No
Phone System > Handsets	SIP Handsets "add new Allworx Reach Handset"	Yes	No	No
Phone System > Handsets	SIP Handsets "add new Generic SIP Handset"	Yes	No	No
Phone System > Handsets	SIP Handsets - Bulk Edit	Yes	No	No
Phone System > Handsets	SIP Handsets "handset preference group"	Yes	No	No
Phone System > Handsets	SIP Handsets "View" configuration	Yes	No	No
Phone System > Handsets	SIP Handsets "Add" call appearance	Yes	No	No
Phone System > Handsets	SIP Handsets "Reboot"	Yes	No	No
Phone System > Handsets	SIP Handsets "Replace"	Yes	No	No
Phone System > Handsets	SIP Handsets "Modify"	Yes	No	No
Phone System > Handsets	SIP Handsets "Delete"	Yes	No	No
Phone System > Handsets	SIP Handsets "Ring"	Yes	No	No
Phone System > Handsets	Handset Preference Groups "View"	Yes	No	No
Phone System > Handsets	Handset Preference Groups "Copy"	Yes	No	No
Phone System > Handsets	Handset Network Profile Templates "View"	Yes	No	No
Phone System > Handsets	Handset Network Profile Templates "Copy"	Yes	No	No
Phone System > Handsets	Handset Configuration Templates "View"	Yes	No	No

Allworx Server Page	Link	Phone	Network	Support
Phone System > Handsets	Handset Configuration Templates "Activate"	Yes	No	No
Phone System > Handsets	Handset Configuration Templates "Delete"	Yes	No	No
Phone System	Languages	Yes	No	No
Phone System > Languages	"Export" Primary/Secondary Language Recordings	Yes	No	No
Phone System > Languages	"Import" Primary/Secondary Language Recordings	Yes	No	No
Phone System > Languages	Language Pack Installation and Removal	No	No	No
Phone System > Languages	Server Language Configuration	No	No	No
Phone System > Languages	Call Application Language Settings	No	No	No
Phone System	Music on Hold	Yes	No	No
Phone System > Music on Hold	Music on Hold "manage"	Yes	No	No
Phone System > Music on Hold	File Statistics	Yes	No	No
Phone System > Music on Hold	Music on Hold Sources "Usage"	Yes	No	No
Phone System	Outside Lines	Yes	Yes	No
Phone System > Outside Lines	Anonymous Call Handling "modify"	Yes	No	No
Phone System > Outside Lines	Analog CO Lines	Yes	No	No
Phone System > Outside Lines	Analog CO Lines "new FXO line"	Yes	No	No
Phone System > Outside Lines	Analog CO Lines "modify"	Yes	No	No
Phone System > Outside Lines	Analog CO Lines "delete"	Yes	No	No
Phone System > Outside Lines	Digital Lines "modify"	Yes	No	No
Phone System > Outside Lines	Direct Inward Dial Blocks "add new DID block"	Yes	No	No
Phone System > Outside Lines	Direct Inward Dial Blocks "modify"	Yes	No	No
Phone System > Outside Lines	Direct Inward Dial Blocks "delete"	Yes	No	No
Phone System > Outside Lines	Direct Inward Dial Routing Plans "Details"	Yes	No	No
Phone System > Outside Lines	Direct Inward Dial Routing Plans "Delete"	Yes	No	No



Allworx Server Page	Link	Phone	Network	Support
Phone System > Outside Lines	SIP Gateways "add new SIP Gateway"	No	Yes	No
Phone System > Outside Lines	SIP Gateways "modify"	No	Yes	No
Phone System > Outside Lines	SIP Gateways "delete"	No	Yes	No
Phone System > Outside Lines	SIP Proxies "add new SIP Proxy"	No	Yes	No
Phone System > Outside Lines	SIP Proxies "modify"	No	Yes	No
Phone System > Outside Lines	SIP Proxies "delete"	No	Yes	No
Phone System	Paging	Yes	No	No
Phone System > Paging	Paging Amplifier "modify"	Yes	No	No
Phone System > Paging	Paging Zone Names "modify"	Yes	No	No
Phone System > Paging	Paging Zones "modify"	Yes	No	No
Phone System	Shared Appearance	Yes	No	No
Phone System > Shared Appearance	Shared Appearance "add new shared call appearance"	Yes	No	No
Phone System > Shared Appearance	Shared Appearance "modify"	Yes	No	No
Phone System > Shared Appearance	Shared Appearance "show handsets"	Yes	No	No
Phone System > Shared Appearance	Shared Appearance "delete"	Yes	No	No
Phone System	Speed Dial	Yes	No	No
Phone System > Speed Dial	Speed Dial Numbers "add new speed dial number"	Yes	No	No
Phone System > Speed Dial	Speed Dial Numbers "modify"	Yes	No	No
Phone System > Speed Dial	Speed Dial Numbers "delete"	Yes	No	No
Business	Contact Information	Yes	No	No
Business > Contact Information	Contact Information "modify"	Yes	No	No
Business	Message Aliases	Yes	No	No
Business > Message Aliases	Message Aliases "add new alias"	Yes	No	No
Business > Message Aliases	Message Aliases "modify"	Yes	No	No
Business > Message Aliases	Message Aliases "delete"	Yes	No	No
Business	Roles	Yes	No	No
Business > Roles	System Administrator	No	No	No
Business > Roles	Network Administrator	No	No	No
Business > Roles	Phone Administrator	Yes	No	No
Business > Roles	Phone Technician	No	No	No

Allworx Server Page	Link	Phone	Network	Support
Business > Roles > System Administrator	[Assign Role] [Remove Role]	No	No	No
Business > Roles > Network Administrator	[Assign Role] [Remove Role]	No	No	No
Business > Roles > Phone Administrator	[Assign Role] [Remove Role]	Yes	No	No
Business > Roles > Phone Technician	[Assign Role] [Remove Role]	No	No	No
Business	Schedules	Yes	No	No
Business > Schedules	Greetings "modify"	Yes	No	No
Business > Schedules	Schedule n [Copy]	Yes	No	No
Business > Schedules	Schedule n [Delete]	Yes	No	No
Business > Schedules	Schedule n "modify"	Yes	No	No
Business > Schedules	Schedule n "add holiday"	Yes	No	No
Business > Schedules	Schedule n "copy holiday"	Yes	No	No
Business > Schedules	Schedule n "delete" holiday	Yes	No	No
Business > Schedules	Schedule n "modify" holiday	Yes	No	No
Business	Users	Yes	No	No
Business > Users	Users "add new user"	Yes	No	No
Business > Users	Users "modify"	Yes	No	No
Business > Users	Users "delete"	Yes	No	No
Business > Users	Users "delete messages"	Yes	No	No
Business > Users	Users "delete recordings"	Yes	No	No
Business > Users	Users "EXTENSION"	Yes	No	No
Business > Users	Users - BULK EDIT	Yes	No	No
Business > Users	Users "show"/"hide" templates last applied to user	Yes	No	No
Business > Users	User Templates "View"	Yes	No	No
Business > Users	User Templates "Copy"	Yes	No	No
Business > Users	User Templates "Delete"	Yes	No	No
Business > Users	Password Requirements "modify"	No	No	No
Network	Configuration	No	Yes	No
Network > Configuration	Configuration "modify"	No	Yes	No
Network	Digital Lines	No	Yes	No
Network > Digital Lines	NFAS Lines "modify"	No	Yes	No
Network > Digital Lines	Digital Line n "modify"	No	Yes	No

Allworx Server Page	Link	Phone	Network	Support
Network	Multi-Site	No	No	No
Network	Multi-Site	No	No	No
Network	Port Expanders	No	Yes	No
Network > Port Expanders	Port Expanders "add a port expander"	No	Yes	No
Network > Port Expanders	Port Expanders "delete"	No	Yes	No
Network > Port Expanders	Port Expanders "replace"	No	Yes	No
Network > Port Expanders	Port Expanders "handsets"	No	No	No
Network > Port Expanders	Port Expanders "outside lines"	No	No	No
Network > Port Expanders	Port Expanders "px description" view	No	Yes	No
Network > Port Expanders > View	Port Expander "Modify"	No	Yes	No
Network > Port Expanders > View	Port Expander "Delete"	No	Yes	No
Network > Port Expanders > View	Port Expander "Replace"	No	Yes	No
Network > Port Expanders > View	Port Expander "Handsets"	No	No	No
Network > Port Expanders > View	Port Expander "Outside Lines"	No	No	No
Network > Port Expanders > View	Port Expander [Reboot]	No	Yes	No
Network	Static Routes	No	Yes	No
Network > Static Routes	Static Routes "modify"	No	Yes	No
Network	VPN	No	Yes	No
Network > VPN	Network VPN "modify"	No	Yes	No
Servers	DHCP	No	Yes	No
Servers > DHCP	DHCP Server "modify"	No	Yes	No
Servers > DHCP	Active Leases	No	Yes	No
Servers > DHCP	Known Hosts	No	Yes	No
Servers	DNS	No	Yes	No
Servers > DNS	DNS Server "flush the cache"	No	Yes	No
Servers > DNS	DNS Server "Modify"	No	Yes	No
Servers	Email	No	Yes	No
Servers > Email	Email Server "manage the email queue"	No	Yes	No
Servers > Email	Email Server "modify"	No	Yes	No
Servers	VoIP	Yes	Yes	No
Servers > VoIP	Servers VoIP "modify"	Yes	Yes	No
Servers	Web	No	Yes	No
Servers > Web	Servers Web "modify"	No	Yes	No
Reports	Auto Notification	No	No	No

Allworx Server Page	Link	Phone	Network	Support
Reports	Auto Notification	No	No	No
Reports	Call Details	Yes	No	Yes
Reports > Call Details	Call Detail Settings "modify"	Yes	No	Yes
Reports > Call Details	Completed Call Details Report "delete"	Yes	No	Yes
Reports > Call Details	Completed Call Details Report [View Report]	Yes	No	Yes
Reports > Call Details	Completed Call Details Report [Export TSV Report]	Yes	No	Yes
Reports > Call Details	Completed Call Details Report [Export XML Report]	Yes	No	Yes
Reports	Configuration	No	No	Yes
Reports > Configuration	Configuration Report [Generate XML Report]	No	No	Yes
Reports > Configuration	Configuration Report "View"	No	No	Yes
Reports > Digital Lines	Digital Line n [Clear Report]	No	Yes	Yes
Reports > Digital Lines	Digital Line n [Refresh Report]	No	Yes	Yes
Reports	Digital Lines	No	Yes	Yes
Reports	Live Calls	No	No	Yes
Reports	Live Calls [Refresh Now]	No	No	Yes
Reports	Network Statistics	No	Yes	Yes
Reports > Network Statistics	Collection Information [Start / Stop Collecting]	No	Yes	Yes
Reports > Network Statistics	Statistics "Total"	No	Yes	Yes
Reports > Network Statistics	Statistics "IP Address"	No	Yes	Yes
Reports	System Events	No	No	Yes
Reports > System Events	[Download]	No	No	Yes
Reports > System Events	Event Severity Filtering [Apply Filter]	No	No	Yes
Reports > System Events	Event Severity Filtering [Reset Default Filter]	No	No	Yes
Reports	Users	Yes	No	Yes
Reports > Users	"USERNAME"	Yes	No	No
Reports > Users	Delete Messages	Yes	No	No
Maintenance	Backup	Yes	Yes	Yes
Maintenance > Backup	Backup "modify"	No	No	No
Maintenance > Backup	[Backup Now]	Yes	Yes	Yes
Maintenance	Feature Keys	Yes	Yes	Yes

Allworx Server Page	Link	Phone	Network	Support
Maintenance > Feature Keys	Feature Keys [Install]	Yes	Yes	Yes
Maintenance > Feature Keys	Feature Keys [Submit]	Yes	Yes	Yes
Maintenance > Feature Keys	Feature Keys "Allworx Reach"	Yes	Yes	Yes
Maintenance > Feature Keys	Feature Keys "Generic SIP Handsets"	Yes	Yes	Yes
Maintenance > Feature Keys	Feature Keys "Allworx Interact Professional"	Yes	Yes	Yes
Maintenance	Import / Export	Yes	Yes	Yes
Maintenance > Import / Export	Export Configuration [Export]	Yes	Yes	Yes
Maintenance > Import / Export	Import Configuration [Choose File]	No	No	No
Maintenance > Import / Export	Import Configuration [Load]	No	No	No
Maintenance	Restart	Yes	Yes	Yes
Maintenance > Restart	[Restart Now]	Yes	Yes	Yes
Maintenance > Restart	[Restart Later]	Yes	Yes	Yes
Maintenance > Restart	[x] Restart Server	Yes	Yes	Yes
Maintenance > Restart	[x] Restart Phones	Yes	Yes	Yes
Maintenance	Time	Yes	Yes	Yes
Maintenance > Time	Maintenance Time "modify"	Yes	Yes	Yes
Maintenance	Tools	Yes	Yes	Yes
Maintenance > Tools	Network Diagnostics	Yes	Yes	Yes
Maintenance > Tools	Syslog - System Events	Yes	Yes	Yes
Maintenance > Tools	Allworx Technical Support Server	Yes	Yes	Yes
Maintenance > Tools	Advanced Troubleshooting	Yes	Yes	Yes
Maintenance > Tools	Network Address Translation (NAT) Information	Yes	Yes	Yes
Maintenance > Tools	Four Wire Return Loss Measurements	Yes	Yes	Yes
Maintenance > Tools	Network Statistics Logging	Yes	Yes	Yes
Maintenance > Tools	Packet Capture Tool	Yes	Yes	Yes
Maintenance > Tools	Telnet	Yes	Yes	Yes
Maintenance > Tools Advanced Troubleshooting	Advanced Diagnostics	Yes	Yes	Yes
Maintenance	Update	No	No	No



## 3 Configuring a New Allworx Server

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To configure a new Allworx server:

1. Log in to the Allworx server admin page. The Home page displays.
2. Click the **Install Checklist** link (on the left side) to open a new window that lists the steps necessary to configure a new server. Each step has a description followed by a link to the appropriate web admin page to execute the step. Follow the order of the steps aid for a successful configuration. Most of the administrative pages for each step contain all the descriptions and help necessary to carry out the step. Use this guide to supplement the information on the web pages, when necessary.

### 3.1 Set the Time

Users can opt to set the time on the server using NTP to set the time automatically or adjust the time and date manually. The preferred setting is NTP, if the server has Internet access.

To set the time:

1. Log in to the Allworx server admin page, and navigate to **Maintenance > Time**.
2. Click the **modify** link in the Action column. The Time page displays.
3. Click the radio button to select an option:
  - Use NTP to set time automatically. In the NTP server field, specify an SNTP-server IP address or a domain name. In the Poll Period, specify the number of minutes between polls.
  - Set time manually - specify the time in hours, minutes, seconds, and date in the respective fields.
4. Locate the Time Zone section and select the time zone from the drop-down list.
  - a. Check the **Automatically adjust clock for Daylight Saving Time** box underneath the selected time zone to enable the system to update the time automatically.

- b. Click the **Get Time** button to update the clock to the current time when using an SNTP server to specify the time.
5. Click the **Set Time** button to save changes.

## 3.2 Business Contact Information

The page displays the Business Contact Information (Name, Address, Phone number, etc.).

Entering the Business Contact Information is optional.

### To add or modify the contact information:

1. Log in to the Allworx server admin page, and navigate to **Business > Contact Information**. The Contact Information page displays.
2. Click the **Modify** link.
3. Enter Name, Street, City, State Zip, Phone, FAX, and Home Page information. Click the Start Over button to clear the fields and re-enter the information.
4. Click **Update** to save changes.

## 3.3 Feature Keys

Feature Keys enable access to advanced server features, and are available as a separate purchase from the base feature set for Allworx servers. Newly purchased or existing keys issued for a specific Allworx server automatically download from the Online Allworx key database.

### To install Feature Keys via the Internet:

1. Log in to the Allworx server admin page, and navigate to **Maintenance > Feature Keys**. The Feature Keys page displays.



2. Click **Install**.

Feature Key	Description																												
	Expand the maximum number of users on 6x, 24x, and 48x. The expansion does not require downloading any additional software, unless otherwise specified. The User Expansion feature is not available for 6x 12 servers.																												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Key</th> <th style="text-align: center;">6x</th> <th style="text-align: center;">24x</th> <th style="text-align: center;">48x</th> </tr> </thead> <tbody> <tr> <td>48 Users</td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>60 Users</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>100 Users</td> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>150 Users</td> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>200 Users</td> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>250 Users</td> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </tbody> </table>	Key	6x	24x	48x	48 Users		X		60 Users	X			100 Users		X	X	150 Users		X	X	200 Users		X	X	250 Users		X	X
Key	6x	24x	48x																										
48 Users		X																											
60 Users	X																												
100 Users		X	X																										
150 Users		X	X																										
200 Users		X	X																										
250 Users		X	X																										
Call Queuing	Provide the ability to direct inbound calls into queues. These calls ring the phones of available, designated users to service the calls.																												
Automatic Call Distribution	Directs calls in a queue to agents using a variety of call distribution algorithms. This key also enables the method described for the Call Queuing key. If installing the Automatic Call Distribution feature key, the Call Queuing feature key is not required. The Automatic Call Distribution feature is not available for 6x12 servers. <b>Note:</b> For details on configuring and using Call Queuing and Automatic Call Distribution, see the Allworx Queuing and Automated Distribution Guide.																												
Call Assistant	Enable the Allworx Call Assistant and the TSP driver. The Allworx Call Assistant is a PC-based answering system, which brings the power of enterprise attendant consoles directly to small business. Use an Allworx desk phone with this software, requires additional software. <b>Note:</b> TSP (Telephony Service Provider) is a separate PC driver that enables dialing from within contact management software, such as Microsoft Outlook.																												
Conference Center	Reserve the conference center, and offers password-restricted access for attendees. This option does not require any additional software.																												
Dual Language Support	Provide the capability of a second language for default audio prompts. Language Packs containing audio prompts in languages other than US English are available for download from the Allworx Partner Portal at <a href="http://www.allworxportal.com">www.allworxportal.com</a> .																												
Extended Warranty	Extend the expiration of the Allworx server's warranty by 60 months. Obtain this key through the Allworx Partner Portal.																												
Generic SIP Handsets	Enables newly created Generic SIP handsets on the system. Each Allworx server enables configuration of either 3 or 5 generic handsets (3 on the 6x12 and 6x; 5 on the 24x/48x) without purchasing a feature key. Generic SIP handsets existing in the system prior to the 7.5 upgrade operate without the purchase of a feature key package.																												

Feature Key	Description
Allworx Interact Professional	Enables users to control a handset with convenient access to call history and contacts from the Allworx directory, and accesses personal directory contacts from the user's Microsoft® Outlook® application. The Allworx Interact Professional application enables users to Answer, Ignore, End, or place calls on Hold. Additionally, users can Transfer, Park, Conference, and settings features.
Mobile Link	Enables interaction between the Allworx system and the iAllworx for iOS or Mobile Link for Android. Each application enables users to set their Presence, review conferences, and receive/send voicemails. The Mobile Link key is required to enable the IMAP protocol for the voicemail to email feature.  Additionally, this key enables voicemail-only functionality with the Allworx Reach application without an Allworx Reach key or Allworx Reach handset.
Multi-Site Primary	Provide the ability to integrate multiple sites seamlessly. The Primary key designates the Controller site for the network. At least one site in the network must have a Multi-site Primary key. More than one site can have a primary key. It also enables a larger number of BLF/DSS between sites (up to 255) than the Multi-site Branch key (up to 10). The Multi-Site Primary feature is not available for 6x12 servers.
Multi-Site Branch	Provide the ability to integrate seamlessly multiple sites. The Branch key enables sites to join a network of sites but not configured as the controller site. Sites without a Multi-site Primary key are limited to DSS/BLF for a maximum of 10 handsets from other sites.
Allworx Reach	Order Feature key licenses in increments of 1, 5, and 10, and the feature counts are additive. Installing multiple keys for the same or different feature count adds licenses to the server. Once the Allworx Reach licenses are active on a server, the Allworx Server Administrator can configure users to claim licenses on a first come, first server basis. Each Allworx server enables configuration of a single instance of the Allworx Reach application without the purchase of a feature key.
Software Upgrade	Enable system software updates. Without this key, only patch updates to the currently loaded release are available.
Virtual Private Network (VPN)	Enables access to remote and secure data. This key is not required for opening a single-user remote diagnostic VPN. This option does not require any additional software. The VPN feature is not available for 6x12 servers.
T1/PRI License #1 (48x only)	Activates the T1-A port on an Allworx 48x system. T1/PRI License #1 (48x only).
T1/PRI License #2 (48x only)	Activates the T1-B port on an Allworx 48x system. This does not include the license for the first T1. Install T1 license #1 in order to activate the T1 #2. T1/PRI License #2 (48x only).
<b>Note:</b> Feature keys activate features only on the Allworx server for which they are generated. Therefore, another system cannot use feature keys generated a different system cannot.	

## 4 Upgrade Server Software

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Before doing an upgrade, be aware that:

- If updating from Release 7.0 or lower, Allworx has made significant changes to multi-site networking that require additional feature keys and configuration steps in order for site-to-site features to continue to operate. Multi-site networks will cease functioning until completing the server updates, procuring and installing the new keys, and doing additional configurations on each site. See the Allworx Advanced Multi-site Setup Guide on the Allworx portal. for more details.
- Downgrading from one release to an earlier release results in undesirable behavior and is not supported.
- Allworx highly recommends running an OfficeSafe backup prior to the upgrade (See “Back Up and Restore Data” on page 139.).
- The upgrade requires a server reboot. Since this causes disconnections and disruption of data, verify the system is idle (no phone or data users) when the upgrade is done.
- After installing, close all browser windows and open a new browser window before proceeding. If there is a browser session open during the upgrade, the Allworx server admin page may not display properly.
- See page 5 for supported web browsers.

<b>Note:</b>	Upgrading from prior releases of the Allworx System Software to Release 7.6 requires installing a Software Upgrade Feature Key or that the server is in its initial software warranty period (90 days).
<b>Note:</b>	Do not skip software releases to install Allworx System Software Release 7.6. If upgrading from Release 7.3 or lower, upgrade to the next release in sequence until the server is running Release 7.4. Then install Release 7.5, and finally install Release 7.6.

### To upgrade the server:

1. Log in to the Allworx server admin page, and navigate to **Maintenance > Update** page.



2. Click an update option.

- **Download update from web:** the server determines if new software releases are available. If an upgrade is available, the option to install them is available.

Select the software version, and then click **Download Update**.

- **Upload update from PC:**

a. Download the update file to a PC from the Allworx portal ([www.allworxportal.com](http://www.allworxportal.com)).

b. Click the **Browse** button to navigate to the location of the downloaded Allworx server software file from the Allworx portal.

c. Select the file, and click **Open**. The Update page displays.

d. Click the **Load** button. The page displays the current version of software and the software version of the file that was loaded on the system. A warning message displays for any inconstancies such as:

- Update version is the same or lower than the current version.
- Update is for a different Allworx server model.

3. Select an option to activate the server software update.

<b>Note:</b>	After installing, close all browser windows and open a new browser window before proceeding. If there is a browser session open during the upgrade, the Admin page may not display properly.
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Option	Description
<b>Activate Update Now</b>	Update begins immediately. 1. Click <b>Activate Update Now</b> . 2. (optional) Check the <b>Automatic Update box</b> to update Allworx Phone firmware automatically. 3. Click the <b>Start Update</b> button.
<b>Active Update Later</b>	Schedule the update to begin at another time - up to one week later. 1. Click <b>Activate Update Later</b> . 2. (optional) Check the <b>Automatic Update box</b> to update Allworx Phone firmware automatically. 3. Select the date and time to begin the update, and then click the <b>Submit Schedule</b> button. The Update page displays with the scheduled date and time for the server software update.
<b>Cancel Update</b>	Ends the update and returns to the main update screen.

# 5 Configuring the Network

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## 5.1 General Network Configuration Requirements

If connecting remote phones or remote Px Expanders to the system, observe the following very important security requirements:

- The Allworx Server Administrator can directly connect the Allworx server to the Internet via its WAN port. However, the WAN cannot be in Use PPPoE mode.
- Install the server behind a firewall or connect it to the public Internet using the WAN port. **DO NOT** connect the Allworx LAN port directly onto the public Internet.
- Disable Allworx WAN services (ports) not in use.
- Change voicemail ports (SMTP and IMAP) to non-standard port numbers.
- Change all server admin, phone admin, and user passwords from the default values.
- Use strong passwords for server and phone administration pages. **DO NOT** use simple passwords such as “1234” or “Allworx”.
- Verify that there is no exposure of the Admin Page (Port 8080) to the Public network. **DO NOT** port forward directly to the LAN port of an Allworx server from the customer's router. For remote maintenance, use the Allworx VPN. Navigate to **Home > Network > VPN > modify** to configure the VPN settings.

When configuring the WAN interface to connect to the public Internet:

Enable the server in NAT Firewall mode, preferably with Stealth DMZ. In stealth mode, the WAN interface does not respond to “pings” from other devices.

<b>Note:</b>	Allworx cannot guarantee proper operation of third-party networking products. However, Allworx expects this to work with typical firewalls and tests against several brands. Some NAT/Firewall configuration may be required. See “Allworx Server behind a Third-Party NAT Firewall” on page 31 for more information.
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The Allworx server provides powerful and flexible network infrastructure capability by setting the Network Mode parameter on the **Network > Configuration** page. This page

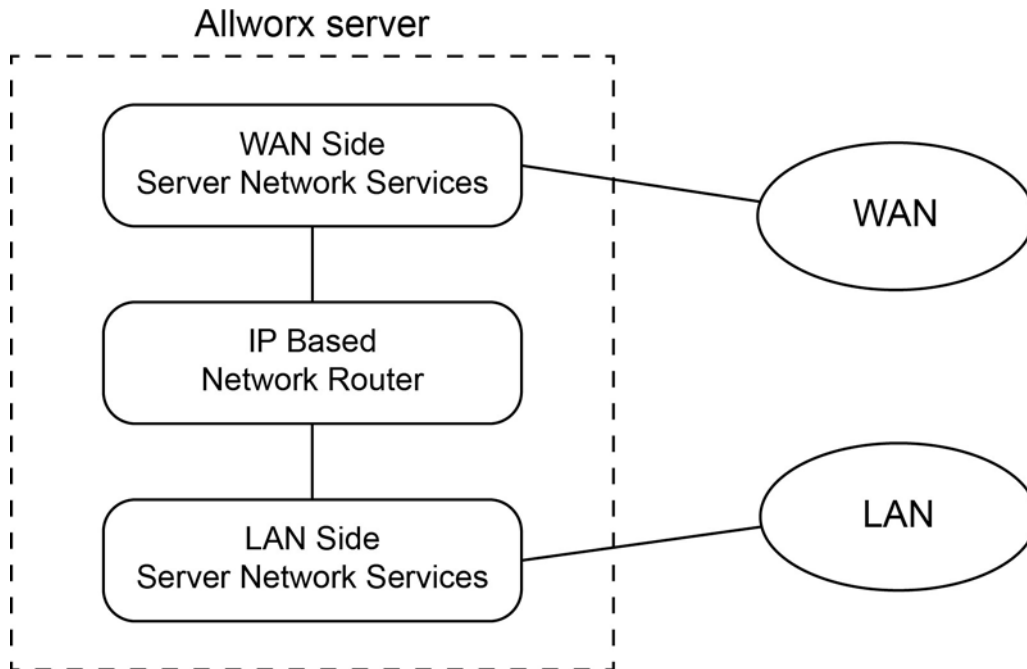
displays the different parameter sets depending on the Network Mode setting. If the Network Mode is set to the factory default value of NAT/Firewall with DMZ, the page is similar to the one shown below.

**Configuration** [modify](#)

	Current Value
<b>Network Mode</b>	NAT/Firewall with DMZ
<b>LAN IP Address</b>	192.168.2.254
<b>LAN Subnet Mask</b>	255.255.255.0
<b>LAN SNMP Agent</b>	enabled
<b>WAN Settings Method</b>	Static
<b>WAN IP Address</b>	172.16.92.254
<b>WAN IP Subnet Mask</b>	255.255.255.0
<b>WAN SNMP Agent</b>	disabled
<b>WAN Admin</b>	disabled
<b>Gateway</b>	172.16.92.100
<b>PPPoE Username</b>	
<b>PPPoE Service Name</b>	
<b>PPPoE MTU</b>	1492
<b>LAN Addresses and Ports exposed through Firewall</b>	
<b>DNS Server (53)</b>	enabled
<b>DNS Client (4069)</b>	enabled
<b>FTP (20,21)</b>	disabled
<b>HTTP (80)</b>	enabled
<b>POP3 (110)</b>	enabled
<b>IMAP4 (143)</b>	disabled
<b>Communications Center (1112,2112,2113)</b>	disabled
<b>PPTP (1723)</b>	enabled
<b>Remote Allworx Handsets (2088,8081)</b>	enabled
<b>SIP (5060)</b>	enabled
<b>SMTP (25)</b>	disabled
<b>SNTP Client (4068)</b>	enabled
<b>Host Name</b>	allworx
<b>Domain Name (DNS)</b>	allworx.inscitek.com

## 5.2 Network Mode: Standard Router

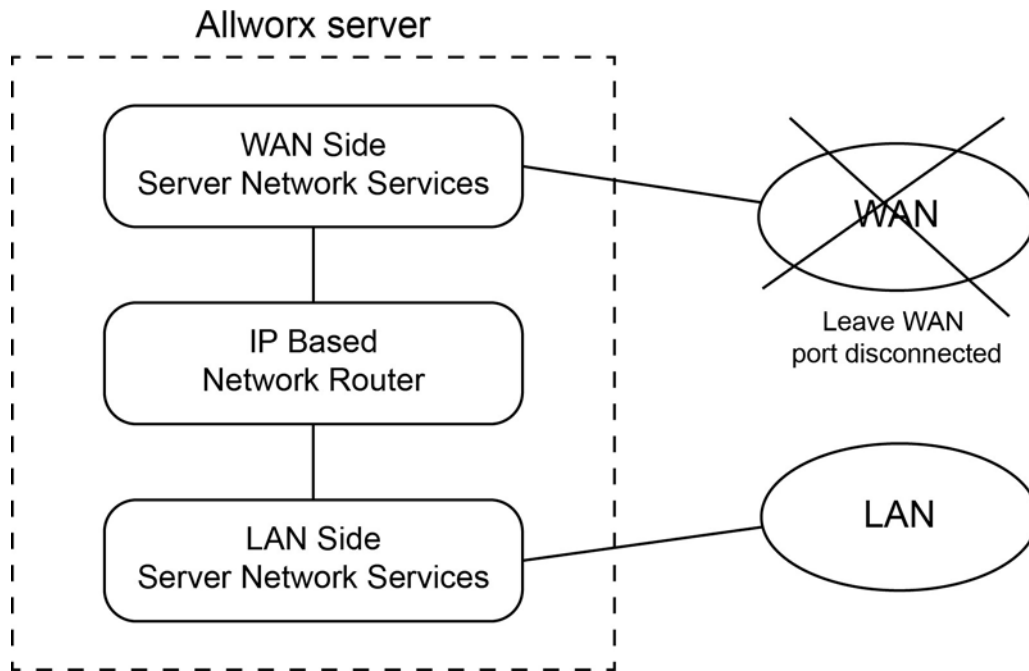
When the network mode is set to Standard Router, the logical network capability is shown in the diagram below:



The server acts like an ordinary two port router with the server routing packets between the LAN and WAN interfaces. No NAT or firewall functionality is enabled. All LAN hosts are visible on the WAN. If the DHCP server is enabled (the **Servers > DHCP Server** page), then the DHCP server sends its LAN IP address as the DHCP router (gateway) option so that LAN clients know to use the Allworx server as the router to the WAN. WAN hosts wanting to connect to LAN hosts needs to be configured with a network route using the Allworx server's WAN address as a gateway to the LAN.

## 5.3 Network Mode: LAN Host

When the network mode is set to LAN Host, the logical network capability is shown in the diagram below:



Use this mode to deploy the Allworx server as a peer (instead of as a router or firewall) on the local area network.

This mode is the same as Standard Router except that when the DHCP server is enabled, it passes out the configured Gateway address (set on the **Network > Configuration > Modify** page) as the DHCP router (gateway) option instead of giving out the Allworx server's LAN address.

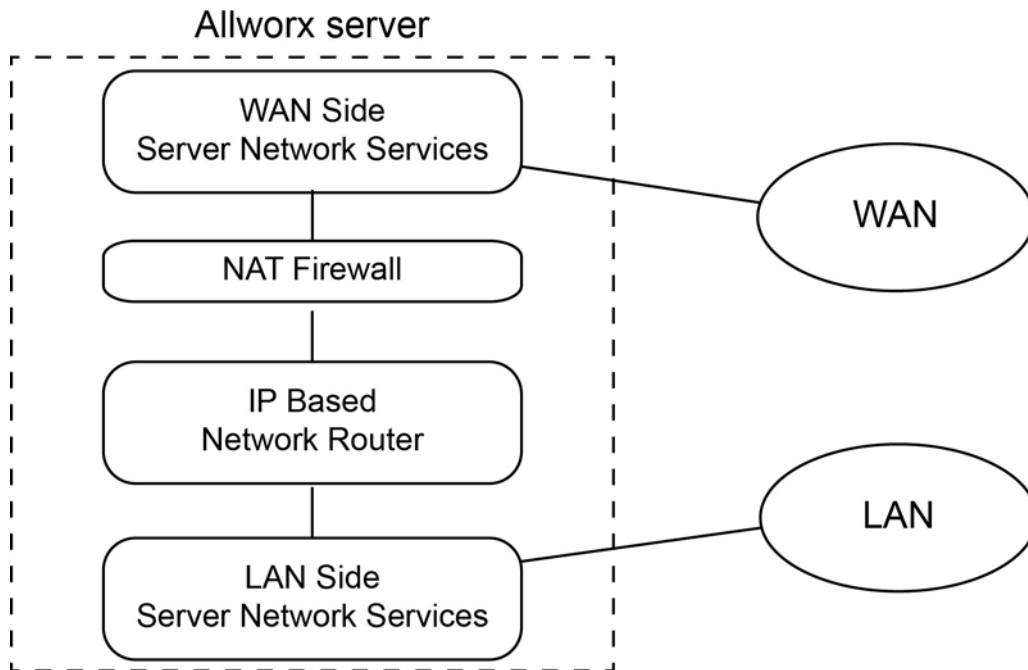
When in this mode, Allworx recommends not connecting the WAN network port (i.e. not plugging in the network cable). Even though there is no network connection, assign a WAN IP address and subnet mask. Use a subnet number that is distinct from the LAN subnet number when assigning the WAN IP address. Use a completely unused subnet number to avoid any routing conflicts.

The WAN services (like FTP and HTTP) are still available via the LAN if the proper routes are configured on the network.



## 5.4 Network Mode: NAT/Firewall

When the network mode is set to NAT/Firewall, the logical network capability is shown in the diagram below:



For security purposes, the mode default settings enable only outbound connections (from the LAN to the WAN); all WAN-initiated connections are denied. In addition, all packets are subject to network address translation (NAT). Because of this, the addresses of devices on the LAN are not visible on the WAN, but the WAN is accessible outbound traffic. These features reduce the ability of WAN hosts to attack LAN hosts.

Expose the specific LAN sports to enable WAN access to specific LAN network services through the firewall. To configure, navigate to **Network > Configuration > Modify** and locate the Firewall section.

Firewall			
LAN Addresses exposed through firewall:			
WAN Port #	Protocol	IP Address	Local Port #
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>

For example, if a PC on the LAN is hosting a website that requires Internet accessibility, the http port (port 80) must be exposed through the firewall. To enable access to this web server, create a new entry, entering 80 for the WAN Port #. Select TCP for the Protocol, enter the PC's IP Address (e.g. 192.168.101.9) and the Local Port # of 80.

<b>Note:</b>	The WAN and LAN Port #s must always be the same.
--------------	--

If exposing the port 80 of a PC on the LAN this way, disable the Allworx port 80 http service. Uncheck the HTTP (80) checkbox in the Allworx Services section of the page. If using the Allworx Internet web page, leave the Allworx HTTP box checked and change the http port on the PC to another port number (e.g. port 5000).

Due to security requirements, do not use the Allworx server's LAN IP address as an IP Address, in the table above. To access the Allworx LAN interface from the Internet, use the server's VPN feature.

## 5.5 Allworx Server behind a Third-Party NAT Firewall

To support remote devices, Allworx Reach Mobile Clients, and SIP Proxy usage when the Allworx server is behind a single third-party NAT firewall, the server's Network Mode must be in LAN Host Mode.

When set to LAN Host Mode, the page contains a Public IP Address section shown below:

**Public IP Address**

If you are using a third party NAT Firewall to map a Public IP Address to the Allworx LAN IP Address, then enter that address here, otherwise leave this field blank.

