



Avaya Solution & Interoperability Test Lab

Application Notes for Movitas Mobile SIP Apps with Avaya Aura[®] Session Manager and Avaya Aura[®] Communication Manager – Issue 1.0

Abstract

These Application Notes describe configuration steps required for Movitas Mobile SIP Apps with Avaya Aura[®] Session Manager and Avaya Aura[®] Communication Manager.

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

The objective of this compliance test was to validate the interoperability of Avaya Aura[®] Session Manager and Avaya Aura[®] Communication Manager with Movitas's MvPBX system and its respective iPhone, Android and Blackberry applications. The testing included multiple call scenarios including calls between desk phones and Movitas application users and calls to outside PSTN lines through the Avaya Aura[®] Communication Manager.

2. General Test Approach and Test Results

The general test approach was to verify that calls are routed to/from Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager to MvPBX and PSTN. Avaya Aura[®] Communication Managers Extension to Cellular (EC500) feature was used to send calls to two phones at the same time. EC500 feature provides the ability to route calls to an Avaya Extension and a non-Avaya phone, at the same time. During interoperability testing, calls were routed to an Avaya extension and a SIP phone using EC500.

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

During the compliance there were 4 extensions associated with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager; Front Desk, Room 1, Room 2, Room 3; Room extensions were associated with 3 respective SIP Users in the Movitas MvPBX system.

The Movitas SIP User is a SIP application installed on a smart mobile devices; iPhone, Android and Blackberry. These SIP Users are registered to the Movitas MvPBX system. Any call that comes in to one of the three Avaya extensions will also ring their associated SIP User in the smart phone. The call can be accepted either on the extension or the SIP User. Whichever phone answers the call, the other stops ringing and becomes idle.

The focus of this testing was to verify the SIP Trunk interoperability between Avaya Aura[®] Session Manager and Movitas MvPBX in placing multiple call scenarios between two systems. The following test areas were practiced in the compliance testing:

- SIP Trunk registration of Movitas MvPBX to Avaya Aura[®] Session Manager.
- Calls from PSTN to Avaya Extension and SIP User.
- Calls from SIP User to Avaya Extension.
- Calls from Avaya extension to another Avaya Extension and a SIP User.
- Calls from SIP User to a PSTN Line

- Calls from SIP User to another SIP User and Avaya Extension
- SIP settings compatibility for codec support and packet size negotiation.

2.2. Test Results

All Test Cases Passed

2.3. Support

Technical support for Movitas can be obtained through the following:

- Phone: 888-343-3721
- Email: support@movitas.com

3. Reference Configuration

Figure 1 illustrates the compliance test configuration consisting of:

- Avaya Aura® Communication Manager
- Avaya Aura® Session Manager
- Avaya G430 and G450 Media Gateway
- Avaya IP Phones
- Movitas SIP Server

