

Avaya Solution & Interoperability Test Lab

Application Notes for configuring Ascom i63 with Avaya Aura® Communication Manager and Avaya Aura® Session Manager – Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning Ascom's i63 VoWiFi handsets v3.1.1 to interoperate with Avaya Aura® Communication Manager R10.1 and Avaya Aura® Session Manager R10.1.

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 i63 VoWiFi (i63) handsets v3.1.1 to interoperate with Avaya Aura® Communication Manager R10.1 and Avaya Aura® Session Manager R10.1. Ascom's i63 handsets are configured to register with Session Manager and are configured with the 9620 SIP endpoint template. The Ascom i63 handsets then behave as third-party SIP extensions on Communication Manager. The handsets are able to make/receive internal and PSTN/external calls and have full voicemail and other telephony features available on Communication Manager.

2. General Test Approach and Test Results

The interoperability compliance testing evaluates the ability of Ascom i63 handsets to make and receive calls to and from Avaya H.323, Avaya SIP, Avaya Digital and simulated PSTN endpoints. Avaya Messaging was used to allow users leave voicemail messages and to demonstrate Message Waiting Indication and DTMF on the Ascom i63 handsets.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendorsupplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and Ascom i63 VoWiFi handsets did not include use of any specific encryption features as requested by Ascom.

Avaya's formal testing and Declaration of Conformity is provided only on the headsets/Smartphones that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headset/handset to determine interoperability with Avaya phones. However, Avaya does not conduct the testing of non-Avaya headsets/Smartphones 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.

2.1. Interoperability Compliance Testing

The compliance testing included the test scenarios shown below. Note that when applicable, all tests were performed with Avaya SIP, Avaya H.323, Avaya Digital, Ascom i63 and simulated PSTN endpoints.

- Registration/Invalid Registration
- Basic Calls/PSTN calls
- Session Refresh Timer
- Long Duration Call
- Hold, Retrieve and Brokering (Toggle)
- Feature Access Code dialing
- Attended and Blind Transfer
- Third Party Conference using the i63 to host the conference
- Call Forwarding Unconditional, No Reply and Busy (PBX controlled and Locally Controlled)
- Call Waiting
- Call Park/Pickup
- EC500, where Avaya deskphone is the primary phone and i63 handset being the EC500 destination
- Multi-Device Access (MDA)
- Do Not Disturb (Locally Controlled)
- Calling Line Name/Identification
- Codec Support (OPUS, G.722, G.711, G.729)
- DTMF Support
- Voice Mail, Message Waiting Indication
- Serviceability

Note1: Compliance testing does not include redundancy testing as standard. Where some LAN failures were simulated, and the results observed, there were no redundancy or failover tests performed.

Note2: For 9-1-1 emergency call handling in the USA, Ascom is recommending setting Ascom Settings → Ascom VoIP → "Emergency call location method" to "Register with SIP instance-ID" (RFC5626). **This was not covered in the testing**.

2.2. Test Results

The tests were all functional in nature and performance testing and redundancy testing were not included. All test cases passed successfully with the following observations/limitations noted below:

- 1. All compliance testing was done using UDP and TCP (preferred) as the transport protocol.
- 2. In the blind transfer scenario involving three i63 handsets, where A is the calling, B is the called and transfer-from, and C is the transfer-to parties. Upon ringing, the display on the transfer-to party C showed "Redirected x y" where "x" is the extension number of the calling party A and "y" is the name of the transfer-from party B. According to Ascom, transfer-to party C displayed information conveyed by Communication Manager, and "redirected" was displayed because the INVITE included a History-Info header. This was deemed to be 'as per design' by Ascom.
- 3. Ascom i63 handset supports third party conference, which is, i63 makes two calls simultaneously and conferences the calls locally.
- 4. When using the EC500 (concurrent call) feature, if an i63 handset or an Avaya endpoint answers the call before two rings, the call is dropped. This is due to the "Cellular Voice Mail Detection" field default value seen in "off-pbx-telephone configuration-set" form of Communication Manager. The default value for this field is "timed (seconds): 4" which means that if Communication Manager receives an answer within 4 seconds, then it will be considered as the cellular voicemail picking up the call, and so call will be dropped and proceed to do Communication Manager coverage processing instead. The workaround is to answer the call after 2 rings or change the "Cellular Voice Mail Detection" field value to "none" or decrease "timed" value. Note that changing the "off-pbx-telephone configuration-set" affects all users in the same set, so if cellular users are grouped with i63 handset users, calls may be answered by a cellular user's voicemail instead of following the coverage criteria in Communication Manager.
- 5. When an i63 handset is configured as an EC500 destination for an Avaya endpoint, an incoming call to the Avaya endpoint will ring both the Avaya endpoint and the i63 handset. When the call is declined on the i63 handset, the Avaya endpoint continues to ring as per normal design.
- 6. Session Manager has a minimum Registration Timer of 600 seconds. If the i63 Registration Timer is set lower than 600 seconds this will be negotiated to 600 seconds. This appears to be changed from a default value of 120 seconds with previous releases of Session Manager (see **Appendix C**).
- 7. Negotiation of OPUS or G.722 between endpoints, such as the Ascom i63, requires support for the codec to be configured on Communication Manager.
- 8. When multiple voice messages are left for an i63 handset, the handset shows the total number of messages as only "1" in the display even though there are multiple messages. This is because there is no counter information sent in the NOTIFY from Avaya Messaging.
- 9. For Multi-Device Access (MDA), the i63 needs to be configured using and registering through Endpoint ID. Also, the MWI configuration has to be identical on all i63 handsets that are configured for MDA. Refer to **Section 7.3** for details.

- 10. Per design, i63 handsets do not have a redial button. User needs to use "Call List" and redial the numbers.
- 11. When outgoing calls are configured to be restricted for an i63 handset on Communication Manager, the i63 display showed "No Channel Available" when user attempted to make an outbound call.
- 12. PSTN calls were simulated using a SIP trunk routing via an Avaya Session Border Controller for Enterprise. In order to correctly simulate incoming calls from a typical SIP service provider, the Session Border Controller for Enterprise must be setup to present the SIP calls correctly to the Ascom phones. Using Topology Hiding under Configuration Profiles will ensure that the calls are presented to Ascom in the correct format. Please see **Appendix B** for the setup that was used during compliance testing.

2.3. Support

Support from Avaya is available by visiting the website http://support.avaya.com and a list of product documentation can be found in **Section 10** of these Application Notes. Technical support for the Ascom i63 handsets can be obtained through a local Ascom supplier or Ascom global technical support:

Email: <u>support@ascom.com</u>Help desk: +46 31 559450

3. Reference Configuration

Figure 1 shows the network topology during compliance testing. The Ascom i63 VoWiFi handsets connect to an Ascom approved wireless access point which is placed on the LAN. The i63 handsets register with Session Manager to be able to make/receive calls with the Avaya Digital, H.323, and SIP endpoints on Communication Manager and with a simulated PSTN. The handsets are configured by Ascom Windows Portable Device Manager (WinPDM) using the Ascom Desktop Programmer DP1.

