



## **Avaya Solution & Interoperability Test Lab**

---

# **Application Notes for Configuring Ascom i62 VoWiFi Handset with Avaya IP Office 10.0 - Issue 1.0**

### **Abstract**

These Application Notes describe a solution for supporting wireless interoperability between Ascom i62 VoWiFi Handsets with Avaya IP Office release 10.0.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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

# 1. Introduction

These Application Notes describe the configuration steps for provisioning Ascom's i62 Wireless Handsets to interoperate with Avaya IP Office. Ascom's i62 VoWiFi Handsets are configured on Avaya IP Office as SIP Users, therefore enabling them to make/receive internal and PSTN/external calls and have full voicemail and other telephony facilities available on Avaya IP Office. The Wireless communication is made using a Wireless Router connected to the same LAN as the Avaya IP Office.

## 2. General Test Approach and Test Results

The general test approach was to configure the Ascom i62 VoWiFi Handsets (i62 Handsets) to communicate with Avaya IP Office (IP Office) as implemented on a customer's premises. The interoperability compliance testing evaluates the ability of the Ascom i62 Wireless Handsets to make and receive calls to and from Avaya H.323, SIP, Digital desk phones and PSTN endpoints. The integrated IP Office Voicemail was used to allow users leave voicemail messages and to demonstrate Message Waiting Indication and DTMF on the i62 Handsets. See **Figure 1** for a network diagram. The interoperability compliance test included both feature functionality and serviceability tests.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

## 2.1. Interoperability Compliance Testing

The testing included:

- Basic Calls, local and PSTN
- Hold and Retrieve
- Attended and Unattended Transfer
- Call Forwarding Unconditional, No Reply and Busy
- Call Waiting
- Call Park/Pickup
- Conference
- Do Not Disturb
- Calling Line Name/Identification
- Codec Support
- DTMF Support
- Message Waiting Indication
- Mobile Twinning
- Hunt Groups

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, scalability or any regulation requirements. As a result, Avaya makes no representation 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.

## 2.2. Test Results

Tests were performed to ensure full interoperability between Ascom i62 Wireless Handsets and IP Office. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully with the following observation.

- SIP Expires timer on Ascom i62 recommended setting at 180 seconds. This is hard coded in IP Office and cannot be changed.
- For Call Waiting functionality to work on Ascom i62, ensure that the **Call Waiting On** box seen under the Telephony tab of User is checked.

## 2.3. Support

Technical support from Ascom can be obtained through the following:

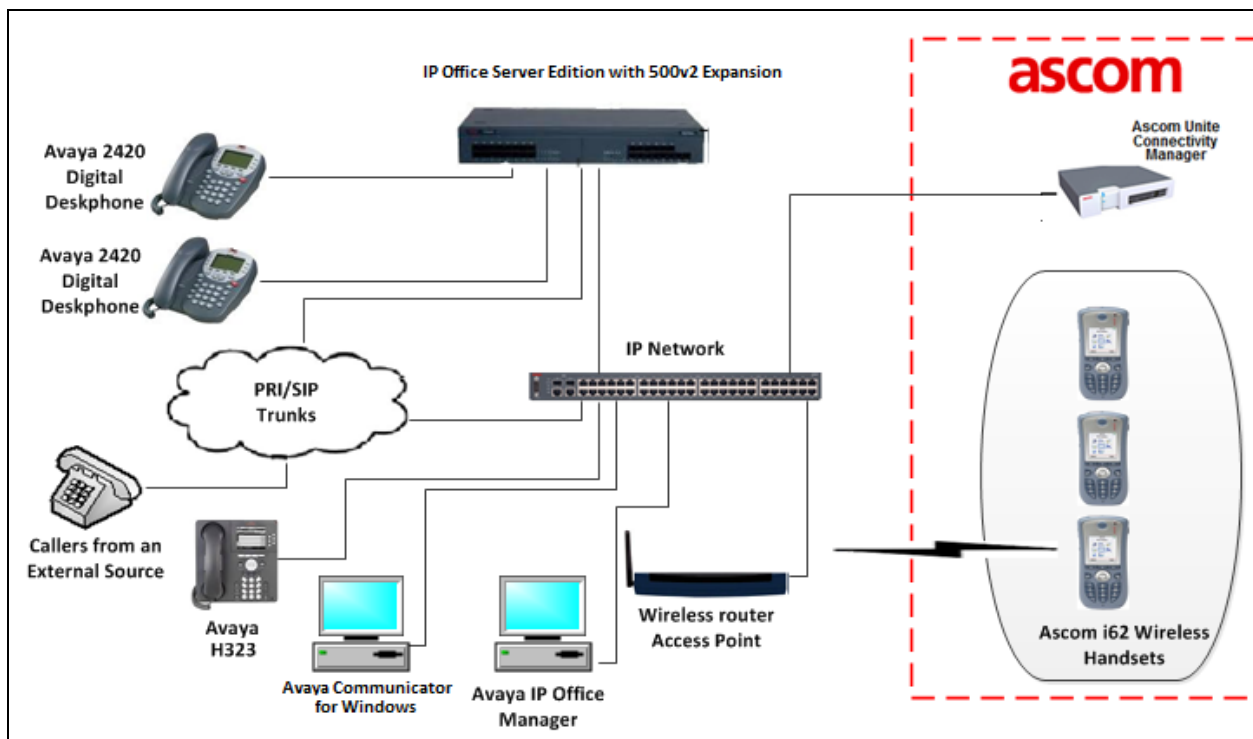
Phone: +46 31 559450

E-mail: [support@ascom.com](mailto:support@ascom.com)

### 3. Reference Configuration

**Figure 1** illustrates the network topology used during compliance testing. The Avaya solution consists of an IP Office which the i62 Handsets were configured as SIP Users. The Ascom device Manager was used to configure the i62 Handsets. Digital, H323 and Soft phones were configured on the IP Office. QSIG and SIP trunks were configured to connect to the PSTN. The Wireless Router was connected to the IP Network which i62 Handsets connect. IP Office Manager is used to manage IP Office configuration.

A laptop on the network that can access and connect to the Ascom Device Manager is used to configure the Ascom i62. The Ascom Unite Connectivity Manager (UniteCM) is the core software platform in the Ascom system.



**Figure 1: Avaya IP Office and Ascom Reference Configuration**

## 4. Equipment and Software Validated

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

Avaya Equipment	Software / Firmware Version
Avaya IPO Server Edition	10.0.0.0.0 Build 550
Avaya 1616 IP Telephone	3.250A
Avaya 2420 Digital Telephones	--
Avaya Communicator for windows	2.1.3.0
Ascom Equipment	Software / Firmware Version
Unite Connection manager	5.8.1
Ascom i62 Handsets	5.5.5

