

Avaya Solution & Interoperability Test Lab

Application Note for Configuring the Ascom Wireless IP-DECT SIP Solution with Avaya Distributed Office - Issue 1.0

Abstract

These Application Notes describe a solution for supporting wireless interoperability between the Ascom wireless IP-DECT SIP Solution with Avaya Distributed Office. Emphasis of the testing was placed on verifying good voice quality on calls from and to Ascom wireless IP-DECT SIP handsets registered to the Avaya telephony infrastructure.

Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes detail the steps for creating a SIP VoIP-enabled wireless network using Digital Enhanced Cordless Telecommunications (DECT) with connectivity that enables interoperability between the Ascom wireless IP-DECT SIP Solution with Avaya Distributed Office. The specific calling features that were verified to operate correctly include transfer (attended and unattended), hold/return from hold, multiple call appearances, caller ID operation, call forwarding (unconditional, on busy/no answer and clear), pickup groups, call pickup, bridged appearances, and voicemail Message Waiting Indicator (MWI).

1.1. Ascom IP DECT Base Station

The Ascom IP-DECT system is a modular solution for large and small deployments with full handover capabilities with one PBX. The Ascom IP-DECT Base Station works as a conduit between the Avaya Distributed Office and the Ascom IP-DECT wireless handsets.

After the Ascom IP-DECT wireless handsets register with the Ascom IP-DECT Base Station, the Base station registers the handsets to the Avaya Distributed Office.

1.2. Network Diagram

The network diagram shown in **Figure 1** illustrates the testing environment used for compliance testing. The network consists of an Avaya Distributed Office, one Avaya 9630 one-X Deskphone Edition IP Telephone, one Avaya 9620 one-X Deskphone Edition IP Telephone, one Avaya 9620 one-X Deskphone Edition IP Telephone, one Avaya 2420 Digital Telephone one Ascom wireless IP-DECT Base Station, one Ascom wireless 9d24, one Ascom wireless OfficeT DECT Handset and one OfficeM DECT Handset. One computer is present in the network providing network services such as DHCP, TFTP, HTTP and RADIUS.