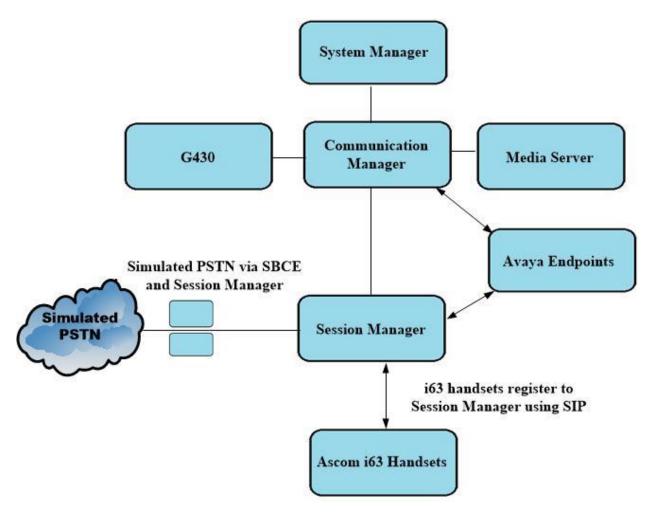


Figure 1: Network Solution of Ascom i63 with Avaya Aura® Communication Manager R10.1 and Avaya Aura® Session Manager R10.1

4. Equipment and Software Validated

The following equipment and software were used for the compliance test.

Avaya Equipment	Software / Firmware Version	
Avaya Aura® System Manager	System Manager 10.1.0.2 Build No. – 10.1.0.0.537353 Software Update Revision No: 10.1.0.2.0715160 Service Pack 2	
Avaya Aura® Session Manager	Session Manager R10.1 Build No. – 10.1.0.2.1010219	
Avaya Aura® Communication Manager	R10.1.0.2.0 – SP2 R020x.01.0.974.0 Update ID 01.0.974.0-27607	
Avaya Messaging	11.0 SP2 Build 11.0.0.324	
Avaya Aura® Media Server	10.1.0.101	
Avaya Media Gateway G430	42.7.0 /2	
Avaya 9404 Digital	17.0	
Avaya J100 Series SIP	7.1.2.0.14	
Avaya J100 Series H323	7.0.14.0.7	
Avaya Session Border Controller for Enterprise (to facilitate simulated PSTN)	8.1.3.0-31-21052	
Ascom Equipment	Software / Firmware Version	
Ascom Portable Device Manager running on Windows PC	4.1.8	
Ascom i63 VoWiFi Handset	V3.1.10	
Ascom approved Wi-Fi Access Point	Ascom approved software version	

Note: All Avaya equipment are running on VMware virtual servers.

5. Configure Avaya Aura® Communication Manager

It is assumed that a fully functioning Communication Manager is in place with the necessary licensing with SIP trunks in place to Session Manager. For further information on the configuration of Communication Manager please see **Section 10** of these Application Notes.

Note: A printout of the Signalling and Trunk groups that were used during compliance testing can be found in **Appendix A** of these Application Notes.

The following sections go through the following.

- System Parameters
- Dial Plan Analysis
- Feature Access Codes
- Network Region
- IP Codec
- Coverage Path/Hunt Group

5.1. Configure System Parameters

Ensure that the SIP endpoints license is valid as shown below by using the command **display** system-parameters customer-options.

```
display system-parameters customer-options
                                                              Page
                                                                     1 of 12
                               OPTIONAL FEATURES
     G3 Version: V20
                                                 Software Package: Enterprise
      Location: 2
                                                  System ID (SID): 1
      Platform: 28
                                                 Module ID (MID): 1
                                                              USED
                               Platform Maximum Ports: 48000 168
                                     Maximum Stations: 36000 44
                             Maximum XMOBILE Stations: 36000 0
                   Maximum Off-PBX Telephones - EC500: 41000 2
                   Maximum Off-PBX Telephones - OPS: 41000 20
                   Maximum Off-PBX Telephones - PBFMC: 41000 0
                   Maximum Off-PBX Telephones - PVFMC: 41000 0
                    Maximum Off-PBX Telephones - SCCAN: 0
                        Maximum Survivable Processors: 313
```

5.2. Configure Dial Plan Analysis

Use the **change dialplan analysis** command to configure the dial plan using the parameters shown below. Extension numbers (**ext**) are those beginning with **3**. Feature Access Codes (**fac**) use digits **8** and **9** and use characters * or #.

change dialp	olan analysis	Page 1 of 12
		DIAL PLAN ANALYSIS TABLE
		Location: all Percent Full: 5
Dialed	Total Call	Dialed Total Call Dialed Total Call
String	Length Type	String Length Type String Length Type
1	4 udp	
2	4 udp	
3	4 ext	
4	4 ext	
5	4 udp	
6	4 ext	
8	1 fac	
9	1 fac	
*8	4 dac	
*	3 fac	
#	3 fac	

Under **aar analysis**, **31** was set to go out over the SIP trunk 11 on **Route Pattern 11**, as shown below. This is used for SIP phones to allow the connection between Session Manager and Communication Manager and would have been setup as part of the initial installation and configuration of the Aura® platform. The configuration of the Signaling and Trunk Group 11 is shown in **Appendix A**.

change aar analysis 3						Page	1 of	2
	AAR DIGIT ANALYSIS TABLE Location: all Percent Full: 1				1			
Dialed	Tot	al	Route	Call	Node	ANI		
String	Min	Max	Pattern	Type	Num	Reqd		
31	4	4	11	lev0		n		
4	7	7	999	aar		n		
5	7	7	999	aar		n		
666	4	4	66	aar		n		
7	7	7	999	aar		n		
8	7	7	999	aar		n		
9	7	7	999	aar		n		
						n		
						n		

5.3. Configure Feature Access Codes

Use the **change feature-access-codes** command to configure access codes which can be entered from i63 handsets to initiate Communication Manager call features. These access codes must be compatible with the dial plan described in **Section 5.2**. Some of the access codes configured during compliance testing are shown below.