**Public IP Address**

**NOTE**  
 The Public IP Address is used by Allworx VoIP services to encode the proper IP Addresses when communicating with remote SIP services or devices (such as IP Phones) when a third party NAT Firewall is between the Allworx and the Internet.

Most third party NAT Firewalls require specific access rules to enable this functionality. Refer to your firewall documentation to map the ports listed below from the Public IP Address to the Allworx LAN IP Address.

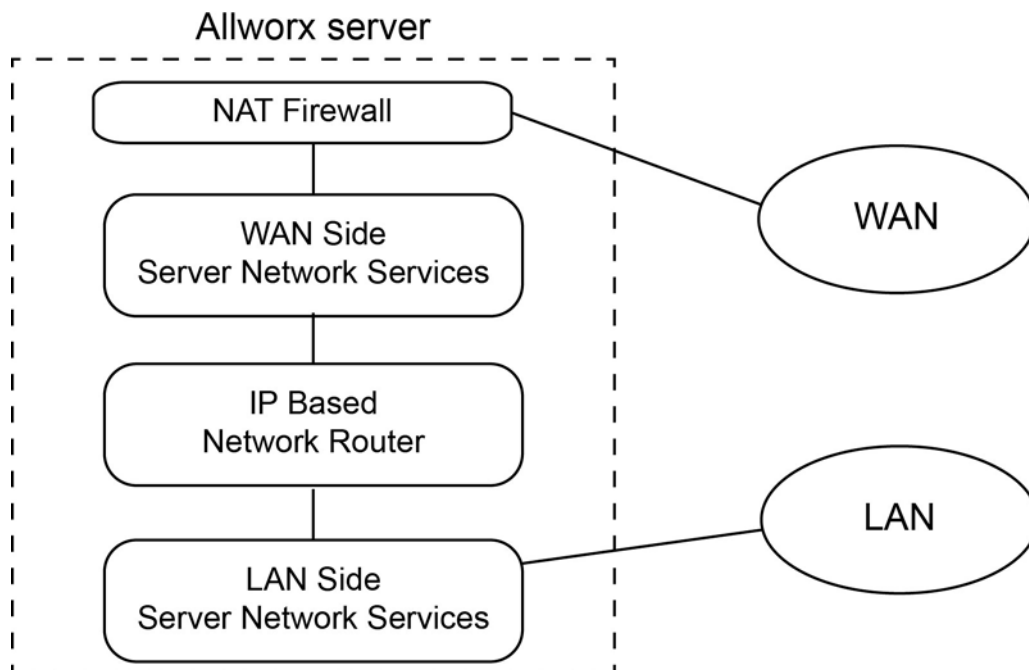
**Ports:**  
 2088 (UDP)  
 5060 (UDP)  
 5060 (TCP)  
 8081 (TCP)  
 15000-15511 (UDP)

As instructed on the page, enter the firewall public IP address in the Public IP Address field. In addition, it may be necessary to configure the firewall to statically map specific ports.

<b>Note:</b>	The box on the web page describes this and is discussed further in the document.
--------------	--

## 5.6 Network Mode: NAT/Firewall with DMZ

When the network mode is set to NAT/Firewall with DMZ, the logical network capability is shown in the diagram below:



Turning on the DMZ moves the WAN network services behind the firewall. This means that even the Allworx WAN services (POP, SMTP, FTP, HTTP, etc.) are not available by hosts on the WAN.

To enable some of these services available, navigate to **Network > Configuration > Modify**, and edit the Firewall section of the page.

**Firewall**

**LAN Addresses exposed through firewall:**

WAN Port #	Protocol	IP Address	Local Port #
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		
	TCP ▼		

**Allworx Services (ports) exposed through DMZ:**

<input checked="" type="checkbox"/> DNS Server (53)	<input type="checkbox"/> Communications Center (1112,2112,2113)
<input checked="" type="checkbox"/> DNS Client (4069)	<input checked="" type="checkbox"/> PPTP (1723)
<input type="checkbox"/> FTP (20,21)	<input checked="" type="checkbox"/> Remote Allworx Handsets (2088,8081)
<input checked="" type="checkbox"/> HTTP (80)	<input checked="" type="checkbox"/> SIP (5060)
<input checked="" type="checkbox"/> POP3 (110)	<input checked="" type="checkbox"/> SMTP (25)
<input type="checkbox"/> IMAP4 (143)	<input checked="" type="checkbox"/> SNTP Client (4068)

<b>Note:</b>	Use the check boxes for configuring specific Allworx services in the LAN address list. The system provides these check boxes as a convenience instead of filling in the list.
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## 5.7 Network Mode: NAT/Firewall with Stealth DMZ

This mode is the same as NAT/Firewall with DMZ except that all ICMP services (echo, redirect, etc) are off. This makes it more difficult for attacks from the WAN to probe the server. It also makes it more difficult for the administrator to troubleshoot any network connectivity problems (since ping and traceroute won't work).

### Example 1: Secure Firewall

Requirements	Configuration
<p>Use the Allworx server as the router between a LAN and the Internet. Protecting the LAN from the Internet is a requirement. Use the server as the local email server with email being sent to it from the WAN and LAN. The server is the LAN timeserver. All other WAN services will be denied.</p>	<p>Set the Network Mode to NAT/Firewall with Stealth DMZ. Setting it to stealth mode reduces the ability of Internet attacks to recognize the existence of the Allworx server and its offered services. Navigate to <b>Network &gt; Configuration &gt; Modify</b> and edit in the Firewall section of the page, change the Allworx Services (ports) exposed through DMZ so that only SMTP, DNS, and SNTP are checked. Receiving mail from the Internet requires SMTP for local users. The email server requires DNS to resolve outbound mail addresses. The server requires SNTP to get accurate time from an Internet time server (configured on the <b>Maintenance &gt; Time</b> page).</p>

### Example 2: Secure Firewall with Third-Party Email Server

Requirements	Configuration
<p>The requirements are identical to Example 1: Secure Firewall except that instead of using the Allworx server as the email server and uses another host (at 192.168.101.12) on the LAN as the email server.</p>	<p>The configuration is identical to the previous example except for the following changes:            Uncheck the SMTP service from the list of exposed Allworx services.</p> <p>Go to <b>Network &gt; Configuration &gt; Modify</b> and edit in the Firewall section of the page, add an entry to LAN Addresses exposed through firewall where:</p> <ul style="list-style-type: none"> <li>• WAN Port # is 25.</li> <li>• Protocol is TCP.</li> <li>• IP Address is set to the LAN email server, 192.168.101.12</li> <li>• Local Port # is 25.</li> </ul>

## 5.8 FTP File Transfer

By default, FTP is disabled on the Allworx server. The Allworx Server Administrator must enable this setting to import/export Auto Attendant greetings and recordings. See “Import Auto Attendant Greetings and Messages” on page 183 for more information.

### To enable or disable FTP on the Allworx server:

<b>Note:</b>	The FTP server remains enabled for one hour after enabling it. After one hour or a server reboot, the FTP server disables access.
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1. Log in to the Allworx server admin page, and navigate to **Servers > Web**.
2. Locate the FTP Server section, and click the **Enable** or **Disable** button. The server provides or denies access as requested.





## 6 Virtual Private Network (VPN)

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<b>Note:</b>	It is necessary to restart the Allworx server for the new Network VPN settings to take effect.
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### To enable the VPN PPTP server:

1. Log in to the Allworx server admin page, and navigate to **Network > VPN**. The VPN page displays.
2. Click the **Modify** link to update the values.
3. Check the Enable VPN PPTP Server box and update the fields.
4. Enter the required information in the respective fields. Click the **Start Over** button to reset the fields to the original settings.
5. Click **Update** to save changes.
6. Reboot the Allworx server.

### To enable VPN for Individual Users:

1. Log in to the Allworx server admin page, and navigate to **Business > Users**. The Users page displays.
2. Locate the username in the Users table, and click the **Modify** link. The Modify dialog box displays.
3. Locate the VPN Settings section, and check the VPN Access box.
4. Enter a VPN password in the field, and then Confirm VPN Password in the next field.
5. Click **Update** to save the changes.



## 7 Extension Length / Internal Dial Plan

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The Extension Length setting configures extensions to be three-digits or four-digits long. This capability affects other server features and has some limitations discussed below.

The Internal Dial Plan specifies the first digit for user extensions and other PBX functions such as forwarding calls and accessing outside lines. The Allworx Server Administrator can configure the dial plan to meet the needs of the customer by:

- Matching extensions to DID numbers.
- Keeping the same extensions prior to the introduction of the Allworx system.
- Changing the PBX outside line access to a digit other than “9” to avoid accidental 911 calls.
- Both Extension Length and the Internal Dial Plan affect many system features. Allworx recommends configuring the options early in the installation process.

### 7.1 Extension Length

#### 7.1.1 Set the Extension Length

The factory configuration of an Allworx server is three-digit extensions and does not require changes. If using four-digit extensions, Allworx recommends changing the extension length to four digits before defining any Users, Handsets, or Extensions.

**To change the extension length on new systems:**

1. Log in to the Allworx server admin page. Navigate to **Phone System > Dial Plan**.
2. Locate the Internal Extension Length section, and click the **Modify** link.
3. Change the User and System Extensions to four digits in length.
4. Click **Update** to save the configuration, and boot any previously configured handsets.

<b>Note:</b>	Systems part of multi-site networks cannot change the Extension Length.
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## 7.1.2 Change the Extension Length on Existing Systems

When switching an existing server with three-digit extensions to four-digit extensions, the user and system extensions automatically change to four digits. The server adds the number one to the start of each extension. For example, if a user has the extension x104, the extension automatically updates to x1104. A system extension of x231 updates to x1231.

Allworx does not recommend switching from four-digit extensions to three-digit extensions. When switching, the system shortens all extensions to three digits by removing the first digit (e.g., an extension of x1205 becomes x205). However, this can lead to conflicts (e.g. x1100 and x2100 would shorten to the same three-digit extension). Therefore, the system prevents switching from four-digit extensions to three-digit extensions, if there are any extensions outside the x1100-x1299 range. For sites using a non-default internal dial plan, verify all extensions are in the x100 – x299 range. For example, if the site's extensions are 4xxx – 5xxx, verify all extensions are in the 4100-4299 range to switch to three-digit extensions. If there are extensions outside of this range and the requirement is to switch from four-digit extensions to three-digit extensions, change or delete all extensions outside the range.

The following affects phone functions when changing the extension length setting. The number format to dial is the same but the number of digits changes, depending on whether extensions are set to three digits or four digits.

Function	Format**	3-digit Example**	4-digit Example*
Leave a voicemail	3 + extension	3199	31199
Check voicemail	6 + extension	6199	61199
Call forwarding	45 + extension	45199	451199
Answer alternate extension	7 + extension	7199	71199
** Extensions may vary per system. When using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Features tab to determine what extensions to use for the corresponding feature.			

In addition to the changes in user and system extensions, the following server configurations automatically update when changing from three-digit to four-digit

extensions:

- Extension call routes including Internal Caller-ID checking
- Incoming outside line call routes
- DID mappings
- System Speed Dials (the Speed Dial extension doesn't change but the dialed extension changes)
- Speed Dial PFK (differs from Personal Speed Dial PFK)
- Default Extensions, extensions accessed by Shortcuts, and "Dial By Directory" listings of Auto Attendants
- Call Detail Records (prior records are unaffected by the change)
- Off hook digits dialed for handsets

Extension Length changes do not affect the following server configurations<sup>1</sup>:

- Personal Speed Dials (users must modify since the numbers are stored on the phones)
- System Speed Dial extensions (350-399, 34000-34999)
- Call Park extension and Parking Orbits (700-709)
- Auto-Attendant extensions (400, 431-439)
- Door Relay (403)
- Message Center (404)
- Conference Center (408)
- Paging extensions (460-469)
- Queue extensions (4400-4409, 4410-4419)
- Modifying Internal Dial Plan

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1. Extensions may vary per system. When using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Features tab to determine what extensions to use for the corresponding feature.

## 7.2 Internal Dial Plan

There are two configuration modes for the Internal Dial Plan:

- **Normal Mode** - User and system extensions are a continuous range of 200 three-digit extensions or 2000 four-digit extensions numbers. The numeric range varies between 1xx and 9xx. Examples: three-digit extensions between 100 and 299 or between 700 and 899. System functions (e.g., Speed Dials and retrieving parked calls) are in other ranges not assigned to user extensions.
- **Extension Mode** - User and system extensions can be in any numeric range. The server reserves only the operator digit (e.g., 0) and the PBX external dial digit (e.g., 9). System functions begin with an asterisk (\*). For example, extensions can range between 100 and 899 or 1000 and 8999.

To view the Internal Dial Plan, navigate to **Phone System > Dial Plan > Internal Dial Plan**, and click **modify** to change the dial plan. Normal mode is the default setting. Click the **Use Extension Mode** check box to change modes. If the system is part of a Multi-site network, the Allworx Server Administrator cannot change the Internal Dial Plan between Normal Mode and Extension Mode.

Use Extension Mode

Plan		
1,2	1xx 2xx	User and System Extensions
0	0	Operator
9	9 + external number	External Call access (follows External Dialing Rules below)
8	8 + enterprise number	Enterprise calling
5	5nnn	Internal station access (reserved for system)
3	350-399 34nnn	Speed dial numbers
6	6 + user extension	Message Center
7	700 call park 701-709 call retrieve 7xxx call pickup 78 + audit pin code	Call Functions (park/pickup/audit pin code)
3	3 + user extension	Leave a voicemail for extension
4	403 door relay 408 conference center 42n do not disturb 43n auto attendants 44nn call queues 4950-4999 call retrieve 45xxx call forwarding 46n paging	PBX Functions

In either mode, select the leading digit for groups of dialing patterns from a drop-down list. Selecting a digit for one pattern affects the digits that are available for use with other patterns. While making the selection, the system automatically adjusts the lists for other dial patterns to include only valid remaining digits. For this reason, Allworx recommends making selections starting at the top of the page.

**To disable Multi-site on all servers:**

1. Login to the Allworx server admin page, navigate to **Network > Multi-Site > modify**, and locate the Configuration section.
2. Click the **Disabled** button.
3. Click the **Remove** links on all servers to remove all site data on all servers.
4. Navigate to the **Phone System > Dial Plan > Internal Dial Plan** section, and click the **modify** link.
5. Confirm that the Internal Dial Plan is identical on all servers - Normal or Extension Mode.
6. Reboot all phones, and enable Multi-site on the Primary site.
  - a. Navigate to **Network > Multi-Site > modify**.
  - b. Locate the Configuration section, and click the **Controller Site** button.
7. Enable Multi-site on all of the Branch sites and Accept all sites into the network on the Primary site.
  - a. Navigate to **Network > Multi-Site > modify**.
  - b. Locate the Configuration section and click the **Branch Site** button.
8. Verify that the multi-site network is operating properly. Run the Multi-site Tests on the **Network > Multi-Site** page and place calls between all combinations of servers.

## 7.3 Important Notes

<b>Note:</b>	If installing Generic SIP phones on the system, Internal Dial Plan changes can modify the configuration on the server such that the Generic SIP phones no longer register.
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**To examine the configuration:**

1. Login to the Allworx server admin page and navigate to **Phone System > Handsets**.

2. Examine the installed Generic SIP phone User IDs.
3. Determine if the registration configuration for each Generic SIP phone is the same or different from the current User ID on the server Handsets page. If there is a difference, modify the on-phone configuration to match the new User ID.

<b>Note:</b>	Allworx user guides frequently refer to dialing patterns based on the factory default Internal Dial Plan. After making changes to the dial plan, the My Allworx Manager Phone Functions tab automatically updates to the new digits. Print and distribute this sheet to all end users. Navigate to <b>Phone System &gt; Dial Plan</b> to view the Phone Functions Reference Card.
<b>Note:</b>	Changing the Operator to something other than "0" does not automatically change the Operator digit shortcut in the Auto Attendants. If changing the Operator digit, manually update the Auto Attendants shortcuts. To update manually, see "Auto Attendants" on page 179.

## 7.4 Multi-site Calling

For reliable calling between sites in a multi-site network, all Allworx servers must have the same software release, extension length, and internal dial plan.



## 8 User Passwords

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The system maintains a PIN code for accessing phone functions (accessing the Message Center, logging in to Queues, etc.) and a password for accessing My Allworx Manager and the Allworx Administration pages.

Allworx Server Administrators can enforce more stringent password requirements for all user accounts, and/or require users to change their password on the next login. Users can change their password and PIN code using My Allworx Manager.

Allworx server features that require authenticated user access using a password.

- Allworx Reach
- Allworx Interact and Allworx Interact Professional
- Allworx Call Assistant
- My Allworx Manager

Allworx server features that require authenticated user access using a handset keypad to enter the PIN code:

- Message Center (Audio and Visual)
- Hot Desk Login
- ACD Agent Login
- Follow Me

### 8.1 Requirements

The Maximum Length of Passwords is 128 characters. The server enables using special characters in Passwords.

[SP]	!	"	#	\$	%	&	'	(	)	
*	+	,	-	.	/	:	;	<	=	}
>	?	@	[	\	]	^	_	`	{	~

**To change the password requirements:**

1. Login to the Allworx server admin page and navigate to **Business > Users > Password Requirements**. The page displays the password requirements.

2. Click the **modify** link to change the settings. The default setting for Require Strong Passwords is not required.
  - a. If the Allworx Server Administrator leaves the Require Strong Passwords box unchecked (default setting), the server enforces the following requirements for user passwords:
    - Can only contain letters (A-Z, a-z), digits (0-9), and special characters (above).
    - Minimum length of 4 characters
    - Maximum length of 128 characters
  - b. If the Allworx Server Administrator checks Require Strong Passwords box, the server enables the Allworx Server Administrator to modify the requirements for the passwords. Selectable requirements for passwords include:
    - Setting password minimum length from 6 to 128 characters.
    - Require lower case character(s)
    - Require upper case character(s)
    - Require numeric character(s)
    - Require special character(s)

If a user's password does not already meet all the updated requirements, the server requires the user to change the password at the next login.

3. Click the **Update** button to save the changes.

## 8.2 Users

Allworx Server Administrator can set a user's password or PIN code.

### 8.2.1 New Users

1. Login to the Allworx server admin page and navigate to **Business > Users**, and locate the Users section.
2. Click the **add new user** link. The Add New User page displays.
3. Enter the necessary user information including:
  - **Password** – the password must comply with the password requirements.

- **PIN** – default PIN code is 1234.

If the user is already set up prior to upgrading the server, the default PIN code is the same PIN code prior to the upgrade.

4. Locate the **Require Password Change** and **Require PIN Change** check boxes. The Allworx server default (checked) requires the user to update the password or PIN code at the next login.

If the Allworx Server Administrator unchecks the box, the user does not need to update the password or PIN code.

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

## 8.2.2 Modify Users

1. Login to the Allworx server admin page and navigate to **Business > Users**, and locate the Users section.

2. Click the **modify** link. The Modify page displays.

3. Edit the user information:

**Full Name** – First, Middle, Last

**Password/Confirm Password** – verify password complies with the password requirements.

**PIN/Confirm PIN** – default keypad PIN code is 1234.

4. Locate the **Require Password Change** and **Require PIN Change** check boxes. The server default (checked) requires users to update the password or PIN code at next login.

If the Allworx Server Administrator unchecks the box, the user does not need to update the password or PIN code at the next login.

5. Click the **Update** button to save changes.



## 9 Adding Users

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### 9.1 User Templates

User Templates contain a set of common configuration settings applied when creating or modifying users. The templates do not include all user settings. The system requires configuring some settings for each user from the user modify page.

The system displays available user templates in a table on the **Business > Users** page, with options to View or Copy the System User (Default) template or View, Copy, or Delete other template groups. The System User (Default) template contains the user factory default settings. When upgrading Allworx servers, the system assigns the System User template as the base template for all users. None of the settings change for existing users in this process. When adding new users, the Allworx Server Administrator may apply the System User template or create a custom template with a preferred combination of settings.

#### 9.1.1 Add and Modify User Templates

Prior to adding users on a new system, determine the required feature options for the user (e.g. Off-site Access to Outside Lines or the ability to create conferences).

To see the list of users for each template, navigate to **Business > Users** and locate the User Templates section. Select the **View** link for the appropriate template, and navigate to the Template Last Applied To Users section for the complete list.

##### To create a new user template:

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and locate the User Templates section.
2. Select the a user template, such as System User (Default) and click the **Copy** link. A new User Template displays in the template list with the same user options as the selected template.
3. Click the **View** link on the Copy of System User (Default) line. The new User Template page opens displaying the current options.

4. Click the **Modify** link in the User Template - Copy of System User (Default) section.
5. Rename the template in the Name field, and update the template options, as appropriate.
6. Click **Update** to save the changes.
7. Navigate to **Business > Users** to return to the list of users.

#### **To modify an existing user template:**

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and locate the User Templates section.
2. Click the **View** link on the line of the template that needs modification. The User Template page opens displaying the current options.
3. Click the **Modify** link, and update the template options, as appropriate.
4. Click the **Update** button to save the changes.
5. Navigate to **Business > Users** to return to the list of users.

### **9.1.2 Delete User Templates**

The Allworx Server Administrator cannot delete templates with associated users. Apply a different template to all associated users before attempting to delete the User Template.

#### **To delete a User Template:**

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and locate the User Templates section.
2. Locate the template, and click the **Delete** link in the Action column. The page refreshes with the available User Templates.

## 9.2 User Template Settings

Section	Heading		
System Features	<ul style="list-style-type: none"> <li>• Enable Voicemail               <ul style="list-style-type: none"> <li>• Maximum Number of Voicemails</li> <li>• Call Answering maximum message recording time</li> <li>• Message Center maximum message recording time</li> <li>• User has permission for Off-Site Access to outside lines</li> <li>• User has permission to send voicemail to all users (by dialing 9 from voicemail Send menu)</li> <li>• Operator Extension (used when caller dials 0 when leaving voicemail)</li> <li>• End Message recording (Voice Activity Detection)</li> </ul> </li> <li>• User has permission to modify extension's call routes</li> <li>• User has permission to create conferences</li> <li>• User has permission to administer Call Reporting</li> <li>• System-wide Active Calls Display               <ul style="list-style-type: none"> <li>• Not Displayed</li> <li>• Brief Display (no Caller ID)</li> <li>• Full Display (with Caller ID)</li> </ul> </li> <li>• Call Recording Allowed</li> <li>• Maximum size Universal Inbox</li> <li>• Default Language               <ul style="list-style-type: none"> <li>• Primary Language</li> <li>• Secondary Language</li> </ul> </li> <li>• Enable Hot Desking               <ul style="list-style-type: none"> <li>• Maximum Logged in Time</li> <li>• Caller ID Name</li> <li>• Caller ID Number</li> </ul> </li> <li>• Call Queue Supervisor - Select applicable Call Queues</li> <li>• Recording Manager               <ul style="list-style-type: none"> <li>• Select applicable Call Queues</li> <li>• Select applicable Auto Attendants</li> </ul> </li> </ul>		
Feature Eligibility	<ul style="list-style-type: none"> <li>• Allworx Reach Eligibility Count</li> <li>• Allworx Interact Professional Eligibility Count</li> </ul>		
Follow Me Calling	<ul style="list-style-type: none"> <li>• PIN code required to accept calls</li> <li>• Require caller to record name</li> </ul>		
Auto Attendant Menu	<ul style="list-style-type: none"> <li>• Check boxes below to include the user in the Dial-By-Name and Dial-By-Directory menus for the attendant:               <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>• Auto Attendant 1</li> <li>• Auto Attendant 2</li> <li>• Auto Attendant 3</li> <li>• Auto Attendant 4</li> <li>• Auto Attendant 5</li> </ul> </td> <td style="vertical-align: top; padding-left: 20px;"> <ul style="list-style-type: none"> <li>• Auto Attendant 6</li> <li>• Auto Attendant 7</li> <li>• Auto Attendant 8</li> <li>• Auto Attendant 9</li> </ul> </td> </tr> </table> </li> </ul>	<ul style="list-style-type: none"> <li>• Auto Attendant 1</li> <li>• Auto Attendant 2</li> <li>• Auto Attendant 3</li> <li>• Auto Attendant 4</li> <li>• Auto Attendant 5</li> </ul>	<ul style="list-style-type: none"> <li>• Auto Attendant 6</li> <li>• Auto Attendant 7</li> <li>• Auto Attendant 8</li> <li>• Auto Attendant 9</li> </ul>
<ul style="list-style-type: none"> <li>• Auto Attendant 1</li> <li>• Auto Attendant 2</li> <li>• Auto Attendant 3</li> <li>• Auto Attendant 4</li> <li>• Auto Attendant 5</li> </ul>	<ul style="list-style-type: none"> <li>• Auto Attendant 6</li> <li>• Auto Attendant 7</li> <li>• Auto Attendant 8</li> <li>• Auto Attendant 9</li> </ul>		
POP3 Mail Transfers	<ul style="list-style-type: none"> <li>• Email and Voicemail messages</li> <li>• Email message only</li> <li>• No messages</li> </ul>		
VPN Settings	<ul style="list-style-type: none"> <li>• VPN Settings</li> </ul>		

Section	Heading
External POP3 Accounts	• Poll Period

User settings NOT included in User Templates:

Section	Heading
Presence	<ul style="list-style-type: none"> <li>• Presence choices</li> <li>• Prevent caller from leaving a message</li> </ul>
Roles	<ul style="list-style-type: none"> <li>• System Administrator</li> <li>• Phone Administrator</li> <li>• Network Administrator</li> <li>• Support Technician</li> </ul>
Follow Me Calling	<ul style="list-style-type: none"> <li>• Primary Phone (used for quick transfer from cell phone).</li> </ul>
Voicemail Notification and Escalation	<ul style="list-style-type: none"> <li>• Notification and Escalation Disabled</li> <li>• Notification Mode</li> <li>• Escalation Mode</li> </ul>
Email Forwarding	<ul style="list-style-type: none"> <li>• SMTP Server Configuration</li> </ul>
VPN Settings	<ul style="list-style-type: none"> <li>• VPN Password</li> </ul>
External POP3 Accounts	<ul style="list-style-type: none"> <li>• Mail Server / Username on Mail Server / Password</li> <li>• Adding and Modifying Users</li> <li>• Adding New Users</li> </ul>

## 9.3 Add a New User

The feature configuration settings display after choosing a template.

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and click the **add new user** link.
2. Add the Identification information into the fields.
3. Update the additional sections, as applicable.
  - Phone Assignment: select the appropriate phone from the drop-down menu.
  - Presence: select the current user presence from the list.
  - Roles: select any additional administrative roles to assign to the user.
4. Locate to the User Template section, and click **View** next to the template.
  - **Default template** - available to view the default settings, not available to edit.



- **Multiple templates** - select the template from the drop-down list. Click the **Modify** link to update the template. See “User Template Settings” on page 51 for more information about updating the template. An exclamation point (!) flags changes to the System Features indicating a template override.
5. Click **Add** to add the user to the system. The Users page displays. The users table on the Users page displays the last applied template to each user. If overriding any template settings for a given user, the system marks the User Template name with an exclamation point (!).

## 9.4 Modify Users

When modifying templates already applied to users, changes are NOT automatically applied to the users of that template. In order to update the user settings, reapply the template to each associated user.

### To modify the user's template:

1. Log in to the Allworx server admin page, navigate to **Business > Users**.
2. Click the **Modify** link in the Action column for the appropriate user. The user template opens for changes.
3. Locate the User Template Options section and select a new User Template from the drop-down list, if necessary.
4. Click **Set** to apply all the settings to the user or click **Merge** to keep the override settings and apply the remaining settings of the new template. Merge does not change any override settings from the last applied template.

Whether using Set or Merge, the system accepts additional changes before selecting the Update button.

5. Update the user sections as appropriate. See “User Template Settings” on page 51 for more information.
6. Click **Update** to save the changes. The User page displays. The table on the Users page displays the last applied template that to each user. An exclamation point (!) flags changes to the User Template indicating a template override.



# 10 Adding Handsets





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## 10.1 Allworx Desk Phones

Apply the following procedures when connecting the Allworx phones to the same LAN as the Allworx server. If connecting to a different network, see “Remote Allworx Phones and Port Expanders” on page 143.

### 10.1.1 DHCP IP Addressing

By default, Allworx phones have DHCP client enabled. When connected to networks with a DHCP server, the phones receive the network setup from the DHCP server. To register the phone, configure with the IP address of the Allworx server in addition to the network setup. If the DHCP server is the Allworx server or if using a properly configured third-party DHCP server, the Allworx phone installation is Plug 'n' Play.

- If the Allworx server is the network DHCP server, the phone registers without additional configuration.
  - If the phone gets the IP address from a DHCP server that is not the Allworx server, setup the DHCP server to provide the phone with the Allworx server's IP address. Use the TFTP boot server (option #66) in the DHCP data set. If the TFTP boot server is set properly, the phone needs no additional configuration.
  - If the phone is getting its IP address from a non-Allworx DHCP server and the DHCP server does not provide the TFTP boot server IP address, manually set the boot server's IP address (the address of the Allworx server) on the phone.
1. Press the CONFIG soft key on the phone.
  2. Use the phone arrow buttons, highlight Network Settings, and press the Select button . If prompted for a password, enter **allworx** using the numeric keypad, and then press the Select button . The Network Settings menu displays and DHCP highlights.
  3. Use the arrow keys to highlight Edit Boot Server. Press the Select button . Using the numeric keypad, enter the IP address of the Allworx server. Use the asterisk key (\*) for periods. When done, press the Select button .

4. Press the EXIT soft key repeatedly until asked to save the settings. Press the YES soft key.
5. Press the CONFIG soft key to reboot the phone, use the arrow keys to highlight Reboot Phone, and press the Select button . Answer Yes to the prompts. The phone reboots and connects using the DHCP and manually entered settings.

## 10.1.2 Static IP Addressing


If assigning the phones static addresses rather than using DHCP, manually enter the following network settings on the phone:

- Boot server (the Allworx server IP address or domain name)
- Time Server (optional, can be an IP address or domain name)
- DNS Server IP
- Phone IP
- Netmask IP
- Gateway IP

### To update the Static IP Address:

<b>Note:</b>	To abort an Allworx phone boot cycle, press the MUTE/DND button three times. If the phone is running firmware from server software release 7.3 or lower (phone firmware version 2.3 or lower), press the RELEASE button three times.
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1. Press the CONFIG soft key on the phone.
2. Use the arrow buttons, highlight Network Settings, and press the Select button . If prompted for a password, enter **allworx** using the numeric keypad, and then press the Select button . The Network Settings menu displays and DHCP highlights.
3. Press the Select button  until the DHCP setting is Disabled.
4. Use the arrow keys to highlight Edit Boot Server. Press the Select button . Using the phone's keypad, enter the IP address or the domain name of the Allworx server. Use the asterisk key (\*) for periods. When done, press the Select button .
5. Highlight, select, and enter the remaining settings from the list above.







6. Press the EXIT soft key repeatedly until the system prompts to save the settings. Press the YES soft key.
7. Press the CONFIG soft key to reboot the phone, use the arrow keys to highlight Reboot Phone, and press the Select button . Answer Yes to the confirmation. The phone reboots and connects using the DHCP and manually entered settings.




### 10.1.3 VLAN Settings

If the network site uses VLANs, additional configuration is necessary. If the network Settings VLAN is set to Auto Configure and connected to a switch port that does not support a discovery protocol, change the setting to Manual to reduce the phone boot time.

Allworx phones running firmware from server software release 7.2 or higher (phone firmware version 2.2 or higher) default to VLAN auto configure. If the network utilizes LLDP-MED or CDP to set network host VLAN configurations, this properly configures the Allworx phones. If the phone is running an earlier version of firmware or if the network does not use LLDP-MED or CDP, configure the VLANs manually.

#### To configure VLANs on the phone:

1. Press the CONFIG soft key on the phone.
2. Use the arrow buttons to highlight Network Settings and press the Select button . If prompted for a password, enter **allworx** using the numeric keypad, and then press the Select button . The Network Settings menu displays and DHCP highlights.
3. Use the arrow keys to highlight VLAN. Press the Select button  until the VLAN setting is Manual.
4. Use the arrow buttons to highlight Phone VLAN Settings. Press the Select button .
5. Enter the value for Phone VLAN ID, and press the Select button .
6. Enter the value for Phone VLAN Priority, and press the Select button .
7. Use the arrow buttons to highlight PC VLAN Settings.

8. Enter the value for PC VLAN ID, and press the Select button .
9. Enter the value for PC VLAN Priority, and press the Select button .
10. Press the EXIT soft key repeatedly until prompted to save the settings. Press the YES soft key.
11. Press the CONFIG soft key to reboot the phone, use the arrow keys to highlight Reboot Phone, and press the Select button . Answer Yes to the confirmation. The phone reboots and connects using the DHCP and manually entered settings.

<b>Note:</b>	If the phones are running an earlier version of the firmware or if the network does not use LLDP-MED or CDP, it may be more efficient to upgrade the phones prior to connecting to the site network. Do this in a lab by connecting the phones to an Allworx server that uses the server software release 7.2 or higher.
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## 10.1.4 Handset Network Profiles

The phone stores Handset Network Profiles, which are network and registration settings. Users can select a Handset Network Profiles for usage during different situations. Usage examples include connecting to a second Allworx server for disaster recovery purposes or temporarily connecting to the Allworx server from home. Accomplish this by having the user or the server select a profile. This avoids the need to manually change settings on the phone.

## 10.1.5 On-phone Archive Profile

The Allworx phone can store an On-phone Archive profile using the CONFIG menu on the phone. Download additional profiles to the phone from the server using the Handset Preference Groups.

### To create the On-phone Archive profile:

1. Press the CONFIG soft key on the phone.
2. Use the arrow buttons to highlight Network Settings, and press the Select button . If there is already a connection between the Allworx server and the phone and the system prompts for a password, enter the password from the Allworx server admin **Servers > VoIP** page, and then press the Select button . The Network Settings menu displays.

3. Use the arrow buttons and the Select button , configure the network settings.
4. Press the ARCHIVE soft key. This saves the current network settings as the Archive profile.

The Archive profile is available even if changing the Network Settings and/or rebooting the phone.

## 10.1.6 Server-based Profiles

The Allworx Server Administrator can create up to three Handset Network Profiles for any phone on the server, and creates/assigns the templates containing the profiles to Handset Preference Groups.




### To create Templates:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets** page.
2. Locate the Handset Network Profile Templates section, and click the **Copy** link for the Default template. This creates a new template.
3. Click the **View** link on the new template.
4. Click the **modify** link on the Template Name line to rename the template to a more descriptive name, and then click the **Update** button.
5. Create a Network Settings Profile, click the **add profile** link.
6. Name the profile and fill in the settings.

Profile	Description
Profile Name	The name can be different from the Template name and must be different than any other profile name in this template.
Phone IP	Choices are DHCP and Use Phone Setting. It is not possible to assign a static IP address to a phone using a Handset Network Profile.
Boot Server Address	Enter a domain name rather than an IP address.
Time Server Address	Enter a domain name rather than an IP address.

7. Select **Add** for more profiles following the steps above.

8. Locate the **Next Phone Reboot use:** line, and click the **modify** link to select the profile for the phone to use during the next reboot. The page displays a drop-down list of the current profiles:
  - Current Phone Settings
  - Phone Archived Profile
  - <Newly created profile(s)>

<b>Note:</b>	<p>Phone settings can override the Next Phone Reboot setting. To verify the Handset Network setting takes effect:</p> <ul style="list-style-type: none"> <li>• Press the CONFIG soft key on the phone.</li> <li>• Press the down arrow key to highlight Preferences.</li> <li>• Press the Select button .</li> <li>• Press the down arrow key to highlight Server Profile Selection.</li> <li>• Press the Select button . Two options display - Use Server Selection or Ignore Server Selection.</li> <li>• Select Use Server Selection enable the Handset Network Template setting to take effect, and press the Select button .</li> <li>• Press the EXIT soft key on the phone twice to get back to the main screen.</li> </ul>
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After creating a template, assign it to the phone using the Handset Preference Groups. Follow the procedure (See “Handset Preference Groups” on page 72. for more information).

<b>Note:</b>	The system does not enable modifying default templates
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1. Log in to the Allworx server admin page, navigate to the **Phone System > Handsets** Page, and locate the handset in the table.
2. Click the corresponding **View Configuration** link. The View configuration dialog box displays.
3. Locate the Handset Preference Group section, and click the **Modify** link.
4. Locate the Handset Preference Group section, and select the new template from the list.
5. Click **Update** to save changes.
6. Navigate to the **Phone System > Handsets** Page. Locate the Handset Network Profile Templates section.



7. Select a Handset Network Profiles Template.
8. Click **Update** to save the changes.
9. Reboot the phones in the Handset Preference Group. The phone reconnects using the prior network settings. All subsequent reboots use the settings in the Handset Network Profiles Template.
10. Navigate to **Phone System > Handsets**.
11. Reboot the phones.
  - **Allworx Phones** - Click **Reboot Allworx Phones** to reboot all the phones in the system
  - **Specific Phones** - Locate the affected phones in the SIP Handsets list and click **Reboot** in the action column.