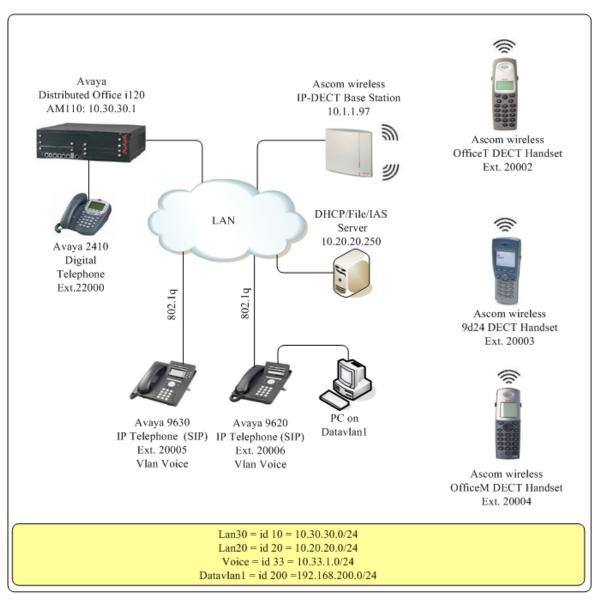


Figure 1: Sample Network Diagram

2. Equipment and Software Validated

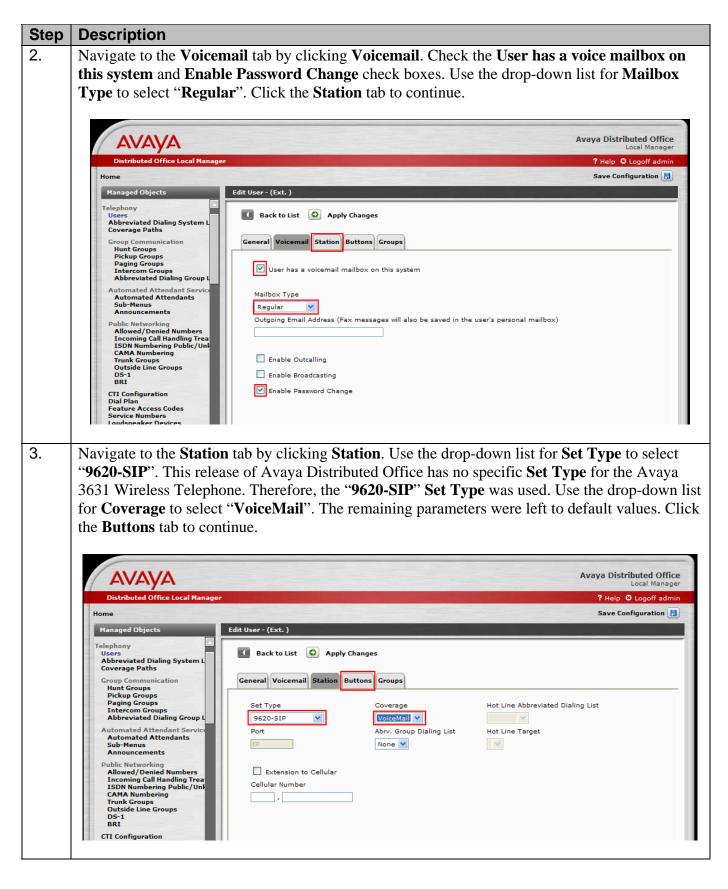
The following equipment and software were used for the sample configuration provided:

Equipment	Software	
Avaya Distributed Office i120	27.17.1	
Avaya Distributed Office AM110	1.1.1_41.03	
Avaya 2420 Digital Telephone	5.0	
Avaya 9600 Series IP Telephones	Avaya one-X Deskphone SIP	
	2.0.3 (SIP)	
Ascom wireless IP-DECT Base Station	2.1.5 (SIP)	
Ascom wireless 9d24 DECT Handset	3.26	
Ascom wireless OfficeT DECT Handset	1.08	
Ascom wireless OfficeM DECT Handset	1.08	

3. Avaya Distributed Office Configuration

Avaya Distributed Office is administered via a web interface. In the sample network the Avaya Distributed Office was assigned the IP address 10.30.30.1 and the URL http://10.30.30.1 was used to access the administration interface. For information on how to access and setup a factory default system, refer to **Section 10** [1].

Step	Description			
1.	values displayed below a Name can be any descri- the same information tha code are numeric codes	and then click App ptive text that ident at is entered in Nati that must match. U	y Changes. Last Na ifies this user. Name ve Name. Security (se the drop-down list	► Telephony→Users. Enter the me, First name and Native (ASCII) may be populated with Code and Confirm Security for Extension and select any alt values. Click the Voicemail
	bistributed Office Local Manager Home Managed Objects Managed Objects	Edit User - (Ext.) Back to List Apply C General Voicemail Station Bu Last Name Test6 First name Avaya Native Name Avaya test5 Name (ASCII) Avaya test6	_	Avaya Distributed Office Local Manager Preferred Language English < IM Handle



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Step	Description	
4.	and select "Call Appe. Changes and then clic the system is busy if S occurs, simply click S	hs tab by clicking Buttons . Use the drop list for Button Assignment 1 – 3 arance". The remaining parameters were left to default values. Click Apply k Save Configuration . Note the user may receive a message indicating ave Configuration is clicked immediately after Apply Changes . If that ave Configuration after one or two minutes. the each Avaya 3631 Wireless Telephone. Click Apply Changes .
	AVAYA Distributed Office Local Manager	Avaya Distributed Office Local Manager ? Help © Logoff administrator
	Home Managed Objects	Edit User - Avaya Test3 (Ext.)
	Telephony Users Abbreviated Dialing System L Coverage Paths	Back to List Apply Changes
	Group Communication Hunt Groups Pickup Groups Paging Groups Intercom Groups Abbreviated Dialing Group L	General Voicemail Station Buttons Groups Button Assignment
	Automated Attendant Service Automated Attendants Sub-Menus Announcements	1. Call Appearance 2. Call Appearance
	Public Networking Allowed/Denied Numbers Incoming Call Handling Trea ISDN Numbering Public/Uni CAMA Numbering Trunk Groups	3. Call Appearance 7. • 4. • • • 5. • •
	Outside Line Groups DS-1 CTI Configuration Dial Plan	6. 🔘 💌
	Feature Access Codes Service Numbers Loudspeaker Devices System Parameters	Additional Parameters (if required) Ring Type: Normal Ringing