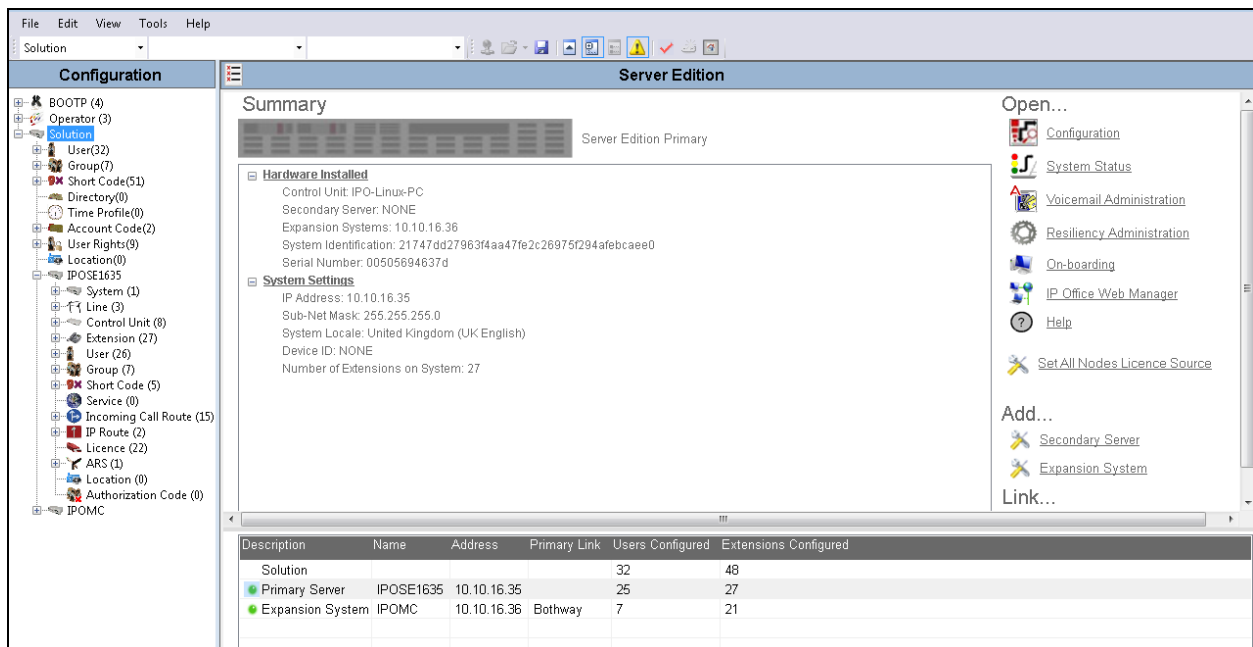
## 5. Avaya IP Office Configuration

Configuration and verification operations on the Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of Avaya IP Office for this solution. It is implied a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Launch Avaya IP Office Manager
- LAN1 Configuration
- VoIP Configuration
- Create a SIP Extension for the Ascom i62 Handset
- Create a User for the Ascom i62 Handset
- Verify the Voicemail Collect Short Code
- Save Configuration

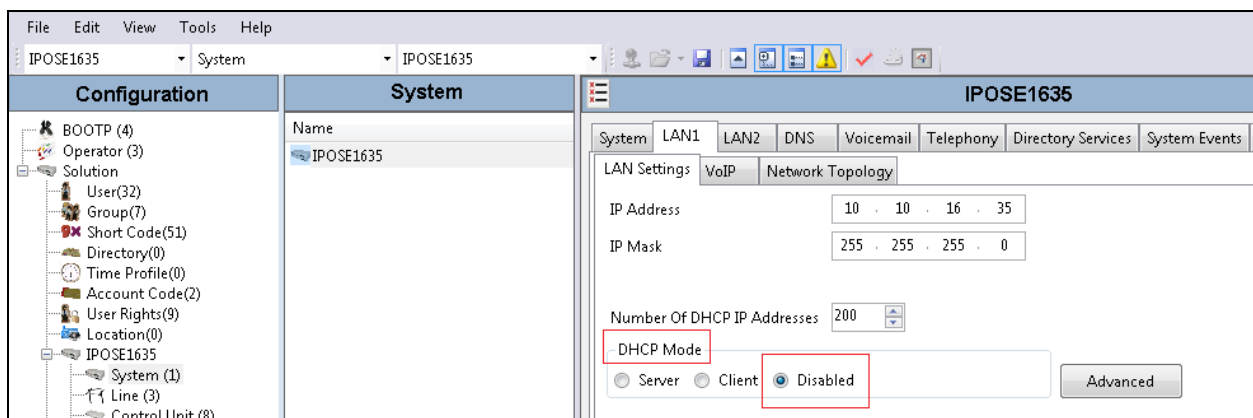
## 5.1. Launch Avaya IP Office Manager

From the Avaya IP Office Manager PC, go to **Start→Programs→IP Office→Manager** to launch the Manager application. Log in to Avaya IP Office using the appropriate credentials to receive its configuration (not shown). In the IP Offices click on Configuration. During compliance testing the IP Office Server Edition was called IPOSE1635 with IPOMC being the 500v2 Expansion system.



## 5.2. LAN1 configuration

The **DHCP MODE** must be disabled for the i62 Handset to communication with the IP Office. Select **LAN1** tab followed by the **LAN Settings** tab and click on the **Disabled** radio button in the **DHCP Mode** section. Click the **OK** button to save.



### 5.3. VoIP Configuration

Select the **VoIP** tab and in the **Layer 4 Protocol** section check the **UDP** and **TCP** Check boxes and select **5060** from both dropdown boxes. Using the scroll bar on the right hand side scroll down to the **DiffServ Settings** section.

The screenshot shows the IPOSE1635 configuration window with the **VoIP** tab selected. In the **Layer 4 Protocol** section, the **UDP** and **TCP** checkboxes are checked, and both are set to port **5060**. The **Remote UDP Port** is also set to **5060**, and the **Remote TCP Port** is set to **5060**. The **Remote TLS Port** is set to **5061**. The **Challenge Expiry Time (secs)** is set to **10**. The **RTP** section shows **Port Number Range** from **40750** to **50750** and **Port Number Range (NAT)** from **40750** to **50750**.

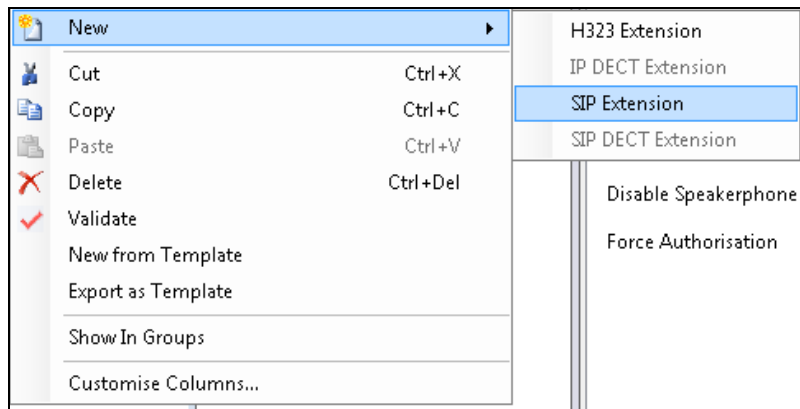
At the **DiffServ Settings** section select **46** for **DSCP** and **26** for **SIG DSCP**. Click the **OK** button to save (not shown).

The screenshot shows the IPOSE1635 configuration window with the **DiffServ Settings** section expanded. The **DSCP** is set to **46** and the **SIG DSCP** is set to **26**. The **Video DSCP** is set to **63** and the **DSCP Mask** is set to **26**. The **SIG DSCP** is set to **26**. The **DHCP Settings** section shows **Primary Site Specific Option Number (4600/5600)** set to **176**, **Secondary Site Specific Option Number (1600/9600)** set to **242**, **VLAN** set to **Not Present**, **1100 Voice VLAN Site Specific Option Number (SSON)** set to **232**, and **1100 Voice VLAN IDs** set to an empty field.