**Note:**

Phone users can manually select a profile on their phones by selecting **CONFIG > Network Profiles** and selecting a profile.

## 10.1.7 Plug 'n' Play Installation

The Allworx Server Administrator may add Allworx phones to the system using the Plug-and-Play installation. After setting up the network connection to the server, the phones register with the server during the next reboot or power up. To add VoIP phones manually from other manufacturers, see “Generic SIP Phones” on page 66.

If there is difficulty configuring a phone, restore the phone to the factory defaults, and then reapply the settings.

If rebooting an Allworx IP phone on the network and a new version of phone software is available, the phone requests to load the upgrade.

Assign an Allworx IP phone to a user or replace an existing phone when first connecting to the Allworx system. The following options are available:

- Assign a user to the phone (**NOW > ADD**). Select from the list of all system users or limit the list to those users with no assigned phones. Reboot the phone to complete the user assignment.
- Replace compatible existing Allworx phone (**NOW > REPLACE**). Select from the list of the all Allworx system phones. The phone web administration password, if any, is required to replace a phone. Navigate to **Servers > VoIP** to

view or change the password. Reboot the phone to complete the phone replacement.

- Defer user assignment (LATER). If there is no existing phone configuration from within the Web Admin page, the user assignment prompts display on subsequent reboots.
- Assign via the Web Admin (VIA WEB). The user assignment prompt will not display on subsequent reboots.
- When registering a Plug 'n' Play phone with the server, it displays on the **Phone System > Handsets** page in the SIP Handsets section with the correct model and the MAC address.

### 10.1.8 Plug 'n' Play Security

Allworx handset Plug 'n' Play installation provides a convenient method for adding phones to the Allworx server. However, this feature enable unauthorized users to add phones to the server without the knowledge of the Allworx Server Administrator. The Allworx System provides security by enabling the Allworx Server Administrator to disable Plug 'n' Play installation of handsets.

**Table 1:** Available Features on the **Servers > VoIP > Modify** page

Feature	Description
Disable Phone Creates via LAN Plug-and-Play	Prevent handsets on the Allworx server LAN from installing by Plug-and-Play. By default, this feature is off - the system enables Plug-and-Play. When on, manually add phones ( <b>Phone System &gt; Handsets</b> page).
Disable Phone Creates via WAN (Remote Phone) Plug-and-Play	Prevent handsets on the Allworx server WAN (i.e. remote handsets) from installing by Plug-and-Play, even when programming the remote handset with the server Plug-and-Play secret key. By default, this option is off - the system enables Plug-and-Play. When on, manually add phones ( <b>Phone System &gt; Handsets</b> ) page.
Disable Assign User at Phone	Prevent assigning a user to a newly installed phone using the Plug-and-Play User Assign menu on the phone. Note: Previously added Handsets to the system re-register with the server, regardless of these settings.

### 10.1.9 Add Allworx Phones Manually

Manually add phones to the system when disabling Plug-and-Play for security reasons or to configure the phone prior to plugging into the network (for example: pre-configure the server before an installation at the customer site).

### To manually add an Allworx phone:

1. Log in to the Allworx server admin page, navigate to the **Phone System > Handsets** page, and click the **add new Allworx Handset** link in the SIP Handsets section. The SIP Handset page displays.
2. Fill in the fields in the Allworx Handset section. The system requires an entry in Description, Model, and MAC Address fields.

If there is an incorrect the MAC address entry, then when the phone boots on the network, the server has a duplicate entry for this phone. The Plug-and-Play registration continues with the system using the correct MAC address and does not use the manually entered information.

3. Locate the Handset Configuration section, and select the Allworx phone model from the drop-down list.
4. Enter the MAC Address information in the field. To locate the MAC Address information on the phone:
  - a. Press the phone CONFIG soft key.
  - b. Use the up and down arrows to scroll to highlight Current Status/Info and press the Select  button.
  - c. Use the up and down arrow buttons to scroll to locate the MAC Address.
  - d. Press EXIT soft key twice to return to the main screen.
5. Click **Add** to add the new handset to the server.

## 10.2 Allworx Reach Handsets

The Allworx Reach application enables users to send or receive business phone calls from an iOS or Android device. By creating a virtual handset on the device, users are able to work from remote locations and continue to send, receive, hold, transfer, and park calls; see the handset's call history and business/personal contacts; and listen, reply, forward, or create voicemail.

Without creating a handset, users can manage voicemail using the Allworx Reach application. All options in the voicemail tab are available including listening, creating, and sending messages.

Users must install the Allworx Reach application on the iOS and/or Android devices to provide soft phone capability. See the Allworx Reach User's Guide for information on using the Allworx Reach Mobile Client.

To connect Allworx Reach Handsets, install the Allworx Reach feature key licenses on the server and reserver or make the user eligible to claim an Allworx Reach license.

## 10.2.1 Reserve or Claim Allworx Reach Handset Licenses

Each Allworx Reach handset requires a license for soft phone capability. The Allworx Server includes one Allworx Reach license. To add more Allworx Reach handsets requires purchasing and installing of additional Allworx Reach feature keys. The Allworx Reach feature keys are available in increments one, five, or 10 licenses. To enable larger numbers of Allworx Reach handsets, install multiple feature keys of the same or different license counts.

Allworx Server Administrators can allocate licenses in two ways:

- Reserve licenses for specific users by manually configuring their Allworx Reach handsets.
- Authorize users to claim licenses on a first-come-first-served basis using Plug-and-Play.

### To reserve an Allworx Reach license for a specific user:

1. Log in to the Allworx server admin page, navigate to **Maintenance > Feature Keys**, and click the **Allworx Reach** link. The Allworx Reach page displays.
2. Click the **add new** link. If the link is unavailable, purchase more licenses.
3. Locate the Owner line, click the drop-down arrow, and select the user. Update the remaining fields as necessary.
4. Click the **Add** button to save the changes. The Allworx Reach page redisplay.
5. Go to "Installation Assistance for Allworx Reach Users" on page 65 to provide the user the installation information.

### To authorize users to claim licenses:

By authorizing users to claim licenses, it is possible to over-allocate the installed licenses. If users have claimed all installed licenses, the server blocks attempts to install additional Allworx Reach handsets.

However, if the Allworx Server Administrator creates a Allworx Reach handset and assigns an owner before using all the licenses, the user listed as the owner has one of the installed licenses and is able to register the Allworx Reach handset.

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and locate the user.
2. Click the **Modify** link, and locate the Feature Eligibility section and enter the number of Allworx Reach activations this user can claim.
3. Click **Update** to save the changes.


## 10.2.2 Manage Allworx Reach Licenses

To manage Allworx Reach licenses:

1. Log in to the Allworx server admin page, navigate to **Maintenance > Feature Keys**, and locate the Feature Keys section.
2. Locate the Allworx Reach line item. The total number of installed and used licenses displays.
3. Click the **Allworx Reach** link. The Allworx Reach dialog box displays.
4. Click the **View** link to display handset information about a specific user.
5. Click the **Delete** link to remove the Allworx Reach handset from the system and the associated Call Appearances. Click **Delete** to confirm.
6. Click the **Disable** link to prevent any further communication with the Allworx Server. The link changes to Enable. Click **Enable** for communication with the Allworx Server.

## 10.2.3 Installation Assistance for Allworx Reach Users

After reserving or allocating the Allworx Reach application licenses for all users, email the installation instructions to the user's mobile device.

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and locate the first user in the Users section.
2. Click on the Welcome page icon  next to the username in the table.

3. Locate the Feature Eligibility section of the Welcome page.
4. Copy the Feature Eligibility section and paste it into an email window. Use "Allworx Reach Mobile Client Installation Information" as the email Subject line.
5. Attach the Allworx Reach User's Guide to the email. It is available on the Allworx Portal ([www.allworxportal.com](http://www.allworxportal.com)) and on the Allworx Reach Installation web page ([get.allworx.com/reach](http://get.allworx.com/reach)). Send the email to the user.
6. Repeat steps 3 through 6 for each of the remaining eligible users.

## 10.3 Generic SIP Phones

### To configure a third-party SIP phone:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handsets section.
2. Click the **add new Generic SIP Handset** link. The SIP Handset page displays. If the link is unavailable, purchase more licenses.
3. Fill in the fields in the SIP Handset section. The system requires an entry in the Description field.
4. Locate the Handset Configuration section and enter the Number of Lines.
5. Enter a unique Login ID and Password for the phone to authenticate with the server. Do not use the same Login ID on multiple phones.
6. Click **Add** to add the new handset to server.
7. Configure the third-party phone following its particular configuration instructions using the User ID, Login ID, (shown on the updated **Phone System > Handsets** page), and the entered password.

When registering a phone with the server, it displays on the Handsets page displaying an expiration date and time to indicate a registered phone.

<b>Note:</b>	Each Generic SIP handset requires a license to operate. Server keys provide licenses. Allworx Server Administrators can add a small number of handsets without a key (2 on 6x12, 6 on 6x; 12 on the 24x and 48x). Available feature keys provide one, five, or 10 licenses each. To enable larger numbers of Generic SIP handsets, install multiple feature keys of the same or different license counts.
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<b>Note:</b>	Allworx limits 6x12 servers to a maximum of two (2) generic SIP phones. Since the Allworx Server Administrator can install two without a license, 6x12 servers does not require feature keys.
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**To use a single, generic SIP handset to configure multi-port FXS gateways:**

FXS SIP gateway configurations use generic SIP handsets. This is done by creating one generic SIP handset per gateway port. For example: a 24-port gateway would use 24 generic SIP handsets. An alternative is to create one generic SIP handset with the number of lines (up to 24) equal to the number of FXS ports.

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handsets section.
2. Click the **add new Generic SIP Handset** link. The SIP Handset page displays. If the link is unavailable, purchase more licenses.
3. Fill in the fields in the SIP Handset section. The system requires an entry in the Description field.
4. Locate the Handset Configuration section, and enter the number of gateway ports available on the gateway device in the **Number of Lines** field (example: 6). This adds a generic SIP handset for each call appearances. Each call appearance represents a different port on the gateway.
5. Enter a unique Login ID and Password for the phone to authenticate with the server. Do not use the same Login ID on multiple phones.
6. Click **Add** to add the new handset to server. The handsets page displays.
7. Click the **Modify** link to configure each call appearance, as needed. For example: the Allworx Server Administrator can assign users to each call appearance. The following graphic displays two users assigned to the first two call appearances, which are the first two ports on the gateway.

Generic SIP				(pending initial registration)	<a href="#">Add New SIP Handset</a>
Henry Buffalo	1	u24x_8 (x5008)	Henry Buffalo	User ID: *5111, Login ID: gateway (pending initial registration)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
Mary Jamestown	2	u24x_9 (x5009)	Mary Jamestown	User ID: *5112, Login ID: 5112 (pending initial registration)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
FXS Gateway (L3)	3			User ID: *5113, Login ID: 5113 (pending initial registration)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
FXS Gateway (L4)	4			User ID: *5114, Login ID: 5114 (pending initial registration)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
FXS Gateway (L5)	5			User ID: *5115, Login ID: 5115 (pending initial registration)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
FXS Gateway (L6)	6			User ID: *5116, Login ID: 5116 (pending initial registration)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>

## 10.4 Analog Phones

To connect an analog phone to the server:

1. Plug the phone into one of the server FXS phone ports reserved for Inside Phone Extensions.
2. Lift the phone receiver so that the phone is off hook, and refresh the browser window. The phone displays in the Analog Handsets section of the page.
3. Hang up the phone receiver.

<b>Note:</b>	Analog phones plugged into Port Expander FXS ports do not automatically display on the Handsets page, add manually.
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## 10.5 Test the Phones

Some suggested steps for verifying that a phone is set up correctly:

- Dial 400<sup>1</sup> for Auto Attendant.
- Enter '#7'. The Auto Attendant plays back the phone configuration information.
- Hang up. The phone rings back.

If any of these steps fail, check:

- Physical wiring between phone and server.
- Network settings.
- Phone and server configuration.

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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the Phone Functions tab of the My Allworx Manager page to determine the extensions in use for the corresponding feature.



# 11 Configure Allworx Phones

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## To configure Allworx IP phones:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handsets section.
2. Check the Show boxes for Allworx Handsets and Allworx Reach Handsets. The table lists all installed Allworx desk phones and Allworx Reach handsets.
3. Update the settings appropriately:

Phone Function	Description	Applies to		
		Allworx Desk Phone	Allworx Reach App	Generic SIP Phone
Handset Preference Group Name	Name of the Handset Preference Group assigned to the phone. PBX Station (Default) is the default system setting. Clicking the link displays the settings of the group. See "Handset Preference Groups" on page 72 for more information.	Yes	Yes	No
View Configuration	Enable viewing and modifying the phone PFK configuration and Handset Preference Group membership. See "Handset Templates" on page 88 or "Programmable Function Keys (PFKs)" on page 82 for more information.	Yes	Yes	No
Add Call Appearance	Enable creating another Call Appearance for this phone. Multiple Call Appearances enable a single phone to handle calls for users.	Yes	No	No
Reboot	Restart the phone. The reboot occurs after a short delay on an idle phone. If the phone is in use, the reboot starts when the phone is idle. A Reboot Allworx Handsets button is available at the top of the SIP Handsets section of the page to reboot all Allworx phones with one action. One handset reboots every 10 seconds, until all phones reboot.	Yes	Yes	No

Phone Function	Description	Applies to		
		Allworx Desk Phone	Allworx Reach App	Generic SIP Phone
Replace	Enable substituting the phone with another phone. The Replace feature transfers all of the original phone configuration parameters and settings to the new phone. Use this function to replace a defective handset with a new one. If the replacement has fewer PFKs than the original handset, the system copies the PFKs defined on the original handset, in order from the bottom, left of the PFKs, up to the number of PFKs on the replacement handset. The system replaces original unsupported handset PFK definitions on the replacement handset with default values.	Yes	No	No
IP Address	This is the IP address assigned to the handset. Click the link to open the Phone Administration page in a separate browser window, if the PC has a network communications path to the phone; see "Phone Web Administration" on page 92 for more information.	Yes	No	No
Setup	Display the Allworx Reach Installation Assistance website.	No	Yes	No
Modify	Enable modification of handset Call Appearance parameters.	Yes	Yes	Yes
Delete	Delete the Call Appearance from the phone. If there is only one Call Appearance, the server deletes the phone from the system.	Yes	Yes	Yes
Ring	Ring the phone. Use this function to test the phone connection is operational.	Yes	Yes	Yes

4. Reboot the phone after changing any settings on the View Configuration page to update the phone to the new settings.

The Allworx Server Administrator can do this using the Reboot link described above or manually from the phone.

## 11.1 View the Configuration

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handsets section.

2. Check the Show boxes for Allworx Handsets and Allworx Reach Handsets.
3. Click the **View Configuration** link to see the phone configuration parameters for each SIP handset.

In addition to the summary information, the following settings display:

- **Handset Preferences Group** - Displays the current preference group. Modify enables updating the current preference group.
  - **Template Options** - Save to enable the user to save the current configuration as a template. In the Apply line, the user must select a handset configuration, and then click the Apply button.
  - **Programmable Function Keys** - Modify enables adjusting the PFK assignment options.
  - **Call Assistant Appearances** - Check boxes enable adjusting the settings for each appearance.
4. Reboot the phone to save changes.

## 11.2 Multiple Call Appearances

Every phone that registered automatically configures with one Call Appearance and two PFKs assigned to the Call Appearance. Adding a second Call Appearance creates another address to use in call routes.

Example: Administrative Assistant

The office administrative assistant, Susan Bell, must answer the phones of two executives: Tom Brown and Lisa Andrews.

### To accomplish this:

The assistant has one Call Appearance on her phone for her own calls and a new Call Appearance for each executive.

Tom Brown is set to own the first new Call Appearance. Lisa Andrews owns the third Call Appearance. The Allworx Server Administrator adds PFKs for each of the new Call Appearances to Susan's phone.

The call routes for the executives are set to ring their own handset and their Call

Appearance on the assistant's handset in parallel. The PFK corresponding to the executive that is receiving a call flashes so that Susan knows which executive line is ringing and can answer accordingly (e.g. "Good morning, Tom Brown's office...")

## 11.3 Handset Preference Groups

A Handset Preference Group is a set of handset options and a list of handsets with the options. Handset Preference Groups enable configuring handsets easily and efficiently. Apply custom configurations to any or all of the site handsets by creating a Handset Preference Group, specifying the handset options, and assigning handsets to the group. No additional configuration steps are required to apply the options. Reboot the handsets for the changes to the group settings to take effect.

The **Phone System > Handsets** page displays a table with the Handset Preference Groups with options to View or Copy the PBX Station (Default) and Key System Station (Default) templates or View, Copy, or Delete other template groups. The PBX and Key System Default groups contain the factory default handset options for the respective modes. The server creates New Handset Preference Groups for each unique combination of handset options for existing phones. Phones with those options automatically become members of the corresponding group.

<b>Note:</b>	Settings for existing handsets do NOT change in this process.
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### 11.3.1 Create New Groups

To create a new Handset Preference Group:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and go to the Handset Preference Groups section.
2. Select a default group, and click the **Copy** link. A new Handset Preference Group displays with the name Copy of <name> (Default) in the group list with the same user options as the default group.
3. Click the **View** link of the new group. The Handset Preference Group page opens with the current options displays.
4. Click the **Modify** link in the group.
5. Rename the group in the Handset Preference Group Name field, and update the group options, as appropriate.

6. Click **Update** to save the changes.

The SIP Handset table displays the Handset Preference Group of each handset. Click on the group name to open the group's View page.

## 11.3.2 Handset Preference Group Settings

Handset Preference Group configuration settings include:

Setting	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Handset Preference Group Name	Description of the Handset Preference Group	Yes	Yes
Station Mode	Change the phone behavior to PBX Behavior or Key System Behavior. It affects how some of the PFK functions work, see "Programmable Function Keys (PFKs)" on page 82.	Yes	No
Call Assistant CLID	Selects which call information displays in the Call Assistant and in TAPI-compliant PC applications that receive calls using the TSP driver. Configure the phone to cause these applications to display either dialed name/number or regular caller ID name/number information but not both.	Yes	No
Call History Size*	Specifies the number of calls the station keeps in call history. If specifying a value of zero, the phone will not maintain a Call History to help preserve the handset user's privacy.	Yes	No
Clock Mode*	Specifies phone station displays the clock in 12 hour or 24-hour format. There is an option to disable the clock display if the phone is not synchronized to network time or the handset user does not need to display the time.	Yes	No
Codec Preference Order	Set the preferred codec order in the phone. The codec is the method of encoding/decoding the audio sent to and received by the phone. The three possible codecs are G.711, G.722, and G.729A. G.711 preserves voice quality, but takes more bandwidth. G.729A takes less bandwidth, but reduces voice quality. Note: This setting defines the order of codec selection. Not all codecs are supported for all call types (for example, accessing the server Auto Attendant requires G.711). The phone will attempt to use the first choice but will use whichever codec is required to support the call.	Yes	Yes

Setting	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Daylight Saving Time	Specify if the handset will use Daylight Savings Time (DST) to compute its local time. Select use current server setting if the telephone is in the same time zone as the server. For a remote phone, use the DST setting of its actual location	Yes	No
Hold Button Mode*	Controls the behavior of the phone Hold button: <ul style="list-style-type: none"> <li>• <b>Hold Calls, Park Lines</b> – Holds calls on call appearances. Parks calls on line appearances.</li> <li>• <b>Hold then Park</b> – If pressed and released quickly, the call is held. If the button is pressed for longer, the call is parked.</li> <li>• <b>Park then Hold</b> – If pressed and released quickly, the call is parked. If the button is pressed for longer, the call is held.</li> </ul>	Yes	No
Hold Reminder Mode*	Specifies how the phone operates relative to a hold reminder. Hold reminder is a feature to remind the handset user that they have left a phone on hold: <ul style="list-style-type: none"> <li>• <b>No Reminder</b> – Never remind the user.</li> <li>• <b>On Hook</b> – Beep whenever the phone is put on-hook with the call(s) on hold.</li> <li>• <b>Timer</b> – Beep after the call has been on-hold for the specified period.</li> <li>• <b>On Hook and Timer</b> – Beeps after the holding call for the specified period or if placing the handset on hook.</li> </ul>	Yes	No
Hold Reminder Timeout*	Length of time (in seconds) a call is on hold before the call beeps, if Hold Reminder mode is Timer. If Hold Reminder is another option, the Hold Reminder Timeout is unavailable.	Yes	No
Hold Music Selection	Determines the Hold Music such as Line-In.	Yes	Yes
Jitter Buffer Size	Variation in network audio packet the phone experiences latency, resulting in a reduction in audio quality. The phone uses a jitter buffer to maximize the audio quality when jitter occurs. Use this configuration parameter to alter the size of the jitter buffer.	Yes	No

Setting	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Message Waiting Indication	<p>Indicates how the phone displays indication of a voicemail message waiting for the user who is the owner of this handset. If the station has no owner, then this setting has no meaning. The possible settings are:</p> <ul style="list-style-type: none"> <li>• <b>No Indication</b> - The handset does not provide a visual display that a message is available.</li> <li>• <b>Visual</b> – The red LED indicator on the Messages button illuminates.</li> <li>• <b>Stutter Dial Tone</b> – The station emits a stutter when a dial tone starts for each call.</li> <li>• <b>Both</b> – The station provides a visual indicator and a stutter dial tone.</li> </ul>	Yes	No
Messages Button Operation*	<p>Controls the behavior of the phone Messages Button:</p> <ul style="list-style-type: none"> <li>• <b>Displays Messages List</b> – Pressing the Messages button enables viewing the voicemail and managing using the phone display. Pressing the Messages button a second time calls the Message Center to use audio menus to manage voicemail.</li> <li>• <b>Calls Message Center</b> – Pressing the Messages button calls the Message Center to use audio menus to manage voicemail</li> </ul>	Yes	No
Missed Call Tracking*	<p>Display the number of calls missed since last making or receiving a call. Select which missed calls to track:</p> <ul style="list-style-type: none"> <li>• Call Appearances Only</li> <li>• All Appearance Types</li> </ul>	Yes	No
Mobile Data Access	<p>Enable the phone to access WiFi and Mobile Networks.</p>	No	Yes
Off Hook Digits Dialed	<p>Enable the phone to dial specified digits automatically whenever the phone is off hook.</p> <ul style="list-style-type: none"> <li>• <b>Example 1</b>: a service phone placed at a locked door or loading dock. The Allworx Server Administrator disables all dialing and the phone automatically dials a predefined number when it is taken off hook.</li> <li>• <b>Example 2</b>: the phone automatically dials 9* to get an outside line.</li> </ul> <p>Note: The phone always dials these digits when taking the phone off hook, so this might interfere with other uses of the phone. For example, if configuring the phone to automatically dial '9', the user cannot use PBX features that don't start with '9' (e.g. Call Park, Call Forwarding, etc.)</p>	Yes	No

Setting	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Paging Mode*	Specify the conditions for hearing pages on this handset. The choices are: <ul style="list-style-type: none"> <li>• Pages Always Accepted.</li> <li>• Pages Never Accepted.</li> <li>• Pages Only Accepted when the station is on-hook.</li> </ul>	Yes	No
Phone Status Visibility	Controls how this phone displays in Call Assistant and Allworx Interact Directory tab. The options are: <ul style="list-style-type: none"> <li>• <b>Normal</b> – The extension and the phone's status are displayed</li> <li>• <b>Hide Status</b> – The extension is displayed and the phone's status always shows as Idle</li> <li>• <b>Hide Completely</b> – Neither the extension nor the status is displayed.</li> </ul>	Yes	No
Redial Memory*	Sets the length of time the redial memory persists in the phone station. Adjusting this setting is useful to maintain privacy on phones used in shared areas.	Yes	No
RTP Media Port Range	Specifies the range of UDP ports used for Real Time Packet communications. Using a maximum range of values makes the phone the most secured from snooping and denial of service activities. When placing remote phones behind third-party firewalls, under certain conditions the UDP port range may need to be greatly restricted to create mapping rules for each phone behind the firewall. See "Remote Allworx Phones and Port Expanders" on page 143 for more information.	Yes	No
SIP NAT Keep-alive Interval	Some NAT firewalls automatically time out and close connections to devices it protects. If a remote phone is behind such a firewall, then this setting prevents the timeout. The phone sends messages called keep-alive packets to the Allworx server at the specified frequency. Set the value to an interval that is shorter than the firewall timeout.	Yes	No
SIP Port	UDP port number used for the SIP protocol by the phone. Use the default value of 5060 unless the handset is behind a third-party firewall and the network requires a different value.	Yes	Yes
Handset Network Template	Select a Handset Network Profile Template to download to the handset.	Yes	No
Network Settings	Controls whether the handset uses the selected Network Template or rely on the network settings entered on the phone.	Yes	No



Setting	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Time Zone	Specify the time zone for the handset to compute the local time. Select Use Current Server Setting if the telephone is in the same time zone as the server. For a remote phone, it is possible to use the time zone of the actual location.	Yes	No
Unannounced Transfer Mode	Select to complete unannounced (Blind) transfers immediately after dialing the recipient phone number or if the person initiating the transfer must hang up to complete the transfer. Choosing "Immediate" results in standard server software releases 7.3 and lower unannounced (blind) transfer behavior. Requiring hang-up enables the person initiating the transfer to hold on the line and speak to the recipient (i.e. perform an announced/attended transfer) before hanging up to complete the transfer.	Yes	No
* Indicates using the on-handset configuration menu to override the setting.			

Checkbox Parameters	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Audible Dialing*	Enables hearing DTMF sounds on the handset or speaker when dialing the phone. When audible dialing is disabled, dialing operations are silent.	Yes	Yes
Auto On Hold*	Enable placing an active call on hold when another call comes in (with a free Call/Line Appearance PFK) when pressing the PFK for the new call. This avoids terminating the first call.	Yes	No
Auto Retrieve Calls*	Enable automatic retrieval of a hold call when the phone is on the hook by retrieving the phone from the hook. If disabled, the phone has an open line (if available) when retrieved from the hook.	Yes	No
Call Supervision	Enable monitoring of the handset to by another handset that has a Call Supervision PFK.	Yes	No
Call Timer Display*	Enables the phone LCD displays call duration timers.	Yes	No
Caller ID Display	Enables the phone to display any caller ID information during the call.	Yes	No

Checkbox Parameters	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Configuration Menu	Enable the phone station operator to access the station configuration menu. This is useful for securing phones located in common areas.	Yes	No
DTMF Payout	Enable sending DTMF digits during an active call.	Yes	Yes
Intercom Auto Answer*	Enable manually answering an incoming intercom call, like a regular phone call. Otherwise, intercom calls automatically answer with a live microphone after the alerting tone.	Yes	Yes
Keypad Dialing	Enable initiating or transferring a call via the keypad. This does not prevent the keypad from functioning during an active call. It prevents the use of the keypad to initiate any functions directly with the Allworx server (for example: dial number, Call Park, etc.).	Yes	No
Line Appearance(s) Use Dial Plan	Enable dialing a phone number when the phone does not display the selected Line Appearance PFK, not recorded in the phone call history, and not available for redial. If the CO lines on the system do not follow the North American Numbering Plan (including if the lines connects to another PBX), the user may want to disable this feature. The use of this feature requires configuring the server's dial plan (see "Dial Plan" on page 123).	Yes	No
Off Hook Auto Answer*	Enable answering any new call when it goes off hook.	Yes	No
Off Hook Ringing*	Enable the phone to ring if there is an active, incoming call. However when disabled, the phone station does not ring if the user is already on an active call. This does not affect the appearance LED indicators and the display operation.	Yes	Yes
On Hook Dialing*	Enables dialing a number on the keypad without picking up the handset or hitting the speaker phone button. When the phone is on hook and dialing a digit on the keypad, the phone goes into speaker phone automatically.	Yes	No
Quick Transfer	Enable one-touch call transfers using BLF and Speed Dial PFKs. If disabled, pressing a BLF key during an existing call terminates the original call, standard in server software releases 7.3 and lower.	Yes	No
SNMP	Enable using the SNMP agent on the handset by network management tools.	Yes	No
Visual On Call*	Enables lighting the handset Visual Ring Indicator when the handset is off hook.	Yes	No

Checkbox Parameters	Description	Applies to	
		Allworx Handsets	Allworx Reach App
Visual Ringing*	Enable lighting the Visual Ring Indicator when the phone has an incoming call. If disabled, only audible ringing is heard.	Yes	No

\* Indicates using the on-handset configuration menu to override the setting.

### 11.3.3 Add Preference Group Options to Templates

A Handset Template is a combination of a Programmable Function Key (PFK) setup and Handset Preference Group options. When adding a new phone, the system automatically applies the “Active” Handset Template for its model (9212, 9224, etc.).

**To incorporate a Handset Preference Group into a new Handset Template:**

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handset section.
2. Locate the handset and user, and click the **View Configuration** link.
3. Locate the Programmable Functions Keys section, click the **Modify** link to configure the PFKs, and click **Update**.
4. Click **Save** in the Template Options section, enter a new name in the description field, and click **OK**. See “Handset Templates” on page 88. for more information on creating and using Handset Templates.

### 11.3.4 Assign Handsets to Handset Preference Groups

The Allworx Server Administrator can assign Handsets to Handset Preference Groups in several different ways. When adding new handsets, they are automatically assigned to the Handset Preference Group in the active Handset Template. Therefore, if the factory default phone options are not appropriate for the site, save time by creating a custom Handset Preference Group and incorporate it into a new Active phone template before adding the site handsets.

When using the Bulk Edit controls on the Handsets page, assign multiple handsets to Handset Preference Groups at once:

1. Log in to the Allworx server admin page, navigate to **Phone Systems > Handsets**, and locate the SIP Handsets section. Click the + sign next to Bulk Edit. The Bulk Edit options display on the page.

**Bulk Edit**

**NOTE**  
Be very careful using Bulk Edit. The operations below can not be undone.

Delete the checked handsets.

Assign Handset Preference Group PBX Station (Default) to the checked Allworx handsets.

Apply Handset Template 9112 (Factory - Key) to the checked Allworx handsets.

<input type="checkbox"/>	Handset	Line	Owner	Caller ID	Identification	Action
<input type="checkbox"/>	<b>Allworx 9202</b>	PBX Station (Default)			<a href="#">View Configuration</a> <a href="#">Add Call Appearance</a> <a href="#">Reboot</a> <a href="#">Replace</a>	
	MAC: 00-0A-DD-82-00-11			192.168.2.2:5060	reboot pending	
	000add820011	1			User ID: 5100, Login ID: 5100 (expires: Jan 06, 2006 10:22 pm)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
<input type="checkbox"/>	<b>Allworx 9212</b>	PBX Station (Default)			<a href="#">View Configuration</a> <a href="#">Add Call Appearance</a> <a href="#">Reboot</a> <a href="#">Replace</a>	
	MAC: 00-0A-DD-82-05-93			192.168.2.3:5060		
	000add820593	1			User ID: 5101, Login ID: 5101 (expires: Jan 06, 2006 10:13 pm)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>

2. Check the boxes for the handsets to be re-assigned.
3. Click the drop-down menu and select the Handset Preference Group.
4. Click **Assign**, and then click **Confirm** to complete the assignment.

**To add Handsets manually to Handset Preference Groups:**

Option 1:

1. Log in to the Allworx server admin page, navigate to **Phone Systems > Handsets** page, and locate the SIP Handset section.
2. Locate the handset and user, and click the **View Configuration** link.
3. Locate the Handset Preference Group and click the **Modify** link.
4. Click the drop-down menu, select the Handset Preference Group and click **Update**. The settings page for the handset and user displays.
5. Navigate to **Phone Systems > Handsets**. The Handset information page displays.

Option 2:

1. Log in to the Allworx server admin page, navigate to **Phone Systems > Handsets** page, and locate the Handset Preference Groups section.
2. Click the **View** link. The page displays the specific Handset Preference Group settings.
3. Locate to the Handsets Assigned To Group and click the **Modify** link. The assignment group page displays to view, add, or remove handsets from a group.
4. Select or deselect the user check boxes to add or remove the user from the Handset Preference Group. When removing a handset, it automatically moves to the server's PBX Station or Key System Station default group.
5. Click **Update** to save the changes. The settings page for the Handset Preference Group displays.
6. Navigate to **Phone Systems > Handsets** to return to the Handset information page.

### 11.3.5 Delete Handset Preference Groups

The system disables the ability to delete the default groups and groups with assigned handsets. Verify there are no handsets in the groups before deleting the group.

1. Log in to the Allworx server admin page, navigate to **Phone Systems > Handsets** and locate the Handset Preference Groups section.
2. Select a Handset Preference Group.
  - a. If the Delete link is available, proceed to the next step.
  - b. If the Delete link is unavailable:
    - Click the View **link**, and locate to the Handsets Assigned To Group section.
    - Click the **Modify** link, and deselect all the associated handsets.
    - Click the **Update** button, and restart this procedure.
3. Click the **Delete** link. This removes Handset Preference Group from the list of options.

## 11.4 Programmable Function Keys (PFKs)

### To configure the PFKs:

1. Log in to the Allworx server admin page, navigate to **Phone Systems > Handsets** and locate the handset that needs configuration.
2. Click the **View Configuration** link in the handset row. The Configuration page displays for the specific handset.
3. Locate to the Programmable Function Keys section, and click the **Modify** link. The Programmable Function Keys page displays. There is a numbered row in the table corresponding to the individual PFK on the phone.

For handsets with more than 12 PFK buttons or TxExpander the user can assign options to more than 1 column of PFKs. There are links for the Left/Right sets of PFK buttons for the handsets and the TxExpander.

4. Click the drop-down menu next to the key number, and select an available feature for each PFK.

Feature	Description
ACD Appearance	Service calls in ACD queues. Users log in and out of ACD queues with this PFK. When logged in, the user can receive and answer calls from ACD queues. Logged in agents can temporarily stop ACD calls from routing to them by pressing the PFK. The PFK flashes red when it is in this state. Pressing the PFK again enables calls to route to the agent.
Busy Lamp Field (BLF)	Monitors and dials another phone. The other phone is specified when setting up the BLF function. When pressing the PFK, the behavior of this function is dependent upon the Station Mode selection. When Station Mode is set to PBX Behavior, the phone dials the designated extension. When Station Mode is set to Key System Behavior, the phone places an intercom connection to the designated phone. Note: "Handset Preference Groups" on page 72 to set Station Mode.