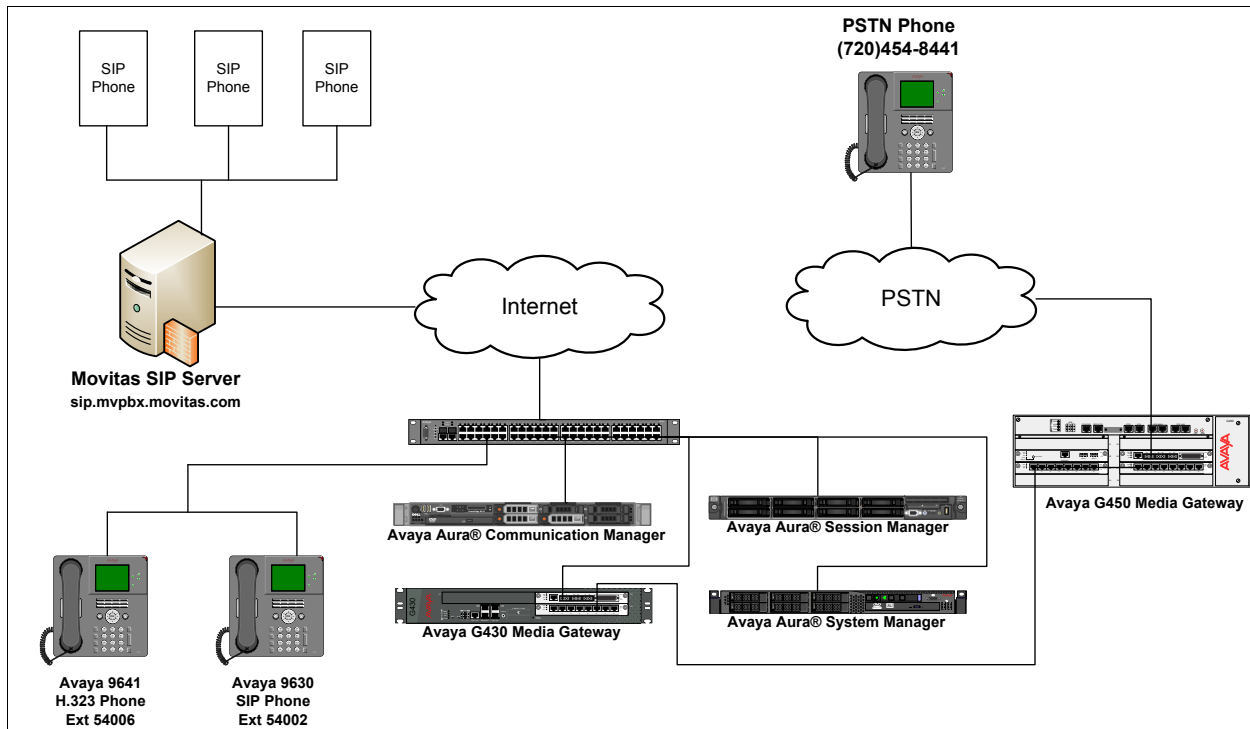


Figure 1 – Test Configuration

4. Equipment and Software Validated

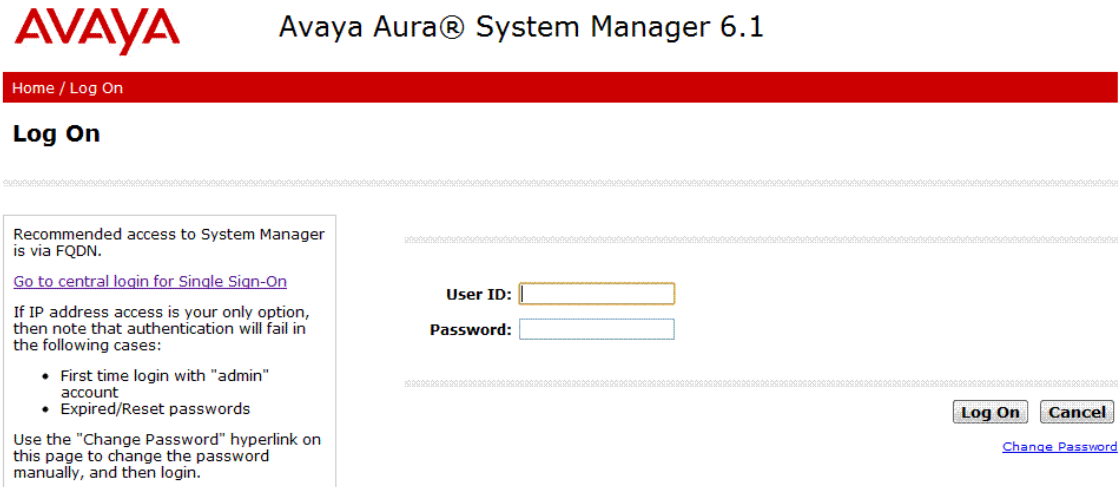
The following equipment and version were used in the reference configuration described above:

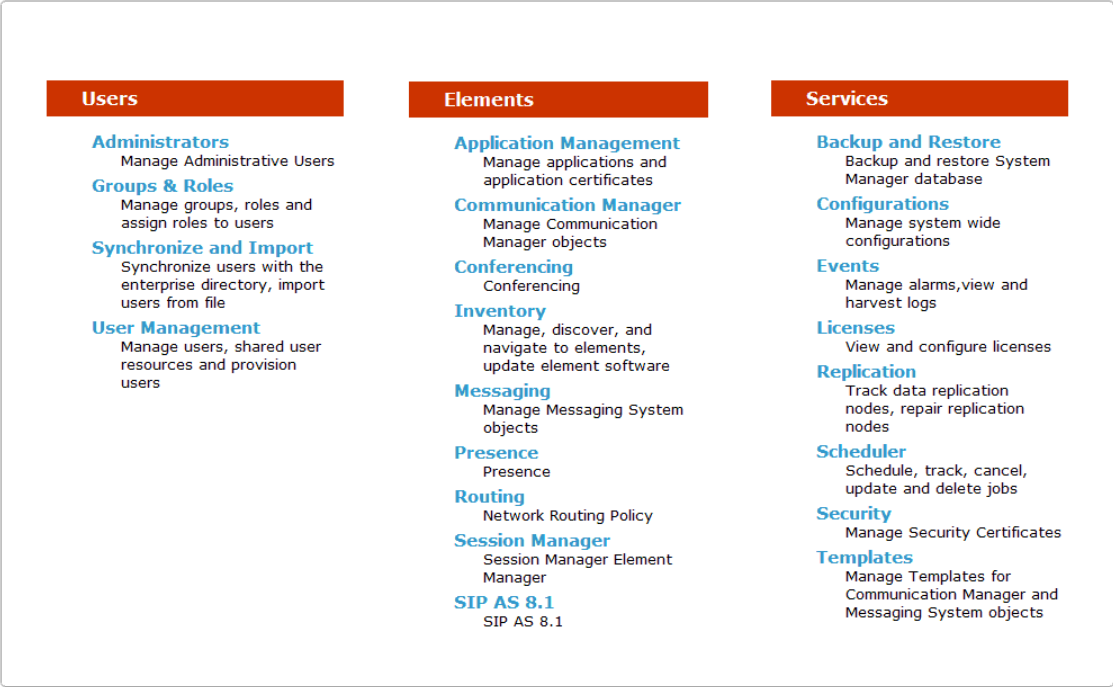
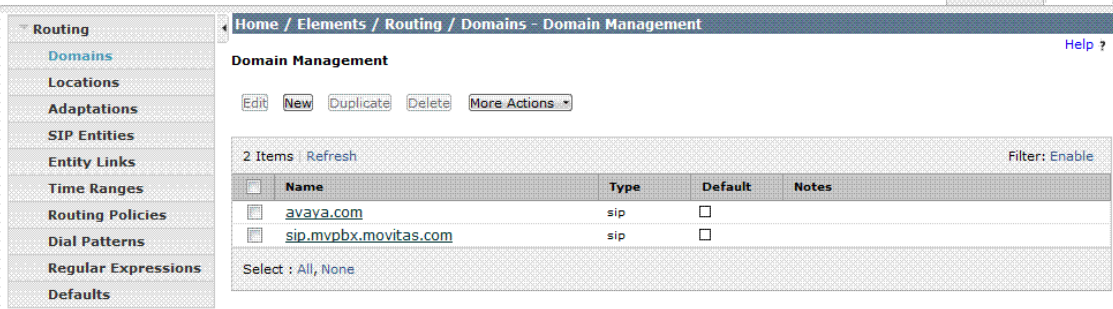
Component	Firmware Version	Description
Dell R610 Server Avaya Aura® Communication Manager	6.0.1 SP 00.1.510.1-19528	Runs Avaya Aura® Communication Manager call processing software.
Avaya G450 Media Gateway : MM710BP (DS1) MM712AP (DCP)	HW1, FW 31.20.1 HW11, FW044 HW07, FW009	Supports analog, DCP and IP phones.
Avaya Aura® Session Manager	6.1	SIP Routing Engine
Avaya Aura® System Manager	6.1	Administers Session Manager
Movitas MvPBX	ab6eb8c2	Movitas PBX
Blackberry 9700 MovitasPhone	6.6.0.195 1.0	Runs Movitas Phone app
iPhone 4 MovitasPhone	5.1 1.5.0	Runs Movitas Phone app
Android Incredible MovitasPhone	2.3.4 2.0.1	Runs Movitas Phone app