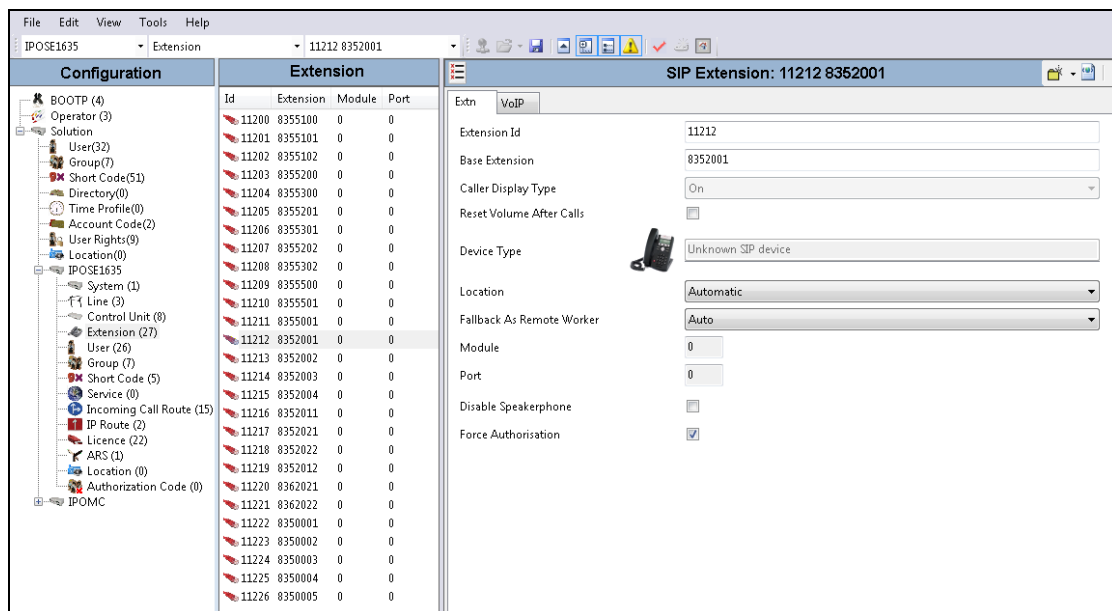


## 5.4. Create a SIP Extension for the Ascom i62 Handset

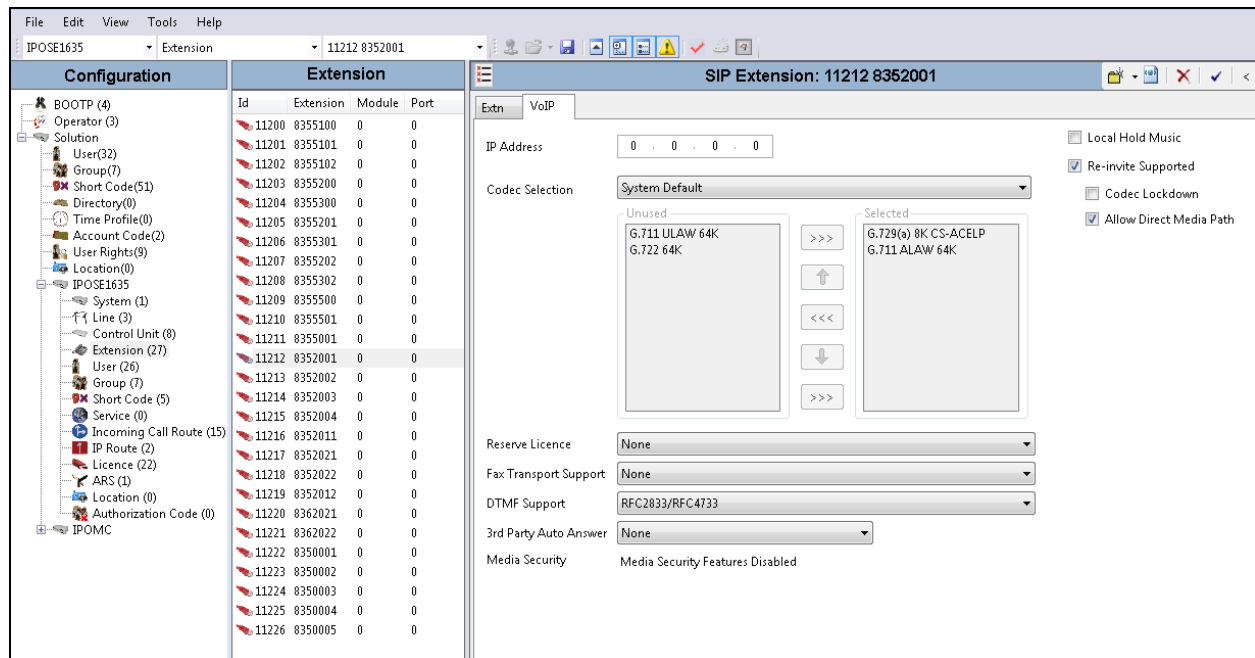
The i62 Handsets are configured as SIP Extensions on IP Office. From the Configuration Tree click on **Extension** then right click and select **New** followed by **SIP Extension**. The example below shows the extension 8352001, repeat these steps for each i62 Handset extension.



When the new window opens enter the **Base Extension**. The Extension ID will be automatically filled in. Click on the **VoIP** tab.

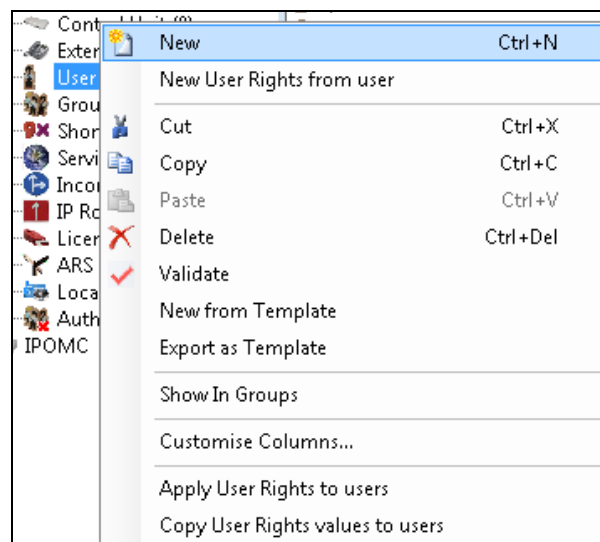


When the **VoIP** tab opens click on the **Allow Direct Media Path** check box. Click the **OK** button to save (not shown).



## 5.5. Create a User for the Ascom i62 Handset

A user must be configured for Ascom i62 Handset Extension. From the Configuration Tree click on **User** then right click and select **New**. The example below shows the extension 8352001, repeat these steps for each i62 Handset extension.



When the **User** window opens, select the User tab and enter the follow:

- **Name** Enter an name for this user, i.e. **i62one**
- **Password** Enter the Password
- **Confirm** Confirm the Password
- **Extension** Enter the Extension which was created previously, i.e. **5.4**

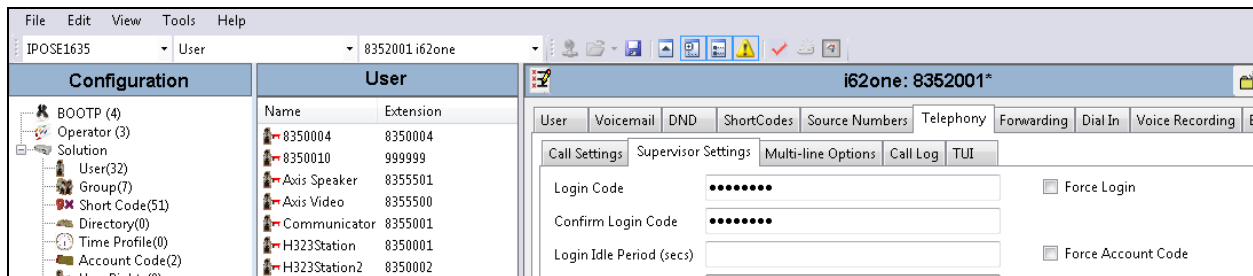
Click on the **Voicemail** tab.