Feature	Description
Call Appearance	<p>Maps to one of the Call Appearances available on the phone. This enables placing or receiving calls. Additionally:</p> <ul style="list-style-type: none"> <li>• Enables distinctly using each Call Appearance in call routing and for managing those calls independently and concurrently on the same phone.</li> <li>• Mapping more than one PFK to the same Call Appearance enables multiple calls to that Call Appearance to be active at the same time. The Call Appearance does not appear busy to the call route until all the PFKs defined for that Call Appearance are in use. This is similar to call waiting except the system uses the PFKs to alert and select a new call.</li> </ul> <p>Configuration Example: Busy Receptionist                      Requirements: Susan works as a receptionist at a busy office. She gets many phone calls each hour. She wants to be able to answer each call while minimizing the possibility of any caller getting a busy signal.                      Phone Configuration: She has one Call Appearance defined on her phone. She sets up 8 of her phone PFKs to map to her phone's Call Appearance. (She wants to use the remaining PFKs for other functions).                      Discussion: When the first phone call comes in, her phone rings and the first of the Call Appearance PFKs blinks green. While talking with the first caller, a second call comes in. Her phone rings again and the second Call Appearance PFK blinks green. She puts the first caller on hold by pressing the Hold button on her phone and picks up the second caller by pressing the second Call Appearance PFK. She can continue to put callers on hold and answer new calls. She terminates calls by switching to another Call Appearance PFK</p>
Call Monitor	<p>Map to one of the 10 Call Monitors in the system. A Call Monitor enables live call answering of any outside line or mapped call route through the associated Call Monitor. See "Call Monitors" on page 187 for more information.</p>
Call Supervision	<p>Enables supervisors to monitor calls for designated handsets in three modes:</p> <ul style="list-style-type: none"> <li>• Barge In</li> <li>• Silent Monitor,</li> <li>• Whisper.</li> </ul> <p>See "Call Supervision" on page 171 for more information.</p>
Emergency Alert	<p>Receive audible and visual alerts whenever making an emergency call from any local or remote handset on the system. See "Emergency Support" on page 165 for more information.</p>

Feature	Description
Function	<p>Do one of a specified set of functions:</p> <ul style="list-style-type: none"> <li>• <b>Centrex Flash</b> – Enables transferring external calls to external numbers without tying up CO lines connected to the Allworx server.</li> <li>• <b>Headset</b> – Turns the Headset on and off (if one is plugged in). When a plugged in headset and the handset is off-hook, this button toggles the audio between the headset and the handset.</li> </ul> <p>Note: If using an undefined Headset PFK, use the phone speaker button to operate the headset.</p> <ul style="list-style-type: none"> <li>• <b>Info</b> – Get information regarding the other buttons on the phone (Allworx phone models 9102 and 9202 only)</li> <li>• <b>Park</b> – Enables programming a PFK to perform the Park operation with a press of a button. After defining a Park PFK, the user can only use the Hold button for the dedicated hold function and not the parking operation.</li> <li>• <b>Personal Speed Dial</b> – Dials a number programmed directly on the phone. The mapping of the Personal Speed Dial Numbers defined in the handset to the PFK is as follows. The uppermost Personal Speed Dial PFK is associated to the lowest Speed Dial entry number on the handset.</li> <li>• <b>Redial</b> – Redials the last dialed number. Unless the Line Appearance(s) Use of Dial Plan phone option is enabled, the system only redials Call Appearance-dialed calls.</li> </ul>
Hot Desk	<p>Enables users to log in to shared phones, receive calls on that phone, and place calls with the caller ID. Users can initiate the login using a Hot Desk PFK or by selecting the Hot Desk Login option from the phone's Config menu. Use the Hot Desk PFK for logging into the phone that has the PFK. The PFK is normally solid red but goes off when a user logs in. Users can still log in to phones that do not have the PFK using the phones Config menu.</p> <p>Note: The PFKs configured for phones do not change when a new user logs in. The Hot Desk PFK and all other PFKs remain as originally configured for the phone.</p>
Line Appearance	<p>Monitors the status of an outside line, answers incoming calls on that line, and selects the line for outbound calls. When setting up this function for this PFK, the user specifies the line.</p> <p>To enable outside lines available for selection:</p> <ul style="list-style-type: none"> <li>• Navigate to <b>Phone System &gt; Outside Lines</b> and go to the Analog (CO) Lines section.</li> <li>• Select the Analog (CO) Line, and click <b>Modify</b>.</li> <li>• Go to the Outside Line section, and check the <b>Enable Line Appearance</b> check box.</li> <li>• Click <b>Update</b> to return to the Outside Lines page.</li> </ul> <p>Unique Allworx Functionality: Allworx has enhanced key-system capabilities relative to SIP devices and Digital Lines. Any SIP proxy, SIP gateway, or Digital Line (T1) bearer channel can be made available as Line Appearance selections when enabled on their respective configuration pages. Through this manner, the Allworx system can present a common key system use model to all external voice circuit facilities including VoIP trunks going to an ITSP.</p>



Feature	Description
Messages	Automatically monitors the status of the designated user's Message Center voicemail inbox and when pressed, automatically accesses the inbox. The PFK LED turns red when a new message is in the monitored inbox. The Allworx Server Administrator must specify the monitored user's inbox when setting up the PFK.
Not Used	No action. Select this choice to disable a previously defined PFK.
Parking Orbit	Assign to any of the Parking Orbits. The PFK lights if there is a call in the parking orbit. Pressing the PFK retrieves the parked call in that orbit. Do not use the Parking Orbit PFKs to pick up parked calls in Parking Orbits beyond the first nine. Parking Orbit PFKs do not function if the server is part of a Multi-site network and configured to enable other sites to retrieve its parked calls. See "Parking Orbits" on page 199 for more information.
Park Set Monitor	Enable a single PFK to monitor a configurable set of parking orbits. The PFK lights if parking calls in any of the set of orbits. Pressing the PFK displays a list of parked calls in the orbit along with Caller ID and other information. Users can retrieve one of the parked calls using the UP/DOWN arrow keys and the SELECT button. For example, users can use a single PFK to monitor all local park orbits and a single indicator for any call placed in a parking orbit. This also enables users to monitor the local parking orbits of a remote server in a multi-site environment.
Push to Talk	Provide a one-way, walkie-talkie-like capability. The configured PFK accesses a specific handset. The user can speak to the target handset user by holding the PFK down and speaking. If the user of the target handset wishes to respond, they must place a regular call back to the originator.
Queue Alarm	Map to one of the 10 Call Queues in the system. It notifies the user of the queue's activity levels (number of calls in the queue and/or longest wait time). It can be configured to include an audible alarm with the queue's status displayed on the phone's LCD.
Queue Appearance	Map to one of the 10 Call Queues in the system. It automatically monitors the status of a Call Queue and used to answer calls that are in the queue.
Schedule	Display the Mode (Day or Night) of the configured Business Schedule. The LED is off when in Day mode and solid red when in Night mode. Configure to manually switch the current Mode and Greeting of the Schedule. See "Business Schedules" on page 173 for more information.

Feature	Description
Shared Call Appearance	<p>Enables handling a set of one or more PFKs by the system as a single appearance shared across multiple handsets. All handsets in the Shared Appearance have common access to calls and call operations within the group of handsets.</p> <p>Choosing this PFK assigns consecutive PFKs, one for each Shared Call Appearance line. If there are not enough consecutive PFKs available, the PFK assignment fails and an error message displays. If the Shared Call Appearance PFK assignment would overwrite existing PFKs, the system displays an error message and enables the Allworx Server Administrator to cancel the operation. Shared Call Appearance PFKs display consecutively on the PFK configuration page, the Allworx Server Administrator can move the assignments to different PFKs limited only by the constraints within the particular handset model.</p>
Speed Dial	Automatically dials an extension. The Allworx Server Administrator specifies the extension when setting up the Speed Dial function for this PFK.

5. Locate the next column and click the **define** link. The Programmable Function Key window opens.

The Emergency Alert and Hot Desk assignments do not have the define link. There are no further options to select.

The Schedule assignment has a change link. Use this link to update the additional options associated with the Schedule PFK.

6. Use the drop-down menus to update the selection, and click **Done**.
7. Repeat for each PFK, as necessary.
8. Click **Update** to save the changes, the handset configuration screen displays.
9. Navigate to **Phone Systems > Handsets** to return to the handset page.

## 11.5 Enhanced PFK Administration

With the Allworx 9224 phone and Allworx Tx92/24 Expander, it is possible to have up to 96 PFKs on a single phone. Enhanced PFK Administration provides a System Administrator with tools and flexibility in managing the PFKs of all Allworx phones.

### 11.5.1 Moving Up and Moving Down

On the handset View Configuration page, every PFK has a Move Up  and Move Down

↓ button. These buttons enable the Allworx Server Administrator to swap a PFK definition with the PFK above (Move Up) or below (Move Down) the selected PFK.

### 11.5.2 PFK Insertion and Deletion

Delete or Insert buttons display next to each PFK. Clicking the delete icon eliminates the PFK and shifts all PFK definitions below it up by one location. Because of the shift, PFK definition #1 in each bank of 12 shifts “up” to the bottom (to position number #12) of the bank to its left. The last PFK definition on the station becomes Not Used (position #12 of the last bank). Clicking the insert icon next to a PFK shifts all PFK definitions below it down by one position.

Because of the shift, PFK definition #12 in each bank of PFKs shifts “down” to the top (to position number #1) of the bank to its right. If the last PFK on the station (handset or Expander) was in use, its definition will “drop off” the end of the list and is no longer be configured.

Key	Type	Location
1	Busy Lamp Field (BLF) Alex Smith (Login ID:5103) <i>change</i>	↑ ↓
2	Speed Dial 408 - Conference Center <i>change</i>	↑ ↓
3	Speed Dial 4400 - Tech Support Tier 1 <i>change</i>	↑ ↓
4	Call Supervision Barge In (default mode at start of call) <i>change</i>	↑ ↓
5	Call Supervision Silent Monitor (default mode at start of call) <i>change</i>	↑ ↓
6	Day-Night Mode Display and Control <i>change</i>	↑ ↓
7	Messages System Administrator (admin) <i>change</i>	↑ ↓
8	Parking Orbit Orbit 701 Ring reminder for parked calls is disabled. <i>change</i>	↑ ↓
9	Not Used	↑ ↓
10	Not Used	↑ ↓
11	Call Appearance 000add810142 Ring Type: AUTO <i>change</i>	↑ ↓
12	Call Appearance 000add810142 Ring Type: AUTO <i>change</i>	↑ ↓

## 11.6 Call Assistant Appearances

The Call Assistant Appearance requires installation of the Call Assistant software application.

The Call Assistant Appearance settings extend the number of the features available in Programmable Function Keys by creating virtual keys within the Call Assistant software application. The additional virtual appearances are available only when connecting the Call Assistant application to an Allworx IP phone. However, when connected, this has

the practical implication of having many additional PFKs, for these features, beyond the physical keys available on the actual phone.

**Table 1: Available PFK features**

• Call Appearance	• Line Appearance
• Shared Call Appearances	• Queue Appearance
• Call Monitor	

See the above section on PFK Function Selections for details on each of these features. The handset rings when any of these appearances ring. See the Call Assistant Quick Reference Guide for further details. Enable the above feature by checking the appropriate field and modify the parameters, if needed.

**To modify the Call Assistant Appearance configuration:**

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and click the **View Configuration** link on the specific handset.
2. Locate to the Call Assistant Appearances section, and click the **Modify** link. This opens the Call Assistant Appearances configuration page. These options work identically to the corresponding appearance types described previously on physical PFK buttons.
3. Click **Update** to save the changes.
4. Navigate to **Phone System > Handsets** to return to the handset configuration page.

## 11.7 Handset Templates

Configuring many phones can be time consuming and error prone. To improve this, the Allworx server provides templates that store a phone configuration. The system provides a factory default template for each phone type. The System Administrator can create customer-specific templates.

The list of available templates is in the Handset Configuration Templates section of the



- Click **Save** in the Template Options section, and enter a new description in the pop-up window. Click **OK**. This saves the template, and it is available in the list of Handset Configuration Templates for the specific handset.

**Template Options**

Save this handset configuration in a template

Apply the  template to this handset configuration.

- Navigate to **Phone System > Handsets** to return to the handset configuration page.

### 11.7.4 Apply a Handset Template

**To assign a template to multiple phones:**

- Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handsets section.
- Select the “+” sign next to Bulk Edit to assign multiple handsets to the Handset Preference Group at once. The Bulk Edit options are available.

**Bulk Edit**

**NOTE**  
Be very careful using Bulk Edit. The operations below can not be undone.

Delete the checked handsets.

Assign Handset Preference Group  to the checked Allworx handsets.

Apply Handset Template  to the checked Allworx handsets.

<input type="checkbox"/>	Handset	Line	Owner	Caller ID	Identification	Action
<input type="checkbox"/>	<b>Allworx 9202</b>	<a href="#">PBX Station (Default)</a>			<a href="#">View Configuration</a> <a href="#">Add Call Appearance</a> <a href="#">Reboot</a> <a href="#">Replace</a>	
	MAC: 00-0A-DD-82-00-11 <a href="#">192.168.2.2</a> :5060 <a href="#">reboot pending</a>					
	000add820011	1			User ID: 5100, Login ID: 5100 (expires: Jan 06, 2006 10:22 pm)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>
<input type="checkbox"/>	<b>Allworx 9212</b>	<a href="#">PBX Station (Default)</a>			<a href="#">View Configuration</a> <a href="#">Add Call Appearance</a> <a href="#">Reboot</a> <a href="#">Replace</a>	
	MAC: 00-0A-DD-82-05-93 <a href="#">192.168.2.3</a> :5060					
	000add820593	1			User ID: 5101, Login ID: 5101 (expires: Jan 06, 2006 10:13 pm)	<a href="#">Modify</a> <a href="#">Delete</a> <a href="#">Ring</a>

- Locate the phone and check the box in the left column.
- Locate the Handset Preference Group line, click the arrow for the drop-down list, and select the preferred Handset Template.

5. Click **Apply**. Reboot the phones for the changes to take effect. The Phone Configuration updates with the PFK setup and Handset Preference Group defined in the template.

#### To assign a template to single phone:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the SIP Handsets section.
2. Locate the line for the specific phone and click the **View Configuration** link.
3. Locate the Template Options section, and select the preferred template in the drop-down list.
4. Click **Apply**. Reboot the phone for the changes to take effect. The Phone Configuration updates with the PFK setup and Handset Preference Group defined in the template.

### 11.7.5 Delete a Handset Template

<b>Note:</b>	The system does not enable deleting the factory-provided templates.
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#### To delete a custom template:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the Handset Configuration Templates section.
2. Click the **Delete** link.

### 11.7.6 Modify a Handset Template

The Allworx Server Administrator can save, apply, and delete Handset templates but not directly modify the Handset templates.

#### To modify a handset template:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and go to the Handset Configuration Templates section.
2. Locate the template to modify, and click **Delete**.

3. Locate to the SIP Handsets section, and locate the template needing modification. Click **View Configuration**.
4. Update the configuration.
5. Click the **Save** button in the Template Options section, and enter a new description in the pop-up window. Click **OK**. This saves the template, and it is available in the list of Handset Configuration Templates for the specific handset.
6. Navigate to **Phone System > Handsets** to return to the handset configuration page.

## 11.8 Phone Web Administration

Access each handset through a web interface:

- View stored configuration information of the handset
- Modify the handset's configuration and personal speed dials
- View information (event log, call history, phone configuration parameters)

The Phone Admin page has the same look and feel as the Allworx server admin page. However, the password used to access the phone admin page is NOT the same.

<b>Note:</b>	Users receive an error message when trying to use Allworx as the password. The system does not accept Allworx as the password, enter another password.
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### To view the Phone Admin page password:

1. Log in to the Allworx server admin page, navigate to **Servers > VoIP** page.
2. Locate the Phone Administration line, and click the **show** link. Click the **Modify** link to change the password.

There are two ways to access the administration page of an Allworx handset.

- From the Allworx server admin page, navigate to the **Phone System > Handsets** page and then click the **handset IP address** link.
- From a browser, enter the IP address of the handset. Find the IP address using the handset soft keys: **CONFIG > Current Status > Info**.



## 12 Shared Call Appearance

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The Shared Call Appearance feature enables sharing a set of one or more PFKs across multiple handsets. All handsets in a Shared Appearance have common access to calls within the group of handsets. For example, an incoming call can ring on all handsets with the appearance, one user can answer and place the call on hold, and then another user can retrieve the call.

There are two use cases for shared call appearances:

- **Call Group** – Users with similar business needs or tasks assigned to a group can answer any calls to the group's shared appearance. A handset can place the call on hold and another handset can retrieve the call.
- **Executive/Assistant Arrangement** – An appearance exists on the handsets of both an executive and assistant. The assistant may answer the calls to the executive and place them on hold for the executive to pick up. The assistant always displays the state of all calls on the executive's handset.

<b>Note:</b>	9202E and Allworx Reach handsets do not support the use of Shared Call Appearances.
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Shared Call Appearances support three distinct types of hold behavior:

- **Shared Hold** – any handset using the Shared Call Appearance can retrieve the call on hold.

<b>Note:</b>	The Allworx server software does not support including a call on a shared hold in phone-hosted conferences.
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- **Privacy Hold** – only the handset that placed the call on hold can retrieve the call.
- **Bridged Hold** – the handset that placed the call on hold and one other handset that has the same Shared Call Appearance can retrieve the call. Users initiate a Bridged Hold by placing an Intercom call to the second party while the original call is still active.

## 12.1 Configure Shared Call Appearances

After creating the Shared Call Appearance, each has all the attributes assigned to a normal Call Appearance (Caller ID, hold music, etc.). Outbound Caller ID is common for all outbound calls on a given Shared Call Appearance. If deleting a Shared Call Appearance, the server removes it from all handsets.

### To create a Shared Call Appearance:

1. Log in to the Allworx server admin page and navigate to **Phone System > Shared Appearances**.
2. Click the **add new shared call appearance** link. The Shared Call Appearances dialog box displays.
3. Update the Description field, and then update the Number of Lines field. The Number of Lines field is the number of PFKs that are assigned to the handsets.
4. Click **Add** to save the new Shared Appearance.

### To Modify Shared Call Appearances:

1. Log in to the Allworx server admin page, navigate to **Phone System > Shared Appearances** and locate the Shared Call Appearance description in the table.
2. Click the **Modify** link. The Shared Call Appearances dialog box displays.
3. Update the Description field, and then update the Number of lines field (this is number of PFKs).

<b>Note:</b>	The Number of Lines is not available for change as this affects the number of PFKs on all phones, rendering some phones unable to support the Shared Call Appearance feature.
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4. Click **Update** to save changes.

### To view the associated handsets:

1. Log in to the Allworx server admin page, navigate to **Phone System > Shared Appearances** and locate the Shared Call Appearance description in the table.
2. Click the associated **Show Handsets** link.

3. Click the **Close** button when complete.

#### To delete a Shared Call Appearance:

1. Log in to the Allworx server admin page, navigate to **Phone System > Shared Appearances** and locate the Shared Call Appearance description in the table.
2. Click the **Delete** link. A confirmation box displays.
3. Click **OK** to delete the Shared Call Appearance. The system automatically deletes the Shared Call Appearance PFKs from all shared handsets. Reboot all affected phones to remove the PFKs.

## 12.2 Shared Call Appearance Programmable Function Keys (PFKs)

#### To access the Shared Call Appearance PFK:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets.** and click **View configuration.**
2. Locate to the Programmable Function Keys section, and click the **Modify** link. The Programmable Function Keys page displays. There is a numbered row in the table corresponding to the individual PFK on the phone.

For handsets with more than 12 PFK buttons or TxExpander the user can assign options to more than 1 column of PFKs. There are links for the Left/Right sets of PFK buttons for the handsets and the TxExpander.

3. Select the Shared Call Appearance type in the drop-down list.

When assigning a Shared Call Appearance PFK to a handset, the system assigns consecutive PFKs, one for each Shared Call Appearance line. If there are not enough consecutive PFKs available, the PFK assignment fails and an error message displays. If the Shared Call Appearance PFK assignment would overwrite existing PFKs, the system displays an error message and the Allworx Server Administrator can cancel the operation.

After the server allocates consecutive PFKs for all the lines in the Shared Appearance, the Allworx Server Administrator can move the lines to other PFKs, limited only by the constraints within the particular handset model.

For more information on configuring PFKs, see “Programmable Function Keys (PFKs)” on page 82.

If replacing a phone that is using a Shared Call Appearance, the replacement phone automatically shares the Shared Call Appearance - if the new handset has enough PFKs available to accommodate all Shared Call Appearance lines. If the new handset does not have enough PFKs available, the system notifies the user, and the handset replacement finishes without adding the Shared Call Appearance to the new handset.

## 12.3 Call Routes

Each defined Shared Call Appearance is selectable as a destination in any extension call route.

For more information on setting up extension call routes, see “Basic Routing” on page 149. In multi-site networks, Allworx Server Administrators can map defined Shared Call Appearances on one site to other sites to use as destinations in the other sites’ call routes.

## 12.4 Phone LED Indicators

LED Color	State	Description
Off	Idle	No calls on the Shared Call Appearance line. Users can seize the line.
Solid Green	In Use Locally	The handset “owns” the Shared Call Appearance line. No other users can access the line.
Fast Flashing Green	Ringing	An inbound call to the Shared Call Appearance is ringing. All handsets indicate ringing on the same Shared Call Appearance line.
Slow Flashing Green	On-hold	Active call is on Shared Hold. Any Shared Call Appearance participant can retrieve the call.
Slow Alternating Green and Red	Privacy Hold or Bridged Hold	Active call is on Private Hold. Only the Shared Call Appearance participant that placed the call on hold can retrieve the Shared Call Appearance call or the target of a bridge hold.
Solid Red	In Use Remotely	Shared Call Appearance line is in-use by a handset. Press the INFO soft key, and the PFK displays who own the Shared Call Appearance line.

## 12.5 Outbound Call

To seize a line locally for outbound calls, the user presses an idle Shared Call Appearance PFK and the PFK LED changes to solid green.

The user hears a dial tone, and then makes an outbound call. The PFK for that line is solid red and unavailable on all other handsets that share the Shared Call Appearance.

## 12.6 Inbound Calls

A ringing inbound call on a Shared Call Appearance causes the PFK to flash fast green on all handsets sharing the Shared Call Appearance.

The user of any phone with that Shared Call Appearance can answer the inbound call.

## 12.7 Ringing Call Pickup

Handsets that do not share the Shared Call Appearance can pick up ringing calls on a Shared Call Appearance line using the call pickup prefix (default: 7 + extension). Once another call appearance picks up a call, the call is no longer on that Shared Call Appearance and the Shared Call Appearance line returns to its idle state.

If a phone not in the Shared Call Appearance group picks up a call, that call is no longer a part of that Shared Call Appearance. For example, if a non-Shared Call Appearance phone picks up the call and places it on hold, it is a "normal" hold and not one of the Shared Call Appearance hold types.

## 12.8 Do Not Disturb (DND)

Individual users of phones that are using a Shared Call Appearance can avoid having their handset ring Shared Call Appearance calls to their phone using the DND button. When a phone is in DND mode and a Shared Call Appearance call rings in, it is possible to answer the call on a handset that is sharing the Shared Call Appearance - as long as the call is ringing.

## 12.9 Silence

Silence incoming calls on a Shared Call Appearance using the Silence soft key on

individual phone. The call continues to ring on all other handsets sharing the Shared Call Appearance. Users can answer silenced calls on any handset that is sharing the Shared Call Appearance.

## 12.10 Ignore

Ignore incoming calls to a Shared Call Appearance using the Ignore soft key on individual phones. The call continues to ring on all other handsets sharing the Shared Call Appearance. Users can answer ignored calls on any handset that is sharing the Shared Call Appearance.

## 12.11 Active Calls

An answered, active inbound call on an Shared Call Appearance line (or connecting an outbound call), renders the line unavailable to all other phones using the Shared Call.

While there is an active call on a Shared Call Appearance, other users of the Shared Call Appearance can view the Caller ID information of each party by pressing the phone INFO button, and then pressing the red PFK of the in use Shared Call Appearance line.

## 12.12 Shared Hold

To place the active Shared Call Appearance phone call on hold, press the HOLD key. The LED flashes green slowly on all phones that share the Shared Call Appearance; this includes the phone used to place the call on hold.

Any handset that shares the Shared Call Appearance can resume the call. If no one picks up the held call, the handset that placed the call on hold receives a notification per the individual HOLD reminder settings.

## 12.13 Privacy Hold

A call on Privacy Hold is only retrievable by the handset that placed the call on hold.

To place the call on "privacy" hold, press the HOLD button twice quickly. The handset that places the call on privacy hold has a slow, alternating green and red LED. All other phones that are a part of the Shared Call Appearance have a solid red LED for the privately held Shared Call Appearance line.

If the user does not pick up the held call, the phone receives a notification per the phone's HOLD reminder settings.

<b>Note:</b>	The Shared Call Appearance Private Hold and Attended Transfer of Shared Call Appearance calls are not available in the Call Assistant application or the TSP driver.
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## 12.14 Bridged Hold

To place a Shared Call Appearance call on hold so that it is retrievable by a second designated handset that is a part of the Shared Call Appearance, place an intercom call to the handset with the same Shared Call Appearance. This bridges the hold to the second handset automatically, and enables the second handset to resume the held call by selecting the flashing Shared Call Appearance PFK. If neither party resumes the held call, the handset that placed the call on hold receives a notification per the individual HOLD reminder settings.

## 12.15 Park

If a user parks a Shared Call Appearance call and the Park timeout setting for the system is set to ring back to the handset that parked the call, the parked call shall ring back to only the handset that parked it. It will not ring all handsets in the Shared Call Appearance. The Shared Call Appearance PFK light goes out and the call is no longer on the Shared Call Appearance.

## 12.16 Display PFK Configuration Details

The phone Info button identifies Shared Call Appearance PFKs as a Shared Call Appearance. If there are no active calls, the Info button displays the Shared Call Appearance name and the number of lines. If there is call on the Shared Call Appearance, the Info button displays the name of the owner of the call, the extension/number of the other extension, and the number caller id.

<b>Note:</b>	Using the Call Forwarding option on a phone does not forward Shared Call Appearance calls.
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## 13 Outside Lines

Allworx servers support placing and receiving calls over the following line types:

Line Type	6x12	6x	24x	48x
POTS/CO	X	X	X	X
SIP Proxies	X	X	X	X
Allworx Tx Expanders		X	X	X
SIP Gateways		X	X	X
T1/PRI			X	X
T1/CAS - T1/RBS			X	X
NFAS				X

### 13.1 Configure the CO Lines

1. Log in to the Allworx server admin page, navigate to **Phone System > Outside Lines**.
2. Locate the Analog (CO) Line in the table, and click the corresponding **Modify** link. The New FXO Line dialog box displays.
3. Update the appropriate analog (CO) line options.

Outside Line	Description
Description	DNIS display on phones that receive calls on this line.
Enable Line Appearance	Enables configuring the handsets with Line Appearance PFKs for this line.
Default Language	Enables selecting a language for systems configured with multiple languages to use with Auto Attendant and/or Queue prompts for inbound callers.
Line has Caller ID Service	Enables displaying the Caller ID information.
Enable Echo Cancellation	Only disable at the request of Allworx Technical Support.
Optimize for short loops	Check for FXD/IADs less than 500 feet away, not typically selected.
Prefix Digits	Enter automatically dialed digits on the line prior to dialed digits by handsets placing outbound calls on this line.
CPC Disconnect timer	Default 350 milliseconds
Pre-dial delay	Typically 500 milliseconds

Outside Line	Description
DTMF Duration	Typically 100 milliseconds.
DTMF Gap	Typically 100 milliseconds.
Select the attendant used to answer when calls received from this source are routed to an Auto Attendant.	Select from the drop-down list of options.
Calls received from this CO line go to:	Extension Auto Attendant Voicemail for user

- Click the **Update** button to save changes.

## 13.2 Fax Server Support

Allworx server provide the ability to send control information in the form of DTMF digits to devices connected to the server FXS ports. Use an extension phone number and/or the dialed number (DNIS) along with arbitrary DTMF characters to control the following devices:

- Analog FAX servers (e.g. Multi-Tech FaxFinder)
- External paging amplifiers
- External voicemail servers

The server sends the digits immediately after the device answers and before any audio from the calling source is available.

### To add the device and configure sending the DTMF digits:

- Log in to the Allworx server admin page, navigate to **Phone System > Handsets** page, and select the **New Analog Handset** link for the port.
- Add a description of the device. Click **Add**. The New Analog Handset displays in the Analog Handsets section.
- Click the **Modify** link for the device.
- Locate the Handset Features section, and enter the DTMF digits to send into the Auto Answer DTMF String text box. The system sends these digits to the FXS

device as soon as it answers the call. The following characters are available for use:

**DTMF digits:**

- 0 – 9
- A – D
- \*
- #

**Timing controls:**

- P generates a one second pause
- + increases the duration and gap of all DTMF tones by 50ms
- - decreases the duration and gap of all DTMF tones by 50ms

**Variables:**

- \$xN sends the last N digits (0 for all digits) of the dialed extension
- \$nN sends the last N digits (0 for all digits) of the DNIS number

For the device to receive incoming calls, route an outside line to the attached device port.

**To route an outside line to the device:**

1. Create an extension that rings the port of the device.
2. Route an outside line to the extension.

<b>Note:</b>	For specific device setup instructions for the Multi-Tech FaxFinder, please refer to the application notes located on the Allworx Partner Portal at <a href="http://www.allworxportal.com">www.allworxportal.com</a> .
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## 13.3 SIP Proxies and SIP Gateways

The Allworx servers support connectivity to external SIP-compliant devices such as Internet Telephony Service Provider (ITSP) servers and SIP gateways. The Allworx products interface with four different types of SIP devices based the ability to interact with the Allworx system. The 6x12 servers do not support SIP Gateways.

Sip Device	Description
SIP Proxy	Refers to a SIP Trunk, an external SIP service for routing calls. Access the SIP Proxy through the Internet or through the wide area network (WAN). To connect to a SIP proxy (or ITSP), configure the SIP Proxy on the Allworx server. Application notes for configuring Allworx servers with approved ITSPs are available on the Allworx Partner Portal <a href="http://www.allworxportal.com">www.allworxportal.com</a> .

Sip Device	Description
SIP Gateway	A SIP-compatible device that extends the connectivity of the Allworx PBX. Examples are FXO, FXS or T1 expander gateways. Typically, SIP Gateways connect to the Allworx server via an Ethernet interface directly to the Allworx server LAN.
Remote Allworx Servers (Multi-Site)	An Allworx server at another site configured to behave as if it is part of the local system. The Allworx Server Administrator can configure the remote Allworx server to provide outside line services for the local server. See the Allworx Advanced Multi-site Setup Guide for information on configuring these services. The guide is available on the Allworx Partner Portal ( <a href="http://www.allworxportal.com">www.allworxportal.com</a> ).

SIP Gateways and SIP Proxies are different but are configured similarly. Both types of devices are added to the system through the **Phone System > Outside Lines** page.

### 13.3.1 Configure SIP Proxies and SIP Gateways

SIP Proxies and SIP Gateways have configuration settings that are specific to using the ITSP or device. See “Allworx Server behind a Third-Party NAT Firewall” on page 31 for additional information.

#### To configure a new SIP Gateway or SIP Proxy:

1. Log in to the Allworx server admin page, navigate to **Phone System > Outside Lines** page and locate the appropriate section.
2. Click the link. Update the parameters (see table below), and click **Add**.
  - SIP Gateways section: Click the **add new SIP Gateway** link. This opens the SIP Gateway dialog box to configure the parameters specifically for the ITSP service in use.
  - SIP Proxies section: Click the **add new SIP Proxy** link. This opens the SIP Proxy dialog box to configure the parameters specifically for the ITSP service in use.
3. Navigate to **Phone System > Outside Lines** to return to the Outside Lines page.

### 13.3.2 SIP Proxy and SIP Gateway Setting Details

Account Setting	Description
Description	Assign a name to the SIP Proxy. It can be the ITSP name or any name that is useful to the System Administrator.

Account Setting	Description
User ID (SIP Proxy)	The ITSP typically assigns this value and often the account phone number.
SIP Server	The DNS name or IP address of the proxy server to connect to provided by the ITSP. The port number is usually 5060 but verify with the ITSP.
Outbound Proxy	DNS name or IP address of the outbound redirect server, if it differs from the SIP Server. The system does not require this in many cases.
SIP Registration Required	For use, if the SIP proxy server requires a SIP registration. The ITSP assigns the Login ID and Password. If the ITSP uses a registrar server that is different from the SIP proxy server, enter the DNS name or IP address of this server in the Registrar name field.
Caller ID Name	Name used for outbound calls. Some ITSPs may ignore this or refuse calls if set. If applicable, check the boxes: <ul style="list-style-type: none"> <li>• User External Caller ID Name from handset (if specified).</li> <li>• User Caller ID Name from external sources (if received).</li> </ul>
Caller ID Number	Number used for outbound calls. Some ITSPs may ignore or refuse calls if set. If applicable, check the boxes: <ul style="list-style-type: none"> <li>• User External Caller ID Number from handset (if specified).</li> <li>• User Caller ID Number from external sources (if received).</li> </ul>
Maximum Active Calls	The Allworx server uses this number to limit the total number of the incoming and outgoing active calls with this SIP Proxy. Useful for controlling the network bandwidth, since Allworx assumes that the SIP proxy is not a LAN local service.
Number of Line Appearances	Defines the number of Line Appearances for this Proxy so that Allworx creates a virtual set of phone lines that mimic real physical analog phone lines on this service. This is unique to Allworx and enables using ITSP services in a conventional key system manner. Typically, this number matches the maximum number of active calls limit (set above), but it can be less. Note: Set a value of zero if Line Appearance functionality is not required.
Append Enterprise Prefix to Dial back number of incoming calls.	Adds the enterprise dial plan digits (8 by default, *8 for extension mode) to the beginning of the caller's extension of an inbound call from a proxy server. This enables automatic dial back (e.g., selecting a call from the phone <b>Calls</b> list to contact the original caller) to function properly when the proxy server requires enterprise dialing for outbound calls.
Send Digits as Dialed	Indicate sending outbound numbers dialed exactly as on the handset placing the call. The number converts into NANPA dialing form, so this box is not normally checked. However, in some cases, the service provider or proxy may be doing the conversion automatically and need to defeat the Allworx server's conversion mechanism.
Digits Sent	Number of dialed DTMF digits sent to the ITSP when making a call. If the number specified here is fewer than the number of digits dialed by the user, only the trailing digits are sent. The default value (all digits) is typical.
Default Language (requires the Dual Language Support feature key)	The language usage choice for Allworx audio messages and played greetings for inbound calls through the SIP Proxy.

<b>Account Setting</b>	<b>Description</b>
Default Auto Attendant	Select the auto-attendant to use when routing inbound calls from this Proxy to an Auto Attendant.
Proxy is an Enterprise Server	Enables interfacing to external SIP Proxy services that actually have dial plan knowledge of the local site, typically not used. See "Enterprise Dialing Feature " on page 109 for more information.
Call Routing	Determines the routing of calls received from this proxy inbound to the Allworx server. This is identical to configuring all outside lines including analog and digital phone lines.

<b>Advanced Setting*</b>	<b>Description</b>
Pad DTMF RTP packets	Some switches and routers discard any UDP packets shorter than 64 bytes. When checking this box the Allworx system pads the DTMF packet. It expands the RTP header to make the packet at least 64 bytes long. Typically, leave the box unchecked.
Enable Early Media	Some service providers send audio before answering an outbound call (using 183 Session Progress in SIP). Use this to relay announcements (e.g. Your call can not be completed as dialed) or remote ring back tones. When checking this box, the Allworx system presents the audio to the caller when received. When unchecking this box, the Allworx system ignores the early audio and generates a ring back tone internally. Typically, leave the box unchecked.
Supports SIP REFER	This selects the method of transferring calls between multiple remote end-points through the service provider. When checking this checkbox, the system sends the SIP REFER to the service provider to enable them to connect the two end-points within the network without intervention by the Allworx. If unchecked, the Allworx server acts as a proxy between the two remote ends of the calls. Typically, leave the box unchecked.
Supports SIP Redirect	This selects the method of redirecting forwarded inbound calls back to the service provider answering (e.g., system forwards all calls to a cell phone). If checking this box, the system sends a SIP 300 redirect message. If unchecking this box, the Allworx system negotiates the call setup for the service provider. Typically, leave the box unchecked.
Use E.164 format for phone numbers	Enabling this feature causes rewriting of phone numbers into the international E.164 format (e.g. 800-555-1212 becomes +18005551212). Typically, leave the box unchecked, unless required by the ITSP.
Offer '100rel' support	Indicate the Allworx supports 'reliability of provisional responses (RFC 3262)'. Typically, leave the box unchecked.

Advanced Setting*	Description
Supports Symmetric Response Routing	Some service providers assist the remote end in NAT traversal by supporting RFC 3581 Symmetric Response Routing. When checking this checkbox, a remote handset behind a NAT firewall assumes the service provider can correctly detect the audio port to send traffic. If unchecked, port-forward the handset through the NAT firewall, or use the Allworx for proxying of audio traffic (see <b>Servers &gt; VoIP Server</b> ). Typically, leave the box unchecked.
Allow SIP P-Asserted-Identity (SIP Gateway)	The server asserts its identity with enabled proxies as well as proxy asserted identity from trusted devices to other trusted devices. Options include: <ul style="list-style-type: none"> <li>• Enabled (check the box).</li> <li>• Disabled (leave box blank).</li> </ul>
Send SIP Diversion header (SIP Gateway)	The Allworx server supports the SIP Diversion header. Options include: <ul style="list-style-type: none"> <li>• Always: includes the header in all INVITE requests sent to the SIP proxy.</li> <li>• Never: excludes the header from all requests sent to the SIP proxy.</li> <li>• On Redirect: adds header only when the server redirects the request.</li> </ul>
Obtain DID/DNIS number from [source]	For inbound calls, where the server gets the DID and DNIS information. Typically, this is set to [SIP To: header field].
Use [source] in Request URI of outbound calls	This defines the username parameter of the SIP Request Uniform Resource Identifier (URI) for outbound calls to the service provider. Most service providers expect to have the requested number or ID [dialed number] in this field, but some require the registered account information [address of record]. Typically this is set to [dialed number].
Codec Negotiation	Defines the media offered to the proxy when the server initiates INVITE and re-INVITE requests. Options include: <ul style="list-style-type: none"> <li>• Send No Offer</li> <li>• G.711, G.729A</li> <li>• G.729A, G.711</li> <li>• G.711</li> </ul>

\* These settings are specific to the ITSP. For instructions on configuring them for Allworx partner ITSPs, download the ITSP Application Notes from [www.allworxportal.com](http://www.allworxportal.com).