change feature-access-codes		Page	1 of	12
FEATURE ACCESS CO	DE (I	FAC)		
Abbreviated Dialing List1 Access Code:	*11			
Abbreviated Dialing List2 Access Code:	*12			
Abbreviated Dialing List3 Access Code:	*13			
Abbreviated Dial - Prgm Group List Access Code:	*10			
Announcement Access Code:	*27			
Answer Back Access Code:	#02			
Attendant Access Code:				
Auto Alternate Routing (AAR) Access Code:	8			
Auto Route Selection (ARS) - Access Code 1:	9	Access Code 2	:	
Automatic Callback Activation:	*05	Deactivation	: #05	
Call Forwarding Activation Busy/DA: *03 All:	*04	Deactivation	: #04	
Call Forwarding Enhanced Status: *73 Act:	*74	Deactivation	: #74	
Call Park Access Code:	*02			
Call Pickup Access Code:	*09			
CAS Remote Hold/Answer Hold-Unhold Access Code:				
CDR Account Code Access Code:	*14			
Change COR Access Code:				
Change Coverage Access Code:				
Conditional Call Extend Activation:		Deactivation	:	
Contact Closure Open Code:		Close Code	:	

5.4. Configure Network Region

Use **change ip-network-region x** (where x is the network region to be configured) to assign an appropriate domain name to be used by Communication Manager, in the example below **greaneyp.sil6.avaya.com** is used. Note that this domain is also configured in **Section 6.1.1**.

```
change ip-network-region 1
                                                                 Page
                                                                         1 of
                                                                               20
                                 IP NETWORK REGION
  Region: 1
                 NR Group: 1
Location: 1
                  Authoritative Domain: greaneyp.sil6.avaya.com
   Name: PG Default

IA PARAMETERS

Codec Set: 1

Intra-region IP-IP Direct Audio: yes

Inter-region IP-IP Direct Audio: yes
MEDIA PARAMETERS
   UDP Port Min: 2048
                                             IP Audio Hairpinning? n
   UDP Port Max: 3329
DIFFSERV/TOS PARAMETERS
 Call Control PHB Value: 46
        Audio PHB Value: 46
        Video PHB Value: 26
802.1P/Q PARAMETERS
 Call Control 802.1p Priority: 6
        Audio 802.1p Priority: 6
        Video 802.1p Priority: 5
                                     AUDIO RESOURCE RESERVATION PARAMETERS
H.323 IP ENDPOINTS
                                                            RSVP Enabled? n
 H.323 Link Bounce Recovery? y
 Idle Traffic Interval (sec): 20
   Keep-Alive Interval (sec): 5
```

5.5. Configure IP-Codec

Use the **change ip-codec-set x** (where x is the ip-codec set used) command to designate a codec set compatible with the i63 handsets. During compliance testing the codecs shown below were offered to the i63 handsets.

```
change ip-codec-set 1
                                                                  1 of
                                                           Page
                         IP MEDIA PARAMETERS
   Codec Set: 1
   Audio Silence Frames Packet Codec Suppression Per Pkt Size(ms)
1: OPUS-SWB24K
2: G.722-64K n
                                       20
                              1
                                        20
                                       20
3: G.722.2
                               2
4: G.711A
                              2
                                       20
                    n
5: G.711MU
                    n
                               2
                                       20
6: G.729
                    n
                               2
                                        20
7:
    Media Encryption
                                       Encrypted SRTCP: best-effort
1: 1-srtp-aescm128-hmac80
2: none
3:
 4:
```

5.6. Configuration of Coverage Path and Hunt Group for voicemail

The coverage path setup used for compliance testing is illustrated below. Note the following:

Don't Answer is set to **y**The coverage path will be used in the event the phone set

is not answered.

Number of Rings is set to 3

Point 1 is set to h68

The coverage path will be used after 3 rings.

Hunt Group 68 is utilised by this coverage path.

```
display coverage path 3
                            COVERAGE PATH
                Coverage Path Number: 3
    Cvg Enabled for VDN Route-To Party? n
                                         Hunt after Coverage? n
                   Next Path Number:
                                          Linkage
COVERAGE CRITERIA
   Station/Group Status Inside Call Outside Call
          Active?
                       n
                                         n
            Busy?
                           У
                                        У
     Don't Answer?
                           У
                                                 Number of Rings: 3
                                        У
             All?
                           n
                                        n
DND/SAC/Goto Cover?
                           У
  Holiday Coverage?
                                         n
COVERAGE POINTS
   Terminate to Coverage Pts. with Bridged Appearances? n
 Point1: h68 Rng: 3 Point2:
                            Point4:
 Point3:
 Point5:
                            Point6:
```

The hunt group used for compliance testing is shown below. Note that on **Page 1** the **Group Extension** is **6668**, which is used to dial for messaging and **Group Type** is set to **ucd-mia**.

```
display hunt-group 68

HUNT GROUP

Group Number: 68

Group Name: Messaging

Group Extension: 6668

Group Type: ucd-mia

TN: 1

TN: 1

Night Service Destination:

COR: 1

MM Early Answer? n

Security Code:

ISDN/SIP Caller Display:

SIP URI::
```

On Page 2 Message Center is set to sip-adjunct.

Message Center: sip-adjunct

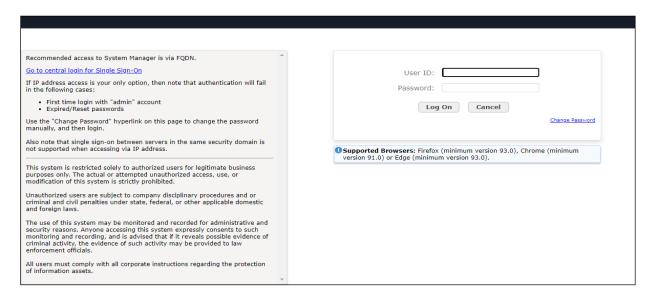
Voice Mail Number Voice Mail Handle Routing Digits (e.g., AAR/ARS Access Code) 6668 6668

6. Configure Avaya Aura® Session Manager

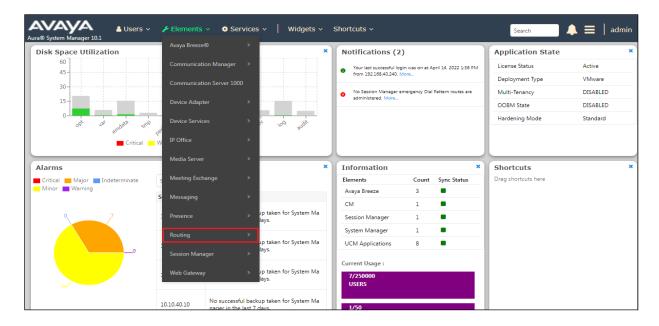
The Ascom i63 handsets are added to Session Manager as SIP users. The procedures include the following areas:

- Domains and Locations
- Adding Ascom SIP Users

To make changes on Session Manager a web session is established to System Manager. Log into System Manager by navigating to https://<System Manager FQDN>/SMGR. Enter the appropriate credentials for the **User ID** and **Password** and click on **Log On**.



Once logged in navigate to **Elements** and click on **Routing**. This area is where the domain, location and SIP Entities are added.