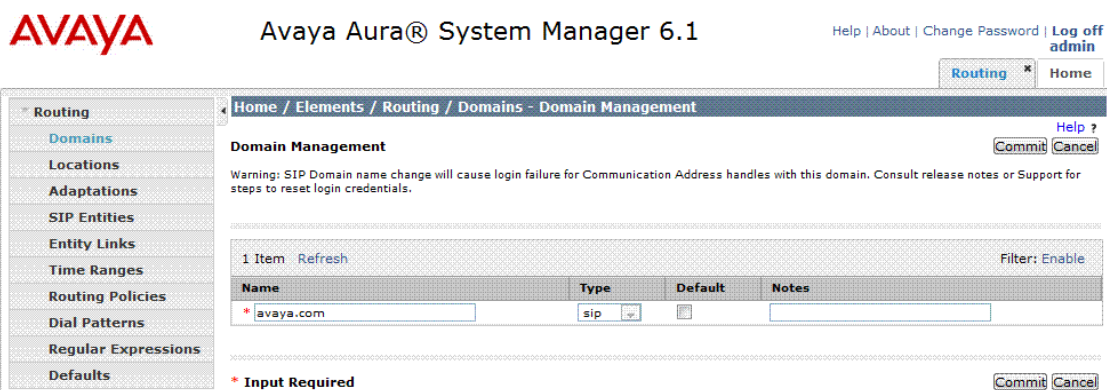
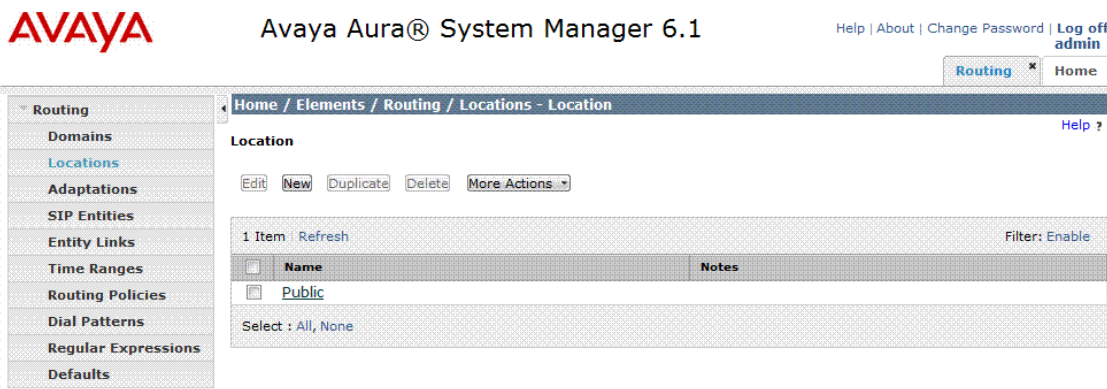
5. Configure Avaya Aura® Session Manager

This section provides the steps for configuring Session Manager to communicate with Movitas MvPBX. For more details, see the administration guide.