VoIP Setting*	Description
Force Remote Phone audio through server	<p>A NAT traversal aid for remote phones that are calling other Internet devices (ITSPs, other remote phones). This setting only applies to:</p> <ul style="list-style-type: none"> <li>• WAN-to-WAN calls.</li> <li>• Remote phones behind a NAT/Firewall.</li> <li>• Remote phones that use RFC 3581 "Symmetric Response Routing (rport)" for NAT traversal.</li> </ul> <p>Note: The ITSP may require enabling this feature.</p> <p>When enabled:</p> <ul style="list-style-type: none"> <li>• The server proxies the RTP packets for the end-points in the call.</li> <li>• Uses twice the bandwidth per call.</li> <li>•</li> </ul> <p>When disabled:</p> <ul style="list-style-type: none"> <li>• The RTP of the call does not involved the server.</li> <li>• Uses no bandwidth in the WAN-to-WAN calls.</li> <li>• Port-forward remote phones through any NAT/Firewalls to use Internet VoIP services.</li> </ul>
RTP DTMF Payload	<p>Use for the SIP INVITE messages when placing calls. The typical value is 96. Some ITSPs require other values (e.g., 101). An incorrect setting of this parameter results in outbound calls not being able to navigate external Auto Attendants. If SIP trunks from two different ITSPs are on the same system and the ITSPs require different values, then set the value per the ITSP requirements for the SIP trunk used most for outbound calls. The other SIP trunk may experience the Auto Attendant problem. Also, it may not be possible to transfer calls between the trunks.</p>
<p>* Check the settings on the SIP Proxy page and the Server &gt; VoIP page. Some of these settings exist on both pages and need coordination between the two pages.</p>	
<p>Many parameters associated with SIP Gateways are the same as their counterpart under SIP Proxies. The 6x12 servers do not support SIP Gateways.</p>	
Gateway uses SIP Registration	<p>If the gateway supports registration, select this option. Assign an arbitrary Login ID and Password for the gateway to use to register with Allworx. Use this preferred configuration, especially if the gateway uses DHCP to obtain its IP address so that the Allworx server always knows how to contact the gateway for outbound calls.</p>
Gateway uses Static IP Address	<p>Used when the gateway does not support registration or if not authenticating the gateway. Contacting the gateway through this mechanism requires the gateway to have a static IP address. The system does not enable DNS names for security reasons.</p>
Prefix String (Gateway only)	<p>Define the DTMF digits pre-pended to the dialed number string when placing outbound calls through the gateway (e.g., '9' for dialing through another SIP PBX).</p>



### 13.3.3 Enterprise Dialing Feature

The Enterprise Dialing feature enables a third party SIP server to be the central hub for calls between multiple sites that have Allworx servers. This provides a centralized phone book and administrative service for the entire VoIP network.

### 13.3.4 Allworx Enterprise Client

Configure each Allworx server as an enterprise client and direct inter-office calls to the central hub. The system creates an SIP Proxy for the central hub with the call routing set to Proxy is an enterprise server. The Enterprise Dialing rule (**Phone System > Dial Plan** page) is set to a service group that contains just the SIP Proxy entry for the central hub server. The number of digits to collect/send is set to cover the entire enterprise.

The Allworx dial plan uses an '8' prefix<sup>1</sup> to indicate forwarding the dialed number to the Enterprise Server. For example, dialing 81234 sends a SIP INVITE with a URI of < sip:1234@centralHubServer > to the Enterprise Server.

### 13.3.5 Central Hub / Enterprise Server

The central hub is a SIP proxy server that accepts incoming INVITEs from the Allworx servers, determines the final destination for the request, and forwards the request to the Allworx destination. It maintains an active list of Enterprise extensions and the mappings to extensions at each site. For example, an enterprise with four-digit dialing might have the following information in its databases.

Site Account Name	Account Password	Current Address	Site Description
allworx1	*****	66.64.219.38:5060	New York City office
allworx2	*****	64.129.42.33:5060	Atlanta office
allworx3	*****	129.116.21.193:5060	San Diego office

The current address is the IP Address and SIP Protocol port of the Allworx server. This can be static or updated through periodic SIP Registration. Configure the Enterprise

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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager > Phone Functions tab to determine what extensions to use for the corresponding feature.

extensions as follows (using three-digit extensions):

Enterprise Extension	User	User Extension	Site
1234	John Doe	108	allworx1
1452	Larry Tate	111	allworx1
4689	Fred Jones	108	allworx2
5999	Jane Smith	177	allworx3

For example, John Doe in New York City dials 84689 to reach Fred Jones. The SIP INVITE is sent to the central hub with a URI of < sip:4689@centralHubAddress >. The Central Hub validates the sender's credentials and looks up 4689 in the databases. It composes an INVITE with a URI of < sip:108@64.129.42.33:5060 > and sends it to allworx2. Fred Jones answers the phone and establishes the call.

Shortly after, John Doe dials 81452 to reach Larry Tate.

The SIP INVITE is sent to the central hub with a URI of < sip:1452@centralHubAddress >. The Central Hub validates the sender's credentials and looks up 1452 in its databases. The recipient is on the same server as the sender (allworx1), so the hub responds with a 300 Redirect with a Contact header URI of < sip:111@66.64.219.38:5060 >. The Allworx server (allworx1) then initiates a call to extension 111. Larry Tate answers the phone and establishes the call.

### To configure Enterprise Dialing:

1. Log in to the Allworx server admin page and navigate to the **Phone System > Outside Lines** page.
2. Click either **add new SIP Proxy** or, if it already exists, click the **Modify** link the SIP Proxy that is the target for the Central Hub.
3. Locate the Call Route and check **Proxy is an Enterprise Server** to indicate the SIP Server is an Enterprise central server.
4. Click the **Update** button to save settings.

**Note:**

The steps for configuring and maintaining the SIP centralized server are well beyond the scope of this document. To deploy such an arrangement across sites requires detailed knowledge about the use and administration of SIP proxy servers. Contact Allworx Customer Support for an application note with additional helpful administration.

### 13.3.6 Limitations with SIP Outside Lines

The following calling features are not available when using SIP trunks or SIP Gateways:

- Consultation and call transfer (using \*# or \*7) by recipients of Follow-Me-Anywhere call routes.
- Disconnection (hang up) of calls (using \*#) when accessing outside lines through the Message Center.

However, these features ARE available when one of the parties in the call is using an Allworx phone or port expander.

## 13.4 Digital Lines

Allworx refers to the integrated T1 interfaces on Allworx 24x and 48x servers as Digital Lines. The Allworx 24x and 48x servers have two T1 Digital Line interfaces that are accessed through the connectors labeled T1-A and T1-B. There are differences in T1 port functionality between the 24x and 48x servers.

### 13.4.1 Allworx 24x

The T1-A interface can operate as a Primary Rate ISDN line and/or as a T1 data line for connectivity to another site or to an Internet Service Provider. That is, the T1-A interface supports both circuit switched voice calls and TCP/IP data. The T1-A interface also supports Robbed Bit Signaling (RBS) operation. The dedicated T1-B interface is for use as a data connection.

Use the data connection for connectivity to another remote site on a dedicated T1 line or for connectivity to a service provider for Internet access.

### 13.4.2 Allworx 48x

One or both of the T1 interfaces can operate as Primary Rate ISDN lines, Robbed Bit Signaling (RBS) lines and/or as T1 data lines for connectivity to another site or to an Internet Service Provider. That is, the interfaces support both circuit switched voice calls and TCP/IP data.

Use the data connection for connectivity to another remote site on a dedicated T1 line or for connectivity to a service provider for Internet access.

### 13.4.3 PRI Support

The Allworx server supports Primary Rate ISDN using the National Standard ISDN format (NI-2), Lucent Custom 4ESS, Lucent Custom 5ESS, and Nortel DMS-100 switch types.

Always configure the Allworx server ISDN interface as the user side equipment with the intention of hooking to the service provider's Central Office (CO) network side equipment. The Allworx server interfaces have a fully integrated CSU/DSU and typically intended for a direct, short haul connection to the service provider smart jack. Consult the product installation instructions for further information.

<b>Note:</b>	When using PRI operation it is important to define exactly one PRI D channel for the Digital Line and a minimum of one PRI B channel. The configuration must match the provisioning defined by the Central Office with a typical configuration having 23 B channels on slots 1 through 23 and one D channel on slot 24.
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### 13.4.4 NFAS Support

Non-Facility Associated Signaling (NFAS) is a PRI that multiple T1 lines share the same D channel. The Allworx server supports NFAS using the National Standard ISDN, Lucent Custom 4ESS, Lucent Custom 5ESS, Nortel DMS-100 switch types.

<b>Note:</b>	The configuration must match the provisioning defined by the Central Office. A typical configuration has 23 B channels on slots 1 through 23 and one D channel on slot 24 of the primary T1 line, plus 24 B channels on slots 1 through 24 of the secondary T1 line. To configure NFAS on the Allworx system, connect the NFAS line with the D channel to the T1-A port.
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### 13.4.5 Robbed Bit Signaling (RBS) or Channel Associated Signaling (CAS) Support

The Allworx server supports classical T1 Robbed Bit Signaling (RBS) trunk lines on a time slot by time slot basis. Sometimes referred to as T1 Channel Associated Signaling (CAS). The system supports the following modes:

- FXO Loop-Start
- FXO Ground-Start
- E&M Wink Start
- E&M Feature Group B
- E&M Immediate Start

For the above selections, operational use is the same as the corresponding analog interface types. The system implements the precise signaling protocols for each interface in conformance with the procedures documented in EIA/TIA-464C. Inbound Caller-ID is supported on the FXO modes, if the CO supports it and the Allworx Server Administrator can configure it on the **Outside Lines > Digital Lines > Modify** page.

For primary CO line connectivity, the preferred slot choice is the FXO Ground-Start slot to minimize the possibility for glare conditions, especially when call volume is high. Furthermore, Allworx does not guarantee that the network provides an explicit disconnect signal in FXO Loop-Start mode. Normally, the user terminates a call by hanging up the phone. However, if a call is under the supervision of the auto-attendant, the lack of a terminating signal can cause a call to remain live for an extended period of time (tens of seconds) after the call should be dead. Some FXO lines support a supplemental feature known as line-side answer supervision where the network provides an explicit signal acknowledging that the far end has picked up during an outbound call. Because not all network equipment can produce this state, calls cannot rely upon it and ignores the state.

### 13.4.6 Data Support

Configure the Allworx server to carry TCP/IP packets using PPP encapsulation on any combination of slots constituting a full or fractional T1 interface. Even when configuring a T1 interface for circuit switched PRI operations, use extra (non-voice) slots for dedicated data connections as long as the remote end service provider enables this configuration.

Each T1 interface that has data slots configured on it constitutes a single logical serial channel using HDLC encapsulation of PPP packets per RFC-1662, using any combination of slots for data on each Digital Line, there can be only one logical data interface definition per T1 line.

To use a Digital Line as the system's WAN interface (for Internet traffic, inter site, etc.), select the navigate to **Network > Configuration > Modify**, and select **Use a T1 port as the WAN interface option** configuring the T1 interfaces.

<p><b>Note:</b></p>	<p>The Allworx Server Administrator can configure and reconfigure the digital lines without a system reboot, but changes to the Network Configuration settings do require a system reboot after updating them.</p>
<p><b>Note:</b></p>	<p>Since the data support is fully symmetrical, it is possible to connect two Allworx servers back-to-back between their T1 interfaces. Do this either on the same site or across sites using a dedicated T1 line that spans between the two sites via the service provider.</p>

## 13.4.7 Restrictions

Designate one interface as the logical WAN interface for the 24x and 48x systems. Use only the Ethernet WAN port or one of the T1 interfaces for routing TCP/IP traffic. Select either Ethernet WAN, T1-A, or T1-B ports as the data WAN interface for the system even though it is possible to provision multiple interfaces simultaneously.

## 13.4.8 Configure Digital Lines

The service provider provisions the line to the interface, which dictates the configuration of the Digital Lines. The settings must match the service provider's expected configuration or improper operation will result. Fully configure the line or lines in use before physically connecting the server to the T1 line.

### Configuration Hint

When using a Digital Line for circuit switched voice operation (PRI or RBS modes), the preferred method is to set all the Digital Line parameters including the functional definition for each time slot on T1 line. After setting this configuration, each slot configured to support circuit switch voice calls display as a new outside line. That is, logically treat each separate slot configured for circuit switched voice calls as a separate telephone line. At that point, details of the line routing or configuration are set under the Digital Lines section found on the **Phone System > Outside Lines** configuration page.

Parameters for each Digital Line are configured on the **Network > Digital Lines > Modify** page for the specific line to configure. It is important to provision Digital Lines not in use as Disabled. The disabled state is the factory default setting for each T1 line.

Parameter	Description
Description	Description of the Digital Line interface. Use this description in all other places referring to this line, such as in the Outlines Lines view and configuration pages of the phone system.
Line Mode	The provisioned operational mode for this interface. Currently, only T1 mode and Disabled are available. In the future, additional options may be available such as E1 and J1 for use in international markets outside of North America

Parameter	Description
Line Code/DS0 Channel Speed	<p>Supports both B8ZS and AMI modes. Allworx strongly recommends using B8ZS mode if the service provider supports it. Select the setting that matches the service provider's setting, but order the lines as B8ZS, if the CO switch enables it.</p> <p>Note: In AMI mode, clear channel data service is not available and only a 56K data rate is available on each slot. Generally, a PRI line should always be set to B8ZS mode.</p>
Framing	<p>The Allworx server supports both Super Frame (D4) and Extended Super Frame (ESF) modes. Select the setting that matches the service provider's configuration, but Allworx recommends having the service provider use ESF mode, if available.</p>
Clock Source	<p>Enables specifying the Digital Line data clocking source reference for this interface. Network clocking is almost always the preferred setting because the service provider is the source of the timing reference and the Allworx interface will be the slave to that network clock. Internal timing mode indicates that the Allworx device is the source of the clocking time reference. This mode is useful to hook two devices back to back. In that case, one end needs to provide the clock reference and the other must slave to that master. The exact terminology may vary from device to device. For this setting on Allworx devices, Network mode means it is the slave and Internal Mode means it is the clock master.</p>
Loopback Mode	<p>Enables the interface to be put into a diagnostic mode for testing purposes. Generally speaking always select Normal Operation. The use of the test modes is beyond the scope of this document.</p> <ul style="list-style-type: none"> <li>• <b>Normal Operation</b> - Transmit and receive lines that connect normally and disables all loop back features modes.</li> <li>• <b>Local Unframed</b> - Does an internal analog loop back on the local interface so that transmit data immediately loops back to the receive path. This mode is useful for verifying that the physical interface is operating correctly on the Allworx unit. Although not strictly required, Allworx recommends using B8ZS, ESF, and Clock Source Internal for such tests.</li> <li>• <b>Remote Frames</b> - Synchronizes and decodes incoming data at the frame level. These decoded frames are then re-framed locally and sent back out on the transmitted output line.</li> <li>• <b>Remote Unframed</b> - Decodes incoming data at the bit level from analog voltages to digital bits and directly sent out as a stream of bits back towards the source on the transmitted output line. No attempt is made to synchronize or verify the data at the frame level.</li> </ul>



Parameter	Description
Line Build Out	<p>Determines the pulse shape and transmit power levels used on the analog output of the Digital Line interface. The dB settings are for long haul configurations and the distance settings for short haul configurations. Always use the short haul settings since Allworx equipment is intended for use with a local smart jack only and not for driving the physical T1 lines on the telephone poles directly. Select the length setting that matches the cabled distance between the Allworx server and the service provider's demarcation point. If this setting is improperly configured line errors may be very common or problematic and affect system reliability.</p>
PRI Switch Type	<p>Select the Primary ISDN (PRI) switch type that is in use by the service provider. Select NONE if there is no connection of this interface to a PRI based service.</p> <p>Note: If this parameter is improperly configured the telephone service will most likely work, however there will be subtle problems when certain type of conditions occur such as calling cell phones, busy numbers, or during network congestion. Additionally, this may affect Caller ID functionality as well. Take care to find out the correct setting from the service provider and set this parameter accordingly.</p>
Voice Channel Selection Order	<p>Determines the order the Allworx PBX attempts to seize a line for outgoing calls within each service group assigned to this Digital Line. Set this selection to be the opposite direction that the service provider uses for incoming calls. For example, if the service provider hunts incoming calls starting from slot 1 towards higher numbered slots looking for the first available channel for a new incoming call, configure the PBX for Descending Mode. If the service provider starts at the top and hunts toward lower-numbered slots, select Ascending Mode. This parameter is not critical but having it properly set dramatically lowers the probability for a condition called glare where both the PBX and the Central Office attempt to put the same slot into service simultaneously for two unrelated calls.</p>
Caller ID Name	<p>Since most PRI lines hook directly into the international SS7 telephone signaling network, it is possible to have parties see any Caller-ID string. For analog phone lines, the CO determines this string but for PRI lines, the Allworx server can determine it. Set the caller ID name field to the preferred value for called parties to see when placing outgoing calls on this Digital Line.</p> <p>Note: The service provider may override these settings.</p>



Parameter	Description
Caller ID Number	<p>The phone number presented to called parties for outgoing calls. See name setting above for more information.</p> <ul style="list-style-type: none"> <li>• <b>Prefer Originally Dialed Number (RDNIS) for display</b> - This causes displaying T1/PRI originally-dialed/redirected phone number on Allworx phones if the original call was redirected and the CO provides the original call information.</li> <li>• <b>Prefer Originally Dialed Number (RDNIS) for DID lookup/call routing</b> - This causes using T1/PRI originally-dialed/redirected phone number in DID routing, if redirecting the original call and the CO provides the original call information.</li> </ul>
PPP Username	<p>The login account name to use for this Digital Line when the line has one or more slots defined on it for data operation. If authentication is not required, leave this field blank.</p>
PPP Password	<p>The login account password to use for this Digital Line when the line has one or more slots defined on it for data operation. If authentication is not required, leave this field blank.</p>
PPP MTU	<p>Determine the Maximum Transmit Unit Size to use when sending IP packets to the remote end. The Allworx firewall forces TCP connections to negotiate a MTU no larger than this value. Typically the default value is 1500. The normal Ethernet maximum suffices; however, the service provider may require lower values. If there are problems consult, the data service provider for advice. If the proper value is unknown and there is data connectivity problems, a value of 512 negatively impacts performance, but should always work.</p>
PPP HDLC Fill	<p>Fill value to use on the data line across all slots when the data connection is idle between HDLC frames. Typically the default value of all 1's will suffice, but a flag fill may be preferred in AMI line mode.</p>
Source IP Address	<p>Determine the static IP address for the Allworx server end of a data connection. Typically, this is the public IP address associated with the ISP connection. If entering a value of 0.0.0.0, expect the service provider to provide the correct value dynamically during session establishment, if the service provider supports that. Consult the ISP for more information.</p>
Destination IP Address	<p>Determines the static IP address associated with the router/gateway at the far end of this Digital Line. Use a value of 0.0.0.0 to have the service provider assign the proper value, if the service supports that. Consult the ISP for more information.</p>

Parameter	Description
Channel Assignments	<p>On a Digital Line, specify the preferred operating mode for each time slot per the provisioning defined by the service provider or the device connected at the other end of the Digital Line. If the proper selections are not made, improper operation will result. Currently the following modes are supported:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> – Indicates an unused time slot on this Digital Line.</li> <li>• <b>PRI B Channel</b> – A bearer channel for ISDN PRI operation used for carrying voice calls. Specifying this mode, in effect, defines a new outside line for the PBX for each slot configured in this mode.</li> <li>• <b>PRI D Channel</b> – A data-signaling channel for ISDN PRI operation used for transporting call control information between the PBX and the Central Office. The Allworx server always operates as user equipment on a PRI line. If enabling PRI operation on this line, configure exactly one slot as the PRI D channel. Typically, this is slot 24. When using NFAS, the D channel must be on the T1-A port.</li> <li>• <b>T1 E and M Immediate Start RBS</b> - A circuit switched Ear and Mouth mode Robbed Bit Signaling trunk that uses Immediate Start signaling. Specifying this mode defines a new outside line for the PBX for each slot configured in this mode. This mode is symmetrical and used to hook the PBX back to back to tie PBXs between sites on a leased line.</li> <li>• <b>T1 E and M Wink FG-B RBS</b> - A circuit-switched Ear and Mouth mode Robbed Bit Signaling trunk. Specifying this mode defines a new outside line for the PBX for each slot configured in this mode. This mode is symmetrical and also used to hook PBXs back-to-back to tie PBXs between sites on a leased line. Only use DTMF signaling. The system does not support Multiple Frequency (MF) signaling.</li> <li>• <b>T1 E and M Wink FG-D RBS</b> - A circuit-switched Ear and Mouth mode Robbed Bit Signaling trunk. Specifying this mode defines a new outside line for the PBX for each slot configured in this mode. This mode is symmetrical and also used to hook PBXs back-to-back to tie PBXs between sites on a leased line. Only use DTMF signaling. The system does not support Multiple Frequency (MF) signaling.</li> </ul>

Parameter	Description
Channel Assignments (con't)	<ul style="list-style-type: none"> <li>• <b>T1 FXO Loop-Start RBS</b> - A circuit switched Foreign Exchange Office style interface mode that digitally emulates the standard analog telephone line interface that uses Loop-Start signaling. Specifying this mode, in effect, defines a new outside line for the PBX for each slot configured in this mode. If call volume is high, this mode is less desirable than FXO Ground-Start Operation. This connects to the service provider interface that is operating as the FXS side of the interface. This mode is NOT symmetrical.</li> <li>• <b>T1 FXO Ground-Start RBS</b> - A circuit switched Foreign Exchange Office style interface mode that digitally emulates the standard analog telephone line interface using Ground-Start Signaling. Specifying this mode, in effect, defines a new outside line for the PBX for each slot configured in this mode. The Ground-Start operation is able to minimize the possibility of glare especially when call volumes are high, making it more preferable than Loop-Start. This is intended to connect to the service provider interface that is operating as the FXS side of the Ground-Start interface. This mode is NOT symmetrical.</li> <li>• <b>56K Data Channel</b> - Specifies that this slot provides 56Kbits/sec of bandwidth for the Digital Line's logical data connection. This mode is typically only used if 64K clear channel service is not available. Only use this mode for data connections when selecting AMI Line Code mode.</li> <li>• <b>64K Data Channel</b> - Specifies that this slot provides 64Kbits/sec of bandwidth for the Digital Line's logical data connection. Use this when clear channel data service is available. Do not select this mode if selecting the Digital Line's AMI Line Code mode.</li> </ul>

### 13.4.9 Allworx Port Expanders

The Allworx PX 6/2 Expander provides expansion of the system analog capability by adding six (6) FXO and two (2) FXS ports to any Allworx server. The PX 6/2 Expander features Plug 'n' Play installation for locally connected units. Remote installation is possible using an approach similar to installing remote Allworx phones. For detailed installation instructions, see the Allworx PX 6/2 Expander Installation Guide.

<b>Note:</b>	Do not use Allworx Port Expanders with 6x12 servers.
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To configure an installed Allworx PX 6/2, navigate to **Network > Port Expanders**. This displays a list of all Allworx port expanders known to the Allworx server. A number of

functions are available by clicking port expander-specific links.

Function	Description
Description/View Configuration	Open the configuration page for updates.
Delete	Removes all related configurations and port definitions from the system.
Replace	Enable replacing the port expander with another port expander while automatically transferring all the configuration parameters and settings to the new unit. Use this when replacing a defective port expander.
Handsets	Jumps to the Handsets page to configure port expander FXS ports.
Outside Lines	Jumps to the Outside Lines page to configure port expander FXS ports.
IP Address	Click to open the Allworx admin page of the port expander in a separate browser window. Use this link to view the event log or view/modify the on-board settings.
Reboot	Reboots the Port expander after making configuration changes to the expander or any of its ports. After clicking the button, the reboot starts as soon as all of the port expander ports are idle.

### 13.4.10 Port Expander Options

Clicking on the port expander **Description** opens the View Configuration page to show and modify the options for the port expander. To change the configuration, click the **Modify** link. Other options are identical to those on the Port Expanders page.

Feature	Description
MAC Address	Hardware identifier for the port expander. It cannot be changed.
IP Address	Network address for the port expander. Click to open the Allworx admin page of the port expander in another browser window. Do not change.
Description	Name given to the port expander. During Plug 'n' Play installation, the Description is set to the port expander MAC address. Allworx recommends changing it to something more meaningful to the site or configuration.
Codec Preference Order	Set the preferred codec order for the port expander. The codec is the method of encoding/decoding the audio sent and received. The two possible codec are G.711 and G.729A. G.711 preserves voice quality but takes more bandwidth. G.729A takes less bandwidth but reduces voice quality. Note: This setting defines the order of codec selection. The system does not support all codec for all call types (for example, accessing the server Auto Attendant requires G.711). The port expander attempts to use the first choice but uses whichever required codec to support calls.

Feature	Description
RTP Media Range (Port to Port)	Specifies the range of UDP ports used for Real-Time Transport Protocol communications. Using a maximum range of values makes the port expander the most secured from snooping and denial of service activities. However, when placing remote port expanders behind third-party firewalls, under certain conditions the UDP port range may need to be restricted to create mapping rules for each port expander behind the firewall. See "Remote Allworx Phones and Port Expanders" on page 143. for more information.
SIP NAT Keep-alive Interval	Some NAT firewalls automatically time out and close connections to devices. If a remote port expander is behind such a firewall, this setting prevents the timeout. Messages called keep-alive packets are sent from the port expander to the Allworx server at the frequency specified. The value should be set to an interval shorter than the firewall timeout.
SIP Port	UDP port number used for the SIP protocol by the port expander. Use the default value of 5060 unless the port expander is behind a third-party firewall and the network requires a different value.
Daylight Savings Time	Specify if the port expander will use Daylight Savings Time (DST) to compute its local time. Select use current server setting if the port expander is in the same time zone as the server. For a remote port expander, use the DST setting of its actual location.
Time Zone	Specify the time zone that the handset uses to compute its local time. Select the use current server setting if the port expander is in the same time zone as the server. For a remote port expander, use the time zone of its actual location.
Jitter Buffer Size	Alter the size of the jitter buffer. Jitter is a variation in network audio packet latency experienced by the port expander, resulting in a reduction in audio quality. The port expander uses a jitter buffer to maximize the audio quality when jitter occurs.

### 13.4.11 Configure FXO and FXS Ports

After installing an Allworx Port Expander, the Allworx Server Administrator can configure the FXS and FXO ports on the Handsets and Outside Lines pages, just like the server ports. On the Dial Plan page, the system adds port expander FXO ports to the default service groups.

The system enables creating new custom service groups or modifying existing groups to include the port expander's FXO ports.

## 13.5 Outside Line Call Routes

Each outside line (CO Line, DID Line, SIP Proxy, SIP Gateway, or a Digital Line) has a

call route associated with it. Navigate to **Phone System > Outside Lines** and click the **Modify** link on any one of the outside line types. The Outside Lines page displays.

The Call Route section directs the call coming into the system through Digital Line 1 channel 01.

Call Route	Description
Extension	Routes incoming calls to a User or System extension. Using a System Extension provides more call routing flexibility and enables using a common route for multiple lines.
Auto Attendant	Routes an outside line to an Auto Attendant, it goes to the designated Auto Attendant defined in the Default Auto Attendant section.
Voicemail for user	Incoming calls go directly to a voicemail box for a User.
Routed using DID Block(s)	When using DID blocks for incoming calls, enable the DID block for the outside line or each preferred channel, if using digital lines (See "Direct Inward Dialing (DID)" on page 163. for more information).

### To configure the DID Lines:

Configure each of the incoming lines that will use DID blocks. The following line types can use DID blocks:

- T1/PRI
- T1/RBS
- SIP Proxy
- SIP Gateway

Click on Routed using DID Block(s) and check the block(s) to use for this outside line.

<b>Note:</b>	For Digital lines, do this for each channel. If all channels use the same settings, check the Apply settings for this line to all lines with the same Port box.
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## 13.6 Handle Anonymous Calls

Anonymous Call Handling provides the Allworx Server Administrator a way to handle calls when the caller has requested privacy.

1. Log in to the Allworx server admin page, navigate to **Phone System > Outside Lines**, and click the **modify** link to configure Anonymous Call Handling to routes private calls normally on the system or to any user or system extension, including the operator. Not all ITSPs support Anonymous Call Handling.
2. Click **Update** to save the changes.

# 14 Dial Plan

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## 14.1 Dialing Rules

As a user dials digits on a phone, the server collects the digits, one at a time. How does it know when it should wait for more digits (because the user is dialing slowly) or when it should take the digits it has and try to make a call with them?

Dialing Rules specify to the Allworx server what digit sequences are valid for dialing out on the public phone network.

Enhanced external dialing rules enable matching specific dialing sequences and then deleting, inserting, and/or appending digit strings to those numbers before sending the dial string to any SIP Gateway, SIP proxy, T1/PRI Digital Line, or CO line. This flexible dialing enables users, including international partners, to program the dialing behavior of the Allworx system to match specific business needs such as:

- The server can import and export the dial plan information. This includes Internal Dial Plan, Emergency, and External Dialing Rules. To support the dial plan information, users can also import and export the Service Groups.
- New “Send digits as dialed” selection for FXO Lines, Digital Lines, and SIP Gateways. The enabled default is “Send digits as dialed” for everything except SIP Proxies to preserve legacy default behavior

### Examples:

When dialing a local number, users do not normally dial 1 and the area code. So, the system collects the first 7-digits dialed, and then tries to make the call. The server should not be waiting for more digits.

When dialing a long distance number, users normally dial 1 plus the area code, and then the 7-digit local number. The server recognizes this case distinctly from the local number case, and knows to collect all 11 digits before trying to make the call.

In addition, some local calling areas require dialing an area code without the 1 prefix in order to properly dial some numbers. This implies that these rules may vary depending on the local calling area with an installed Allworx server.



## 14.1.1 Emergency Dialing

<b>Note:</b>	Do not enter an Emergency number that conflicts with other dial plan options as this may result in the emergency center not being called.
<b>Note:</b>	Reboot Allworx phones when changes are made to the Emergency values.

For sites using PBX mode or sites using PBX mode in the factory default configuration, users must dial the outside line access digit (e.g., 9) when placing external calls including when dialing emergency calls (e.g., 9 911).

The Allworx Server Administrator can configure the system to enable dialing emergency calls directly, without the outside line access digit (e.g., 911).

1. Log in to the Allworx server admin page, navigate to **Phone System > Dial Plan**, and locate the External Dialing Rules section.
2. Locate the Emergency table, and click the **Modify** link for Emergency rules.
3. Check the **Dial Direct box**.
4. Click **Update** to save the changes, and then reboot all phones.

## 14.1.2 Home Area Code Requirements

Some features of the Allworx server and phones (example: redialing from call history and when mapping numbers to 11-digit forms to SIP proxies) require the knowledge of the home area code. Therefore, this required information is part of the dialing rules to enable those features to operate properly.

## 14.2 Service Groups

The server uses a variety of services to place outside calls such as: Digital Lines, CO lines, SIP Gateways, and SIP Proxies. Some of these services may be optimum for particular types of calls. For example, the SIP Proxy might be the least expensive way to make long distance calls, but the CO lines are best for local calls.

A Service Group is a collection of services use for placing outside calls. The server creates several Service Groups automatically:

- All Digital Lines



- All Digital Lines & CO Lines
- All Digital Lines, CO Lines & SIP Gateways
- All SIP Gateways
- All SIP Proxies
- All Trunk Devices
- No Devices (use to prevent placing external calls)

<b>Note:</b>	Route calls to Remote Allworx sites to use the outside lines of the remote sites. However, remote sites should not be the only method available for placing external calls. Loss of Internet connectivity between the local site and the remote site (at either end) may disable the ability to place calls including 911 Emergency calls.
<b>Note:</b>	The Digital Line Service Group is only available on Allworx 24x and 48x servers.

The Allworx Server Administrator can define additional Service Groups to control the use of services or set of services for certain dialed calls.

### 14.2.1 Exceptions

Use the dialing Rules and Service Groups for Call Appearance, not for Line Appearance calls. This is because Line Appearance calls access outside lines directly.

### 14.2.2 North American Numbering Plan Administration (NANPA)

The Allworx server routes calls using the Service Group assigned to the type of number dialed. When enabling or disabling NANPA, it changes the types of numbers dialed that the system supports.

Enable NANPA for installations in North America, and disable NANPA for all other locations.

When disabling NANPA (unchecked) access the outside lines using the steps described in the Exceptions section, above.

When enabling NANPA, the Allworx Server cannot add, modify, or delete the default rules. The rules affected by enabling NANPA are service rules, operator rules, emergency rules, and 11-digit dialing rules. Exception: the Allworx Server Administrator can add to the 11-digit dialing rules, if the total digits is equal to 11. To add, modify, or

delete the rules, the Allworx Server Administrator must disable NANPA.

NANPA Enabled Requirements			
Rule	Leading Digits	Total Digits	Auto Delete Existing
Service Rule	211	3	Yes
Service Rule	311	3	Yes
Service Rule	411	3	Yes
Service Rule	511	3	Yes
Service Rule	611	3	Yes
Service Rule	711	3	Yes
Service Rule	811	3	Yes
Operator Rule	Operator	1	Yes
Emergency Rule	Emergency	Any	Yes
Rules beginning with 1	1 [any other digits]	Not equal to 11	Yes

## 14.3 Define Service Groups

To add a new service group:

1. Log in to the Allworx server admin page, navigate to **Phone System > Dial Plan**, and locate the Service Groups section.
2. Click the **add new Service Group** link. The New Service Group page displays.  
  
Alternately, locate a Service Group, click **copy**, and then click the **Modify** link.
3. Enter a Description for the new group, and then move the preferred services into the Service Group box.
4. Click **Update** to save the changes.

When initiating an outbound call using the Service Group, the server tries services in the group in top-down order until an idle service is found. The call made uses the first idle service in the list. Therefore, the last step in setting up a Service Group is to ensure that the order of the services reflects the preferred priority of use. When one of the services in the group is a SIP proxy, consider the SIP proxy idle until reaching the Maximum Active Calls setting.

## 14.4 External Dialing Rules

Configure the area codes for two reasons: (1) To use the correct service for the local and other area codes and (2) to use the correct number of digits when placing the call. The Dial Method controls whether or not to include the area code when the placing the call. If the area code is not properly configured for the local rules, the system may not correctly place local calls.

### To configure area codes:

1. Log in to the Allworx server admin page, navigate to **Phone System > Dial Plan**, and locate the External Dialing Rules section.
2. Locate Automatic Route Selection and click the **add new rule** link or the **Modify** link of a specific rule.

Field	Description
Leading Digits	User dialed digits. For areas that require dialing the area code or other type exchange, this is the <b>aaa</b> (area code). For areas that require dialing 1 + area code (or other exchange), this is <b>1aaa</b> (aaa is the area code/exchange).
Total Digits	Number of digits (1 to 24) including digits 0-9 dialed by the user for the pattern.
Delete Leading Digits	Number of the first 0 to 24 caller-dialed digits deleted from beginning of the dial string before sending the request to a service group.
Insert Leading Digits	Digits not dialed by the user. Inserted at the beginning of the dial string after deleting leading digits before the string passes to the remote device. It is possible to insert 0 to 24 digits (0-9), #, *, or pauses (P).
Append Trailing Digits	Digits added to the end of the dial string - 0 to 24 digits (0-9), #, *, or pauses (P).
Service Group	Options include: <ul style="list-style-type: none"> <li>• All CO Lines</li> <li>• All CO Lines &amp; SIP Gateways</li> <li>• All SIP Gateways</li> <li>• All SIP Proxies</li> <li>• All Trunk Devices</li> <li>• Including any added service groups</li> <li>• No Devices</li> </ul>

### Example 1:

Adding an area code with "Area code NOT dialed". The Allworx Server Administrator adds a rule with 0 Leading Digits, 7 Total Digits, 0 Delete Digits, "1aaa" for Insert

Leading Digits, and 0 Append Trailing Digits. In this case, the user dials 1234567 and the area code is 585, the output dial string is 15851234567.

### Example 2:

Adding an area code with “Area code dialed”. The Allworx Server Administrator adds a rule with Leading Digits “aaa”, 10 Total Digits, 0 Delete Digits, 1 for Insert Leading Digits, and 0 Append Trailing Digits. In this case, the user dials 5851234567, and the output dial string is 15851234567.

### Example 3:

Adding an area code with “1 + area code dialed”. The Allworx Server Administrator adds a rule with Leading Digits “1aaa”, 11 Total Digits, 0 Delete digits, 0 Insert Leading Digits, and 0 Append Trailing Digits. The user dials 15851234567, and the output dial string is 15851234567.

3. Select the preferred Service Group from the drop-down list.
4. Click **Update** to save the changes.

## 14.5 Remote Sites as Services

The Allworx Server Administrator can select remote sites as services for handling outbound calls. If the line selection process results in a routing call to a remote site, the call connects using one of the remote sites’ outside lines. The dialing rules configured on the remote site determines which of its lines to use and how to dial the number (e.g. with or without area code).

It is possible to configure the dial plans on multiple sites accidentally so that the system routes a call back and forth among the sites. The Allworx server automatically prevents this from occurring. If a call comes to a server from a remote site, the receiving server does not forward the call to the same or other remote sites. If the dialing rule that the call is using on the receiving site includes any remote sites, the system skips the remote sites and use another outside line service.

<b>Note:</b>	Remote sites should not be the only method available to place external calls. Loss of Internet connectivity between the local site and the remote site (at either end) may disable the ability to place calls including 911 Emergency calls.
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## 14.6 Audit PIN Codes

The Audit PIN Codes requires users to use a PIN code when accessing an outside line. The Allworx Server Administrator configures the handsets. To place a call from a handset, the user dials 78 + PIN code + phone number. Example: when calling 555 1222 using PIN code 77777, the user dials the sequence 78 + 77777 + 5551212.