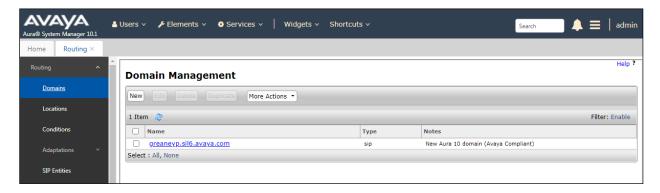


6.1. Domains and Locations

Note: It is assumed that a domain and a location have already been configured, therefore a quick overview of the domain and location that was used in compliance testing is provided here.

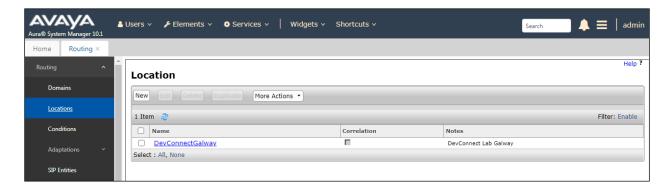
6.1.1. Display the Domain

Select **Domains** from the left window. This will display the domain configured on Session Manager. For compliance testing this domain was **greaneyp.sil6.avaya.com** as shown below. If a domain is not already in place, click on **New**. This will open a new window (not shown) where the domain can be added.



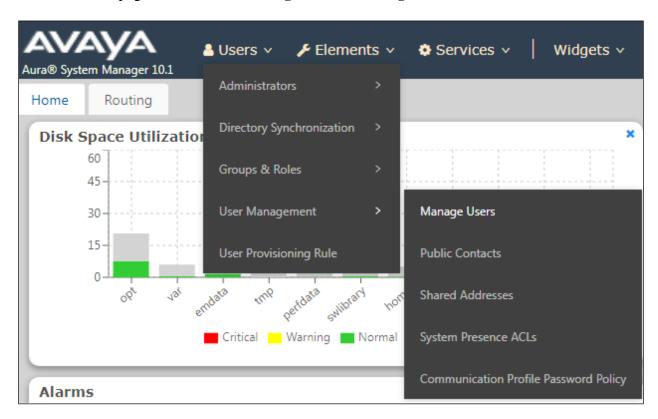
6.1.2. Display the Location

Select **Locations** from the left window and this will display the location setup. The example below shows the location **DevConnectGalway** which was used for compliance testing. If a location is not already in place, then one must be added to include the IP address range of the Avaya solution. Click on **New** to add a new location.

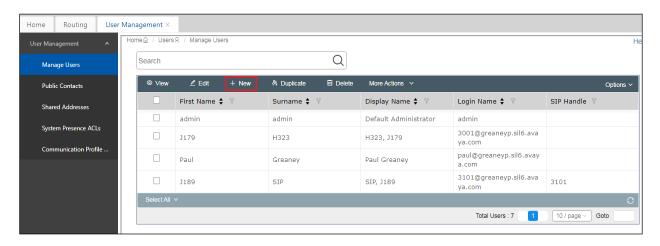


6.2. Adding Ascom SIP Users

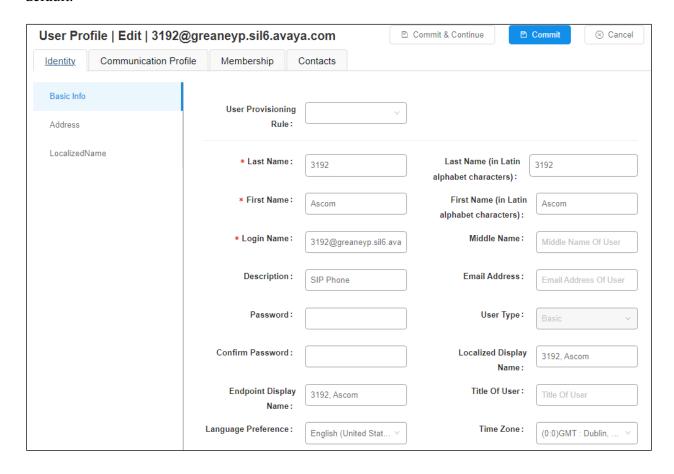
From the home page click on **User Management** → **Manager Users** shown below.



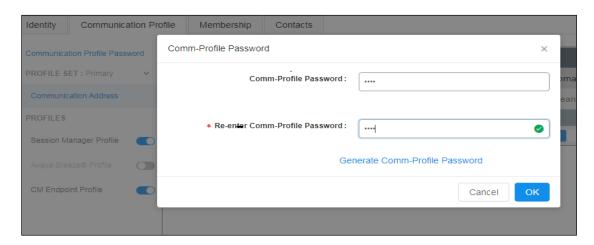
From Manager Users section, click on New to add a new SIP user.



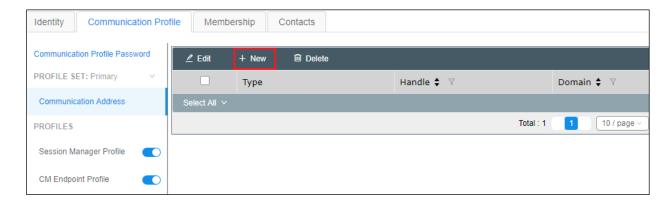
Under the **Identity** tab fill in the user's **Last Name** and **First Name** as shown below. Enter the **Login Name**, following the format of "user id@domain". The remaining fields can be left as default.



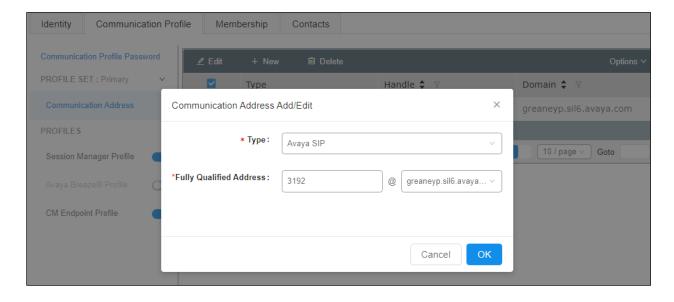
Under the Communication Profile tab enter Communication Profile Password and Re-enter Comm-Profile Password, note that his password is required when configuring the i63 handset in Section Error! Reference source not found.



Staying on the **Communication Profile** tab, click on **New** to add a new **Communication Address**.