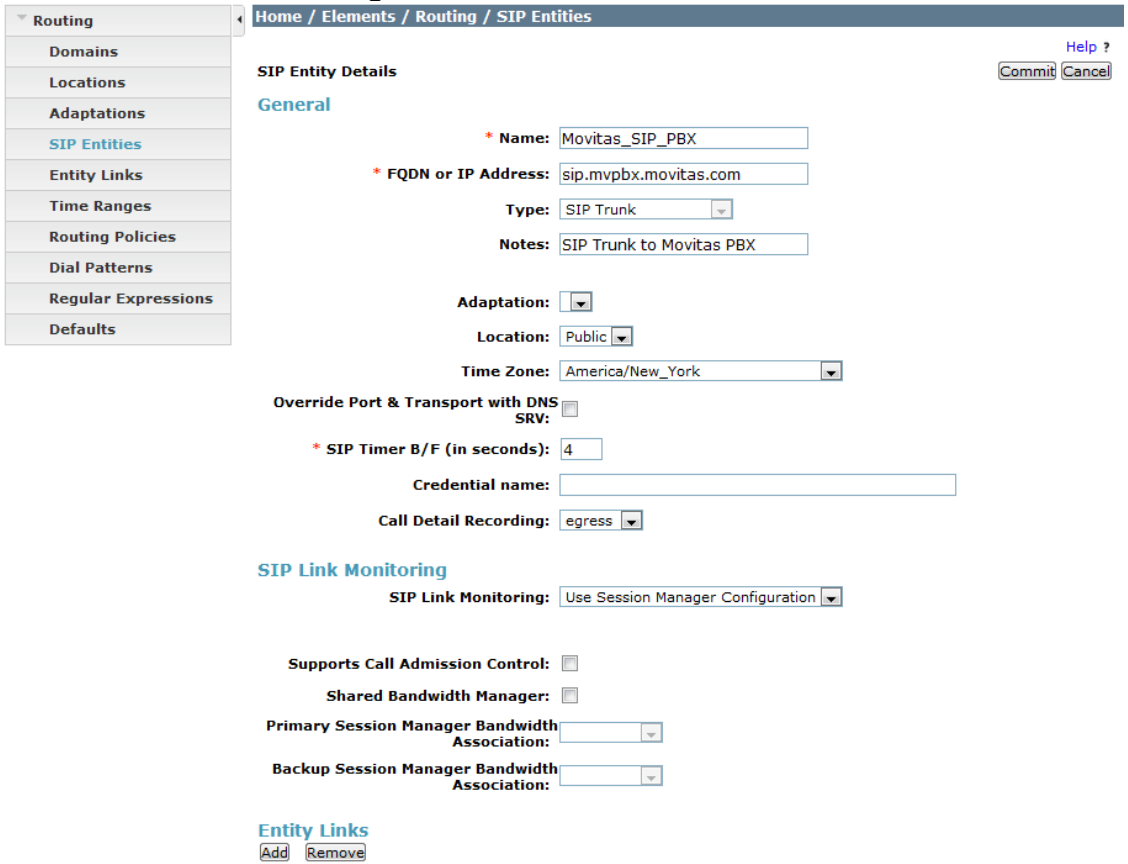
5.1. Configuration details

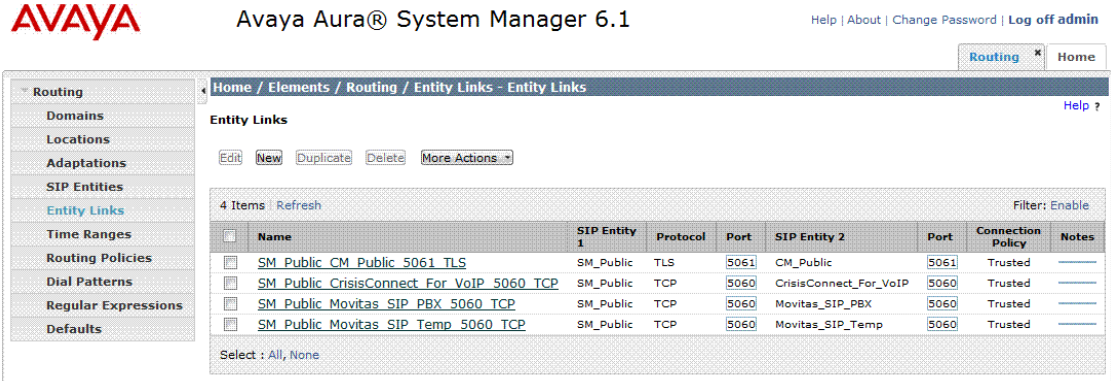
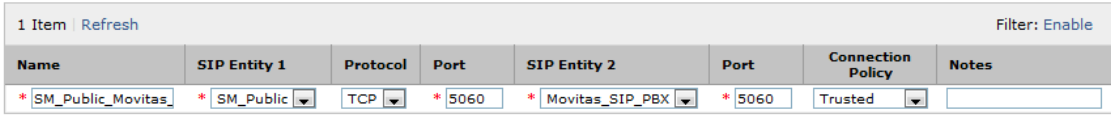
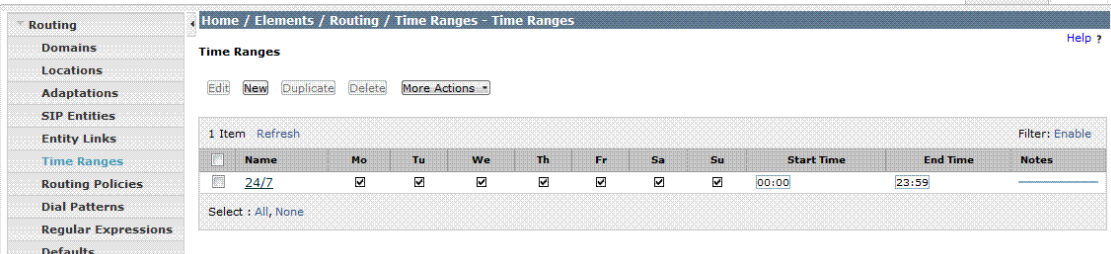
Step	Description
1.	<p>Avaya Aura® Session Manager is configured using browser access to System Manager. Enter the URL of System Manager such as https://<hostname>/network-login/SMGR where <hostname> is the ip address or qualified domain name of the System Manager. Login using appropriate credentials.</p> 

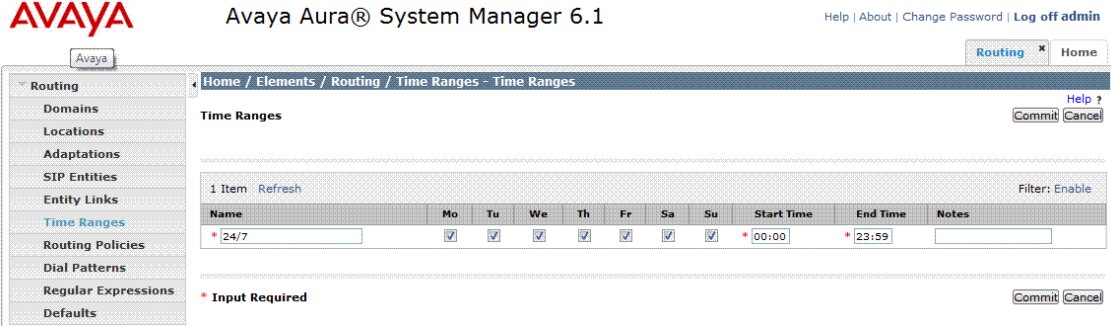
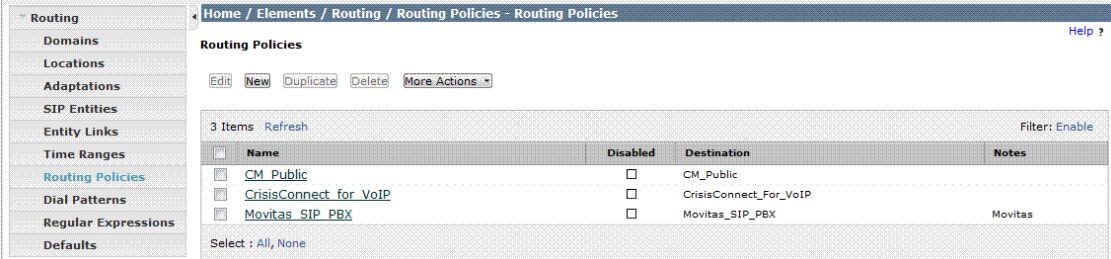
Step	Description
2.	<p>The home page is a navigation screen as shown below. Each of these links will open a new tab from which to navigate to the details of the managed environment. Click on Routing.</p> 
3.	<p>Add a Domain One the left pane, click on Domains</p> <ul style="list-style-type: none"> On the Domains page, click on New. 