Configuration	User	User Form																																																				
<ul style="list-style-type: none"> <li>BOOTP (4)</li> <li>Operator (3)</li> <li>Solution</li> <li>User(32)</li> <li>Group(7)</li> <li>Short Code(51)</li> <li>Directory(0)</li> <li>Time Profile(0)</li> <li>Account Code(2)</li> <li>User Rights(9)</li> <li>Location(0)</li> <li>IPOSE1635</li> <li>System (1)</li> <li>Line (3)</li> <li>Control Unit (8)</li> <li>Extension (27)</li> <li>User (26)</li> <li>Group (7)</li> <li>Short Code (5)</li> </ul>	<table border="1"> <thead> <tr> <th>Name</th> <th>Extension</th> </tr> </thead> <tbody> <tr><td>8350004</td><td>8350004</td></tr> <tr><td>8350010</td><td>999999</td></tr> <tr><td>Axis Speaker</td><td>8355501</td></tr> <tr><td>Axis Video</td><td>8355500</td></tr> <tr><td>Communicator</td><td>8355001</td></tr> <tr><td>H323Station</td><td>8350001</td></tr> <tr><td>H323Station2</td><td>8350002</td></tr> <tr><td>H323Station3</td><td>8350003</td></tr> <tr><td><b>i62one</b></td><td><b>8352001</b></td></tr> <tr><td>i62two</td><td>8352002</td></tr> <tr><td>ipdectfour</td><td>8362022</td></tr> <tr><td>ipdectone</td><td>8352021</td></tr> <tr><td>ipdectthree</td><td>8362021</td></tr> <tr><td>ipdecttwo</td><td>8352022</td></tr> <tr><td>Mura1</td><td>8352011</td></tr> </tbody> </table>	Name	Extension	8350004	8350004	8350010	999999	Axis Speaker	8355501	Axis Video	8355500	Communicator	8355001	H323Station	8350001	H323Station2	8350002	H323Station3	8350003	<b>i62one</b>	<b>8352001</b>	i62two	8352002	ipdectfour	8362022	ipdectone	8352021	ipdectthree	8362021	ipdecttwo	8352022	Mura1	8352011	<table border="1"> <thead> <tr> <th colspan="2">i62one: 8352001</th> </tr> </thead> <tbody> <tr><td>Name</td><td>i62one</td></tr> <tr><td>Password</td><td>*****</td></tr> <tr><td>Confirm Password</td><td>*****</td></tr> <tr><td>Unique Identity</td><td></td></tr> <tr><td>Audio Conference PIN</td><td></td></tr> <tr><td>Confirm Audio Conference PIN</td><td></td></tr> <tr><td>Account Status</td><td>Enabled</td></tr> <tr><td>Full Name</td><td></td></tr> <tr><td>Extension</td><td>8352001</td></tr> </tbody> </table>	i62one: 8352001		Name	i62one	Password	*****	Confirm Password	*****	Unique Identity		Audio Conference PIN		Confirm Audio Conference PIN		Account Status	Enabled	Full Name		Extension	8352001
Name	Extension																																																					
8350004	8350004																																																					
8350010	999999																																																					
Axis Speaker	8355501																																																					
Axis Video	8355500																																																					
Communicator	8355001																																																					
H323Station	8350001																																																					
H323Station2	8350002																																																					
H323Station3	8350003																																																					
<b>i62one</b>	<b>8352001</b>																																																					
i62two	8352002																																																					
ipdectfour	8362022																																																					
ipdectone	8352021																																																					
ipdectthree	8362021																																																					
ipdecttwo	8352022																																																					
Mura1	8352011																																																					
i62one: 8352001																																																						
Name	i62one																																																					
Password	*****																																																					
Confirm Password	*****																																																					
Unique Identity																																																						
Audio Conference PIN																																																						
Confirm Audio Conference PIN																																																						
Account Status	Enabled																																																					
Full Name																																																						
Extension	8352001																																																					

When the **Voicemail** tab opens check the **Voicemail On** check box and enter the **Voicemail Code** that will be used to access the users mail box, then **Confirm Voicemail Code**. Click on the **Telephony** tab.

Configuration	User	Voicemail Form																																										
<ul style="list-style-type: none"> <li>BOOTP (4)</li> <li>Operator (3)</li> <li>Solution</li> <li>User(32)</li> <li>Group(7)</li> <li>Short Code(51)</li> <li>Directory(0)</li> <li>Time Profile(0)</li> <li>Account Code(2)</li> <li>User Rights(9)</li> <li>Location(0)</li> <li>IPOSE1635</li> <li>System (1)</li> <li>Line (3)</li> <li>Control Unit (8)</li> <li>Extension (27)</li> <li>User (26)</li> <li>Group (7)</li> <li>Short Code (5)</li> </ul>	<table border="1"> <thead> <tr> <th>Name</th> <th>Extension</th> </tr> </thead> <tbody> <tr><td>8350004</td><td>8350004</td></tr> <tr><td>8350010</td><td>999999</td></tr> <tr><td>Axis Speaker</td><td>8355501</td></tr> <tr><td>Axis Video</td><td>8355500</td></tr> <tr><td>Communicator</td><td>8355001</td></tr> <tr><td>H323Station</td><td>8350001</td></tr> <tr><td>H323Station2</td><td>8350002</td></tr> <tr><td>H323Station3</td><td>8350003</td></tr> <tr><td><b>i62one</b></td><td><b>8352001</b></td></tr> <tr><td>i62two</td><td>8352002</td></tr> </tbody> </table>	Name	Extension	8350004	8350004	8350010	999999	Axis Speaker	8355501	Axis Video	8355500	Communicator	8355001	H323Station	8350001	H323Station2	8350002	H323Station3	8350003	<b>i62one</b>	<b>8352001</b>	i62two	8352002	<table border="1"> <thead> <tr> <th colspan="2">i62one: 8352001*</th> </tr> </thead> <tbody> <tr><td>Voicemail Code</td><td>*****</td></tr> <tr><td>Confirm Voicemail Code</td><td>*****</td></tr> <tr><td>Voicemail Email</td><td></td></tr> <tr><td><input checked="" type="checkbox"/> Voicemail On</td><td></td></tr> <tr><td><input type="checkbox"/> Voicemail Help</td><td></td></tr> <tr><td><input type="checkbox"/> Voicemail Ringback</td><td></td></tr> <tr><td><input type="checkbox"/> Voicemail Email Reading</td><td></td></tr> <tr><td><input type="checkbox"/> UMS Web Services</td><td></td></tr> <tr><td><input type="checkbox"/> Enable GMAIL API</td><td></td></tr> </tbody> </table>	i62one: 8352001*		Voicemail Code	*****	Confirm Voicemail Code	*****	Voicemail Email		<input checked="" type="checkbox"/> Voicemail On		<input type="checkbox"/> Voicemail Help		<input type="checkbox"/> Voicemail Ringback		<input type="checkbox"/> Voicemail Email Reading		<input type="checkbox"/> UMS Web Services		<input type="checkbox"/> Enable GMAIL API	
Name	Extension																																											
8350004	8350004																																											
8350010	999999																																											
Axis Speaker	8355501																																											
Axis Video	8355500																																											
Communicator	8355001																																											
H323Station	8350001																																											
H323Station2	8350002																																											
H323Station3	8350003																																											
<b>i62one</b>	<b>8352001</b>																																											
i62two	8352002																																											
i62one: 8352001*																																												
Voicemail Code	*****																																											
Confirm Voicemail Code	*****																																											
Voicemail Email																																												
<input checked="" type="checkbox"/> Voicemail On																																												
<input type="checkbox"/> Voicemail Help																																												
<input type="checkbox"/> Voicemail Ringback																																												
<input type="checkbox"/> Voicemail Email Reading																																												
<input type="checkbox"/> UMS Web Services																																												
<input type="checkbox"/> Enable GMAIL API																																												