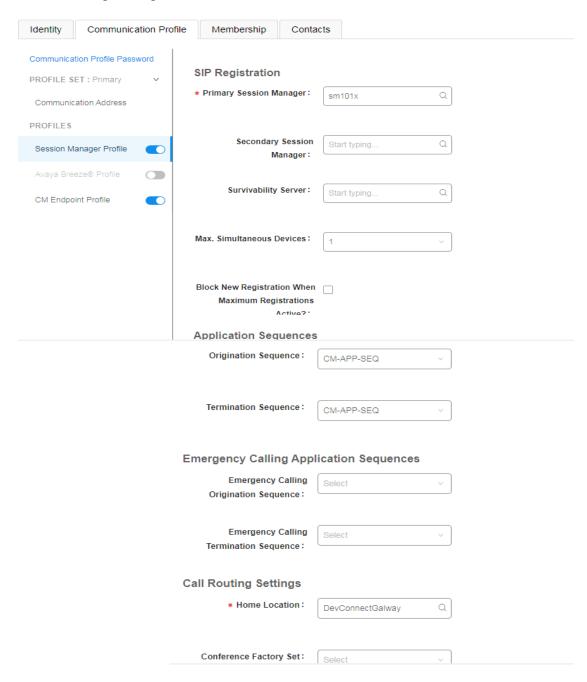


Enter the extension number and the domain for the **Fully Qualified Address** and click on **OK** once finished.

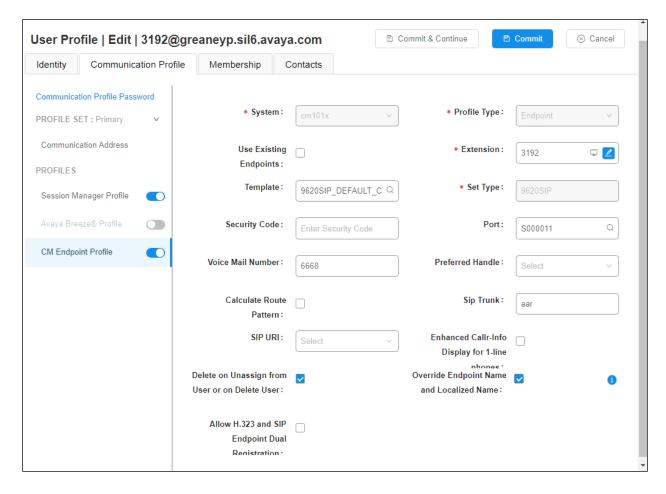


Ensure **Session Manager Profile** is checked and enter the **Primary Session Manager** details, enter the **Origination Sequence** and the **Termination Sequence**. Scroll down to complete the profile. Enter the **Home Location**, this should be the location configured in **Section 6.1.2**. Click on Commit at the top of the page (not shown).

Note: **Max. Simultaneous Devices** will need to be set here when configuring Multi-Device Access in **Section 7.3**. This will only be set on the SIP user that all devices will be registering as, for compliance testing this SIP user was 3101. This will be set on SIP user 3101 to however many devices will be registering as 3101.



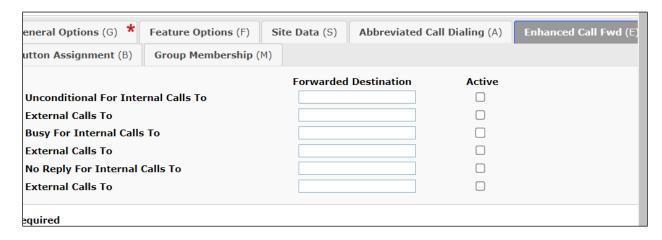
Click on the **CM Endpoint Profile** in the left window. Select the Communication Manager that is configured for the **System** and choose the **9620SIP_DEFAULT_CM_10_1** as the **Template**. Enter the appropriate **Voice Mail Number** and **Sip Trunk** should be set to **aar**, providing that the routing is setup correctly on Communication Manager. The **Profile Type** should be set to **Endpoint** and the **Extension** is the number assigned to the i63 handset. Click on **Endpoint Editor** to configure the buttons and features for that handset on Communication Manager.



Under the **General Options** tab ensure that **Coverage Path 1** is set to that configured in **Section 5.6**. Also ensure that **Message Lamp Ext.** is showing the correct extension number. The **Class of Restriction** and **Class of Service** should be set to the appropriate values for the i63 handset. This may vary depending on what level of access/permissions the handset has been given.

Template 96 Port S	m101x c20SIP_DEFAULT_CM_10_1 000011 192, Ascom	Extension Set Type Security Code	3192 9620SIP
	re Options (F) Site Dat	a (S) Abbreviated Call Dialing (A) Enhanced Call Fwd
 * Class of Restriction (COR) * Emergency Location Ext * Tenant Number * SIP Trunk Coverage Path 1 Lock Message Multibyte Language 	1 3192 1 Q aar 3 Not Applicable	* Class Of Service (COS) * Message Lamp Ext. Type of 3PCC Enabled Coverage Path 2 Localized Display Name Enable Reachability for Station Domain Control	1 3192 None 3192, Ascom system
SIP URI Primary Session Manager IPv4: Secondary Session Manag IPv4:	10.10.40.12	IPv6:	

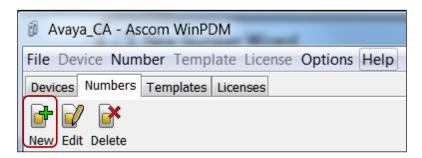
Call Forwarding can be set from the **Enhanced Call Fwd** tab, as shown below. Other tabs can be checked, but for compliance testing the values were left as default, such as default value of three call appearance buttons that were used, this can be changed under the **Button Assignment** tab. Click on **Done** (not shown) to complete.



Once the **CM Endpoint Profile** is completed correctly, click on **Commit** to save the new user.

7. Configure Ascom i63 VoWiFi Handsets

The configuration of the i63 handsets is done using Ascom's WinPDM software installed on a PC. Attach the Ascom DeskTop Programmer DP1 USB cradle to a PC on which the Ascom WinPDM has been installed. Insert the handset to be configured in the DP1 USB Cradle, start the Ascom Device Manager, select the **Numbers** tab and click **New** icon highlighted below.



Place a new i63 to be programmed into the cradle and the following screen should appear automatically. Select **Edit parameters** and click on **Next** as shown below.



7.1. Configure SIP settings

Select **VoIP** → **General** from the left window. In the main window ensure the following are set.

Replace Call Rejected with User Busy: Yes

• Codec configuration: G.722 (as desired based on Section 5.5)

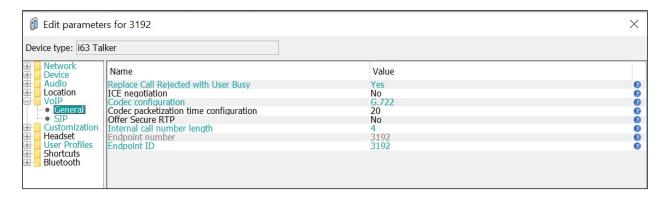
• Codec packetization time configuration: 20 (as configured in Section 5.5)

• **Internal call number length:** 4 (matches #digits in Endpoint number)

• Endpoint number: User extension from Section 6.2

Endpoint ID: User extension from Section 6.2

Note: The Codec used during compliance testing was **G.722**, however other codecs such as OPUS and G.711 are available to use also.