Limitations of the Audit PIN Codes feature:

- For use with an analog phone service connected to 6x and 24x servers.
- For use with a digital line service (T1) of the 24x servers.
- Not for use with site-to-site calls between 6x, 24x, and 48x servers.

**To specify the number of digits and the service group affected:**

<b>Note:</b>	To change the PIN code length, the system cannot have any previously configured PIN codes.
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1. Log in to the Allworx server admin page, navigate to **Phone System > Dial Plan**, and locate the External Dialing Rules section.
2. Locate the services table, and click the **modify** link.
3. Locate to the PIN Code line and adjust the number of digits and the affected Service Group.
4. Click the **Update** button to save the changes.

**To create the PIN code:**

1. Log in to the Allworx server admin page, navigate to **Phone System > Audit PIN Codes**, and locate the Audit PIN Codes section.
2. Click the **add new PIN code** link.
3. Type the new PIN code and a PIN Code description in the respective fields.
4. Click the **Add** button to save the changes. The Audit PIN Codes page displays.

**To enable or disable the Audit PIN Code Verification:**

1. Log in to the Allworx server admin page, navigate to **Phone System > Audit PIN Codes**, and locate the Audit PIN Codes Configuration section.
2. Click the **modify** link. Select Enabled or Disabled from the drop-down list.
  - **Enabled** - the Allworx server verifies that the PIN code is the correct length and loaded on the password in the Allworx server.
  - **Disabled** - the Allworx server only checks for the correct PIN code length.
3. Click the **Update** button to save changes.

## 14.7 Dialing Privileges Groups

A handset Call Appearance's dialing privileges determine if and how to access outside lines, which outside lines to use, and enables or blocks phone numbers. A Dialing Privileges Group is a set of dialing privileges and a list of handset Call Appearances with those privileges. Dialing Privileges Groups enable configuring handsets easily and efficiently. Apply custom configurations to any or all of the site handsets by creating a Dialing Privileges Group, specifying the privileges, and assigning handset Call Appearances to the group. Unlike with User Templates, no additional configuration steps are required to apply the options. Changes made to the group's settings take effect immediately.

To view the Dialing Privileges Groups, navigate to **Phone System > Dial Plan**, and locate the Dialing Privileges Groups section.

The system includes a system default group. Unlike default User Templates and Handset Preference Groups, the Allworx Server Administrator can modify the settings of the default Dialing Privileges Group. When upgrading Allworx servers, create an additional Dialing Privileges Group for each unique combination of Outside Line Connection settings for the existing phones. The handset Call Appearances with those options automatically becomes members of the corresponding new group.

**Note:**

The system does not change settings for existing handsets in this process.

Dialing Privileges Group settings include the following:

- Emergency Service Group

- Outside Line Selection Method
- Toll Restrictions

## 14.8 Toll Restrictions

The server applies Toll Restrictions using two lists: Blocked Numbers and Exceptions to Blocked Numbers. By default, the system enables all numbers unless listed in the Blocked Numbers list. Numbers in the Exceptions list override the blocked numbers. If listing a number as both blocked and as an exception, the system enables calls to that number. Entries in the Blocked Numbers list need not be complete phone numbers but can be only the first part of phone numbers. For example, entering 1900 in the Blocked Numbers list prevents all 900 number calls.

Entries in the Exceptions list should be more specific than those in the Blocked Numbers list. As examples, if the Blocked Numbers list contains **1** as an entry and the Exceptions to Blocked Numbers list contains **1800**, then users can dial toll-free numbers but no other long distance number. If the Blocked Number list contains a complete number (e.g. 19005553850) then the server blocks only that number. The Exceptions to the Blocked Numbers list does not need to have any entries to specify enabling similar numbers.

### 14.8.1 Managing Handsets in Dialing Privileges Groups

#### To add Call Appearances to a Dialing Privileges Group:

1. Log in to the Allworx server admin page, navigate to **Phone System > Dial Plan**, and locate the Dialing Privileges Groups section.
2. Locate the specific Dialing Privileges group, and click the **View** link.
3. Locate the Call Appearances Assigned To Group section, and click the **Modify** link.

When removing a Call Appearance from a handset, it moves automatically to the Dialing Privileges (Default) group.

To move a handset to a different group, select the handset checkbox from within the configuration page.

4. Click **Update** to save changes. Reboot the phones to update the configurations.

## 14.8.2 Deleting Dialing Privileges Groups

Click the **Delete** link to remove the dialing Privileges Groups. However, the Allworx Server Administrator cannot delete the default group or groups with assigned handsets. Therefore, move all handsets into other groups to delete the group.

## 14.9 Service Groups and Handset Outside Line Interaction Restrictions

Use Service Groups to direct the placement of outbound calls to particular services. The server selects the first idle service in the group. However, the Allworx Server Administrator can configure a handset to restrict its use of lines further when placing an outside call. According to the number dialed, the system locates the configured Service Group for a particular outbound call.

- After finding the first idle service in the group, the Outside Line Selection Method in the handset Call Appearance Dialing Privileges Group is checked.
- If the idle service is restricted for the handset, then it finds the next idle service and requires the handset to check again.
- This continues until the system finds a non-restricted idle service to place the call.

If the system cannot find a non-restricted idle service, the caller hears a fast busy signal indicating that there are no available outside lines.



# 15 Unified Messaging

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The Allworx server supports unified messaging such as combining a user's voicemail and email messages into one inbox. The important properties of unified messaging:

- Stores voicemail and email in one inbox on the server. Users can forward messages from this inbox to another email account or POP to an email client.
- Use a phone, to listen to, delete, forward voicemail messages. When deleting a voicemail message via a phone, the server inbox deletes the message.
- When deleting unified messages off the server due to a POP or a mail forward, the server also deletes the voicemail, and it is no longer accessible by phone.

## 15.1 Access Voicemail and Email Messages

There are two main ways to access voicemail and email messages from the server:

- Forward messages to another email account.
- Use a POP3 or IMAP email client to transfer the messages to a PC.

<b>Note:</b>	IMAP is only available after installing a Mobile Link Feature Key on the server.
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### To forward messages via message aliases:

Use the server Message Aliases feature to forward any incoming message (voicemail or email) for a user to an external (non-Allworx server) email account.

<b>Note:</b>	If saving copies of all messages on the server, eventually users may exceed their inbox storage space quota on the server. To avoid this, users should manage and delete old messages in the Message Center. Administrators can delete saved messages for individual users on the <b>Reports &gt; Users</b> page.
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1. Log in Allworx server admin page, navigate to **Business > Message Aliases**.
2. Determine the Message Alias type.
  - User Message Aliases: messages sent to a specific user. May include multiple email addresses.

- Group Message Aliases: messages sent to a specific group, i.e., Sales. May include multiple addresses.
3. Click **add new alias** link. A Message Alias page displays.
  4. Locate the first field and enter the information.
    - User Message Aliases: User, select the user from the drop-down list.
    - Group Message Aliases: Group, enter the group name.
  5. (optional) Locate the Message Center Alias field and click the drop-down list. Select **Message Center** from the drop-down list.
  6. Locate the Addresses field and enter the external email address.
  7. Click **Add** after entering all Members. The Message Aliases page displays.

## 15.2 Common Mistakes in Forwarding Messages

A common error is assigning the Allworx server domain name to be that of an existing domain name.

Example:

My Company pays an Internet hosting service to provide email for all their employees at user@mycompany.com. The employees get email by configuring the email application to POP the email off the hosting service email server. When installing the Allworx server, it receives a domain name of mycompany.com. This creates a problem when configuring the Internet DNS servers so that mail sent to user@mycompany.com to the external hosting service IP address, but the Allworx DNS server thinks it is responsible for handling email for the same domain name. Then putting user@mycompany.com in the members list, the Allworx server says, "That's me!" and sends the email to itself instead of to the external IP address. The solution is not using the same domain name for both.

### 15.2.1 External SMTP Accounts

Forward voicemail and email using external Internet SMTP services such as Gmail and Hotmail. The **Servers > Email** page includes SMTP server settings that enable entering the login credentials for an existing email account. Use this account for email, voicemail, and text alerts. For user voicemail, it sends the email to the address in the user's Message Alias.

Use personal email accounts for individual users. Configure the user's Internet email service account on their **Business > Users > Modify** page. If configuring a personal email account for a user, the system uses the user's account rather than the global account that was set up on the Email Server page. For user-specific accounts to be functional, configure a global SMTP email account.

## 15.2.2 POP3 Client

Using the POP3 Mail Transfers section of the **Business > Users > Modify User** page, configure each Allworx user so that a POP3 request to transfer email to a POP3 client will work:

- Email and voicemail messages.
- Email messages only.
- No messages.

Only the first option transfers voicemail messages to the PC's inbox.

Configure an email program on the PC that each user receives messages to pop the messages from the Allworx server.

Use the following information to configure the email program:

- Enter the IP address of the Allworx server LAN TCP/IP Address (from the Network / Configuration page) as the incoming POP3 server address.
- Enter the same address as the outgoing SMTP server address.
- Enter the Allworx login name and password for the user as the POP3 user and password.
- Do not use Secure Password Authentication (SPA).
- Do not use SSL to communicate with the Allworx server.
- Do not use authentication for the outgoing server.

<b>Note:</b>	Most email programs enable leaving the messages on the server when transferring to the PC. When using this feature, the user may eventually exceed the inbox quota on the server. To avoid this, Allworx recommends enabling the email program to: <ul style="list-style-type: none"><li>• Delete all the server email after N days</li><li>• Delete the email when the user deletes it on the PC.</li></ul>
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## 15.2.3 IMAP Client

IMAP synchronizes email so that users can access an account from multiple locations.

Enable the IMAP protocol in the **Network > Configuration > Modify** page. In addition, the port number and maximum number of connections can be set on the **Servers > Email > Modify** page.

<b>Note:</b>	Enabling the IMAP protocol requires a Mobile Link Feature Key on the Allworx server.
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Configure each user's PC email application so it can send and receive messages from the Allworx server. The details depend on the application but require server information:

- Enter the IP address of the Allworx server's LAN TCP/IP Address (from the **Network > Configuration > Modify** page) as the incoming IMAP server address.
- Enter the same address as the outgoing SMTP server address.
- Enter the Allworx login name and password for the user as the IMAP user and password.
- Do not use Secure Password Authentication (SPA).
- Do not use SSL to communicate with the Allworx server.
- Do not use authentication for the outgoing server.

## Access Examples

### Example 1

Requirements	Tom (login name tom) does not expect to get email at his Allworx server address, but instead uses an external email account (tom@yahoo.com). His Allworx server voicemail should be sent to the external email account, but it should also be available from his phone.
Configuration	Set up an Allworx server User Message Alias for Tom to forward all his messages to his external email account as well as keep a copy on the Allworx server. Create a new message alias such that: Set the email Alias to tom. Set members to tom and tom@yahoo.com.
Commentary	Tom will use his phone to delete old voicemail messages. If any email is sent to his Allworx server account, it will be forwarded to his external account, leaving a copy on the Allworx server. If email accumulates on the server, he needs to periodically connect with a POP email client to delete the old email messages.

### Example 2

Requirements	Tom is a remote user of the system and does not have a phone. His extension is configured to send all calls directly to his voicemail. He does not want to call in to get his voicemail, but instead wants all email and voicemail messages sent directly to his external email account (tom@yahoo.com).
Configuration	Set up an Allworx server User Message Alias for Tom to forward all his messages to his external email account. Create a new message alias such that: Email Alias is set to tom. Members is set to tom@yahoo.com.
Commentary	Tom will get all his email and voicemail messages using his external email account. Since the system deletes the messages off the server after forwarding, he does not need to periodically delete anything.

### Example 3

Requirements	Tom will use the Allworx server for his email. He wants to use his phone to listen to voicemail messages, but does not want them sent to his email account.
Configuration	Set up Tom's Allworx server POP3 Mail Transfers configuration to transfer only email messages. Set up Tom's PC email application to POP email off the Allworx server without leaving a copy on the server.
Commentary	The server deletes Tom's email messages as soon as they are POP'd to his PC email application. Voicemail messages will be kept on the server until he deletes them via his phone.

### Example 4

Requirements	Tom will use the Allworx server for his email. He wants to use his phone to listen to voicemail messages and wants those messages sent to his email account as well.
Configuration	Set up Tom's Allworx server POP3 Mail Transfers configuration to transfer both email and voicemail messages (the default). Set up Tom's PC's email application to POP email off the Allworx server while leaving a copy on the server until he deletes the message on his PC.
Commentary	Tom can listen to his voicemail messages on his phone or on his PC (via email). If he deletes a voicemail message using his phone, it will not be deleted on his PC. However, if he deletes a voicemail from his PC, it will be deleted from the server, making it no longer available on his phone. He will have to periodically delete messages from his PC so that he doesn't exceed his message quota on the server.



## 16 Back Up and Restore Data

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It is critical to back up the Allworx server frequently. In the event of a server failure, restore the system from the backup. Configure the Allworx server to create the backup as frequently as needed, including daily backups. Take a few minutes to assess how much data loss is acceptable in the event a restore from a system backup is necessary.

Do backups before updating system software or when making configuration changes. Server backups are set up for restoring the entire Allworx server disk, not a specific file.

The Allworx server initiates backups. The server sends the backup data to a PC for storage. Verify the backup PC is running the Allworx OfficeSafe application and the server has a network path to the PC.

There are two generations of the OfficeSafe application, OfficeSafe 5 and OfficeSafe 6/7. Allworx recommends OfficeSafe 7. Backup files created by OfficeSafe 5 are not compatible with OfficeSafe 7. If upgrading the OfficeSafe application on the service PCs from version 5 to version 6, make new backups of all servers, as soon as possible. The Allworx Administration Guide provides Instructions for using OfficeSafe 5 for server software versions 7.4 and lower. Those publications are available on the Allworx Partner Portal ([www.allworxportal.com](http://www.allworxportal.com)). For instructions on using OfficeSafe 7, download the Allworx OfficeSafe 7 Operations Guide from the Portal.

### 16.1 Configure Allworx Server Backups

The Allworx Server Administrator can initiate immediate, one-time backups or schedule the backups to run periodically.

#### To schedule periodic backups:

1. Log in to the Allworx server admin page, navigate to **Maintenance > Backup > Modify**.
2. Set the Backup Start Time to have the backup done automatically at the appointed time of the day.
3. Set the IP Address and the TCP/IP Port to be the same as those of the PC running OfficeSafe. In OfficeSafe 7, obtain these values from the OfficeSafe under **Tools > Options > Network**.

4. Select the Backup Frequency from the drop-down list.
5. Set the Backup Mode to Full or Incremental.
  - **Full:** Includes all servers in every backup
  - **Incremental:** Includes only the changes to the server data since the most recent Full backup and merges them with previous backup data. This backup mode is helpful to speed the duration of each backup by reducing the amount of transmitted data that to the backup PC during every backup.
6. Click **Update** to save the backup settings and return to the backup screen. Backups begin at the Start Time on each day based on the Frequency setting.

**Tips about backups:**

- After configuring the backup settings, use the Backup Now button to initiate a backup out of the normal periodic backup period.
- The OfficeSafe application Current Status and Activity Log displays the progress of the backup process. When the backup is complete, the Current Status state is Idle and the Activity Log displays "Saving backup completed successfully."
- Incremental backups only update an existing backup image. Archiving multiple backups in a rolling backup history window requires full backups.

## 16.2 Restore Data Using OfficeSafe 7

Restore the data while the Allworx server is in Safe Mode. While in Safe Mode, the server uses the factory default IP address (192.168.2.254) with DHCP enabled to avoid IP address conflicts on the network. Allworx recommends unplugging all the LAN connections and to only plug in the OfficeSafe PC used for configuring the restore.

The Allworx server initiates Restores in Safe Mode and requires connecting the PC providing the backup to the server's LAN and running the OfficeSafe application.

**To do a restore:**

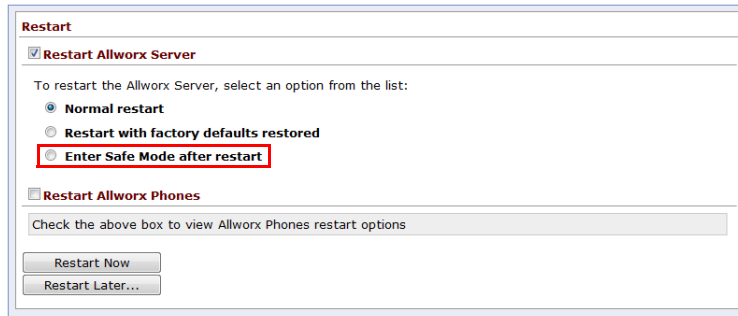
1. Restart the Allworx server into Safe Mode.

Do this via the Admin page of the server or by forcing the system into Safe Mode via the front panel of the unit. The method used to force entry into Safe Mode via the front panel varies by product model. Consult the installation or troubleshooting



guides for the specific product model for more details. The procedure for restarting in Safe Mode from the server application is the same for all products.

2. Navigate to **Maintenance > Restart** page on the web administration interface.
3. Check the box for Restart Allworx Server. Select Enter Safe Mode after restart.



4. Click **Restart Now**. A warning banner displays. Click **Continue**. The Allworx server powers down and then powers back up in Safe Mode.

Once the system powers up into Safe Mode, access the Safe Mode web page.

5. Locate the OfficeSafe section of the screen; enter the IP Address of OfficeSafe PC plugged into the server's LAN port.
6. Click Restore from OfficeSafe.
7. Click **Accept** on the Confirm Restore Request dialog box to begin the restore.

Depending on the size of the backup data (and the performance of the network and OfficeSafe PC), it may take several minutes or perhaps over an hour for the backup to be restored, if there are several gigabytes of data to recover. A "Restore was successful" message displays in the Status pane on the Safe Mode page when the operation completes.

8. Click **Reboot** in Normal Mode and select the **Reboot** button.

<b>Caution:</b>	Do NOT select Reboot the Allworx server in Normal Mode with Factory Defaults restored. This causes losing the restored settings during the reboot. If this happens, start the entire restore operation over again.
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9. Reconnect the LAN devices and log in to the server after the Allworx server has restarted.

10. Verify that the data restored successfully.

## 16.3 Server-to-Server Backup and Restore

The Allworx Server Administrator can backup and restore from one server to another. This enables loading a standard backup image onto multiple servers to replicate an existing server. Using the procedure described above, simply perform a backup from one server, and then use this backup to perform a restore onto a different server.

# 17 Remote Allworx Phones and Port Expanders

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A remote device is a phone or port expander on a different Local Area Network (LAN) than the Allworx server. For example, the Allworx server is at the company main office but an employee has an office phone at home. The Allworx Server Administrator can configure the system so that calls to and from that phone work just as though the employee was at the company main office. Similarly, the Allworx Server Administrator can configure analog phones and CO lines on a remote port expander to seamlessly integrate into the network and dial plan of the server.

See “General Network Configuration Requirements” on page 25 before setting up Remote Allworx devices.

<b>Caution:</b>	Allworx cannot guarantee the correct routing of 911 emergency calls for remote Allworx phones and analog handsets attached to remote Allworx Port Expanders. Do not configure remote handsets if using to place 911 calls.
<b>Caution:</b>	If there is an interruption between the network connection between the Port Expander and the Allworx server, regular use of the Port Expander FXO and FXS ports is not possible. The only option for placing calls through a Port Expander that does not have a functional network connection to its Allworx server is to plug an analog phone into the Power Fail port. The CO line connected to FXO port 1 routes the calls placed using this phone. No other ports are functional.

## To configure remote Allworx devices:

Configuring a remote phone or port expander requires setting two configuration parameters on the device.

1. Log in to the Allworx server login page, navigate to **Network > Configuration**, and locate the server Wan TCP/IP Address. If the Allworx server network mode is set to LAN Host, locate the Public IP Address parameter.
2. Write the IP address down, and then navigate to **Servers > VoIP** and locate the Plug 'n' Play Secret Key line.
3. Click the **show** link, and write the key down.

To enter the Boot Server IP and Plug 'n' Play Secret Key into the phone, press the Config soft key and select the Network Settings menu. To enter the information into an

Allworx PX 6/2 Expander, enter Config Mode. See the Allworx PX 6/2 Expander Installation Guide for more information.

## 17.1 Phone or Port Expander behind a Third-Party Firewall

Remote phones and port expanders usually work well, even if they are behind a firewall. There are several exceptions, each of which requires additional configuration steps.

Avoid most problems with firewalls by routing remote audio traffic through the server. By default, all audio traffic from remote phones and port expanders runs through the Allworx server. Although this avoids problems, it uses network connection bandwidth to the server. When calls to and from remote devices go out over SIP trunks or over the Internet to other remote devices, the bandwidth usage is 180 Kbytes per call, double that of a regular incoming call.

This traffic can degrade the audio quality of calls that use the Internet. However, there is a server setting that reduces the effect by enabling audio between devices to go directly from one to the other, rather than through the server. On the Allworx server admin page, navigate to **Servers > VoIP** page. Locate the Force Remote Phone audio through server line. Click the **modify** link to change the setting. Disabling it reduces server bandwidth usage. However, if doing this and the phone or port expander is behind a firewall, the firewall requires configuration.

## 17.2 Difficulty Connecting Calls

If the remote device does not register with the server or if calls to and from the server cannot be connected, change settings on the firewall and the phone or port expander to enable communications.

**To change the network settings on a handset (using soft keys) or port expander:**

1. Log in to the Allworx server admin page, navigate to **Config > Network Settings** menu for phones, and locate the Config Mode page for port expanders.
2. Change the following settings:
  - DHCP – Disabled
  - Remote Plug 'n' Play key – Set according to the procedure in “Phone or Port Expander behind a Third-Party Firewall” on page 144.

- Boot Server IP – Set according to the procedure in “Phone or Port Expander behind a Third-Party Firewall” on page 144.
  - Phone/Port Expander IP – Select an address consistent with the remote site network.
  - Netmask IP – Network Mask of the remote site network.
  - Gateway IP – Gateway IP of the remote site network.
3. Navigate to the Allworx server admin page.
    - **Phones** - navigate to **Phone System > Handsets**. Create a Handset Preference Group for the remote phone with the adjusted RTP port range; see “Handset Preference Groups” on page 72.
    - **Port Expanders** - navigate to **Network > Port Expanders** and click **Port Expander Description**.
  4. Set the RTP port range for the phone or port expander to 16384 or 16393.
  5. Forward the required IP ports through the Firewall at the remote site, per the table:

Port Type	WAN	LAN	Protocol
BLF	2088	2088	UDP
SIP	5060	5060	UDP/TCP
RTP	16384 - 16393	16384 - 16393	UDP

## 17.3 Multiple Remote Devices behind the Same Firewall

If there is more than one remote Allworx device behind a firewall, change the settings on the firewall and the phone or port expander to enable this configuration.

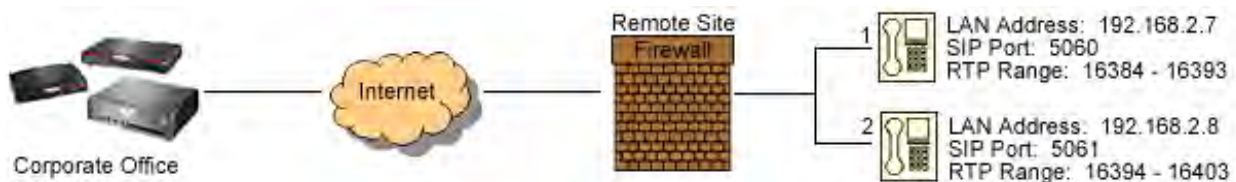
1. Log in to the Allworx server admin page, navigate to **Config > Network Settings** menu for phones, and locate the Config Mode page for port expanders.
2. Change the following settings:
  - DHCP – Disabled

- Remote Plug 'n' Play key – Set according to the procedure in “Phone or Port Expander behind a Third-Party Firewall” on page 144.
- Boot Server IP – Set according to the procedure in “Phone or Port Expander behind a Third-Party Firewall” on page 144.
- Phone/Port Expander IP – Select an address consistent with the remote site network.
- Netmask IP – Network Mask of the remote site network.
- Gateway IP – Gateway IP of the remote site network.
- Configure VoIP settings for the phones and/or Port Expanders.

3. Navigate on the Allworx server admin page.

- **Phones** - navigate to **Phone System > Handsets** and create a different Handset Preference Group for each remote phone.
- **Port Expanders** - navigate to **Network > Port Expanders** and click on the **Port Expander Description**. Allocate 10 ports for each device in the standard range (e.g. phone1: 16384 to 16393, phone2: 16394 to 16403). Select a different SIP port for each device, starting at 5060 (e.g. phone1: 5060, phone2: 5061).

4. Forward the required IP ports through the firewall at the remote site, per the table.



Port Type	WAN	LAN	Protocol	IP Address
BLF	2088	2088	UDP	192.168.2.7
SIP	5060	5060	UDP/TCP	192.168.2.7
SIP	5061	5061	UDP/TCP	169.168.2.8
RTP	16384 - 16393	16384 - 16393	UDP	192.168.2.7
RTP	16394 - 16403	16394 - 16403	UDP	169.168.2.8

**Note:** Map the BLF port for one of the remote devices. The device that gets the BLF messages from the server forwards the BLF information to every other Allworx desk phone in that subnet.

## 17.4 Phones at Different Remote Sites, Each with a Firewall

This case is very similar to “Multiple Remote Devices behind the Same Firewall” on page 145. The difference is doing the mappings on each site firewall. Map the correct RTP port range for the device that is on the configured firewall.

In addition, map the BLF port (2088) for one device on each firewall.

## 17.5 Remote Phones Cannot Receive Pages

While regular calling and intercom calling works fine, paging remote phones does not. Sending pages from the remote phone works, but users do not hear the zoned or overhead pages at the remote phone. In order to enable paging to a remote phone, set up a VPN between the Allworx server and the remote phone.

Below describes the Allworx server settings changes. This document does not cover the steps for configuring the site firewall for the VPN due to the variations.

Log in to the Allworx server admin page, navigate to **Servers > VoIP > Modify Server**, there are three parameters to configure where the server transmits zoned pages:

- **Paging Base IP Address** – This is the multicast base IP address used by the system. Each paging zone uses the base address plus an offset. Zone 0 (the overhead zone), uses an offset of 0, zone 1 uses an offset of 1, etc. For example, if the base address were set to 239.255.10.0, then zone 2 would use multicast IP address 239.255.10.2.
- **Paging Port** – This is the UDP port number that the packets are sent to. All zones use the same port number, but each has its own multicast IP address.
- **Paging Max Hop Count** – This value controls the time-to-live (TTL) count in the IP header of all paging UDP/RTP frames. Typically, this value is set to 1 so that the packet is not sent beyond the local subnet. However, if there are multiple subnets with phones, increase this value.





# 18 Adding Extensions

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## 18.1 User and System Extensions

On the Allworx server admin page, the **Phone System > Extensions** displays User and System extensions. Special purpose routing of calls to these extensions is possible.

Special Purpose Routing	Descriptions
Presence Specific Routing	When on vacation, forward the call directly to voicemail (User extensions).
Multiple Destinations	Ring multiple phones simultaneously.
Multiple Connection Attempts	Ring a series of phones when the primary phone is not answered.
On Busy Routing	Ring alternate phone(s) when the line is busy (User extensions).
Follow-Me Anywhere	Forward the call to a cell phone or home phone.
Caller ID Based Routing	Separate call route dependent on the Caller ID of the incoming call (User extensions).
Hot Desk Routing	Route the call to a logged-in phone after logging into a shared phone.
Business Schedule Routing	Follow different routes when the designated Business Schedule is in Day mode vs. Night mode (System extensions).

Users can establish different call routes/destinations for each of the seven user presences (In Office, At A Meeting, On Vacation, On Business Trip, At Home, Away, and Busy).

The System Administrator can configure permissions for users to define the routing of their extensions using the My Allworx Manager page by enabling the corresponding checkbox on the **Business > Users > Modify** page. The following sections describe how to define the routing of an extension, starting with basic routing.

### 18.1.1 Basic Routing

The building blocks of a call route are the Connection Attempts, Destinations, and Finally route. In the typical call route, there is one Connection Attempt and the Finally route.

1. Log in to the Allworx server admin page, and navigate to **Phone System > Extensions**.

2. Create System extensions:
  - a. Click the **add new Extension** link.
  - b. Enter the number for the system extension. Click the **show available** link for available extensions.
  - c. Enter a description for the extension and proceed to Step 3e.
  
3. Configure a User extension:
  - a. Click the **View Call Routes** link for a user. The View Call Route page displays.
  - b. Click the **Modify** link next to a presence to update the call route. The Modify Call Route page displays.
  - c. Locate the Call Route Selection, and check the boxes for Apply these changes to the selected presence(s). The system applies any saved changes to all the selected presences.
  - d. Locate the On calls from callers section and select the radio button to Modify Primary Route or Modify On Busy Route.
 

On Busy Route: To avoid having callers hear a busy signal when calling a User extension, configure an alternative On Busy call route.
  - e. Locate the Call Route section, if there is not a connection, click the **add a connection attempt** link. If the First connection attempt is already established, skip the next step, if preferred.
  
4. Select the destination, number of rings, and ring tone. The drop-down menu that displays in the First connection attempt section provides a list of Handsets, User Extensions, Call Monitors, and the Follow Me option.

<b>Note:</b>	There are minimal differences between the ring tone selections. Acquire additional variety by selecting different ring tone families. Select the ring tone family within the on-phone configuration menu. See the Phone Guides for more information.
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5. Configure the Finally route, the ending for an unanswered call.

For User extensions, the Allworx Server Administrator can assign any changes made to the call route of one presence to the other presences by checking the apply these changes to all of my presences checkbox.

6. Click the **Update** button to save changes.

## 18.1.2 Multiple Destinations Routing

**To ring several phones at once:**

1. Repeat the Basic Routing procedure, up to step 5.
2. Click the **add a destination** link in the preferred connection attempt. This creates another destination drop-down menu.
3. Select the destination, number of rings, and ring tone. The drop-down menu that displays in the Second connection attempt section provides a list of Handsets, User Extensions, Call Monitors, and the Follow Me option.
4. Click the drop-down list and select an additional phone to ring along with the previously chosen phone.
5. Repeat the steps above to add more phones to ring simultaneously for the connection attempt.
6. Click **Update** to save changes.

## 18.1.3 Multiple Connection Attempt Routes

If alternate phones should ring when the handset(s) in the First connection attempt are not answered, create additional connection attempts to receive the calls.

1. Repeat the Basic Routing procedure and the Ring Several Phones at Once (if applicable), up to step 5.
2. Click on the **add another connection attempt** link. This creates another connection attempt section (e.g. Second, Third, etc) below the First connection attempt section,
3. Configure the connection attempt using the options.
4. Click **Update** to save changes.

## 18.1.4 On Busy Routes

<b>Note:</b>	Create and save (Update button) the primary call route before creating or modifying the On Busy Route.
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### To avoid having callers hear a busy signal when calling a user extension:

1. Repeat the Basic Routing procedure and the Ring Several Phones at Once (if applicable), up to step 5.
2. Locate the presence call route and click **Modify**.
3. Select the **Modify On Busy Route** radio button.
4. Select the **Use Call Route below:** radio button. A new call route section displays.
5. Set up the call route using the other procedures.
6. Click **Update** to save changes.

The system ignores additional call attempts when configuring the busy route to use a call route instead of treating a busy as no answer.

## 18.1.5 Follow-Me-Anywhere Routes

Users can forward calls to other phones outside of the Allworx System such as cell or home phones. If the recipient does not answer the call, the system directs the call back to the system in order to follow the rest of the configured call route. In following the rest of the call route, unanswered Follow-Me-Anywhere calls may eventually be directed to the Finally route, which enables callers to leave messages in the default voicemail inbox. If the preferred setting is having callers leave messages on a personal phone voicemail, do not use the Follow-Me-Anywhere features. Instead, use the Finally route to direct calls to a cell or home phone by entering the phone number into the Dial number text box.

<b>Note:</b>	When an outside phone answers the call, the default is for the recipient to hear a prompt requesting to enter a '1' to accept the call. However, the Allworx Server Administrator can configure user extensions so that Follow-Me-Anywhere calls to their extensions require a Message Center password in order to accept the call. See "Follow-Me-Anywhere" on page 157 for more information.
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1. Repeat the Basic Routing procedure and the Ring Several Phones at Once (if applicable), up to step 5 or a combination of the other procedures, select **Follow Me** from the drop-down menu in the connection attempt field.
2. Enter 9<sup>1</sup> or 78<sup>1</sup>+PIN (to gain an outside connection) followed by the phone number in the text box that appears to the right.  
  
Examples†:9+1+aaa-xxx-nnnn, 9+1+xxx-nnnn, 78+ PIN+1+aaa-xxx-nnnn, 78+PIN+xxx-nnnn
3. Select the preferred number of rings. The Follow-Me-Anywhere feature requires the recipient to listen to a message and enter a code. Therefore, increment the normal number of rings by at least two in order to give the recipient extra time to answer the call.
4. Click **Update** to save changes.

## 18.2 Caller ID Based Routes

Use the Caller ID of the incoming call to a User extension to determine the call route.

1. Click on the **View Call Routes** link, next to the User extension that is adding a Caller ID-based route.
2. Click the **add new Call Route** link next to the configured presence.
3. Select the external calls or internal calls radio button.
4. Enter the phone number with area code in the text box for calls from external numbers, or select the extension from the drop-down menu for calls from internal extensions.
5. Use the other procedures (e.g. see Basic Routing) to develop the intended route for the call.
6. Click **Update** to save changes.

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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions to use for the corresponding feature.

## 18.3 Hot Desk Routes

Hot Desking enables users to log in to shared phones, receive their calls on that phone, and place calls with their caller ID. Users can initiate the log in using a Hot Desk PFK or by selecting the Hot Desk Login option from the phone Config menu.

Users can add Hot Desk destinations manually or automatically to user call routes. If none are present when the user Hot Desks into a phone, then Hot Desk destinations are added as the first connection attempt to all Presence call routes.

## 18.4 Business Schedule Mode Routes

The Allworx Server Administrator can assign a system (non-user) Extensions a Business Schedule and configure the extension to follow one call route when the Schedule is in Day Mode and another call route when the Schedule is in Night mode. (See “Business Schedules” on page 173 for more information.)

To configure a Business Schedule that defines the Day Mode and Night Mode hours for this System Extension:

1. Repeat the Basic Routing procedure and the Ring Several Phones at Once (if applicable), up to step 5. See “Business Schedules” on page 173 to set up the Day Mode call route for the extension. The Extension page displays.
2. Select the **View Call Routes** link for the System (non-user) Extension.
3. Click the **Modify** link in the Extension Information section.
4. Select the configured Schedule in the drop-down list for routing calls to this extension.
5. Check the **Use different call routes for Day and Night modes** checkbox, and then select the **Update** button.
6. Click the **Modify** link in the Night mode section. Use the preceding procedures to define the intended route for the extension during Night hours.
7. Click **Update** to save changes.

## 18.5 Change a Presence Setting

### 18.5.1 Change Presence via the Allworx Server Admin Page

Although users can change their own presence setting, the Allworx Server Administrator can change a user's presence. Open the Allworx server admin page, and navigate to the **Business > Users** page, click on the **Modify** link of the user, and change the User Presence setting.

### 18.5.2 Change Presence via My Allworx Manager

1. Open a web browser and enter the Allworx server's LAN IP address into the address field. Default: `http://192.168.2.254`
2. Click **Login**. My Allworx Manager requires an Allworx username and user password to gain access to the call routing features.
3. Click the My Presence tab, and then select the appropriate presence and then select the **Change Presence** button.

To change the presence settings on an Allworx IP phone, see the Allworx Phone User Guide for more information.

To change the presence settings using the Allworx Reach Application, see the Allworx Reach User Guide for more information.

To change the presence settings using the Allworx Message Center, see the Allworx User Guide for more information.

To change the presence settings using Allworx Interact Professional, see the Allworx Interact and Interact Professional User Guide.

## 18.6 Speed Dial Numbers

The system supports 50 three-digit speed dial numbers (\*250 through \*299) and 1000 five-digit speed dial numbers (\*24000 through \*24999).

### To add a new speed dial number:

1. Log in to the Allworx server admin page, navigate to **Phone System > Speed Dial**. The Speed Dial Numbers page displays.
2. Click the **add new Speed Dial Number** link, the Speed Dial input page displays.
3. Select a Speed Dial Number from the drop-down list, and fill-in the Description field.
4. Type a number in the Number to Dial field. Use one of the number formats described in the TIP box. Click **Start Over** to clear the fields.
5. Click **Add** to save changes. The Speed Dial Numbers page displays. Repeat for additional speed dial numbers.