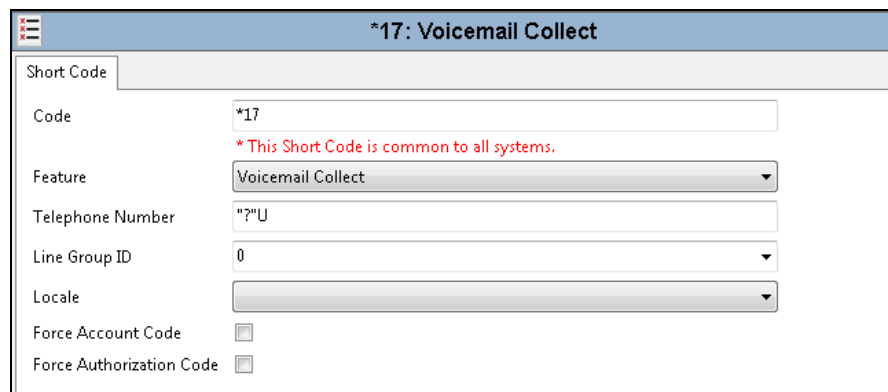
When **Telephony** tab opens click on the **Supervisor Settings** tab and enter a Login Code in the **Login Code** box. The Login Code is used by the i62 Handset to log in to the IP Office in **Section 6**. Click the **OK** button to save.



## 5.6. Verify the Voicemail Collect Short Code

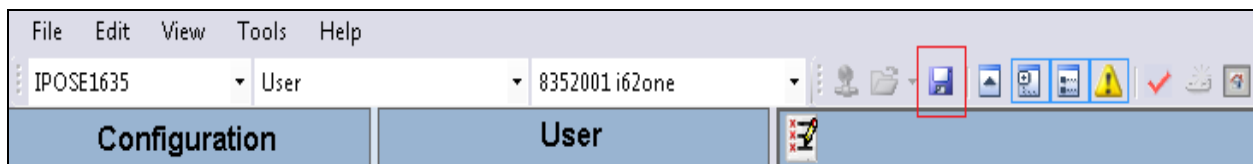
As part of the i62 Handset configuration the Voicemail access number is required. During compliance testing this number was the Voicemail Collect Short Code. From the Configuration Tree expand **Short Code** and click on **\*17**, ensure that **Feature** is set to **Voicemail Collect** (not shown). The screen shot shows that Short code **\*17** was used for **Voicemail Collect**.

**Note:** the default Short code for Voicemail Collect is \*17.

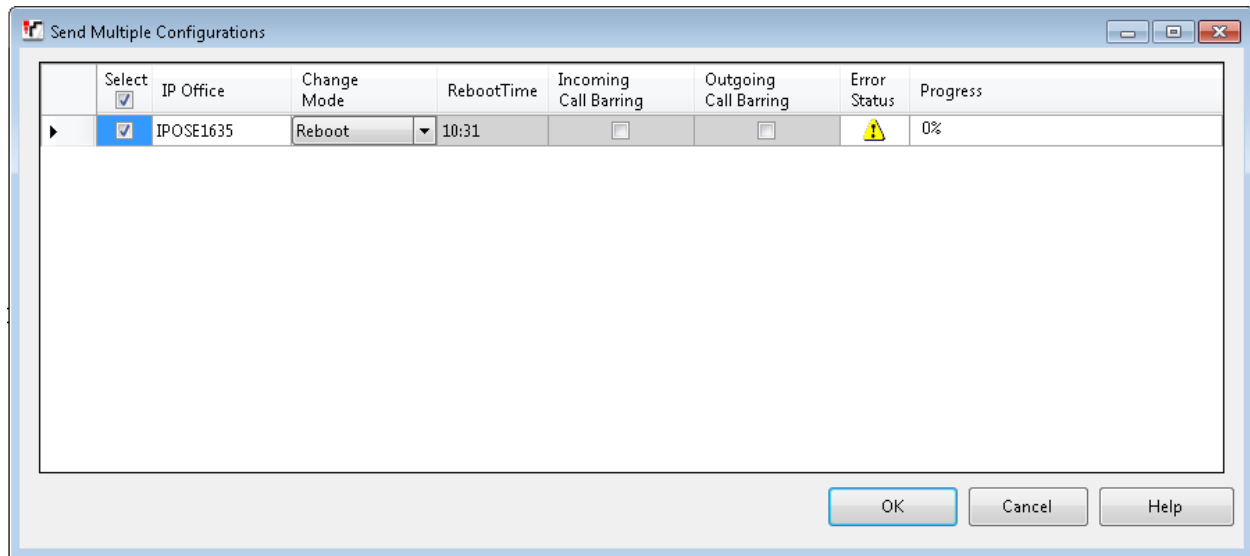


## 5.7. Save Configuration

Once all the configurations have been made it must be sent to IP Office. Click on the **Save** Icon as shown below.



Once the **Save Configuration** Window opens, click the **OK** button.

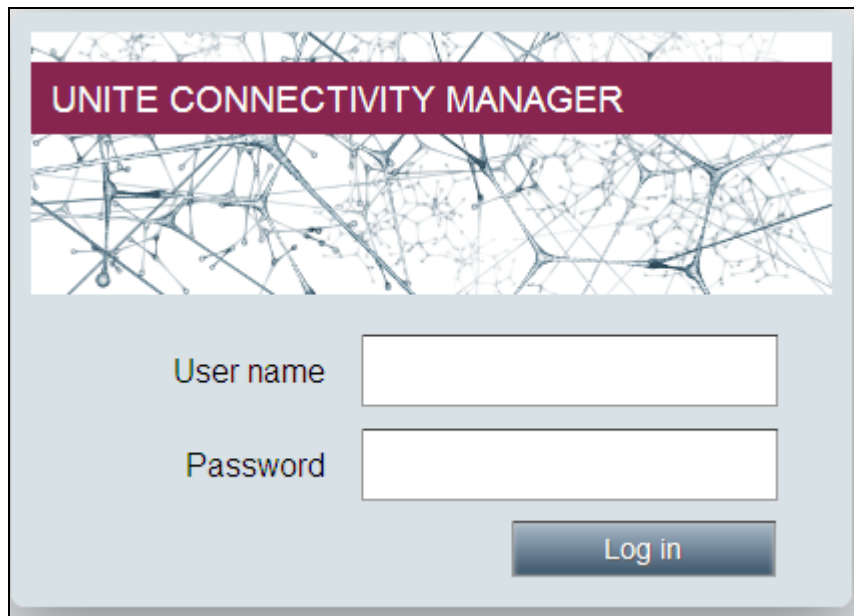


## 6. Configure Ascom i62 VoWiFi

This section describes how to access and configure the Ascom i62 via the Device Manager. It is implied that the Wifi network has been configured and operational and the Ascom Unite CM box has an IP address assigned.