Step	Description
4.	<ul style="list-style-type: none"> For the Name field, type in the domain Set Type to sip Commit changes after done. <p>For Compliance testing, avaya.com sip domain was used within Avaya environment. sip.mbpbx.movitas.com domain was used when routing calls to MvPBX. Repeat steps 3-4 to add another domain.</p> 
5.	<p>Add a Location</p> <p>On the left pane, click on Locations</p> <ul style="list-style-type: none"> On the Location page, click on New. 

Step	Description																								
6.	<div><ul style="list-style-type: none">Enter the Name of the locationUnder Location Pattern click on Add<ul style="list-style-type: none">Type in IP Address Pattern for the locationCommit changes after done.<p>For Compliance testing the following information was used.</p><div><div><div>AVAYA</div><div>Avaya Aura® System Manager 6.1</div></div><div><div>Help About Change Password Log off admin</div><div>Routing * Home</div></div><div><div><div>Routing</div><div>Domains</div><div>Locations</div><div>Adaptations</div><div>SIP Entities</div><div>Entity Links</div><div>Time Ranges</div><div>Routing Policies</div><div>Dial Patterns</div><div>Regular Expressions</div><div>Defaults</div></div><div><div>Home / Elements / Routing / Locations - Location Details</div><div>Location Details</div><div>General</div><div><div>* Name:</div><div>Public</div></div><div><div>Notes:</div><div></div></div><div>Overall Managed Bandwidth</div><div><div>Managed Bandwidth Units:</div><div>Kbit/sec</div></div><div><div>Total Bandwidth:</div><div></div></div><div><div>Multimedia Bandwidth:</div><div></div></div><div><div>Audio Calls Can Take Multimedia Bandwidth:</div><div><input checked="" type="checkbox"/></div></div><div>Per-Call Bandwidth Parameters</div><div><div>Maximum Multimedia Bandwidth (Intra-Location):</div><div>1000</div><div>Kbit/Sec</div></div><div><div>Maximum Multimedia Bandwidth (Inter-Location):</div><div>1000</div><div>Kbit/Sec</div></div><div><div>Minimum Multimedia Bandwidth:</div><div>64</div><div>Kbit/Sec</div></div><div><div>* Default Audio Bandwidth:</div><div>80</div><div>Kbit/sec</div></div><div>Location Pattern</div><div><div>Add</div><div>Remove</div></div><div><div>1 Item</div><div>Refresh</div><div>Filter: Enable</div></div><table><thead><tr><th>IP Address Pattern</th><th>Notes</th></tr></thead><tbody><tr><td>* 205.168.62.*</td><td></td></tr></tbody></table><div>Select : All, None</div><div><div>* Input Required</div><div><div>Commit</div><div>Cancel</div></div></div></div></div></div></div>	IP Address Pattern	Notes	* 205.168.62.*																					
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7.	<div><p>On the left pane, click on SIP Entities.</p><div><div><div>AVAYA</div><div>Avaya Aura® System Manager 6.1</div></div><div><div>Help About Change Password Log off admin</div><div>Routing * Home</div></div><div><div><div>Routing</div><div>Domains</div><div>Locations</div><div>Adaptations</div><div>SIP Entities</div><div>Entity Links</div><div>Time Ranges</div><div>Routing Policies</div><div>Dial Patterns</div><div>Regular Expressions</div><div>Defaults</div></div><div><div>Home / Elements / Routing / SIP Entities - SIP Entities</div><div>SIP Entities</div><div><div>Edit</div><div>New</div><div>Duplicate</div><div>Delete</div><div>More Actions</div></div><div><div>5 Items</div><div>Refresh</div><div>Filter: Enable</div></div><table><thead><tr><th>Name</th><th>FQDN or IP Address</th><th>Type</th><th>Notes</th></tr></thead><tbody><tr><td>CM_Public</td><td></td><td>CM</td><td></td></tr><tr><td>CrisisConnect For VoIP</td><td></td><td>SIP Trunk</td><td>SIP Trunk to 911 ETC SBC</td></tr><tr><td>Movitas SIP PBX</td><td></td><td>SIP Trunk</td><td>SIP Trunk to Movitas PBX</td></tr><tr><td>Movitas SIP Temp</td><td></td><td>SIP Trunk</td><td>Movitas SIP trunk - Temporary</td></tr><tr><td>SM_Public</td><td></td><td>Session Manager</td><td></td></tr></tbody></table><div>Select : All, None</div></div></div></div></div>	Name	FQDN or IP Address	Type	Notes	CM_Public		CM		CrisisConnect For VoIP		SIP Trunk	SIP Trunk to 911 ETC SBC	Movitas SIP PBX		SIP Trunk	SIP Trunk to Movitas PBX	Movitas SIP Temp		SIP Trunk	Movitas SIP trunk - Temporary	SM_Public		Session Manager	
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Movitas SIP PBX		SIP Trunk	SIP Trunk to Movitas PBX																						
Movitas SIP Temp		SIP Trunk	Movitas SIP trunk - Temporary																						
SM_Public		Session Manager																							