Select the **VoIP→SIP** menu point, and enter the values shown below.

• **Primary SIP proxy:** IP address of Session Manager's signaling interface

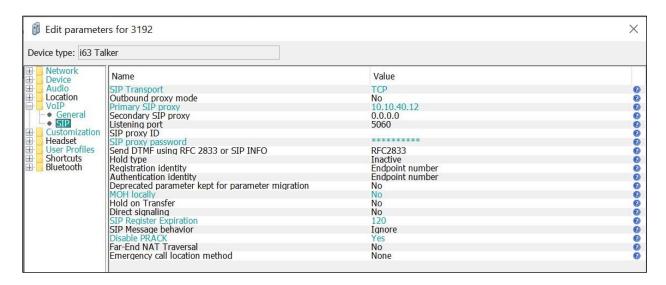
• Listening port: 5060

• **SIP proxy password:** Password assigned to the endpoint in **Section 6.2**

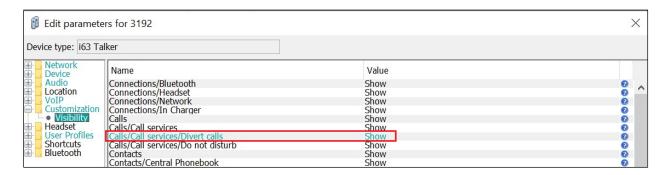
Registration identity: Enter Endpoint number
 Authentication identity: Enter Endpoint number
 SIP Register Expiration: 120 (this will be negotiated)

Direct signaling: This was left as No for compliance testing
 Disable PRACK: This was set to Yes for compliance testing

Direct signaling defines whether calls can be redirected to or accepted from other sources than the configured SIP Proxy. Retain default values for all other fields.



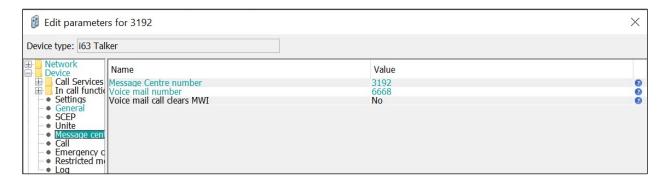
To allow call forwarding options to be visible and set locally, the following field needs to be set to "Show". Under **Customization** in the left window, click on **Visibility** and ensure that **Calls/Call services/Divert calls** is set to **Show**.



For further information about the Ascom i63 handset configurations please refer to Ascom's documentation in **Section 10** of these Application Notes. This section only covers specific settings concerning SIP.

7.2. Configure Message Centre

Click on **Device** → **Message centre** in the left window. In the right window, enter the **Voice** mail number as configured in **Section 5.6** and the **Message Centre number** which is the extension number of the handset. Message waiting on/off comes from SIP messages originating from Avaya Messaging so there is no requirement to set this value on the Ascom phone.

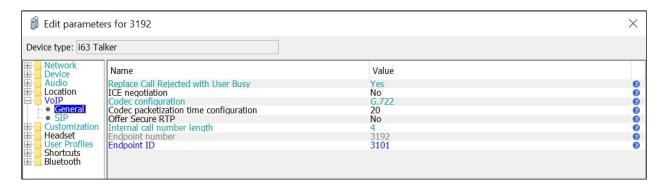


7.3. Configure Multi-Device Access

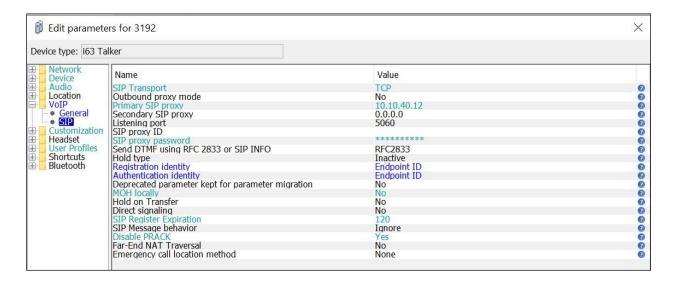
The MDA feature allows users to leverage multiple devices (endpoints) simultaneously to meet their communication needs. Users can send and receive calls at multiple devices and move calls between devices as needed.

For i63 handset, the MDA feature can be accomplished by configuring and registering the handset using the Endpoint ID parameter. In the example below, handset device with extension number 3192 is configured to register as user 3101. As shown in the screen below, **Endpoint number** is configured as **3192** however **Endpoint ID** is configured as **3101**. As per design, the Endpoint number needs to be unique while configuring the i63 handset via WinPDM.

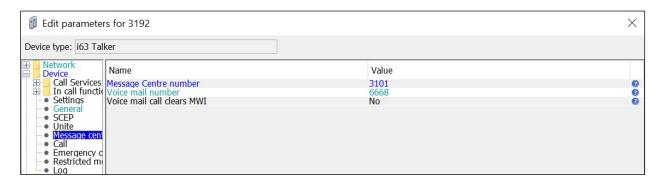
Note: The number of devices that can be registered to this number depends on the Max. Simultaneous Devices parameter set in **Section 6.2**.



Also, the **Registration identity** and **Authentication identity** are both configured as **Endpoint ID** as shown below.



For the Message Centre number, configure the Endpoint ID, which is 3101 in this case.

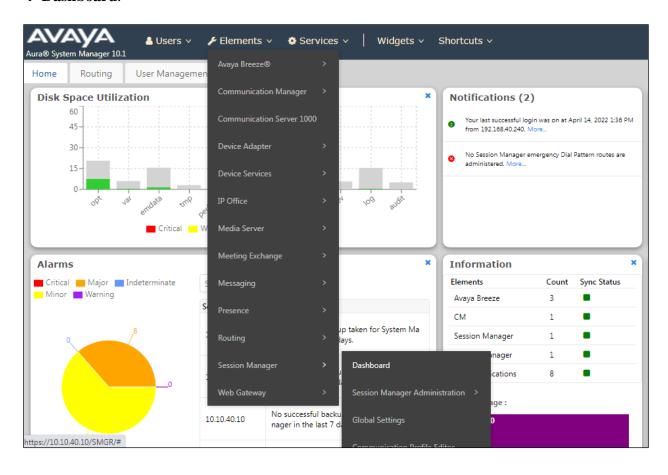


8. Verification Steps

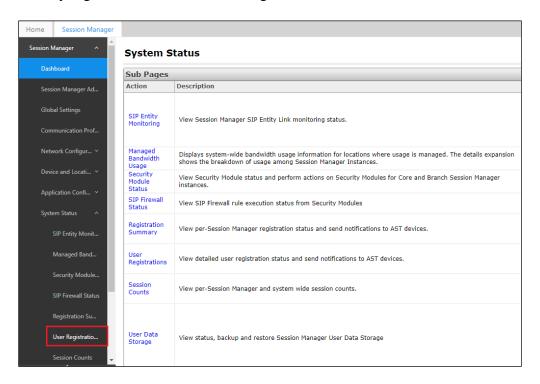
The following steps can be taken to ensure that connections between Ascom i63 handsets and Session Manager and Communication Manager are up.