**Note:** The Wireless router and Ascom Unite CM configuration are outside the scope of these Application Notes.

Access the Unite CM box by typing the URL, <http://<ip address>> in a web browser (not shown). Screen below shows the login screen. Enter the required credentials in the **User name** and **Password** fields and click on **Log in**.



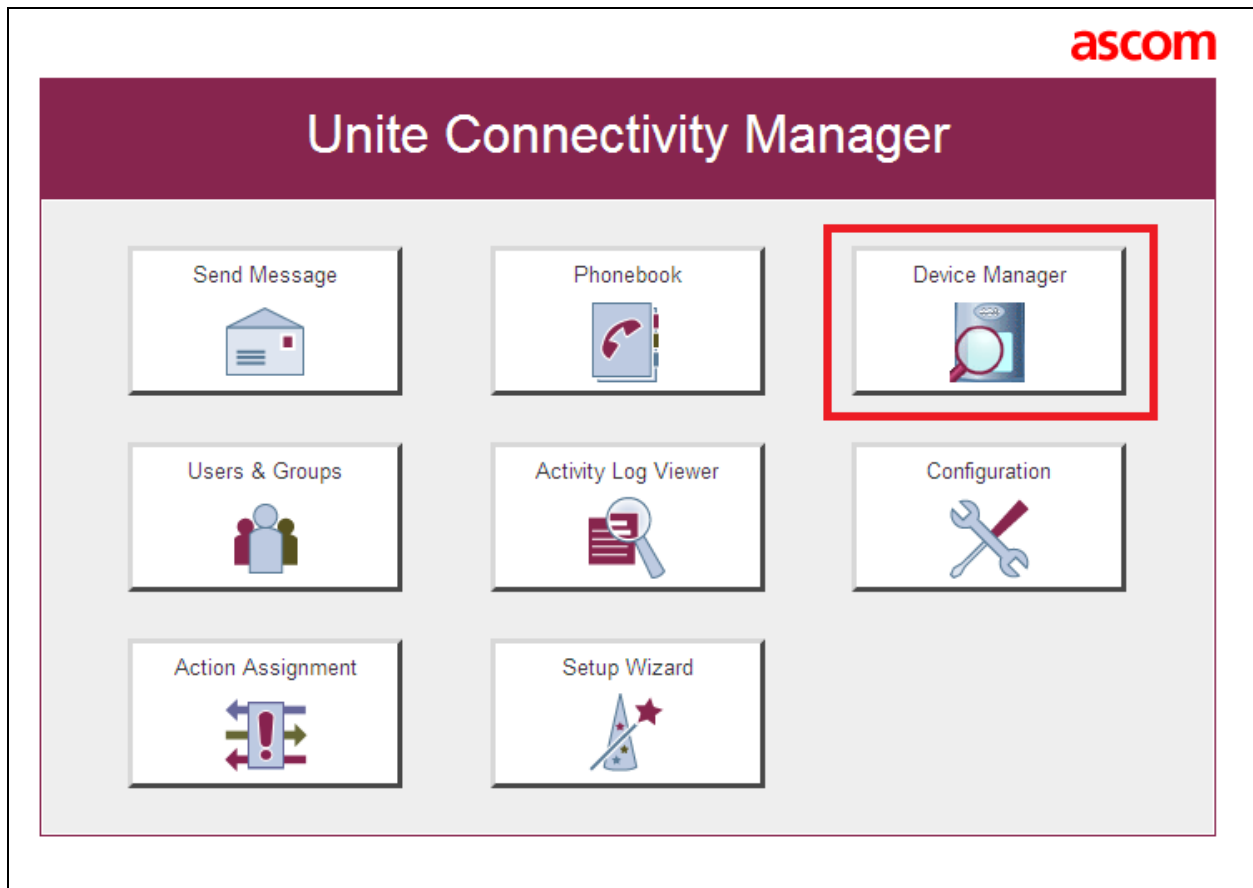
UNITE CONNECTIVITY MANAGER

User name

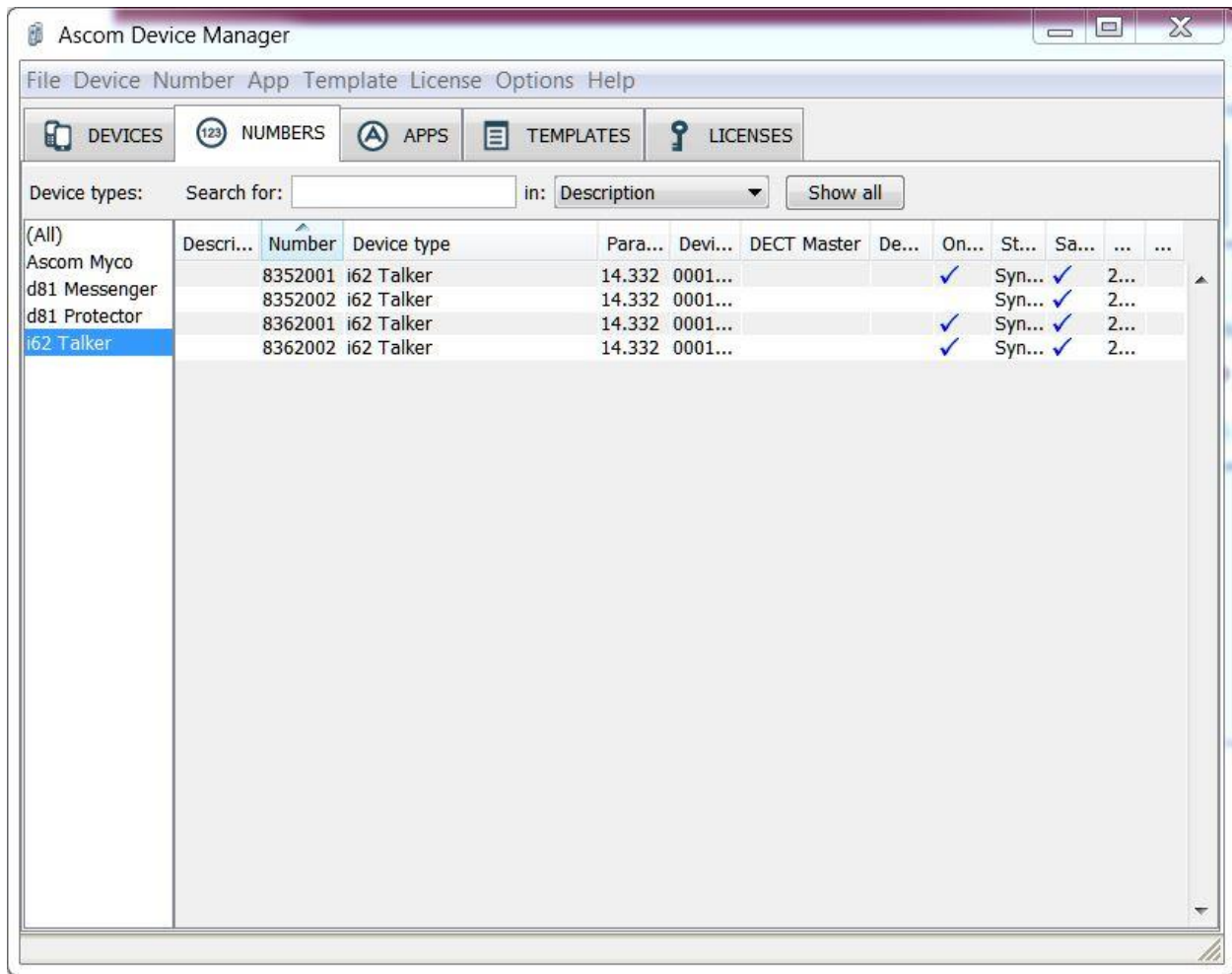
Password

Log in

The main screen of Unite Connectivity Manager is seen as shown below. Click on the Device Manager application.