Step	Description
8.	<p>Add a SIP Entity</p> <p>On the SIP Entity page, click on New.</p> <ul style="list-style-type: none"> • Enter the Name and FQDN or IP Address • Set Type to SIP Trunk • Set Location to the location added in earlier in this section • Set Time Zone to desired time zone • Commit changes after done <p>For Compliance testing the following information was used. Also, please note that SIP Entities for Avaya Aura® Communication Manager and Avaya Aura® Session Manager was also added for this configuration.</p>  <p>The screenshot displays the 'SIP Entity Details' configuration page. On the left is a navigation menu with options: Routing, Domains, Locations, Adaptations, SIP Entities (selected), Entity Links, Time Ranges, Routing Policies, Dial Patterns, Regular Expressions, and Defaults. The main content area has a breadcrumb trail 'Home / Elements / Routing / SIP Entities' and a 'Help ?' link. Below the breadcrumb is the 'SIP Entity Details' section with a 'Commit' button and a 'Cancel' button. The 'General' tab is active, showing fields for: <ul style="list-style-type: none"> * Name: Movitas_SIP_PBX * FQDN or IP Address: sip.mvvpbx.movitas.com Type: SIP Trunk (dropdown) Notes: SIP Trunk to Movitas PBX Adaptation: (dropdown) Location: Public (dropdown) Time Zone: America/New_York (dropdown) Override Port & Transport with DNS SRV: (checkbox) * SIP Timer B/F (in seconds): 4 Credential name: (text field) Call Detail Recording: egress (dropdown) The 'SIP Link Monitoring' section shows 'SIP Link Monitoring' set to 'Use Session Manager Configuration' (dropdown). Below this are checkboxes for 'Supports Call Admission Control' and 'Shared Bandwidth Manager'. The 'Primary Session Manager Bandwidth Association' and 'Backup Session Manager Bandwidth Association' are both set to (dropdown). At the bottom is the 'Entity Links' section with 'Add' and 'Remove' buttons. </p>

Step	Description
9.	<p>On the left pane, click on Entity Links</p> 
10.	<p>Add an Entity Link</p> <p>On the Entity Link page, click on New</p> <ul style="list-style-type: none"> • Add a Name • Set SIP Entity 1 to SM_Public, which is SIP Entity name of Avaya Aura® Session Manager and was pre-configured • Set the Protocol Type and type in Port • Set SIP Entity 2 as added in Step 8 and set the Port • Set the Connection Policy to be Trusted • Commit changes after done <p>For Compliance testing the following information was used.</p> 
11.	<p>On the left pane, Click on Time Ranges</p> 

Step	Description
12.	<p>Add a Time Range</p> <p>On the Time Range page, click on New</p> <ul style="list-style-type: none"> Type in the Name of the time range Select the Days and Start Time and End Time used for all days Commit changes after done <p>For Compliance testing the following information was used.</p> 
13.	<p>On the left pane, click on Routing Policy</p> 

Step	Description																																															
14.	<p>On the Routing Policy page, click on New</p> <ul style="list-style-type: none">Type in the Name for Routing PolicyClick on Select under SIP Entity as a destination<ul style="list-style-type: none">Select SIP Entity configured in Step 10Select a Time Range added in Step 12Commit changes after done <p>For Compliance testing the following information was used.</p> <div><p>General</p><p>* Name: <input type="text" value="Movitas_SIP_PBX"/></p><p>Disabled: <input type="checkbox"/></p><p>* Retries: <input type="text" value="0"/></p><p>Notes: <input type="text" value="Movitas"/></p><p>SIP Entity as Destination</p><p><input type="button" value="Select"/></p><table><tr><th>Name</th><th>FQDN or IP Address</th><th>Type</th><th>Notes</th></tr><tr><td>Movitas_SIP_PBX</td><td>sip.mvpbx.movitas.com</td><td>SIP Trunk</td><td>SIP Trunk to Movitas PBX</td></tr></table><p>Time of Day</p><p><input type="button" value="Add"/> <input type="button" value="Remove"/> <input type="button" value="View Gaps/Overlaps"/></p><div><p>1 Item <input type="button" value="Refresh"/> Filter: Enable</p><table><tr><th><input type="checkbox"/></th><th>Ranking 1 ▲</th><th>Name 2 ▲</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thu</th><th>Fri</th><th>Sat</th><th>Sun</th><th>Start Time</th><th>End Time</th><th>Notes</th></tr><tr><td><input type="checkbox"/></td><td><input type="text" value="0"/></td><td>24/7</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>00:00</td><td>23:59</td><td></td></tr></table><p>Select : All, None</p></div><p>Dial Patterns</p><p><input type="button" value="Add"/> <input type="button" value="Remove"/></p><div><p>0 Items <input type="button" value="Refresh"/> Filter: Enable</p><table><tr><th><input type="checkbox"/></th><th>Pattern</th><th>Min</th><th>Max</th><th>Emergency Call</th><th>SIP Domain</th><th>Originating Location</th><th>Notes</th></tr></table></div><p>Regular Expressions</p><p><input type="button" value="Add"/> <input type="button" value="Remove"/></p><div><p>0 Items <input type="button" value="Refresh"/> Filter: Enable</p><table><tr><th><input type="checkbox"/></th><th>Pattern</th><th>Rank Order</th><th>Deny</th><th>Notes</th></tr></table></div><p>* Input Required <input type="button" value="Commit"/> <input type="button" value="Cancel"/></p></div>	Name	FQDN or IP Address	Type	Notes	Movitas_SIP_PBX	sip.mvpbx.movitas.com	SIP Trunk	SIP Trunk to Movitas PBX	<input type="checkbox"/>	Ranking 1 ▲	Name 2 ▲	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Start Time	End Time	Notes	<input type="checkbox"/>	<input type="text" value="0"/>	24/7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	00:00	23:59		<input type="checkbox"/>	Pattern	Min	Max	Emergency Call	SIP Domain	Originating Location	Notes	<input type="checkbox"/>	Pattern	Rank Order	Deny	Notes
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Step	Description
16.	<p>On Dial Patterns page, click on New</p> <p>For compliance testing the following pattern was used. All calls dialed with 5 digits and starts with 7 will route to Movitas MvPBX.</p> <ul style="list-style-type: none">Set Pattern to 7Set Min and Max to 5Set SIP Domain to the domain configured in Step 4, sip.mvpbx.movias.com.Click on Add under Originating Locations and Routing Policies, screenshot not shown for this step.<ul style="list-style-type: none">Select location configured in Step 6Select Routing Policy configured in Step 14Click on Select once doneCommit changes after done