8.1. Session Manager Registration

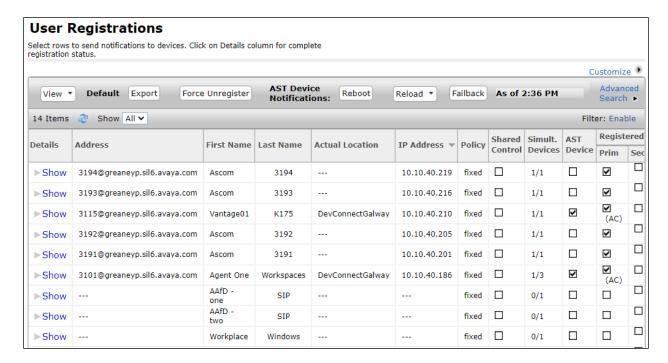
Log into System Manager as done previously in **Section 6** select **Elements** → **Session Manager** → **Dashboard**.



Under **System Status** in the left window, select **User Registrations** to display all the SIP users that are currently registered with Session Manager.

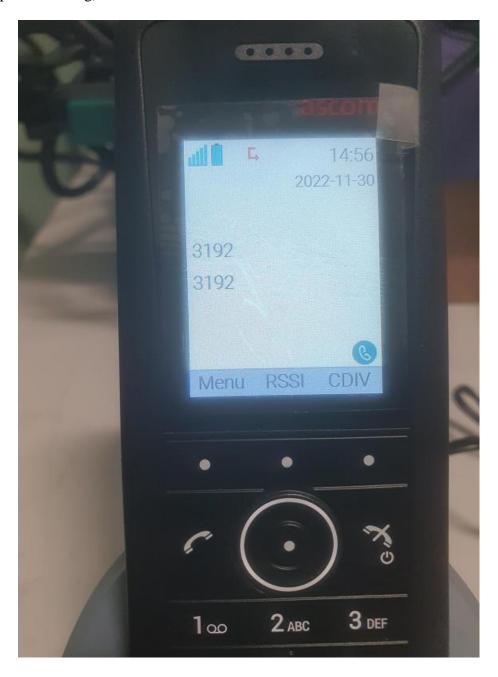


The Ascom i63 user **3192** should show as being registered as shown below. It has an **IP Address** associated with it and there is a tick in the **Registered Prim** box.



8.2. Ascom i63 Registration

The Ascom i63 handset connection to Session Manager can be verified by an absence of an error message on the handset display, as shown in the following illustration, (note this is an example from compliance testing).



9. Conclusion

These Application Notes describe the configuration steps required for Ascom's i63 VoWiFi handsets v3.1.1 to successfully interoperate with Avaya Aura® Communication Manager R10.1 and Avaya Aura® Session Manager R10.1 by registering the Ascom i63 handsets with Avaya Aura® Session Manager as SIP users. Please refer to **Section 2.2** for test results and observations.

10. Additional References

This section references the product documentation relevant to these Application Notes.

Product documentation for Avaya products may be found at http://support.avaya.com.

- 1. Avaya Aura® Communication Manager Feature Description and Implementation, Release 10.1
- 2. Administering Avaya Aura® Session Manager, Release 10.1

Documentation for Ascom products can be obtained from an Ascom supplier or may be accessed on the support pages at

<u>https://www.ascom-ws.com/AscomPartnerWeb/Templates/WebLogin.aspx</u> (login account for the Ascom Partner Extranet required).

Appendix A

Signaling Group

```
display signaling-group 11
                                                                     1 of
                                                               Page
                               SIGNALING GROUP
Group Number: 11
                             Group Type: sip
 IMS Enabled? n
                       Transport Method: tls
       Q-SIP? n
    IP Video? n
                                                  Enforce SIPS URI for SRTP? n
 Peer Detection Enabled? y Peer Server: SM
                                                                 Clustered? n
Prepend '+' to Outgoing Calling/Alerting/Diverting/Connected Public Numbers? y
Remove '+' from Incoming Called/Calling/Alerting/Diverting/Connected Numbers? n
Alert Incoming SIP Crisis Calls? n
  Near-end Node Name: procr
                                            Far-end Node Name: sm101x
Near-end Listen Port: 5061
                                          Far-end Listen Port: 5061
                                       Far-end Network Region: 1
Far-end Domain: greaneyp.sil6.avaya.com
                                            Bypass If IP Threshold Exceeded? n
Incoming Dialog Loopbacks: eliminate
                                                    RFC 3389 Comfort Noise? n
        DTMF over IP: rtp-payload
                                             Direct IP-IP Audio Connections? y
Session Establishment Timer(min): 3
                                                       IP Audio Hairpinning? n
        Enable Layer 3 Test? y
                                                Initial IP-IP Direct Media? n
                                                 Alternate Route Timer(sec): 6
H.323 Station Outgoing Direct Media? n
```

Trunk Group Page 1

```
display trunk-group 11
                                                                   1 of
                                                            Page
                              TRUNK GROUP
Group Number: 11
                                 Group Type: sip
                                                    CDR Reports: y
                                       COR: 1
 Group Name: SIP PHONES
                                                    TN: 1 TAC: *811
  Direction: two-way Outgoing Display? n
Dial Access? n
                                               Night Service:
Queue Length: 0
Service Type: tie
                                Auth Code? n
                                           Member Assignment Method: auto
                                                   Signaling Group: 11
                                                  Number of Members: 10
```

Page 2

```
display trunk-group 11
Group Type: sip

TRUNK PARAMETERS

Unicode Name: auto

Redirect On OPTIM Failure: 5000

SCCAN? n
Digital Loss Group: 18
Preferred Minimum Session Refresh Interval(sec): 600

Disconnect Supervision - In? y Out? y

XOIP Treatment: auto
Delay Call Setup When Accessed Via IGAR? n

Caller ID for Service Link Call to H.323 1xC: station-extension
```

Page 3

```
display trunk-group 11
TRUNK FEATURES
ACA Assignment? n

Measured: none

Maintenance Tests? y

Suppress # Outpulsing? n Numbering Format: private

UUI Treatment: shared

Maximum Size of UUI Contents: 128

Replace Restricted Numbers? n

Replace Unavailable Numbers? n

Modify Tandem Calling Number: no

Send UCID? y

Show ANSWERED BY on Display? y

DSN Term? n
```