The Ascom Device Manager screen is seen as shown below. In the screen below, devices with numbers 8352001,8352002,8362001 and 8362002 are discovered. Double click on any number such as 8352001.

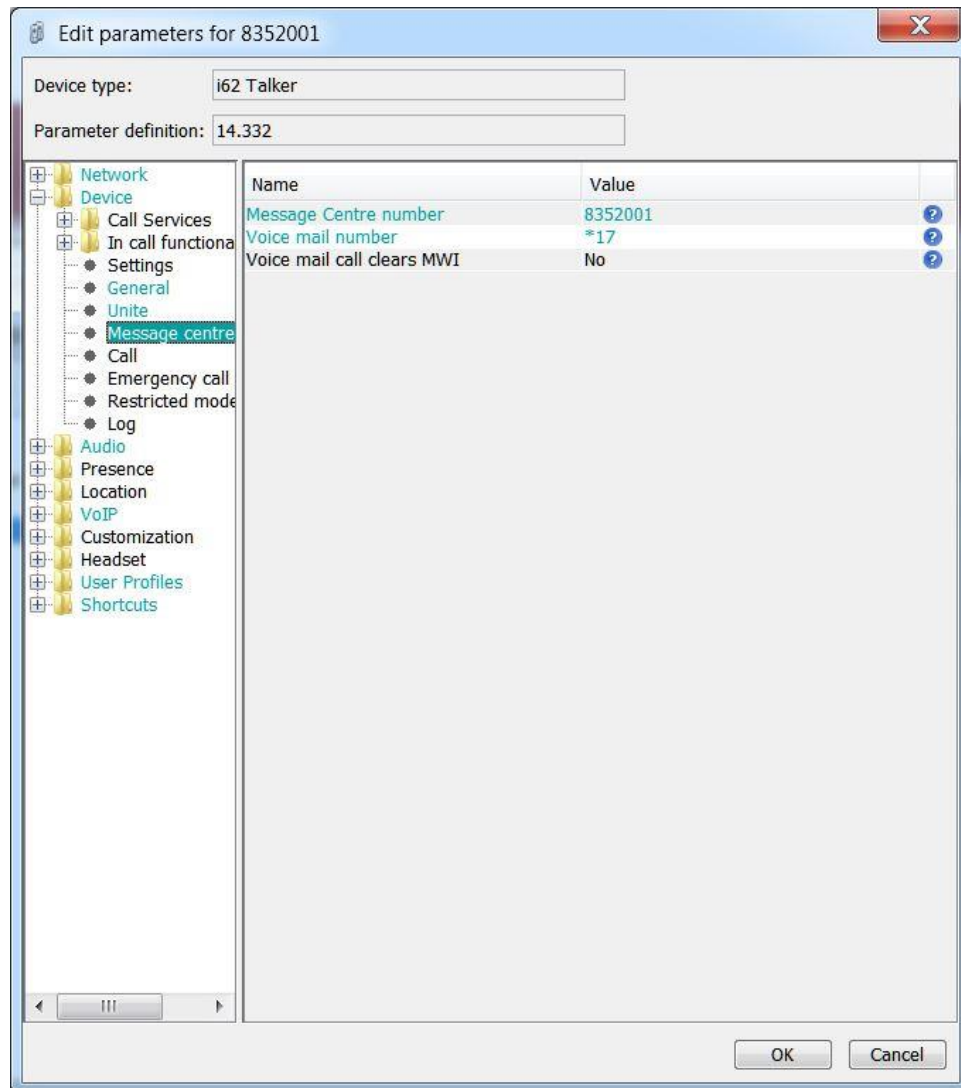




In the **Edit parameters** window select **Device** followed by **Message centre** from the Configuration Tree and enter the following:

- **Message Centre number** Enter the number of the Handset (i.e. 8352001)
- **Voice mail number** Enter the Short code as shown in **Section 5.6**

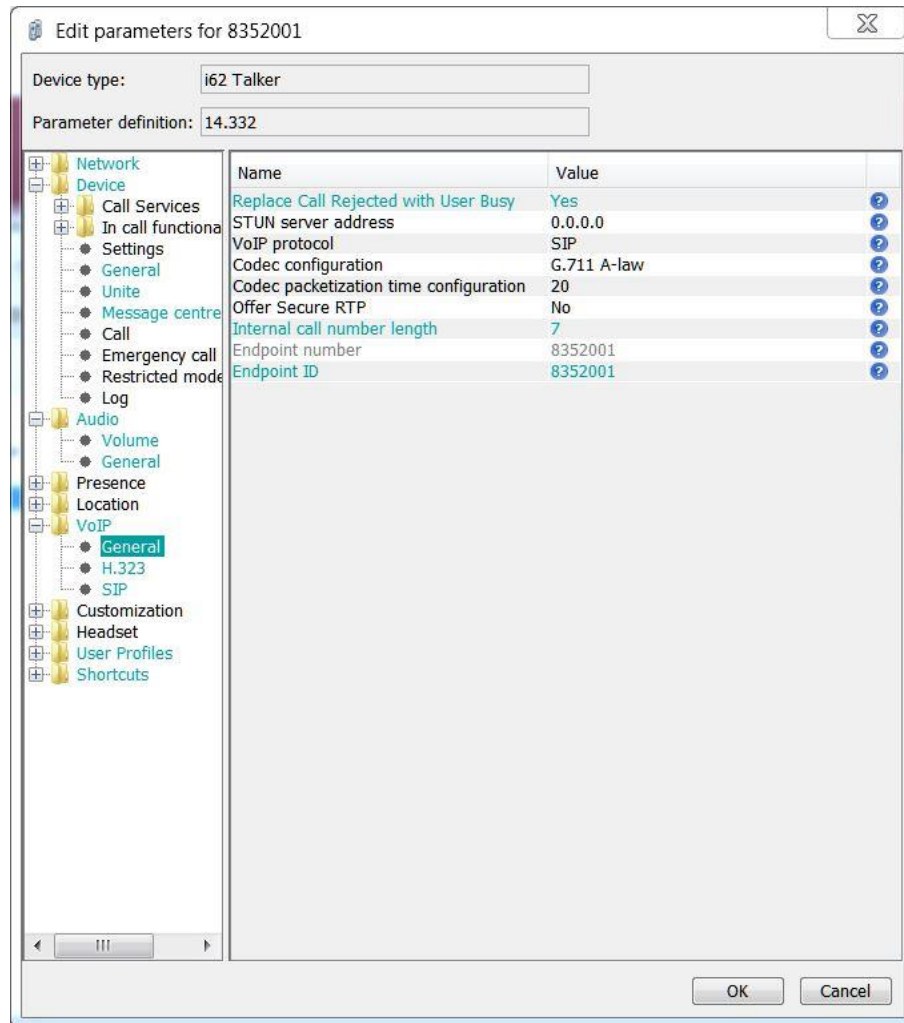
Select **VoIP** followed by **General** from the Configuration Tree.