4. Ascom Wireless IP-DECT SIP Solution Configuration

The following steps detail the initial configuration for the Ascom wireless IP-DECT SIP Solution. In the sample network the DHCP server was configured to register DHCP client information to a DNS server. This allows the Ascom wireless IP-DECT Base Station to be reachable via a DNS name using the following format: <u>http://IPBS-XX-XX-XX</u>, where XX-XX-XX are the last 3 bytes of the MAC address of the Ascom wireless IP-DECT Base Station. For example, an Ascom wireless IP-DECT Base Station with a MAC address of 00-01-3E-00-CB-DB could be accessed using <u>http://IPBS-00-CB-DB</u> or via the IP address assigned by DHCP.

4.1. Configure IP-DECT Base Station

The Ascom wireless IP-DECT Base Stations can be configured in a Master/Standby Master scenario to provide redundancy or to extend the radius of coverage. The following configuration steps detail the configuration process used to configure an Ascom wireless IP-DECT Base Station in Master mode only.

Step	Description	
1.	IP-DECT Base Station to Section 10 [3] for a	or and place either the IP address or the DNS name of the Ascom wireless n into the URL field. The user will be presented with a login screen. Refer appropriate credentials needed to access the Ascom wireless IP-DECT Base ropriate login information and then click OK .
		Connect to 10.1.1.97
2.	The user is presented	with the General Info frame where the system information for the Ascom
2.		se Station is displayed.
		Ascom IP-DECT Base Station
	Configuration	
	Configuration	Info Admin Update NTP Logging HTTP HTTP Client
	General	
		Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768
	General LAN IP	
	General LAN IP LDAP	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0
	General LAN IP LDAP DECT	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ******
	General LAN IP LDAP	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0
	General LAN IP LDAP DECT	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ******
	General LAN IP LDAP DECT VoIP	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ************************************
	General LAN IP LDAP DECT VoIP Administration	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time **.*** **.*** Uptime 11d 18h 14m 22s RFP SW version 1.0.0 Image: State of the state
	General LAN IP LDAP DECT VoIP Administration Users Device Overview Traffic	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ************************************
	General LAN IP LDAP DECT VoIP Administration Users Device Overview Traffic Backup	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ************************************
	General LAN IP LDAP DECT VoIP Administration Users Device Overview Traffic Backup Update	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ************************************
	General LAN IP LDAP DECT VoIP Administration Users Device Overview Traffic Backup Update Diagnostics	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ************************************
	General LAN IP LDAP DECT VoIP Administration Users Device Overview Traffic Backup Update	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768 Serial Number MAC Address (LAN) 00-01-3e-00-cb-db SNTP Server 0.0.0.0 Time ************************************

Step	Description		
3.	To navigate the web interface on the Ascom wireless IP-DECT Base Station the user will navigate through a series of frames which lead to forms and web pages for configuration or to display information. The user flow is a two-click process where a category and then an option are clicked. Categories are found below Configuration , which is displayed in the top left portion of the frame, and options are found to the right. Navigate to the General Admin frame by clicking General and then clicking Admin . Configure the fields displayed below and then click OK . The Device Name can be any descriptive name that identifies this Ascom wireless IP-DECT Base Station. In the sample network the name "Avaya-Master" was chosen. The User Name and Password fields were populated using the default credentials. The box below Password is used to confirm the password and the value entered for the Password field must be entered here. Click OK to continue.		
	Configuration	Ascom IP-DECT Base Station	
	General	into valuar opulito ini 2099ing initi initi onom	
	LAN	Admin	
	IP	Device Name Avaya-Master	
	LDAP	User Name admin	
	DECT	Password ••••••	
	VoIP	•••••	
	Administration	ОК	
	Users		
	Device Overview		
	Traffic		
	Backup		