Page 4

```
display trunk-group 11

SHARED UUI FEATURE PRIORITIES

ASAI: 1

Universal Call ID (UCID): 2

MULTI SITE ROUTING (MSR)

In-VDN Time: 3

VDN Name: 4

Collected Digits: 5

Other LAI Information: 6

Held Call UCID: 7

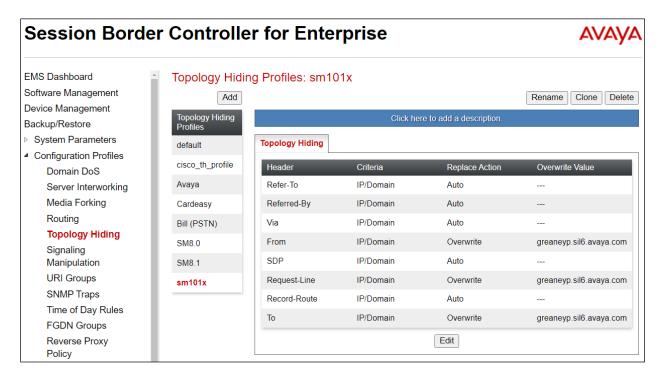
ECD UUI: 8
```

Page 5

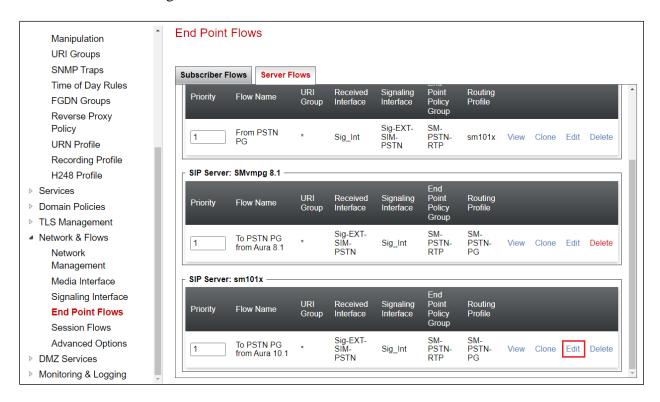
```
display trunk-group 11
                                                                  Page
                                                                         5 of
                               PROTOCOL VARIATIONS
                                        Mark Users as Phone? y
Prepend '+' to Calling/Alerting/Diverting/Connected Number? n
                       Send Transferring Party Information? y
                                   Network Call Redirection? y
          Build Refer-To URI of REFER From Contact For NCR? n
                                      Send Diversion Header? n
                                    Support Request History? y
                               Telephone Event Payload Type: 101
                        Convert 180 to 183 for Early Media? n
                  Always Use re-INVITE for Display Updates? n
     Resend Display UPDATE Once on Receipt of 481 Response? \ensuremath{\text{n}}
                        Identity for Calling Party Display: From
            Block Sending Calling Party Location in INVITE? n
                 Accept Redirect to Blank User Destination? n
          Enable Q-SIP? n
          Interworking of ISDN Clearing with In-Band Tones: keep-channel-active
                                 Request URI Contents: may-have-extra-digits
```

Appendix B

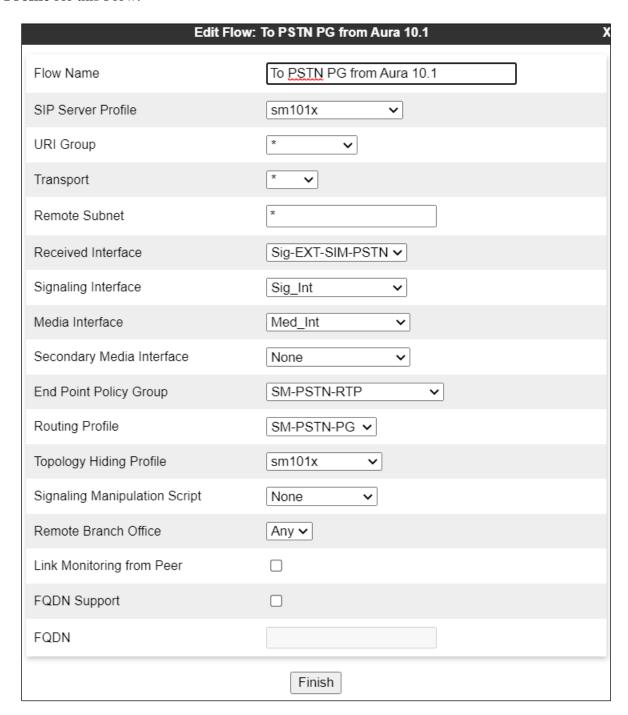
Topology Hiding under **Configuration Profiles** can be used to make changes to the SIP messages coming into the enterprise. The **To**, **From** and **Request Line** headers are all overwritten with the SIP realm or domain that was used during compliance testing. This domain was called **greaneyp.sil6.avaya.com** and it can be seen below as the overwritten value for the **IP/Domain** criteria. It is best to make a copy of the original Topology Hiding profile called **default** and rename it (**sm101x** was chosen as shown in the example below). Once this is created click on **Edit** at the bottom of the screen to make the necessary changes.



The Topology Hiding profile is then assigned to an **End Point Flow**. Chose the End Point Flow that is coming from the PSTN to the enterprise. This is called **To PSTN PG** below, click in **Edit** as shown to make changes to the Flow.

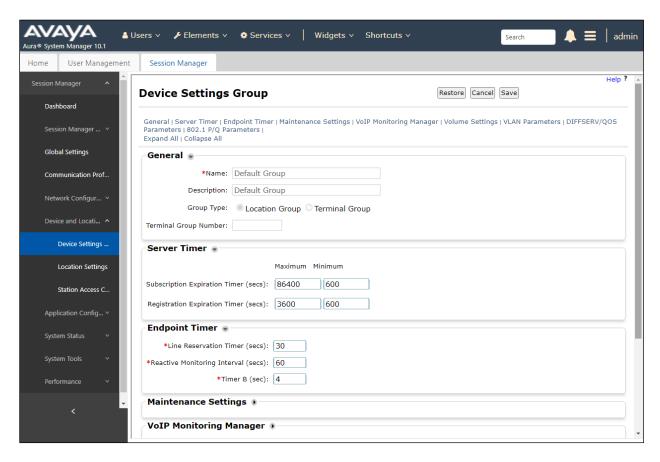


The Topology Hiding Profile created on the previous page is chosen as the **Topology Hiding Profile** for this Flow.



Appendix C

Registration timers are set under **Session Manager** → **Device Settings**. These are the values for the **Default Group**. Note that the minimum setting for both **Subscription Expiration Timer** and **Registration Expiration Timer** is **600** (**secs**). This means that if the third-party device is set any lower than 600 secs, Session Manager will return a "session interval is too brief" and negotiate to 600 secs.



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