Dial Pattern Details

Commit

Cancel

General

* Pattern:

7

* Min:

5

* Max:

5

Emergency Call:

☐

Emergency Priority:

1

Emergency Type:

SIP Domain:

sip.mvpbx.movitas.com

Notes:

to Movitas_SIP_PBX

Originating Locations and Routing Policies

Add

Remove

1 Item

Refresh

Filter: Enable

<input type="checkbox"/>	Originating Location Name 1 ▲	Originating Location Notes	Routing Policy Name	Rank 2 ▲	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
<input type="checkbox"/>	Public		Movitas_SIP_PBX	0	<input type="checkbox"/>	Movitas_SIP_PBX	Movitas

Select : All, None

Denied Originating Locations

Add

Remove

0 Items

Refresh

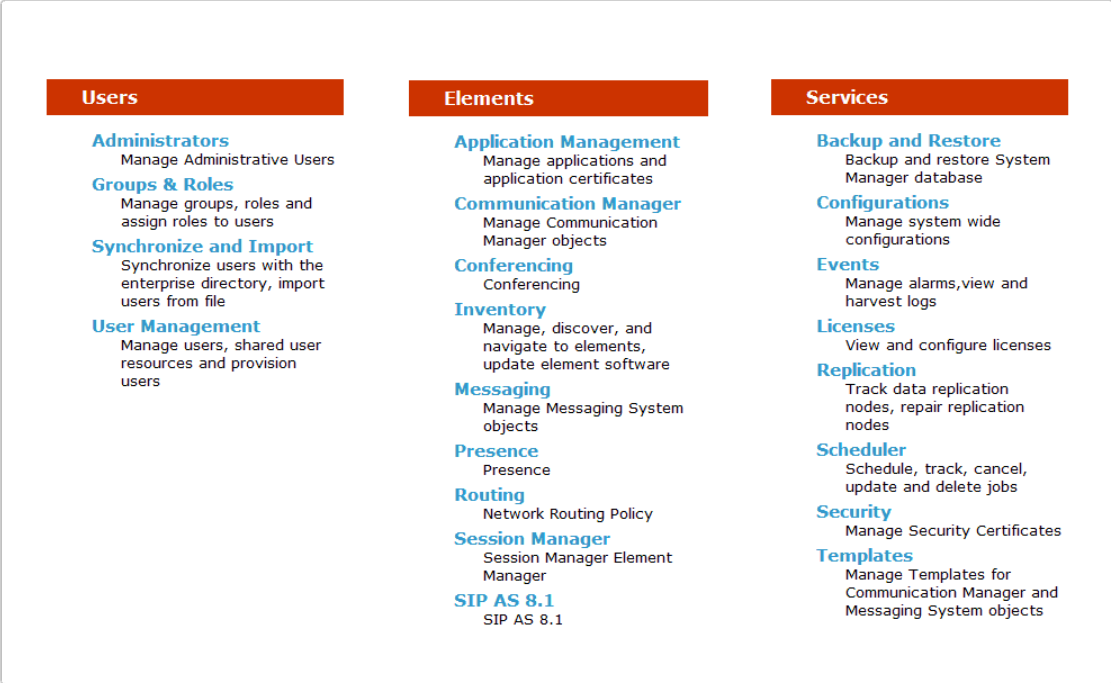
Filter: Enable

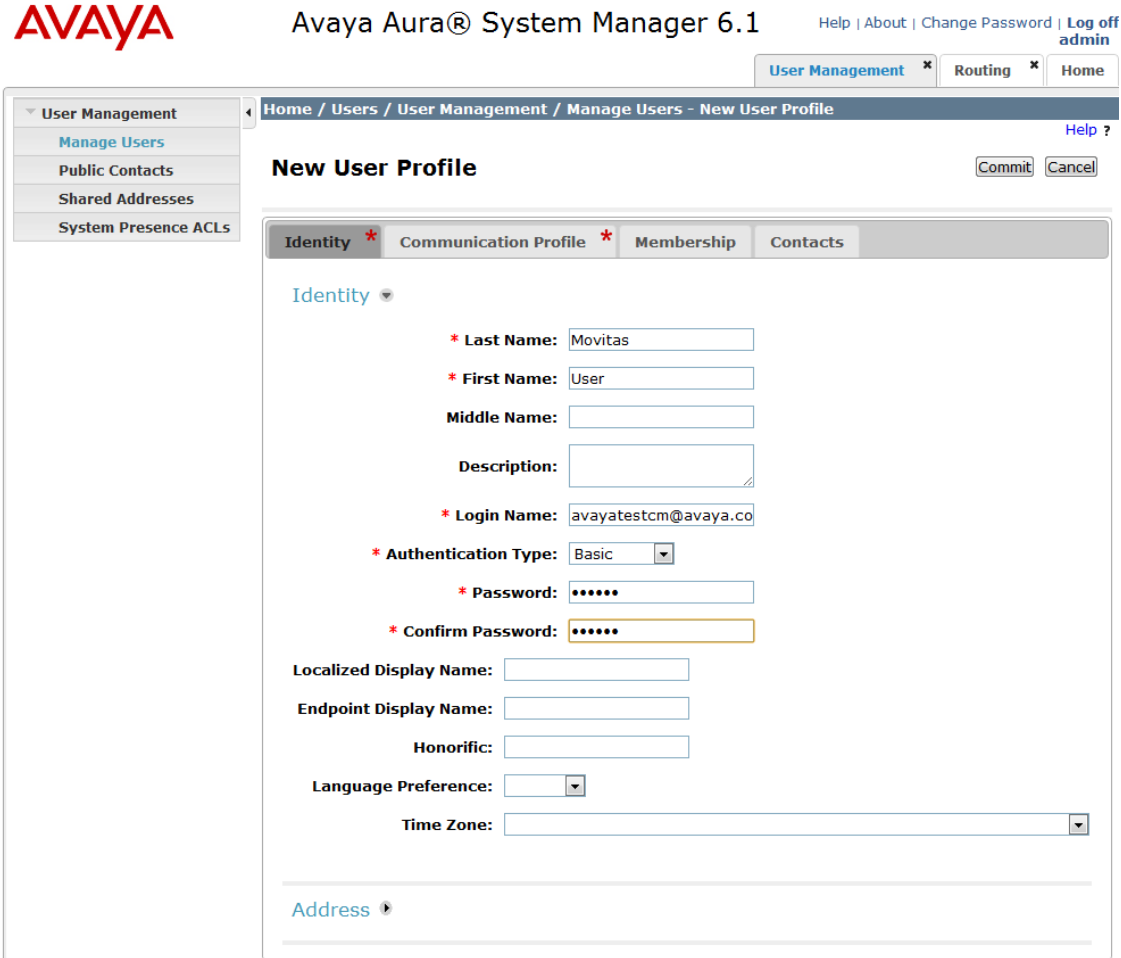
<input type="checkbox"/>	Originating Location	Notes
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* Input Required

Commit

Cancel

Step	Description
17.	<p>Go back to the Home screen by click Home tab on the right top corner, and click on User Management</p>  <p>Avaya Aura® System Manager 6.1 Help About Change Password Log off admin</p> <div> <div> Users <ul style="list-style-type: none"> Administrators Manage Administrative Users Groups & Roles Manage groups, roles and assign roles to users Synchronize and Import Synchronize users with the enterprise directory, import users from file User Management Manage users, shared user resources and provision users </div> <div> Elements <ul style="list-style-type: none"> Application Management Manage applications and application certificates Communication Manager Manage Communication Manager objects Conferencing Conferencing Inventory Manage, discover, and navigate to elements, update element software Messaging Manage Messaging System objects Presence Presence Routing Network Routing Policy Session Manager Session Manager Element Manager SIP AS 8.1 SIP AS 8.1 </div> <div> Services <ul style="list-style-type: none"> Backup and Restore Backup and restore System Manager database Configurations Manage system wide configurations Events Manage alarms, view and harvest logs Licenses View and configure licenses Replication Track data replication nodes, repair replication nodes Scheduler Schedule, track, cancel, update and delete jobs Security Manage Security Certificates Templates Manage Templates for Communication Manager and Messaging System objects </div> </div>

Step	Description