Step	Description	
4.	drop-down list, set I	N DHCP frame by first clicking LAN and then clicking DHCP . Using the Mode to "Off" and then click OK . This will present the user with the hich reads "reset required". Click IP tab to continue.
		Ascom IP-DECT Base Station
	Configuration	DHCP IP Link VLAN Statistics
	General	
	LAN	Mode Off
	IP	OK Cancel
	LDAP DECT	
	VoIP	reset required
	Administration	
	lisers	
_		
5.	U	N IP frame by first clicking LAN and then clicking IP. Set your static IP Mask, Default Gateway, DNS Server and click OK. Click reset required
		Ascom IP-DECT Base Station
	Configuration	DHCP IP Link VLAN Statistics
	General	
	LAN	Active Settings
	IP	IP Address 10.1.1.97 10.33.1.121
	LDAP	Network Mask 255.255.255.0 255.255.0
	DECT	Default Gateway 10.1.1.254 10.33.1.254
	VoIP	DNS Server 10.20.20.250 10.20.250
	Administration	OK Cancel
	Users	
	Device Overview	reset required
	Traffic	

Step	Description	
6.	Many of the other cha	with the reset confirmation dialogue. Click OK to initiate the system reset. anges made to the system during the configuration process require a reboot. whenever a reset is required .
		Ascom IP-DECT Base Station
	Configuration	Idle-Reset Reset TFTP
	General	
	LAN	Reset only if the system is idle (no active calls, etc.)
	IP	ОК
	LDAP	
	DECT	
	VoIP	
	Administration	
	Users	
7.	LDAP Server frame default system accour Password field with	eless IP-DECT Base Station (Avaya-Master) has rebooted, navigate to the by clicking LDAP and then clicking Server . The "Idap-guest" account is a nt. Configure User using the Device Name used in Step 3 . Configure the the Password used in Step 3 . Check the Write Access check box for the er account and then click OK to continue.
		Ascom IP-DECT Base Station
	Configuration	Server Server-Status Replicator Replicator-Status
	General	
	LAN	User Password Write Access
	IP	Idap-guest
	LDAP	Avaya-Master
	DECT	
	VoIP	OK Cancel
	Administration	
	Users	

Step	Description			
8.	Navigate to the DECT Master frame by clicking DECT and then clicking Master . Configure the fields displayed below and then click OK . Use the drop-down list for Mode and select " Active ". Gatekeeper IP Address was set to the IP address of the Avaya Distributed Office (see Figure 1). Use the drop-down list for Protocol and select " SIP ", select Register with number box. In the sample network, five digit extensions were used and Max. internal number length was set to " 5 ", click OK . Click reset required to continue.			
		Ascom IP-DECT Base Station		
	Configuration	System Suppl. Serv. Master Radio PARI SARI SMS Air Sync		
	General			
	LAN	Mode Active 💙		
	IP	Gatekeeper IP Address 10.30.30.1		
	LDAP	Alt. Gatekeeper IP Address		
	DECT	Gatekeeper ID		
	VoIP	Protocol SIP V		
	Administration	Hold Signalling inactive		
	Users	Register with number		
	Device Overview			
	Traffic Max. internal number length 5 used to decide internal/external ring signal			
	Backup	OK Cancel		
	Update			
	Diagnostics	reset required		