### To modify an existing speed dial number:

1. Log in to the Allworx server admin page, navigate to **Phone System > Speed Dial**. The Speed Dial Numbers page displays.
2. Click **Modify** in the speed dial number line, the Speed Dial information page displays.
3. Make the appropriate updates. Click **Start Over** to reset the fields.
4. Click the **Update** button to save changes.

### To delete a speed dial number:

1. Log in to the Allworx server admin page, navigate to **Phone System > Speed Dial**. The Speed Dial Numbers page displays.
2. Click **Delete** in the speed dial number line.
3. Click **Delete** to confirm the deletion. The Speed Dial Numbers page displays.



## 19 Follow-Me-Anywhere

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Follow-Me-Anywhere Calling enables routing inbound calls to an external number within call routes. If the user rejects or does not answer the call, the inbound call continues along the defined call route. Previously, the server enabled external numbers only at the termination of the call route (the Finally attempt), which limited the routing destination of the call if the recipient did not answer. When receiving a Follow-Me-Anywhere call on an external phone (e.g. cell phone, home phone), the user hears a prompt identifying the source of the call and how to accept the call.

### To configure the prompt content and the acceptance method for user extensions:

1. Log in to the Allworx server admin page, navigate to **Business > User**, and locate the user.
2. Click the **Modify** link in the action column.
3. Locate the Follow Me Calling section, and check the appropriate check boxes.
  - **PIN required to accept call** - requires the user to enter their Allworx PIN code to answer the incoming call.
  - **Require caller to record name** - the caller must state their name before the Allworx user's phone rings.

If checking both boxes, the prompt for calls to the user's extension, "Call for (user) from (caller). To accept, enter your PIN followed by the pound sign."

4. Click **Update** to save changes.

<b>Note:</b>	System extensions that use Follow-Me-Anywhere receive the default prompt: "A call is being forwarded to you from an Allworx system. Press one to accept the call."
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The recipient of the call can consult another employee or transfer the caller to any extension (user, system or remote site) within the Allworx System.

### 19.1 Consult

1. Press \*# to obtain a dial tone while placing the caller on hold.

2. Dial the extension of the person to consult.
3. Press \*# to end the consultation and return to the caller.

## 19.2 Announced (Attended) Transfer

1. Press \*# to obtain a dial tone while placing the caller on hold.
2. Dial the extension to transfer the caller, talk to the new recipient, and hang up to complete the transfer.

## 19.3 Unannounced (Blind) Transfer

1. Press \*# to obtain a dial tone while placing the caller on hold.
2. Dial the extension to transfer the caller and hang up to complete the transfer.

## 19.4 Quick Transfer

While on an active call, users can blind transfer the call to their primary phone using \*7.

### To designate a Primary Phone:

1. Log in to the Allworx server admin page, navigate to **Business > Users**, and locate the user.
2. Click the **Modify** link in the action column.
3. Locate the Follow Me Calling section, and check the appropriate check boxes. See "To configure the prompt content and the acceptance method for user extensions:", step "3" on page 157 for definitions.
4. Select a handset from the Primary Phone drop-down list. The Primary Phone selection is independent of the user's regular phone assignment and call routing. It can be any phone in the system.
5. Click **Update** to save changes.

<b>Note:</b>	The consult and transfer features do not work if connecting any of the parties via a SIP Trunk or SIP Gateway.
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## 20 Voicemail and Escalation Alerts

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Voicemail Notification & Escalation Message Alerts send SMS text messages to cell phones and/or email addresses when leaving a voice message in a specified voicemail inbox on the Allworx System. The SMS text messages provide the following information:

- Allworx username associated with the voicemail inbox.
- Caller ID name and number of the caller leaving the voicemail (if available).
- Current number of new messages in the voicemail inbox.
- Length of the recorded message.
- Date and time the voicemail inbox received the message.

**Note:**

The Allworx SMTP server sends the SMS text messages, which require a valid network path from the Allworx server to the destination mail server through the Internet.

### 20.1 Notification Mode

Voicemail Notification sends alerts each time the inbox receives a new voicemail.

**To configure voicemail Notification alerts:**

1. Log in to the Allworx server admin page, navigate to **Business > Users**.
2. Locate the user, and click the **Modify** link in the action column.
3. Locate the Voicemail Notification and Escalation section, and enable the Notification Mode radio button.

**SMS Email Messages** – address of the recipient to alert when a new message is available. One entry per field; use a message alias to send alerts to multiple recipients. Acceptable entries:

- Username
- Message Alias
- Email address
- Cell phone number with service provider SMS text message domain (e.g. 7165552000@txt.att.net)

**Note:**

Find service provider domains at: [www.notepage.net/sntp.htm](http://www.notepage.net/sntp.htm) (Check with the Service Provider for more information).

4. Click **Update** to save changes.

## 20.2 Escalation Mode

The Voicemail Escalation feature distributes message alerts repeatedly until meeting the set number of retries or until retrieving any voicemail message.

The system organizes recipients into levels so that after sending a specific number of message alerts to the recipient(s) at one level, the system begins sending the alerts to the recipient(s) at the next highest level.

### To configure voicemail Escalation alerts:

Log in to the Allworx server admin page, navigate to **Business > User**, and enable the **Escalation Mode** radio button.

Feature	Description
Level	Order for alerting recipients a caller left a message in the voicemail inbox.
SMS Email Message	<p>Address of the recipient(s) to alert when a new message is in the voicemail inbox. Only one entry per field, use a message alias to send alerts to multiple recipients.</p> <p>The following are acceptable entries:</p> <ul style="list-style-type: none"> <li>• Username</li> <li>• Message Alias</li> <li>• Email address</li> <li>• Cell phone number with service provider SMS text message domain (e.g., <a href="mailto:7165552000@txt.att.net">7165552000@txt.att.net</a>)</li> </ul> <p>Note: Find a list of service provider domains at: <a href="http://www.notepage.net/sntp.htm">www.notepage.net/sntp.htm</a> (Check with the Service Provider for more information).</p>
Notification Period	Elapsed time before sending another SMS message to the recipients identified in the Level option.
Maximum Retries	<p>Maximum number of attempts sent to the recipients of the level before the message alerts proceed to the next level. This does not include the initial SMS message. Therefore, the system makes one more attempt to the recipients than the entered value.</p> <p>Note: Escalation message alerts stop after sending the maximum number of messages to the last populated level in the table.</p>
Continue Notifications	Recipients continue to receive message alerts in conjunction with the next level or levels once escalation occurs.

Example: A doctor's office has an "on call hours" voicemail box. When leaving voicemail messages in this box, the system sends the notification to the assigned doctor to answer after hour emergencies. If the doctor does not retrieve the call within X minutes, the system sends an escalation message to the next set of backup doctors.

# 21 Key System Behavior

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The Allworx Server Administrator can configure the Allworx server and Allworx IP phones to behave like a Key System.

Example Configuration:

Requirement	<p>An insurance agent called Best Insurance has 3 CO lines. The staffed office has five employees, each having an Allworx phone. The system behaves like a Key System with a PFK on each phone mapped to each of the CO lines. Using the PFK, each user can monitor and directly answer each of the CO lines. If unanswered, an incoming call should ring 6 times before routing to a central (not individual user) voicemail for the office.</p>
Configuration	<p>Create a generic user on the system to receive the central voicemail for the office. Call the user "Best Insurance".</p> <p>Create a system extension to route all incoming calls. Set up the call route so that it has one connection attempt with Key System Ring Delay so the Call Appearance (phone) that rings 6 times. Configure the call route Finally Route to transfer to voicemail for user "Best Insurance".</p> <p>For each CO line, check the <b>Enable Line Appearance</b> box on the <b>Phone System &gt; Outside Lines &gt; Modify</b> page. Configure the call route for each CO line so all calls go to the created system extension.</p> <p>For each Allworx phone, configure a Line Appearance PFK for each CO line. See "Configure Allworx Phones" on page 69.</p>



## 22 Direct Inward Dialing (DID)

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Direct inward dialing (DID) is a service offered by a local telephone company that provides a block of phone numbers for calling into a PBX without requiring a physical line for each number. In cooperation with the PBX, map each number to a PBX extension. Each PBX user has a unique outside number used to ring the user's phone directly, rather than directing the incoming call to an Auto Attendant.

There are three steps to configuring the Allworx server for DID service:

1. Create a DID block.
2. Configure the call routing plan for the DID block.
3. Create a DID line for each DID trunk line plugged into the server.

### To create a DID Block:

1. Login to the Allworx server admin page, navigate to **Phone System > Outside Lines**, and locate the Direct Inward Dial Blocks section.
2. Click the **add new DID Block** link.
3. Enter the Starting Phone Number and Total number of phone numbers in the DID Block fields specified by the telephone company.
4. Click **Add** when complete.

<b>Note:</b>	If the site phone numbers are scattered over a range of numbers, create DID blocks for each individual or grouping of phone numbers. However, it is preferable to create a larger DID block that spans multiple DID ranges, even if many of the numbers in the block are not in use. Doing so makes management of the blocks easier. Also, since there is a limit to the number of assigned DID blocks to any outside line (128 blocks per line), combining DID numbers into larger blocks avoids reaching this limit.
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### To configure a Call Routing Plan for the DID Block:

1. Create the DID block.

2. Log in to the Allworx server admin page, navigate to **Phone System > Outside Lines**, and look at the Direct Inward Dial Blocks section to find the name of the routing plan associated with the block.
3. Locate the Routing Plan, and click the **Details** link in the action column.

The routing plan specifies a mapping for each DID phone number to an Allworx server extension. The plan also enables entry of a Dialed Number Identification Service (DNIS) name for each phone number. The DNIS name displays on the recipient's Allworx phone. If there is no DNIS name entered, the originally dialed number displays on the phone. The system uses the Default Extension as the mapping for any unassigned phone numbers to an extension.



## 23 Emergency Support

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### 23.1 Emergency Dial Plan

**Important:**

By default, when servers are in the default configuration in PBX mode, users must dial the external line access digit before the emergency phone number (i.e. 9 911), in order to connect an emergency call. The Allworx Server Administrator can configure servers to enable users to dial the emergency number without having to dial the outside line access digit.

**To enable direct dialing of emergency numbers:**

1. Log in to the Allworx server admin page, navigate to **Phone System > Dial Plan**, and locate the External Dialing Rules section.
2. Locate the table labeled Type of Emergency, and click **Modify**.
3. Check the **Dial Direct** box. Change the Emergency Dialed Number, if it is incorrect.
4. Click the **Update** button.

### 23.2 Emergency Handset Caller ID

The Allworx Server Administrator can assign an Emergency Caller ID (CID) number to each Allworx handset. When dialing an emergency number from the handset, the Emergency CID passes to the emergency call center instead of the normally used CID. For those employees not located at the main site, the properly configured Emergency CID helps the emergency call center identify the location of the handset placing the call.

<b>Caution:</b>	Setting Emergency Caller IDs for placing emergency calls on a CO line will not work. The Emergency CID does not override the Caller ID of the CO line.
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<b>Caution:</b>	If using SIP trunks or PRI lines, check with the provider to determine what Caller ID numbers to use, if any, or to configure additional phone numbers to use as caller IDs for emergency calls. After setting up Emergency Caller ID numbers on the Allworx server, test every number by calling the emergency phone number (e.g. 911). Use a phone configured to use that caller ID to ensure that the emergency calls connect, route to the correct emergency call center, and the call center can independently determine the location of the handset from the placed call. Advise the call center that these test calls are non-emergency calls that are testing the phone system.
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In order to configure Emergency Caller IDs for specific handsets, define an Emergency Caller ID, and then assign it to the handsets. Give each Emergency CID a Location name and associate each with a Service Group for use when placing an emergency call. When choosing "Use External Dialing Rules" as the Service Group, the system selects the outside line or Service Group based on the area code of the Emergency CID number.

## 23.2.1 Add Emergency Caller ID Numbers

To add Emergency Caller ID numbers to the Allworx system:

1. Log in to the Allworx server admin page, navigate to **Phone System > Emergency CID**, and locate the Emergency Caller ID Numbers section.
2. Click the **add new Caller ID Number** link.
3. Enter the Caller ID number and Location in the appropriate fields. Use a descriptive name for the location of the handset(s) that use this Caller ID.
4. Select a Service Group from the drop-down list.
5. Select the **Add** button.

Assign the configured Emergency Caller IDs to handsets using any of three different methods: through the Allworx server admin page, through the handset admin page or from the handset's CONFIG menu. Users can assign a Caller ID/Location to more than one handset.

<b>Note:</b>	Assigned Emergency Caller IDs via the phone admin page or its CONFIG menu overrides the CID number for the handset, if assigned on the server.
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1. Log in to the Allworx server admin page, and navigate to **Phone System**.

- **Emergency CID.** The page displays all handsets on the system in the table under the Handset Emergency Caller ID Number Assignments section. Click the **Modify** link, and then select a Caller ID Number from the drop-down list.
  - **Handsets.** Locate the specific handset, and click the link with the IP address. This opens an Allworx system administration window. Navigate to the **Configuration > Preferences** page, and then select the **Modify** link. Locate the Emergency Caller ID Number, and enter a new or existing CID number.
2. Click **Update**. If using the second option, the system requires a phone reboot to display the changes on the servers admin page.

<b>Note:</b>	When assigning an Emergency CID number to a handset from the Allworx server admin page, the Caller ID number does not display on the phone admin page or under the CONFIG menu.
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#### From the handset CONFIG menu:

1. Press the CONFIG soft key, and use the UP/DOWN arrow buttons to scroll through the menu.
2. Highlight PREFERENCES and press the SELECT button.
3. Use the UP/DOWN arrow buttons to select the Emergency Caller ID Number option, and press the SELECT button.
4. Enter the Emergency Caller ID number, and press the SELECT button
5. Press the EXIT soft key repeatedly until Save to Flash displays.
6. Press the YES soft key.
7. Reboot the phone

### 23.2.2 Emergency CID displayed on Admin page

When adding a new Emergency Caller ID number via the phone admin page or CONFIG menu, the server creates an Emergency CID entry in the Emergency Caller ID Numbers table on the Allworx server admin page and displays it in green text. Log in to the Allworx server admin page and navigate to **Phone System > Emergency CID** to see if the Emergency CID was set on any handsets.

The system uses the Description of the handset as the Location and the Service Group

is set to 'All Trunk Devices'.

Select the show details link to the previously assigned Emergency CID (if any) for each handset. To return to the previously assigned Emergency CID, delete the Caller ID number using the phone admin page or CONFIG menu.

Emergency Caller ID Numbers <a href="#">add new Caller ID Number</a>			
Caller ID Number	Location	Service Group	Action
(315) 597-1111	Mary's House	Verizon (Co)	<a href="#">Modify</a> <a href="#">Delete</a>
(585) 421-3850	Rochester	All Trunk Devices	<a href="#">Modify</a> <a href="#">Delete</a>
(585) 421-5555	Alex Smith	All Trunk Devices	<a href="#">Modify</a> <a href="#">Delete</a>
(716) 555-1234	Buffalo	Use External Dialing Rules	<a href="#">Modify</a> <a href="#">Delete</a>

Handset Emergency Caller ID Number Assignments <a href="#">hide details</a>				
Numbers in <b>bold green</b> have been specified at the handset.				
Handset	Caller ID Number	Location	Service Group	Action
000add820020	<i>Emergency Caller ID not specified</i>			<a href="#">Modify</a>
Alex Smith	<b>(585) 421-5555</b> <small>(585) 421-3850</small>	Alex Smith	All Trunk Devices	<a href="#">Modify</a>
Mary Copper	(315) 597-1111	Mary's House	Verizon (Co)	<a href="#">Modify</a>

## 23.3 Delete an Emergency Caller ID

Users can delete Emergency CID numbers by clicking on the Delete links. However, users cannot delete Emergency CIDs with assigned handsets. Therefore, assign all handsets to another Emergency CID prior to deleting.

## 23.4 Emergency Alerts

The 911 Alert feature sends audible and visual alerts to designated handsets immediately after making an emergency call from any local or remote handset. Additionally, the Allworx server supports email and SMS message notification of emergency calls.

To configure handsets to receive 911 alerts, assign an Emergency Alert PFK. When placing an emergency call from a handset on the system, handsets with the PFK

produce an audible beeping and display:

- Owner of the handset which placed the call
- Station number of the handset the call originated from
- Date / time of the call

Status	Pressing the PFK
Active Alert	Acknowledges the alert, silences the audible beep and removes the alert information from the display screen.
Inactive Alert	Retrieve information of the last alert stored on the handset.
Rebooting the handset	Removes stored alert details from the handset.

The Allworx server automatically acknowledges active alerts by silencing the beeping on all handsets after 10 minutes and by removing alert information from each handset display screen after 60 minutes. If placing additional emergency calls from other handsets within 15 seconds, the server ignores the new alerts. The handset stores the next emergency call placed after the 15 second time period displays once the user or system acknowledges the first alert. The user can acknowledge an alert by pressing the PFK or CLEAR soft key

Emergency alerts supersede any handset functionality (e.g. placing/receiving a call, logged into message center), except when the user of the handset is in an admin menu (e.g. viewing directory, CONFIG menu settings, changing presence setting). In this case, the PFK blinks. Once the user exits the menu screens, the handset propagates the alert audible beeping and information.

<b>Note:</b>	Calls do not disconnect when an Emergency alert is propagated to the handset.
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## 23.5 Emergency Call Email Notifications

The Allworx Server Administrator can configure the Allworx server to send out text notifications to email and SMS accounts when placing an emergency call. The notifications include the user assigned to the handset (station number, for unowned handsets) and the date / time of the call.

### To enable Emergency Call Email Notifications:

1. Log in to the Allworx server admin page, navigate to the **Phone System > Dial Plan**, and locate the External Dialing Rules section.

2. Locate the Emergency Call Email Notifications are not enabled line.
3. Click the **Modify** link. The Modify Email Emergency Call Notification page displays.
4. Check the Enable Email Notifications of Emergency Calls, and then enter the recipients of the notifications in the text fields. Valid entries include username, message alias, email address, and SMS address (cell number and domain).
5. Click **Update**. The Dial Plan displays.

## 24 Call Supervision

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Accomplish the Call Supervision through a PFK configured on the supervisor's Allworx phone. Program the PFK for Barge in, Silent Monitor or Whisper Mode. In addition, enable the agent phone for supervision by modifying the agent Call Supervision setting of the Handset Preference Group.

To initiate supervision, the supervisor presses the Call Supervision PFK and enters the agent's extension. If the supervisor has a BLF PFK for the agent, press the Call Supervision PFK followed by the BLF PFK to initiate the session. There is no indication on the agent's phone that supervision is in progress.

- **Barge in** – After connecting the call, both participants in the call hear anything the supervisor says. The supervisor can transition to silent monitoring by pressing the Mute button on the phone.
- **Whisper** (available to agents using Allworx 9202E and 9204 handsets only) – Only the agent hears sounds from the supervisor's phone, not the other participant. The supervisor's MUTE button controls audio going to the agent. The supervisor cannot to initiate two-way communications with the other participant.
- **Silent Monitor** – Either party in the call does not hear sounds from the supervisor's phone. The supervisor's handset enables the Mute button and lights red. The supervisor can speak to the participants of the monitored call at any time by pressing (disabling) the Mute button.

### Important Notes

- The supervised call terminates when the original call ends.
- The supervised call terminates if the agent parks the call or puts it on hold.
- The supervisor can put the call on hold without terminating the supervised call.
- The supervisor cannot park or transfer the call to another phone.
- The supervisor can conference in another participant.
- The supervisor must press the MUTE button to maintain the silence when in Silent Monitor mode. Otherwise, the participants hear anything spoken.
- The agent cannot conference-in another party while the supervised call is in progress unless the agent is using an Allworx 9204 phone. The agent cannot initiate a conference during a supervised calling Whisper mode.

- The agent cannot record a call using Allworx Call Assistant during a supervised call unless the agent is using an Allworx 9204 phone. The agent cannot record a call during a supervised call in Whisper mode.
- The Call History on the agent's handset will not have any record of that call.
- The supervised calls appear as normal calls between stations in the server Call Detail Records.
- The original call and supervised call display as separate calls in the Live Calls and Call Assistant Active Calls tab.
- Whisper mode requires that the agent have an Allworx 9202E or 9204 Phone.



## 25 Business Schedules

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Use Business Schedules to control playing the greetings for callers to the Auto Attendants based on the time of day, and to switch between Day and Night call routes for System Extensions. A Schedule consists of defined daily periods and their associated Day/Night Modes and Auto Attendant Greeting Names. The Allworx Server Administrator can define multiple schedules and configure each Auto Attendant or System Extension to follow any one of the Schedules defined.

### 25.1 Automatic/Manual Control

The purpose of Business Schedules is to change Modes and Greetings automatically, based on the Allworx server system clock. It is possible to disable the automatic control and manually change Modes and Greetings.

#### To switch to manual control:

1. Log in to the Allworx server admin page, navigate to **Business > Schedules**, and locate the Schedule to configure.
2. Click the **modify** link, next to Mode/Greeting Control for the Schedule and select Manual from the drop-down list box.
3. Click **Update** to save the changes.

Once configured for manual control, the Allworx Server Administrator can change the Modes and Greetings for the Schedule using either of the following options:

- **Admin Control:** To change: log in to the Allworx server admin page, navigate to **Business > Schedules**, and locate the Schedule to modify. Click the **+** sign to open the schedule, and click the **modify** link next to the "Schedule is currently set to" line at the top of the Schedule.
- **Define a Schedule PFK on a handset.** To change: the user of the handset can press the PFK to set the Mode and Greeting. See "Programmable Function Keys (PFKs)" on page 82. for more information.

<b>Note:</b>	Even if configuring the Schedule for automatic control, use a Schedule PFK to override the current Mode and Greeting. If overridden, control of the Mode and Greeting returns to the Schedule when the next defined time period begins.
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## 25.1.1 Assigning Schedules

If selecting the Manual schedule, the user must set the mode/greeting via the handset schedule PFK.

### To assign a schedule to an Auto Attendant:

1. Log in to the Allworx server admin page, navigate to **Phone System > Auto Attendants**, locate the Auto Attendant to modify.
2. Click the **modify** link.
3. Assign the schedule created for the Auto Attendant.
4. Click **Update** to save the changes.
5. Record each greeting using a handset, see “Record Auto Attendant Greetings and Messages” on page 181, or import the audio greetings for that Auto Attendant that corresponds to the greeting(s) assigned to that schedule in Step 3. E.g., For the Customer Support Auto Attendant, create recordings for:
  - Open: “If you have billing questions, press 1 now ...”
  - Closed: “Customer Support is now closed and will reopen at 8 am ...”
  - Lunch: “We are closed for lunch and will return at 1 PM ...”
  - 3-day Weekend: “We are closed and will reopen Tuesday Morning at 8AM.”
6. Repeat steps 2 through 5 for any additional Auto Attendants that require a different schedule than the first one.

The steps above changes the audio recording an incoming caller hears, appropriate for the time of day.

Use Schedules to control the routing of System Extensions. For example, an extension that normally rings a group of users during the day can be set to go directly to voicemail at night.

### To create a weekly and holiday time schedule:

If assigning Auto Attendants to different departments or businesses that have different schedules, the Allworx Server Administrator can create a different schedule for each Auto Attendant.

1. Log in to the Allworx server admin page, navigate to **Business > Schedules**.
2. Click the **+** sign by schedule 0: Default, and then click **copy**. A new schedule displays in the list.
3. Click the **modify** link, and update the schedule description.
4. Update the Mode/Greeting Control from the drop-down list; see “Automatic/Manual Control” on page 173.
5. Click **Update** to save the changes.

If selecting the Automatic schedule, a daily calendar opens to assign Start, End, Mode, and Greeting requirements, see “Greetings” on page 175.

Each Auto Attendant and Business Schedule can use up to nine (9) different greetings. The greetings are numbered 0– 8. Greeting 0 has a fixed description of “Open” and Greeting 1 has a fixed description of “Closed”. Assign a meaningful description to the other greetings (2 through 8).

## 25.1.2 Greetings

Each Auto Attendant and Business Schedule can use up to nine (9) different greetings. The greetings numbers are 0– 8. Greeting 0 has a fixed description of “Open” and Greeting 1 has a fixed description of “Closed”. Assign a meaningful description to the other greetings (2 through 8).

### To assign greeting names:

1. Log in to the Allworx server admin page, navigate to **Business > Schedules**.
2. Click **Modify** in the Greetings section.
3. Enter the new name in the field.
4. Click **Update** to save the changes.

### To assign greetings:

1. Log in to the Allworx server admin page, navigate to **Business > Schedules > Greetings**.

2. Click the **+** sign by Greetings, and then click the **modify** link.
3. Assign a meaningful description to each of the nine numbered greetings (e.g. Open, Closed, Lunch, 3-day weekend) or number.
4. Click **Update** to save the changes.

While all Schedules and Auto Attendants share the same nine greeting numbers and descriptions, each Auto Attendant can have its own version of the greeting audio. For example, the Allworx Server Administrator assigns Auto Attendants to different departments, Support uses Auto Attendant 1 that opens at 8:00AM and Sales uses Auto Attendant 2 that opens at 9:00 AM. When using the recorded greeting during the night, both can use the Closed Greeting (Greeting 1) but use different recordings for the departments. The Auto Attendant 1 Closed greeting can say that Support opens at 8. The Auto Attendant 2 Closed greeting can say that Sales opens at 9.

In this way, each Auto Attendant can have nine unique recordings for each of the nine standard Greetings. If all nine Auto Attendants are in use, there is a total of  $9 \times 9 = 81$  audio greeting files.

<b>Note:</b>	The system supports playing additional messages. See "Record Auto Attendant Greetings and Messages" on page 181 for additional information on Auto Attendant messages.
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## 25.2 Create and Modify Schedules

The system defines a default Business Schedule (Schedule 0) at installation that users cannot delete. The pre-configuration is Open Monday through Friday, 8:00 – 5:00. The system assigns Greeting 0 for the Open times. The system designates all other hours as Closed which uses Greeting 1.

### To view the details of Schedule 0:

1. Log in to the Allworx server admin page and navigate to **Business > Schedules**.
2. Click the **+** sign next to Schedule.
3. Click the **modify** link for any day of the week. If necessary, change Start and End times, add new periods or holidays, assign Modes ("Call Routing Modes" on page 177), and assign Greetings ("Greetings" on page 175).

Save steps by modifying one day and copying the changes to other days within

the same Schedule. Click the **copy** link and select the days that use the same periods.

4. Create new schedules by copying existing ones (e.g. copy Schedule 0 to create Schedule 1). Click the **Copy** button next to any Schedule's heading and the system creates a new Schedule to modify for its intended use.

The Allworx Server Administrator can copy all of the holidays from one Schedule to other Schedules. This is useful when setting up holidays with new dates for a new year if several defined Schedules are available. To avoid having to update each Schedule manually with the holiday changes, update one of the Schedules, and then click the **copy holidays** link.

The system provides a list of check boxes for all of the defined Schedules. Select the schedules to copy, and then click the **Copy** button.

## 25.3 Call Routing Modes

Assign one of two Modes (Day or Night) to each period in the Schedule. Use the mode to control the routing of calls to System Extensions (See "Business Schedule Mode Routes" on page 154.). Assign a Schedule to any system extension, and then configure separate Day and Night call routes for the extension. Route calls to the extension based on the current Mode for the assigned Schedule.



## 26 Auto Attendants

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Auto Attendants answer incoming calls automatically and help direct callers to the person or department they want. Callers can listen to a list of services, and then use the dial by name option to connect to an employee directly, or listen to the company phone directory for the extension of an employee.

The Allworx Server Administrator can set up from 1 to 9 Auto Attendants depending on customer needs and assign each Auto Attendant to one or more CO Lines, DID Lines, SIP Proxies, SIP Gateways, or Digital Lines. For example, use one Auto Attendant to answer calls for Sales and another for Support. In this case, route the Sales phone number to the first Auto Attendant and the Support phone number to the second.

Record Greetings for each Auto Attendant and the configure greetings to change, according to the time of day.

### 26.1 Configure the Auto Attendant

**To configure an Auto Attendant:**

1. Log in to the Allworx server admin page, navigate to **Phone System > Auto Attendants**. The system numbers the nine Auto Attendants as 431 to 439<sup>1</sup>. The list of Auto Attendants displays the attributes assigned to each one.
2. Click the **Modify** link for the Auto Attendant to configure. The Allworx server admin page only displays relevant options. Therefore, selecting or deselecting an option may alter the ability to view the options listed below.

Field	Options	Prompt/Description (if applicable)
Description	N/A	Enter description of the Auto Attendant.
Schedule	List of Business Schedules	Select the Schedule created for switching greetings.
Include Remote Users	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled (Default)</li> </ul>	For Multi-site networks. Enable this to include users from other sites in Dial-By-Name.
Dial-By-Name Menu (#1)	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled (Default)</li> </ul>	Enable callers to type the spelling of a username based on the setting in the Dial-By-Name Spell Option field.

1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions to use for the corresponding feature.

Field	Options	Prompt/Description (if applicable)
Dial-By-Name Prompt	<ul style="list-style-type: none"> <li>Do not play</li> <li>Play (Default)</li> </ul>	Prompt: Press 1 to dial by name.
Dial-By-Name Spell Options	<ul style="list-style-type: none"> <li>spell first or last name</li> <li>spell last name</li> <li>spell first name</li> </ul>	Select the spelling method for the Dial-By-Name option.
Dial-By Directory Menu (#2)	<ul style="list-style-type: none"> <li>Disabled</li> <li>Enabled (Default)</li> </ul>	Enable the caller to listen to a list of users and extensions, and then enter an extension. Note: The system automatically disables Dial-By-Directory if there are more than 50 users assigned to the Auto Attendant
Dial-By-Directory Prompt	<ul style="list-style-type: none"> <li>Do not play</li> <li>Play (default)</li> </ul>	Prompt: Press 2 for a listing of all users and extensions. Note: The system automatically disables Dial-By-Directory if there are more than 50 users assigned to the Auto Attendant.
Dial-By-Directory List Order	<ul style="list-style-type: none"> <li>List in extension order</li> <li>List in name order</li> </ul>	Controls the order in which the directory is spoken.
Dial It Now Prompt	<ul style="list-style-type: none"> <li>Do not play</li> <li>Play (default)</li> </ul>	Prompt: If you know your party's extension you may dial it now.
End Call Prompt	<ul style="list-style-type: none"> <li>Do not play</li> <li>Play (default)</li> </ul>	Prompt: Press 9 or hang up to end your call.
Repeat Options Prompt	<ul style="list-style-type: none"> <li>Do not play</li> <li>Play (default)</li> </ul>	Prompt: Press * to listen to these choices again.
Speed Dial Numbers	<ul style="list-style-type: none"> <li>Allowed</li> <li>Not Allowed (default)</li> </ul>	(support for dialing 350-399, 34000-34999 <sup>1</sup> from main menu) (listed as *250-*299 AND *24000-*24999)
Default Extension	Select an option from the drop-down list.	Only transfers to this extension if there is no answer within 8 seconds.

<sup>1</sup> Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions to use for the corresponding feature.

The Allworx Server Administrator can configure the Auto Attendant to enable dialing digits 0 through 9 as single-digit Menu Shortcuts. Dialing the digit transfers a caller to a designated extension or another Auto Attendant. Select an extension in the drop-down menu for the corresponding digit.

The default assignment is '0 – operator'.<sup>1</sup>

### 3. Click **Update** to save the settings.

- Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions are to for the corresponding feature.



## 26.2 Record Auto Attendant Greetings and Messages

In addition to the built-in prompts, Auto Attendants play either built-in or site-specific greetings. Users can record the greetings Offline, and then import the greetings into the system see “Import Auto Attendant Greetings and Messages” on page 183 for more information. As an alternative, users can record greetings using the phone through the Message Center. Users can record nine (9) greetings and one (1) custom message for each Auto Attendant.

The system plays the greetings, messages, and prompts in this order:

- Business Schedule Greeting – based on the current time of day (See “Business Schedules” on page 173.).
- Custom Message (This does NOT change based on the Business Schedule)
- Other selected, built-in prompts.

<b>Note:</b>	When routing a caller to an Auto Attendant after playing all prompts, if the caller presses * to hear the selections again, the system skips the Business Schedule Greeting.
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A user with Recording Manager Permission can manage greetings and messages for Auto Attendants and Call Queues using the Message Center for individual Auto Attendants and Call Queues

### To enable recording privileges:

1. Log in to the Allworx server admin page, navigate to **Business > Users**. Locate the user and select the **Modify** link.
2. Locate and select:
  - **Roles** - select System Administrator or Phone Administrator, user is a Recording Manager for all Auto Attendants and Call Queues.
  - **Recording Manager** - select the corresponding Auto Attendant or Call Queue, user is a Recording Manager for specified areas.
3. Click **Update** to save changes.

### To record a new greeting or custom message:

<b>Note:</b>	To modify system greetings (Auto Attendant) or custom messages, the user (not the Server Administrator) must have System Administrator or Phone Administrator roles assigned.
<b>Note:</b>	Allworx does not recommend using an Allworx Reach handset to record new greetings or queue messages as the ability of the server to record greetings is intolerant of network packet loss. As a result, recordings made via lossy networks may have impaired quality. Local or wired networks are best for making these recordings.
<b>Note:</b>	For systems with Dual Language Support: Users cannot change languages within the Message Center. To record new messages in a second language, select an option: <ul style="list-style-type: none"> <li>• Setup an account configured for the secondary language, and then record the greetings using that account.</li> <li>• Temporarily modify the user's default language to match the secondary language of the system.</li> </ul>

1. Dial the Message Center extension (404<sup>1</sup>).
2. Log in using the assigned extension and PIN code.
3. Press 9 to manage greetings, and then press 1 to manage Auto Attendant greetings.
4. Follow the prompts to record the greeting or custom messages for the preferred Auto Attendant.
5. Press 1 to manage the greetings for the selected Auto Attendant.
  - a. Enter the number (1-9) of the greeting to record.
  - b. Press 1 to record a new greeting.
  - c. Record the new greeting and press '#' when complete.
  - d. Press 1 to save the greeting.
6. Press 1 to record additional greetings or press # to go to the previous menu to manage other Auto Attendants.

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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions to use for the corresponding feature.

- Press 2 to manage the custom message for the Auto Attendant.

Greeting	Sample Script
Greeting 0 (Open)	Welcome to <your company name>, your best source for <product>. Dial 1 for store hours and directions. Dial 2 for Sales. Dial 3 for Service. Dial 0 to reach the operator.
Greeting 1 (Closed)	Welcome to <your company name>, your best source for <product>. We are currently closed, but we will re-open at <opening time>. Our hours are <hours of operation>. If you know your party's extension, you may dial it now. You may also leave a message in our general mailbox at extension <number>.
Custom	<Your company name> is the premier provider of <products>. We specialize in <specialty>. Our latest product is...

## 26.3 Import Auto Attendant Greetings and Messages

Import the off-line recorded greetings and messages onto the Allworx system as electronic files. The files use a particular internal format and have a specific file name format. The file names must use the following convention:

aa#x.snd, where: '#' is the Auto Attendant number '1' through '9',

'x' is replaced with the Greeting number ('0' through '9') or 'c' for Custom Message. (Use '0' for the Open Greeting, '1' Closed Greeting).

For example, the filename for Greeting 0 (Open) for Auto Attendant 2 is **aa20.snd**.

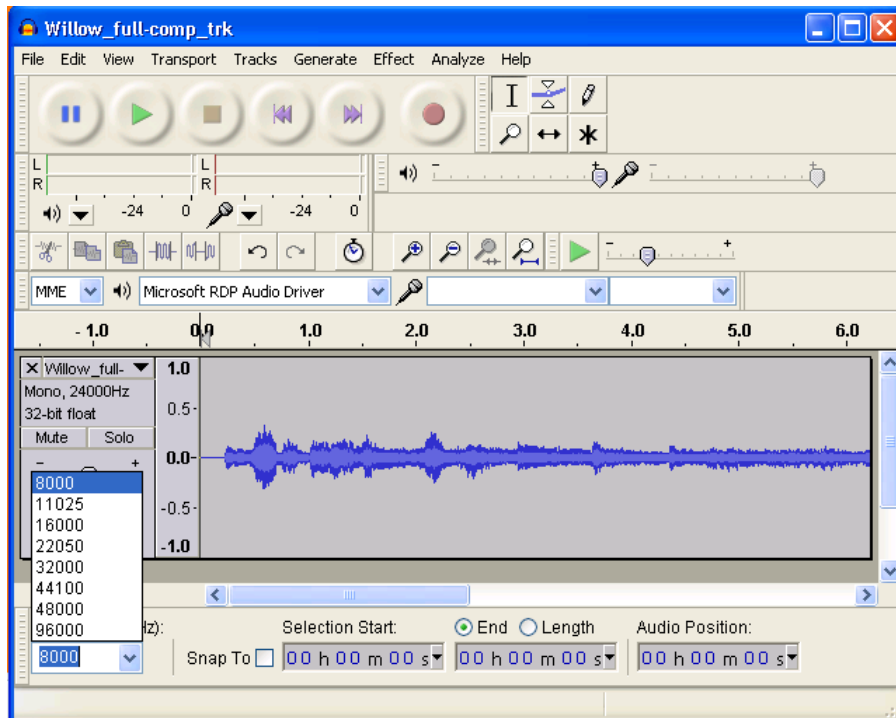
## 26.4 File Format Conversion

Files must be Telephony, raw, mu-law (u-law), mono, 8-bits per sample, 8KHz sample rate.