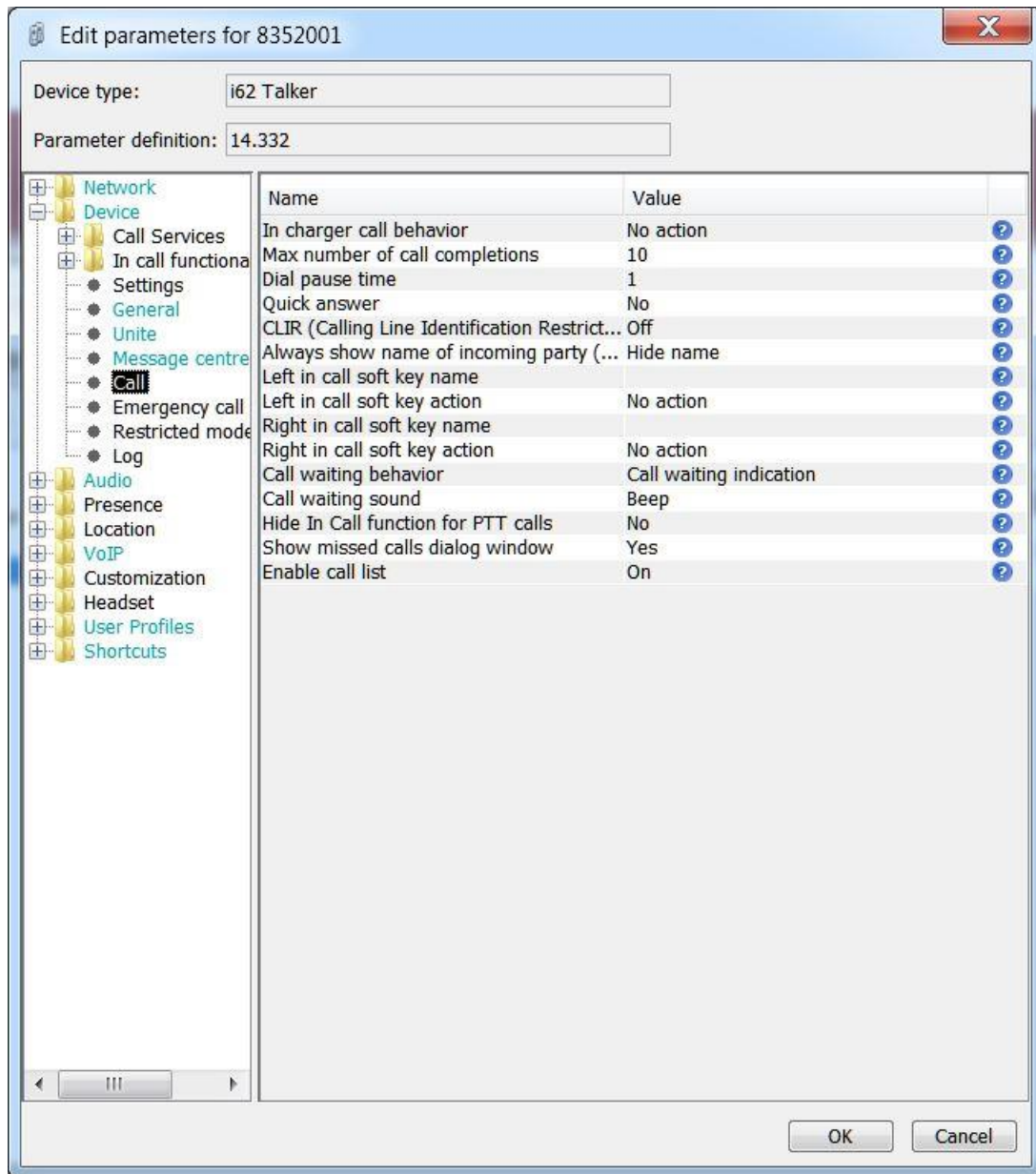
When the new window opens enter the following:

- **Replace Call Rejected with User Busy** Enter **Yes**
- **Internal call number length** Enter **7** (the length of the i62 Handset extension).

Select **VoIP** followed by **SIP** from the Configuration Tree.



For Call Waiting, under **Call** the **Call waiting behaviour** ensure that **Call waiting indication** is selected.



When the new window opens enter the following:

- **Primary SIP proxy** Enter the IP address of the IP Office
- **SIP proxy password** Enter the **Login Code** as configured for the i62 Handset in **Section 5.5**

Click on the **OK** Button to save.

Edit parameters for 8352001

Device type: i62 Talker

Parameter definition: 14.332

Name	Value
SIP Transport	TCP
Outbound proxy mode	No
Primary SIP proxy	10.10.16.35
Secondary SIP proxy	
Listening port	5060
SIP proxy ID	
SIP proxy password	*****
Send DTMF using RFC 2833 or SIP INFO	RFC2833
Hold type	Inactive
Registration identity	Endpoint number
Authentication identity	Endpoint number
Call forward locally	No
MOH locally	Yes
Hold on Transfer	No
Direct signaling	No
SIP Register Expiration	180
SIP Message behavior	Ignore
ICE negotiation	No

OK Cancel

## 7. Verification Steps

This section provides the tests that can be performed to verify correct configuration of IP Office and Ascom solution.

### 7.1. Verify the Ascom i62 VoWiFi handset status

Using IP Office System Status program click on **Extensions** and verify that the Ascom i62 Handsets are registered. The screen shot below shows that the i62 Handset 8352001 is registered.

Extension Number	Current User Extension	Current User Name	Module/ Slot/ IP Address	Port Number/ MAC Address
8350001	8350001	H323Station	10.10.16.248	64-C3-54-99-54-9B
8350002	8350002	H323Station2	10.10.16.122	64-C3-54-99-54-98
8350003	8350003	H323Station3	10.10.16.202	00-1B-4F-06-E4-47
8352001	8352001	i62one	10.10.16.134	
8352011	8352011	Myco1	10.10.16.128	
8352012	8352012	Myco2	10.10.16.126	
8352021	8352021	ipdectone	10.10.16.8	
8352022	8352022	ipdecttwo	10.10.16.8	
8355001	8355001	Communicator - Simultaneous 1	10.10.16.85	

### 7.2. Verify Calls to Voicemail

Made some inbound and out bound calls using i62 Handsets, including a call to voicemail, verify clear voice quality.

## 8. Conclusion

A full and comprehensive set of feature and functional test cases were performed during Compliance testing. Ascom i62 VoWiFi Handset is considered compliant with Avaya IP Office 10.0.

All test cases have passed and met the objectives outlined in **Section 2.2**

## 9. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be had from <http://support.avaya.com> or from your Avaya representative.

*[1] Avaya IP Office Manager 10.0, Document 15-601011, Issue 1, August 2016*

Product Documentation for Ascom Products can be obtained from Ascom or may be requested at <https://www.ascom-ws.com/AscomPartnerWeb/Templates/WebLogin.aspx> (login required).

---

**©2016 Avaya Inc. All Rights Reserved.**

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at [devconnect@avaya.com](mailto:devconnect@avaya.com).