Step	Description		
9.	Navigate to the DEC the fields displayed be Password is the " Pa password and the val Authentication Cod to this system. Using System AC", or "Dis enables the system to registration. Use the Default Language a "North America". Cl the DECT handsets to	below and then click Ol assword" used in Step 3 lue configured for the P le is a numerical code the g the drop-down list, Su sable". In the sample co to use the Authentication drop-down list for Ton and select "English". Use heck the 0,1,2,3 and 4 c to use different channels	 acking DECT and then clicking System. Configure K. System Name is the Device Name used in Step 3. 3. The box below Password is to confirm the Password field must be entered here. The hat every DECT handset will need to use to subscribe abscriptions can be set to "With User AC", "With onfiguration "With System AC" was used. This on Code when challenging DECT handsets during the and select "US". Use the drop-down list for set the drop-down list for Frequency and select check boxes. The Enable Carrier check boxes enable s or frequencies when transmitting. Check the DTMF drop-down list for Coder and select "G.729A". Click
		Ascom IP	P-DECT Base Station
	Configuration	System Suppl. Serv.	Master Radio PARI SARI SMS Air Sync
	General	System Name	Avaya-Master
	LAN IP	Password	
	LDAP	Password	
	DECT	Authorities Onde	
	VoIP	Authentification Code	1234
	Administration	Subscriptions Tones	With System AC V
	Users	Default Language	US 🗸
	Device Overview	Frequency	North America 🗸
	Traffic Backup	Enabled Carriers	
	Update Diagnostics	Enbloc Dialing	
	Reset	Local R-Key Handling	
		DTMF through RTP channe	
		No Transfer on Hangup	
		Coder	G729A Frame (ms) 20 Exclusive SC
		OK Cancel	
•	•		

Step	Description	
10.	Check the Enable	ECT Suppl. Serv. frame by clicking DECT and then clicking Suppl. Serv. . Supplementary Services check box. Enter the extension used for Voicemail enter No. field. Click OK to continue.
		Ascom IP-DECT Base Station
	Configuration	System Suppl. Serv. Master Radio PARI SARI SMS Air Sync
	General	
	LAN	Enable Supplementary Services
	IP	Disable Activate Deactivate
	LDAP	Call Forwarding Unconditional *21*\$# #21#
	DECT	Call Forwarding Busy *67*\$# #67#
	VoIP	Call Forwarding No Reply *61*\$# #61#
	Administration	Do Not Disturb *42# #42#
	Users	Call Waiting *43# #43#
	Device Overview	Call Completion Busy Subscriber 5 #37#
	Traffic Backup	
	Update	Clear Local Setting *00#
	Diagnostics	Message Center No. 70000
	Reset	Local Clear of MWI
		OK Cancel
11.	-	ECT PARI frame by clicking DECT and then clicking PARI . PARI is a user- ue and must range from 1-35. Enter any number from 1-35. Click OK to Ascom IP-DECT Base Station
	Configuration	
	Configuration	System Suppl. Serv. Master Radio PARI SARI SMS Air Sync
	General	System ID 31
	LAN	
	IP	OK Cancel
	LDAP	
	DECT	
	VoIP	
	Administration	

Step	Description	
12.	Ascom wireless prov	T SARI frame by clicking DECT and then clicking SARI . SARI is an ided activation code which is needed for the system to function. Contact otain a SARI . Enter the SARI value. Click OK to continue.
		Ascom IP-DECT Base Station
	Configuration	System Suppl. Serv. Master Radio PARI SARI SMS Air Sync
	General	
	LAN	SARI XXXXXXXXXX
	IP	OK Cancel
	LDAP	
	DECT	
	VoIP	
	Administration	
13.		T Air Sync frame by clicking DECT and then clicking Air Sync . Use the rnc Mode and select "Master". Check the LED Indication check box. Click
		Ascom IP-DECT Base Station
	Configuration	System Suppl. Serv. Master Radio PARI SARI SMS Air Sync
	General	
	LAN	Sync Mode Master
	IP	Alien RFPI
	LDAP	Alt. Alien RFPI
	DECT	LED Indication
	VoIP	OK Cancel
	Administration	
	Users	
	Device Overview	