There are a number of existing software applications to convert other formats into the required format. The following procedure uses the sound editing application Audacity (v1.3.14 Beta) to convert an mp3 file. Conversion of other formats is similar. Audacity is a free, open-source application. The application and associated user documentation is available at <http://audacity.sourceforge.net>:

- Open an mp3 audio file in Audacity.

- Click **Tracks > Stereo Track to Mono**, and change the Project Rate (Hz) value to 8000.



- Click **File > Export > Save as type**. Select the **Other** uncompressed files option.
- Name the file with an **.snd** extension and select **Options**.
- Change the settings:
  - Header: RAW (header-less)
  - Encoding: U-Law
- Click the **OK** button.

- Click **Save**. The Edit Metadata dialog box opens. Leave all fields blank, and click **OK**.

Tag	Value
Artist Name	
Track Title	
Album Title	
Track Number	
Year	
Genre	
Comments	

## 26.5 Import Greetings and Messages

Use FTP to copy files onto the Allworx server. See “FTP File Transfer” on page 35 for more information about enabling FTP on the Allworx server. This document does not discuss FTP file transfers.

### To import the files:

- Navigate to the converted greetings and messages local folder location within the FTP program for the input folder.
- Navigate to //**<Allworx Server LAN IP Address>**/prompts (e.g. //192.168.2.254/prompts) within the FTP program for the destination folder.
- Transfer the greetings and messages files to the prompts folder using Binary transfer.
- Log in to the Allworx server admin page and navigate to **Phone System > Auto Attendants**.
- Click the **manage** link at the top of the page. The Manage Custom Recordings page displays.

6. Click **Load** for Primary Language custom recordings. The files are available for use.

<b>Note:</b>	If the system is using the Dual Language Support feature, click Load for the language in which the messages and greetings are recorded. See "Dual Language Support" on page 191 for more information.
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## 26.6 Assign the Auto Attendant to an Outside Line

The default Auto Attendant determines this setting when selected in the configuration of the outside line.

### To assign the auto attendant to an outside line:

1. Log in to the Allworx server admin page, navigate to **Phone System > Outside Lines**, and click **Modify** next to the outside line for the Auto Attendant to answer.
2. Locate the Call Route section, and select **Auto Attendant**.
3. Locate the Default Auto Attendant, click the drop-down arrow, and select the Auto Attendant to answer incoming calls on this line.
4. Click **Update** to save settings.

Follow the same procedure for any of the outside lines, including SIP Gateways and SIP Proxies.

## 27 Call Monitors

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Call Monitors are call routing destinations that enable one call to ring multiple phones. Multiple calls can ring a single Call Monitor. Calls are answered in first in, first out (FIFO) order.

Features of Call Monitors:

- Ring multiple Allworx IP phones on the system with a single call.
- Stack multiple ringing calls to a single Call Monitor extension.
- Up to ten available Call Monitors.
- Configure Allworx handsets for multiple Call Monitors.
- Configure Allworx handsets for multiple occurrences of the same Call Monitor.
- Configuring a Call Monitor

### 27.1 Modify the Call Monitor Description

To modify the description of the Call Monitors:

1. Log in to the Allworx server admin page, navigate to **Phone System > Call Monitors**.
2. Locate the Action section, and then select **Modify**. The system supports up to ten Call Monitors.
3. Click **Update** to accept the new description and return to the Call Monitor screen.

### 27.2 Set up the Call Monitor in the Call Route

The system programs call monitors into call routes via a selection on the call routing configuration screen.

To assign a call monitor to a specific extension or call route:

1. Log in to the Allworx server admin page, navigate to **Phone System > Extensions**, and locate the extension.

2. Locate the Actions section, and click **View Call Routes**.
3. Click **Modify** for the first Call Route.
4. Click **add a connection attempt**, if none are available. Under First connection attempted (or any of the connection attempts), select the applicable Call Monitor from the drop-down list and select the number of rings.
5. Press **Update** to save changes.

Like all other call routes, Call Monitors can have multiple connection attempts and terminate when the user hangs up, transfers to Auto Attendant, transfers to voicemail, transfers to queue, and dials a number after completing the connection attempts.

<b>Note:</b>	Users can program one or more Call Monitors into a call route.
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## 27.3 Configure Call Monitor with an Allworx IP Phone

Configure the Allworx IP phone Programmable Function Keys (PFK) to display the status of and answer a Call Monitor. All phones with a PFK defined for a particular Call Monitor ring when routing a call to that Call Monitor.

### To configure the PFK:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handset**, and locate the SIP Handset.
2. Click the **View Configuration** link.
3. Locate the Programmable Function Keys (PFK) section, and click **Modify**.
4. Select Call Monitor from the drop-down list for the targeted PFK.
5. Locate the Type heading, and click **define** for this Key.
6. Select the applicable Call Monitor for the PFK from the Monitor drop-down list.
7. Click the drop-down arrow, and select the Ring Type. This sets a unique ring so the user can distinguish Call Monitor calls from other calls to this phone.



8. Click **Done** to complete the assignment.
9. Click **Update** to save the new PFK setting.

In addition, the Allworx Server Administrator can program an Allworx IP phone to display:

- Multiple Call Monitors per phone to track more than one Call Monitor.
- Multiple occurrences of the same Call Monitor. This enables a user to take more than one call at a time from the same Call Monitor, so avoid missing additional calls while attending to the current call.

## 27.4 Configure Calls to Route to the Call Monitor

A call enters a Call Monitor when routed from a system or user extension. Therefore, configuring the server so that inbound calls enter a Call Monitor is the same as configuring it for any inbound call routing. Use the same features for the handling of any inbound call to route a call to a Call Monitor:

Send the outside call to the Auto Attendant or route directly to the Call Monitor extension.

If the call goes to the Auto Attendant, a menu shortcut can be set up to route the call to the Call Monitor extension.

See “Basic Routing” on page 149. for information on setting up call routes. Both user extensions and system extensions can be set up to route a call to a Call Monitor.

### To configure calls to route to the call monitor:

1. Log in to the Allworx server admin page, navigate to the **Phone System > Auto Attendants**, and locate the Auto Attendant to configure.
2. Click the **Modify** link.

Example 1: Call Routing to Auto Attendant ,and then Call Monitor

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Requirements	The inbound call comes in to the Auto Attendant. The custom Auto Attendant greeting includes, “For marketing, press 3.” When the caller presses 3, the line starts ringing the Call Monitor key for the marketing group phones.
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Configuration	<p>The inbound call comes in on an outside line. The outside line call route is set to route calls to the Auto Attendant.</p> <p>Create a system extension for a Marketing monitor on the first connection attempt.</p> <p>Configure a Call Monitor Programmable Function Key for each of the marketing group phones.</p> <p>An Auto Attendant custom-recorded greeting tells the callers to press 3 to reach marketing group.</p> <p>An Auto Attendant menu shortcut is configured so that digit 3 calls the Marketing group extension.</p>
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### Example 2: Call Routing to Call Monitor and then Transfer to a Call Queue

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Requirements	The inbound call rings directly to a Support Call Monitor. If not answered, the call transfers to the Customer Support queue.
Configuration	<p>Create a Customer Support system extension using the Support Call Monitor on the first connection attempt, and that then transfers to the Customer Support queue.</p> <p>The inbound call comes in on an outside line. The outside line call route is set to route calls directly to the Customer Support system extension.</p>

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## 28 Dual Language Support

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The Allworx server supports having a second language in addition to US English for audio prompts heard by users of the system. The Allworx Server Administrator can configure the system to play one language in particular circumstances and a different language in others. This enables callers to switch between the two languages by pressing '##'. This is an optional feature that requires the Dual Language Support feature key.

<b>Note:</b>	Only the default audio prompts are available in languages other than US English. Text on the Allworx server admin pages and telephone displays are in English.
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Some important aspects of Dual Language support:

- US English is factory-installed as the Primary language. The Allworx Server Administrator can install a Language Pack (available from the Allworx Reseller Portal) and select it as either the Primary or Secondary language.
- Points of origin of new calls (Outside Lines, Users, and handset Call Appearances) are each assigned a language. The language is configurable but defaults to Primary.
- The Allworx Server Administrator can configure the language of the prompts played by the following call applications in the Allworx system to use the language of the call point of origin or override it with a specific language:
  - Auto Attendants
  - Queues
  - Leaving Voicemail
  - Phone Features (When dialing Call Park, Call Forward, Do Not Disturb extensions)
  - Conference Center
  - Follow Me
  - Message Center

Configure the following applications to enable users to switch languages by pressing ##.

- Auto Attendants
- Queues
- Conference Center
- Follow Me
- Message Center

The Allworx Server Administrator can configure applications that enable switching to play a language change prompt. The prompt plays in the opposite language. That is, the prompt “To switch to English, press ##” will be spoken in English when played for an Auto Attendant configured with Spanish prompts.

Custom greetings and messages for Auto Attendants and Queues can be recorded separately for the Primary and Secondary languages. The recordings are saved as Primary and Secondary and are not associated with the specific language. Therefore, if the actual language that is used as Primary changes, the original Primary custom recordings continue to be used when the system is using the new Primary language. The same is true for recordings assigned to the Secondary language. To re-assign the Primary recordings to the Secondary language and vice-versa, the recordings must be exported, and then imported to the referred language.

Calls that come into the system from Remote Allworx servers retain the language used by the remote system, unless overridden by application language settings on the local server.

<b>Note:</b>	All interconnected Allworx servers must run the same release of software and use the same languages.
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## 28.1 Install the Language Pack

The system's default language is US English. After adding the Dual Language Support feature key to the system, the Allworx Server Administrator can install additional languages.

### To install an additional language:

1. Download the language pack from the software download page of the Reseller Portal at [www.allworxportal.com](http://www.allworxportal.com).
2. Unzip the download and copy the language pack (.alp) file onto the PC.
3. Log in to the Allworx server admin page, navigate to **Phone System > Languages** and locate the Language Pack Installation and Remove section.
4. Click the **Browse** or **Choose** button.
5. Navigate to the location of the language file on the PC. Select the .alp file and click **Open**.

6. Click **Install**. After a successful installation, locate the Server Language Configuration, and click the Modify **link**.
7. Select the new language for the Primary or Secondary language.
8. Select a second available language (e.g. US English) as the Primary or Secondary language, and then click **Update**. The Languages page is displays.
9. Navigate to **Maintenance > Restart** and select Normal restart for the changes to take effect.
10. Log in to the Allworx server admin page, and navigate to the Languages page. Verify the language configurations. Using the procedures below, configure the system behavior.

## 28.2 Language Settings

### 28.2.1 Outside Lines

Each outside line has a default language. When receiving calls over an outside line, the system assigns the default language for that line. Thereafter, when the call reaches some applications within the server (e.g. Auto Attendant, Queue), the system uses or overrides the outside line language, depending on the application's language setting.

Outside line default language can be set in the following locations:

- CO Line
- SIP Proxy
- SIP Gateway
- DID Routing Plan – Default route
- DID Routing Plan – Mapped extensions
- Digital Lines – Each line

Default Language choices:

- **Primary** –the prompts play in the system Primary language.
- **Secondary** –the prompts play in the system Secondary language, if installed.
- **Use Source (DID Routing Plans only)** –the prompts play in the language choice set for the outside line using the DID Routing Plan. For example, if a SIP

Proxy default language is Secondary and the default language of the extension mapped in the DID Routing Plan is Use Source, the system assigns the calls Secondary as their language.

<b>Note:</b>	In a DID Routing Plan, if selecting a default language other than Use Source, the DID Routing Plan's default language overrides the Outside Line's language.
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#### To set the default language for an Outside Line:

1. Log in to the Allworx server admin page, navigate to **Phone System > Outside Lines** and select the CO, Digital, SIP Gateway, or SIP Proxy to configure.
2. Locate the Default Language list box.
3. Select the preferred setting from the drop-down list.
4. Click **Update** to save the configuration.

### 28.2.2 Other Sites in a Multi-site Network

The default language for calls coming from other servers in a multi-site network cannot be set. The system assigns these calls a default language on the remote server. For language selection in a multi-site installation to work properly, all servers must be running the same software version and have the Dual Language Support feature key installed.

## 28.3 Call Appearances

Use Call Appearances to originate calls. Therefore, each has a default language setting. For each phone Call Appearance, select the language that best meets the needs of the user(s) of the phone. If a phone has multiple Call Appearances, assign the Call Appearances different default languages.

When routing calls from the Call Appearance to applications within the Allworx System (e.g. Auto Attendants, Queues, Conference Center), the server uses or overrides the Call Appearance language, depending on the application's language setting.

#### To set the default language for a Call Appearance:

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the handset to configure.

2. Click on the **Modify** link for the handset.
3. Locate the Default Language list box.
4. Select the preferred language from the drop-down list.
5. Click **Update** to save the configuration.

## 28.4 Call Applications

Various applications (e.g. Auto Attendants, Queues) within the Allworx system play audio prompts.

### To control the language behavior of the prompts:

1. Log in to the Allworx server admin page, navigate to **Phone System > Languages**.
2. Locate the Call application Language Settings section, and click the **modify** link.
3. Change the following individual settings:

Option	Description
Primary	Prompts play in the Primary language. This overrides the call current language.
Secondary	Prompts play in the Secondary language, if installed. This overrides the call current language.
Automatic	Prompts play in the call current language. For calls coming from an Outside Line or Call Appearance, the system uses the default language of the call origin. If calls came from some other application (e.g. the call came into a Queue from an Auto Attendant), the system uses the language used in the previous application (e.g. Auto Attendant).

### 28.4.1 Enable Language Change

When a call reaches an application, this setting enables the caller to switch languages. To switch languages, callers must press the pound key twice (##). To enable callers to change language, for the preferred application, check the box in the Display Language Change box.

## 28.4.2 Language Change Prompt

When a call reaches an application (except for when leaving a voicemail message or when using phone features), this setting controls playing a prompt to change language using the following options:

Option	Description
Always Play	Every time a call reaches the application, in addition to the prompts normally played, the prompt plays to change the language (e.g. "To switch to English, press ##").
Never Play	The prompt to change the language does not play. This is useful when incorporating the prompt to change language into a custom greeting or message. This option is not available for Follow-Me-Anywhere prompts.
If Needed	The prompt does not play if the caller has already had a chance to change languages in a prior application. For example, if a Queue Language Change Prompt setting is If Needed and a routed call is directed to the queue from an outside line, the language change prompt plays. If the call came through an Auto Attendant that enables language changing, then the prompt would play. In this case the prompt is not played because the caller already had a chance to select their preferred language.

## 28.5 User Default Language

In addition to the settings already described, Allworx users have a default language setting. Use this language choice when accessing the Message Center and when receiving Follow-Me-Anywhere calls. The Message Center Answer Language is Automatic. If a user logs into their Message Center account, the system uses the default language, without regard to the outside line or call appearance used to access their account. Similarly with Follow-Me-Anywhere calling, if calling the Follow-Me external phone number from within the user's extension route and the user answers the call, they hear the prompts in their default language. However, if the application Answer Language is set to Primary or Secondary, that setting overrides the user's default language.

## 28.6 Custom Messages

The server enables recording, exporting, or loading Custom greetings and messages for Auto Attendants and Call Queues for either or both the Primary and Secondary languages.

By default, FTP is disabled on the Allworx server. The Allworx Server Administrator must enable this setting to import/export greetings and recordings.



**To enable or disable FTP on the Allworx server:**

<b>Note:</b>	The FTP server remains enabled for one hour after enabling it. After one hour or a server reboot, the FTP server disables access.
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1. Log in to the Allworx server admin page, and navigate to **Phone System > Languages**.
2. Locate the Manage the custom recordings played by the Auto Attendants and Call Queues line, and click the **Manage** link.
3. Locate the Managing Custom Recordings section, and click the **Enable** or **Disable** button. The server provides or denies access as requested.

See “Configure the Auto Attendant” on page 179. and “Record Auto Attendant Greetings and Messages” on page 181 for information on recording greetings and messages. Log in to the Allworx server admin page, and navigate to **Phone System > Languages > Manage Custom Recordings** for more information.

**Configuration Examples**

Example 1

A company has some clients that are English-speaking and others that are Spanish-speaking. Clients call to speak to company employees that speak the same language as they do. English-speaking clients are given one phone number while Spanish-speaking clients are given another phone number.

Configuration	System Primary Language = English System Secondary Language = Spanish CO Line 1: Default language = Primary, routed to Auto Attendant 1 CO Line 2: Default language = Secondary, routed to Auto Attendant 1 All applications: Answer Language = Automatic, Language Change = Enabled, Language Change Prompt = Always play
Result	English-speaking clients call the English phone number (CO Line 1) and route to Auto Attendant 1 where they hear English prompts as well as a prompt to switch to Spanish. Callers dial their representative’s extension. All additional prompts are in English such as the prompt to leave a voicemail or the Follow-Me-Anywhere prompt to record their name. Spanish-speaking clients call the Spanish phone number (CO Line 2) and route to Auto Attendant 1 hearing Spanish prompts as well as a prompt to switch to English. Callers dial their representative’s extension. All additional prompts are in Spanish such as the prompt to leave a voicemail or the Follow-Me-Anywhere prompt to record their name.

Example 2

A company has a Customer Support operation, and some technicians are English-speaking and some are French Canadian-speaking. The company has one incoming line for Customer Support calls.

In this example, the system directs all callers to the same Auto Attendant. English-speaking callers dial a shortcut to a support queue serviced by the English-speaking technicians. French Canadian-speaking callers switch to a second Auto Attendant and then dial a shortcut to a queue serviced by the French Canadian-speaking technicians.

Configuration	<ul style="list-style-type: none"> <li>• System Primary Language = English</li> <li>• System Secondary Language = French Canadian</li> <li>• T1 Language (all lines) = English</li> <li>• Auto Attendant 1: Answer Language = Primary, Language Change = disabled</li> <li>• Call Queue 1: Answer Language = Primary, Language Change = disabled</li> <li>• Auto Attendant 2: Answer Language = Secondary, Language Change = disabled</li> <li>• Call Queue 2: Answer Language = Secondary, Language Change = disabled</li> </ul> <p>Auto Attendant 1 has two shortcuts</p> <ul style="list-style-type: none"> <li>• Dial 1 for x432 (Auto Attendant 2)</li> <li>• Dial 2 for x4401 (Call Queue 1)</li> </ul> <p>Auto Attendant 2 has one shortcut</p> <ul style="list-style-type: none"> <li>• Dial 1 for x4402 (Call Queue 2)</li> </ul> <p>Auto Attendant 1 has a custom message that says:</p> <ul style="list-style-type: none"> <li>• "For French Canadian, press 1" (recorded in French Canadian)</li> <li>• "To speak with Customer Support, press 2" (recorded in English)</li> </ul> <p>Auto Attendant 2 has a custom message that says:</p> <ul style="list-style-type: none"> <li>• "To speak with Customer Support, press 1" (recorded in French Canadian)</li> </ul>
Result	<ul style="list-style-type: none"> <li>• The system directs callers to Auto Attendant 1 to hear an English greeting, a prompt to press 1 for French Canadian, and a prompt to press 2 for Customer Support.</li> <li>• English callers press 2 to enter Queue 1 and hear the greeting and status messages in English. An English-speaking technician services the call.</li> <li>• French Canadian callers press 1 to enter Auto Attendant 2 to hear the full greeting and prompts in French Canadian including a prompt to press 1 for Customer Support. The callers press 1 to enter Queue 2 to hear the greeting and status messages in French Canadian. A French Canadian-speaking technician services the call.</li> </ul>

## 29 Parking Orbits

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Use Parking Orbits to place a call on a system wide hold via a specially designated extension number that any other handset in the system can retrieve. For example, users can park a call from one office, walk to another location in the building, and then retrieve that call at the new location. Parking is also helpful when used in conjunction with Overhead or Zoned Paging such that another party may retrieve a parked call.

The Allworx server supports up to 59 parked calls at one time. Parking Orbit extensions between 701 and 709<sup>1</sup> and 4950-4999<sup>1</sup> hold the parked calls. When parking a call, the system assigns it the lowest available Parking Orbit number.

Servers in a Multi-site network can enable users at other sites to retrieve calls parked in its Parking Orbits. To enable this, the server must participate in Multi-site Parking Orbits. All sites that participate share 150 Multi-site Parking Orbits at extensions between 4800 and 4949<sup>1</sup>.

The Allworx Phone Guide describes how to place a call into and retrieve it from a Parking Orbit. See the Advanced Multi-site Setup Guide for information on configuring Multi-site parking.

### 29.1 Configure Call Parking Orbits

**To configure the parked call timeout (10 to 3600 seconds) and the call routing pattern at timeout:**

1. Log in to the Allworx server admin page, and navigate to **Phone System > Call Park**.
2. Locate the Call Park section, and click **modify**.
3. Transfer the call to any system extension or return to the Call Appearance of the handset that originally parked the call. By default the timeout duration is set to 600 seconds and the routing is 'Transfer call to the Default Auto Attendant'.

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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions to use for the corresponding feature.

## 29.2 Configure Allworx IP Phone Parking Orbits

Configure Allworx IP phones via Programmable Function Keys (PFK) to monitor the status of the Parking Orbits. The Parking Orbit PFK indicates the parked or idle status of the associated Parking Orbit. The Allworx Server Administrator can configure the Parking Orbit PFK to provide a reminder of a parked call.

1. Log in to the Allworx server admin page, navigate to **Phone System > Handsets**, and locate the appropriate SIP handset.
2. Click **View Configuration**.
3. Locate the Programmable Function Keys (PFK) section, and click the **Modify** link.
4. Select Parking Orbit from the drop-down list for the targeted PFK, and click **define for this Key** under Type heading.
5. Set the particular Parking Orbit (701 – 709<sup>1</sup>) for the PFK to monitor.
6. Set the Reminder Duration to ring the handset after parking the call longer than the elapsed time (enter 0 to disable the reminder or enter a time period from 10 to 600 seconds).
7. Click **Done** to complete the assignment of the PFK settings.
8. Click **Update** to save all PFK assignments. Reboot the phone. See the phone configuration section for all other details about phone configuration.

Use Analog, Allworx, and third-party IP phones to park or retrieve calls. However, only Allworx IP phones can be configured with Parking Orbit PFKs and support parked call reminders. Allworx IP phones are configurable to use the HOLD button for HOLD or PARK.

<b>Note:</b>	The only option for parking calls using analog phones or third-party IP phones is by transferring the call to extension 700. If doing an attended (or announced) transfer, the user hears the parking orbit number. Parking Orbit PFKs are not functional on phones registered at sites participating in Multi-site Parking.
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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx manager Phone Functions tab to determine what extensions to use for the corresponding feature.

## 30 Zoned Paging and Overhead Paging

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The Allworx products support two types of Paging.

- **Overhead Paging** - the audio goes out through the LINE IN/OUT jack or terminal block of the associated server. If used at a site, hook the LINE IN/OUT jack or terminal block to a paging amplifier or some sort of Public Address Announcement system.
- **Zoned Paging** - emits from a selected set of Allworx IP phones speaker. A zone refers to each set of phones that emit the same class of pages. Each handset can be in any combination of zones. Additionally, the system assigns any combination of zones to the Overhead Paging circuit so that those pages also play their audio out to the LINE IN/OUT jack or terminal block.

Allworx systems support a total of 10 paging zones via a single paging circuit. For this reason only a single zone can have an active page at any one instant in time. Users attempting to place a page while another page is in progress hear a fast busy signal.

### 30.1 Paging Amplifier and Door Release Relay

Allworx servers have an internal relay used to control a door release mechanism. This makes it possible to dial a phone extension to enable someone entry to a secured area. The relay contacts are available via the DB-9 connector (9-pin D shell serial type connector) or terminal block on the Allworx server. See the Allworx Server Installation Instructions for details.

When using the LINE IN/OUT jack, configure the relay operation mode on the **Phone System > Paging**. Locate the Paging Amplifier section, and click the **Modify** link to open the configuration page. The relay operation mode can be set exclusively to one of the following modes:

- **Door Entry System** – remotely enable access by dialing extension 403<sup>1</sup>. The relay activates for the duration of the phone call or five (5) seconds, whichever is shorter.

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1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx Manager Phone Functions tab to determine what extensions to use for the corresponding feature.

- **Paging Amplifier** – automatically activates immediately preceding each overhead page, and then turn back off once the page completes.
- **Unconnected** –completely disables the relay and it does not operate through either mechanism.

## 30.2 Paging Zone Settings

### 30.2.1 Paging Zone Names

The Allworx Server Administrator can modify the name assigned to each of the Paging Zones (0 - 9 and corresponding extensions 460 - 469<sup>1</sup>) to provide a meaningful descriptive name.

#### To change the names of the zone:

1. Log in to the Allworx server admin page, navigate to **Phone System > Paging**, and locate the Paging Zone Names section.
2. Click **Modify** to open the configuration page
3. Type a new description in the Name field corresponding to each Zone.
4. Click **Update** to save changes.

If changing the names of any Paging Zones, reboot any handsets with a PFK defined for those Paging Zones. The handsets will not use the new name until rebooted.

### 30.2.2 Pre-page Tone

Configure each Paging Zone to play a tone before the paging message starts. The system default tone is enabled. Users placing a page always hear a tone to indicate that the channel is open to begin speaking.

### 30.2.3 Multi-site Paging

The Multi-site Paging Groups settings enable handsets to become part of paging zones

1. Extensions may vary per system. If using a non-default Internal Dial Plan, consult the My Allworx manager to determine what extensions are in use for the corresponding feature.

that span multiple sites. For setting up Multi-site Paging, see the Allworx Advanced Multi-site Setup Guide, Release 7.6.

### **30.2.4 Paging Zone Operation on Handsets**

Add or remove each applicable line out and Allworx handset from each of the paging zones. By default, the system enables each applicable line out and handset for Paging Zone 0 and disables all others. The Allworx Server Administrator can enable or disable the Paging Zones on the handset configuration page. The Allworx Server Administrator can configure handsets to:

- Pages always accepted.
- Pages accepted only while on hook.
- Pages never accepted.

When changing the zones for a handset, it is necessary to reboot the handset for the changes to take effect.





## 31 Allworx Interact Professional Licensing

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The Allworx Interact application enables users to control a handset with convenient access to call history and contacts from the Allworx directory. The Allworx Interact application also accesses personal directory contacts from the user's Microsoft® Outlook® application.

- **Allworx Interact** - a free edition of the application is available to all Allworx users and enables users to Answer, Ignore, End, or place calls on Hold.
- **Allworx Interact Professional** - a licensed edition of the application that offers all of the Allworx Interact edition features as well as Transfer, Park, Conference, and settings features.

Both Allworx Interact editions provide a user centric view of the Allworx business directory. Therefore, a user can place a call to another directory contact with multiple handsets without selecting an individual handset. The application works in conjunction with any Allworx handset and does not disconnect the call.

In either edition, the Allworx Interact application does not provide voicemail support such as voicemail indicators or the ability to retrieve a voicemail message.

The Allworx Server Administrator manages which users have access to the licensed features of the Allworx Interact Professional application. Users that see the Allworx Interact free screen pop-up feature and would like to upgrade to Allworx Interact Professional should contact the Allworx Server Administrator to reserve a license or make the user eligible to obtain a license from the server.

If the Allworx Server Administrator has installed the Allworx Interact Professional Feature Key on the server, all users can use the free features of the Allworx Interact application.

Users that upgrade from the Allworx Interact edition to the Allworx Interact Professional edition see the licensing changes take effect on the next logout/login in the application.

Each Allworx Interact application requires a license for soft phone capability. The Allworx Server includes one Allworx Interact Professional license. To add more Allworx Interact Professional licenses requires purchasing and installing of additional Allworx Interact feature keys. The Allworx Interact feature keys are available in increments one, five, or

10 licenses. To enable larger numbers of Allworx Interact licenses, install multiple feature keys of the same or different license counts.

**To reserve an Allworx Interact Professional license:**

1. Install the Allworx Interact Professional feature key. See “Feature Keys” on page 20 for more information.
2. Locate the Feature Keys table and click the **Allworx Interact Professional** link.
3. Locate the Allworx Interact Professional heading and click the **create** link.
4. Click the drop-down arrow and select a user from the list.
5. Click the **Add** button to reserver a license for the user.

**To enable users to claim a license:**

1. Install the Allworx Interact Professional feature key. See “Feature Keys” on page 20 for more information.
2. Navigate to the **Business > Users** page.
3. Locate the user and click the **Modify** link on the same line.
4. Locate the Feature Eligibility section, and then locate the User is eligible for < > Allworx Interact Professional activations.
5. Enter a number in the field.
6. Click **Update** to save the change.

**To delete or disable an Allworx Interact Professional license:**

1. Log in to the Allworx server admin page, navigate to **Maintenance > Feature Keys**. The Feature Keys page displays.
2. Locate the Feature Keys table and click the **Allworx Interact Professional** link.
3. Locate the user and click the **Delete** or **Disable** link.
4. Confirm the request by clicking the **Delete** or **Disable** button, respectively. The user can no longer access Allworx Interact Professional after logging out.

## 32 System Settings Import/Export

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Allworx Server Administrators can transfer settings from one server to another by exporting the settings from one and importing them into the other. This eases the task of upgrading a site from one Allworx server model to another model.

The Allworx Server Administrator cannot transfer all settings in this way. Import/Export is not a substitute for using Allworx OfficeSafe to backup the system.

### 32.1 Export

An export includes all configurable parameters for:

- Phone System Settings
  - Users
  - User Templates
  - System Extensions
  - Handsets
  - Handset Preference Groups
  - Allworx Port Expander (including all attached analog phones and CO lines)
- Outside lines
  - CO Lines
  - Digital Lines
  - SIP Gateways
  - SIP Proxies
  - DID blocks and routing
- Network Settings
  - Network configurations
  - Digital line configurations
- VoIP Server Settings
- SIP Proxy Settings
- Dial Plan Settings
  - Internal Dial Plan
  - External Dial Plan
  - Automatic route section for external dial plan
  - Dialing Privileges Groups
  - Non-default Service Groups

**To export settings:**

1. Log in to the Allworx server admin page, navigate to **Maintenance > Import / Export** and locate the Export Configuration section.
2. Select from the following optional configuration settings:
  - Phone System Settings
  - Network Settings
  - VoIP Server Settings
  - SIP Proxy Settings
  - Dial Plan Settings
3. Click **Export** to export the selected configurations. This places the current system settings into an XML file.
4. Click the **View** link to save the exported XML file for import on to another system.

Verify the server that receives the imported configuration settings is “clean”, meaning the system has none of the above configurations added prior to import. Update the internal dial plan and extension length to match the configuration being imported before the doing import.

## 32.2 Import

**To load the exported configuration settings of one server onto another:**

1. Log in to the Allworx server admin page, navigate to **Maintenance > Import / Export** and locate the Import Configuration section.
2. Click **Browse** to locate the XML configuration file.
3. Enter the full pathname of the XML file into the Load a configuration file field, and then click **Load** to begin loading the configuration file onto the server.

After loading the file, the import page displays all available configuration settings.

4. Uncheck the boxes of any unnecessary parameters.

Configuration	Options
Network Configuration	Enable everything or nothing.
VoIP Server Settings	Enable everything or nothing.
Users	Enable at the individual level.
System Extensions	Enable at the individual level.
Allworx Handsets	Enable at the individual level.
Port Expander	Enable at the individual level.
Digital Lines	Enable at the individual level.
Internal Dial Plan	Enable everything or nothing.
Automatic Route Selection	Enable at the individual level.
Service Groups	Enable at the individual level.

5. Click **Import** to finish the import process.

## 32.3 Important Notes

- When importing the settings, the port numbers assigned to native CO lines and analog handsets are available to modify.
- When importing an Allworx Px 6/2 Port Expander, the import includes all configured CO lines and analog handsets from the export. Do not modify the port assignments.
- DID blocks, routes plans, and digital lines do not display on the Import Configuration screen. The system imports these settings, if included on the export.
- The export does not include: Digital line fields PPP Username, PPP Password and PPP MTU.
- If the current system is not “clean” and has conflicts with the imported configuration settings, then the system resolves conflicts for the import settings:
  - The system appends digits to user login names and incremented, starting at 01, as needed (e.g. jAdams will become jAdams01).
  - Extensions change to the lowest available extension.
  - The system does not import phones with conflicting MAC addresses and removes all references (e.g. call routing and BLF PFK assignments).

- The system does not import analog phones with unavailable port and removes all references (e.g. call routing and BLF PFK assignments).
- The system does not save SIP handsets and SIP gateway station numbers on an import. If changing station numbers for generic SIP phones or SIP gateways, then setup the new station number on each device.
- On Multi-site configurations, the Export does not include references to extensions, users or outside lines at remote sites.
- Imported extensions/users are limited to the total number available in the imported system. The order in the export file determines the available extensions/users. If exceeding the imported server's extensions/user limit, the system disables the remainders and does not import them.
- Do not modify the XML export file.

## 33 Music on Hold

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The system provides Music on Hold to callers in queues, calls held on phones, and parked calls. The server can configure multiple sources and play different music to different callers.

### 33.1 Sources

Music can come from a Line In source or from electronic files stored on the Allworx server. To use a Line In source, consult the Allworx Server Installation Guide. Download the Installation Guide from the Allworx Partner Portal ([www.allworxportal.com](http://www.allworxportal.com)).

### 33.2 Electronic Files

The system provides an electronic hold music file. If a different style or a site-specific music track is necessary, import it onto the Allworx server. As with other system audio (e.g. Auto Attendant greetings), files must be Telephony, raw, mu-law (u-law), mono, 8-bits per sample, 8KHz sample rate. To convert other formats into the required format for the Allworx server, see “File Format Conversion” on page 183. Name the files as:

moh\_n\_m.snd, where

'n' is a number between 1 and 30. This is a unique number among the music on hold files on the system. If importing a music on hold file that duplicates the number 'n' of a file that is already on the system, the system deletes the existing file.

'm' is a user defined string that uniquely identifies the file. Valid characters include ('A'-'Z'), ('a'-'z'), ('0'-'9') and underscore.

For example, the file name could be **moh\_1\_sales.snd** or **moh\_2\_service.snd**.

To import the files onto the system, see “Import Auto Attendant Greetings and Messages” on page 183 for more information.

The system default music file is “moh\_supplied.snd”.

The playback of music on hold files repeats as long as there are callers on hold.

## 33.3 Converting Sound Files

See “File Format Conversion” on page 183 for the procedure for converting sound files to the format required by the Allworx server.

## 33.4 Managing Music on Hold

To manage the Music on Hold log in to the Allworx server admin page, navigate to **Phone System > Music on Hold**.

The File Statistics section displays the memory allocation for imported music files. The Music on Hold Sources section displays individual file details. In addition, it displays assigning music sources to call queues, call appearances, and Handset Preference Groups.

### To assign a music source:

1. Log in to the Allworx server admin page, navigate to **Phone System > Music on Hold**.
2. Click the **Usage** link next to the source. The Music On Hold Sources section expands.
3. Check the appropriate check boxes to select the source to Line-In.
4. Click **Update** to save the changes.

The server may assign the Music on Hold source to other pages. Assign ACD Music on Hold on each queue Modify page. Assign the sources for Call Appearances on each Call Appearance Modify page.

<b>Note:</b>	Allworx recommends assigning the sources to Handset Preference Groups instead of assigning them to individual Call Appearances. Assigning a source to a Handset Preference Group updates the Hold Music Selection preference setting for the group. To cause a Call Appearance to use the source defined in its Handset Preference Group, log in to the Allworx server admin page, navigate to <b>Phone System &gt; Handsets</b> . Modify the handset Call Appearance and select Use Handset Preference Group Setting for its Hold music Selection
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## 34 Abbreviations

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Abbreviation	Definition
BLF	Busy Lamp Field
DHCP	Dynamic Host Configuration Protocol
DID	Direct Inward Dialing
DND	Do Not Disturb
DNS	Domain Name System
DOD	Direct Outward Dialing
DTMF	Dual Tone Multi-Frequency
FTP	File Transfer Protocol
FXO	Foreign Exchange Office
HTTP	Hypertext Transfer Protocol
IP	Internet Protocol
ITSP	Internet Telephony Service Provider
LAN	Local Area Network
NAT	Network Address Translation
PBX	Private Branch Exchange
PFK	Programmable Function Key
PoE	Power Over Ethernet
POP	Post Office Protocol
PPTP	Point-to-Point Tunneling Protocol
RTP	Real-time Transport Protocol
SIP	Session Initiation Protocol
SMTP	Simple Mail Transfer Protocol
SNTP	Simple Network Time Protocol
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
URI	Uniform Resource Identifier
VoIP	Voice over Internet Protocol
WAN	Wide Area Network







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