Step	Description	
14.	PARK is displayed.	ral Info frame by clicking General and then clicking Info . The PARI - This value is needed when programming Ascom wireless DECT handsets.
	The PARI-PARK is	similar to an SSID in an 802.11 wireless environment.
		Ascom IP-DECT Base Station
	Configuration	Info Admin Update NTP Logging HTTP HTTP Client
	General LAN	Version IPBS[2.1.5], Bootcode[415], HW[] 8192/32768
	IP	Serial Number
	LDAP	MAC Address (LAN) 00-01-3e-00-cb-db
	DECT	SNTP Server 0.0.0.0 Time ** ** ** ***
	VoIP	Uptime 0d 2h 39m 19s
	Administration	RFP SW version 1.0.0
	Users	SARI-PARK 3110024340210*
	Device Overview	PARI-PARK 21100245701007
	Traffic	
15.	Navigate to the Users new user account.	s frame by clicking Users and then clicking Users . Click new to provision a
		Ascom IP-DECT Base Station
	Configuration	Users Anonymous
	General	
	LAN	show
	IP	new
	LDAP	
	DECT	
	VoIP	
	Administration	
	Users	

Step	Description										
16.	The user is presented with the Edit User web page. Long Name and Name can be any descriptive name that identifies this user. The Number field is the extension assigned to this user. The Password field is the password used to register with the Avaya Distributed Office. box below Password is to confirm the password and the value entered for the Password field must be entered here. Display Text is the text string that will be displayed on the LCD scree the Ascom wireless DECT Handset. Auth. Code is used only if Subscriptions in Step 9 is s " With System AC ". Once all the user information has been configured, click OK . Repeat the process for each user being added to the system.										
	🖉 Edit User - Windows Internet Explorer										
	Long Name Name Number Password	Bob Test 20006 20006 20006 •••••• •••••• ascom 20006									

5. Ascom Wireless DECT Handset Configuration

Refer to Section 10 [3], [4], [5] and [6] to obtain information on the procedures for subscribing and registering the Ascom wireless DECT Handsets to the Ascom wireless IP-DECT Base Station.

6. Interoperability Compliance Testing

The compliance testing focused on verifying interoperability of the Ascom wireless IP-DECT SIP solution which is comprised of the Ascom wireless IP-DECT Base Station and Ascom wireless DECT Handsets with Avaya Distributed Office. Additional testing verified proper

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operation with the Avaya 9630 IP Telephone, Avaya 9620 IP Telephone and the Avaya 2420 Digital Telephone. Voicemail with MWI was tested and verified to operate correctly.

Avaya's formal testing and Declaration of Conformity is provided only on the headsets/handsets that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headsets/handsets to determine interoperability with Avaya telephones. However, Avaya does not conduct the testing of non-Avaya headsets/handsets for: Acoustic Pressure, Safety, Hearing Aid Compliance, EMC regulations, or any other tests to ensure conformity with safety, audio quality, long-term reliability or any regulation requirements. As a result, Avaya makes no representations whether a particular non-Avaya headset will work with Avaya's telephones or with a different generation of the same Avaya telephone.

Since there is no industry standard for handset interfaces, different manufacturers utilize different handset/headset interfaces with their telephones. Therefore, any claim made by a headset vendor that its product is compatible with Avaya telephones does not equate to a guarantee that the headset will provide adequate safety protection or audio quality.

6.1. General Test Approach

The general test approach was to register the Ascom wireless DECT Handsets with Avaya Distributed Office through the Ascom wireless IP-DECT cordless network and that voice mail left on Avaya Distributed Office was able to be retrieved and that MWI worked. Calls were made between both wired and wireless telephones and specific calling features were exercised.

6.2. Test Results

The Ascom wireless DECT Handsets passed all test cases. Ascom wireless DECT Handsets were verified to successfully register with Avaya Distributed Office. Calls were maintained for durations over one minute without degradation to voice quality. The telephony features verified to operate correctly included transfer (attended and unattended), hold/return from hold, multiple call appearances, caller ID operation, call forwarding (unconditional, on busy/no answer and clear), pickup groups, call pickup, bridged appearances, and verifying voicemail and MWI.

7. Verification Steps

7.1. Ascom Wireless DECT Handset Registration Verification

The following steps can be used to ascertain the registration state of the Ascom wireless DECT Handsets that the Ascom wireless IP-DECT Base Station is configured to support.

From a web browser open up a connection to the Ascom wireless IP-DECT Master Base Station, refer to **Section 4.1 Step 1**. Navigate to the **Users** frame by clicking **Users** then clicking **Users** and then clicking **show**. A **Registration** state of "**Pending**" indicates an Ascom wireless DECT Handset has not registered to the Ascom wireless IP-DECT Base Station with the requested extension. A **Registration** state of "**Subscribed**" indicates that an Ascom wireless DECT Handset has connected to the Ascom wireless IP-DECT Base Station and registered with the requested extension. A **Registration** state that displays the **IP Address** of the Avaya Distributed Office indicates the extension has successfully registered to both the Ascom wireless IP-DECT Base Station and Avaya Distributed Office.

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Ascom IP-DECT Base Station										
Configuration	Users	Anonymous								
General			7	Long Name	Name	No	Display	IPEI	AC	Registration
LAN		show		Ascom-DECT-9d24	20005	20005	20005	002020391142	1234	Subscribed
IP		new		Ascom-OfficeM	20003	20003	20003	005930783948	1234	10.30.30.1
LDAP				Ascom-OfficeT	20002	20002	20002		1234	Pending
DECT				Users: 3, Registratio	ons: 1					
VoIP										
Administration										
Users										
Device Overview										
Traffic										
Backup										
Update										
Diagnostics										
Reset										

	As	scom IF	P-DECT B	ase	Sta	atio	n		
Configuration	Users	Anonymous							
General			Long Name	Name	No	Display	IPEI	AC	Registration
LAN		show	Ascom-DECT-9d24		20005		002020391142		10.30.30.1
IP		new	Ascom-OfficeM	20003	20003		005930783948		10.30.30.1
LDAP			Ascom-OfficeT	20002	20002	20002	005930783661	1234	10.30.30.1
DECT			Users: 3, Registratio	ons: 3					
VoIP									
Administration									
Users									
Device Overview									
Traffic									
Backup									
Update									
Diagnostics									
Reset									

7.2. Ascom Wireless DECT Handset Function Verification

The following steps can be used to verify proper operation of the Ascom wireless DECT Handsets.

- Place calls from the Ascom wireless DECT Handsets and verify two-way audio.
- Place a call to the Ascom wireless DECT Handsets, allow the call to be directed to voicemail, leave a voicemail message and verify the MWI message is received.
- For each Ascom wireless DECT Handset that received a voicemail, connect to the voicemail system to retrieve the voicemail and verify that MWI clears.
- Place calls to the Ascom wireless DECT Handsets and exercise calling features such as transfer and hold.

8. Support

Technical support for the Ascom wireless IP-DECT Base Station and Handsets can be obtained through the following:

- Phone: 1-877-71ASCOM or 1-877-712-7266
- Email: techsupport@ascomwireless.com

9. Conclusion

These Application Notes demonstrate how to build a sample SIP VoIP-enabled wireless network using Avaya Distributed Office, Ascom wireless IP-DECT Base Station and Ascom wireless DECT Handsets. These Application Notes also demonstrate interoperability between Avaya Distributed Office with the Ascom wireless IP-DECT Base station and Handsets.

10. Additional References

Avaya documentation was obtained from http://support.avaya.com.

- [1] Avaya Distributed Office i120 Installation Quick Start, May 2007 Issue 1, Document Number 03-602289
- [2] Avaya one-X Deskphone Edition for 9600 Series IP Telephones Administrator Guide

The Ascom wireless documentation was obtained from http://www.Ascom wireless.com.

- [3] *Installation and Operation Manual IP-DECT Base Station*, January 2007 Ver. C, Document Number TD 92372GB
- [4] User Manual 9d24 MkII Cordless Handset USA, February 2007 Ver. C, Document Number TD 92411GB
- [5] User Manual OfficeM Cordless Telephone, May 2006 Ver. C, Document Number TD 92288GB
- [6] User Manual Cordless Telephone OfficeT, May 2006 Ver. C, Document Number TD 92282GB

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