18.	<p>Click on Manage Users and then New (Not shown)</p> <p>The user added in this section was used by Movitas MvPBX for registering with Avaya Aura® Session Manager</p> <p>Under the Identity tab:</p> <ul style="list-style-type: none"> • Set Last Name and First Name • Set Login Name to avayatestcm@avaya.com and set the Password  <p>AVAYA Avaya Aura® System Manager 6.1 Help About Change Password Log off admin</p> <p>User Management x Routing x Home</p> <p>Home / Users / User Management / Manage Users - New User Profile Help ?</p> <p>New User Profile Commit Cancel</p> <p>Identity * Communication Profile * Membership Contacts</p> <p>Identity ▾</p> <p>* Last Name: <input type="text" value="Movitas"/></p> <p>* First Name: <input type="text" value="User"/></p> <p>Middle Name: <input type="text"/></p> <p>Description: <input type="text"/></p> <p>* Login Name: <input type="text" value="avayatestcm@avaya.co"/></p> <p>* Authentication Type: <input type="text" value="Basic"/></p> <p>* Password: <input type="password" value="....."/></p> <p>* Confirm Password: <input type="password" value="....."/></p> <p>Localized Display Name: <input type="text"/></p> <p>Endpoint Display Name: <input type="text"/></p> <p>Honorific: <input type="text"/></p> <p>Language Preference: <input type="text"/></p> <p>Time Zone: <input type="text"/></p> <p>Address ▾</p>

Step	Description
19.	<p>Under the Communication Profile tab:</p> <ul style="list-style-type: none"> • Set the Communication Profile Password and Confirm Password • Under Confirm Password, click on New <ul style="list-style-type: none"> ○ Set the Handle and Domain to an extension that will be used by MvPBX to register ○ For Compliance testing, information shown in the following screen shot was used • Check the Session Manager Profile box and set the Primary Session Manager to configured Session Manager. • Check the CM Endpoint Profile box (not shown) <ul style="list-style-type: none"> ○ Set System to configured Avaya Aura[®] Communication Manager • Note: Avaya Aura[®] Communication Manager was pre-configured <ul style="list-style-type: none"> ○ Set Profile Type to Endpoint ○ Set Extension same as the Handle used in this step ○ Set Security Code to a desired value. This information will be used when registering MvPBX ○ Set Port to IP • Commit the changes. <p>Screenshot on next page</p>

Step	Description																				
	<div> <div> Identity * Communication Profile * Membership Contacts </div> <div> Communication Profile ▼ </div> <div> Communication Profile Password: ***** </div> <div> Confirm Password: ***** </div> <div> New Delete Done Cancel </div> <div> <table border="1"> <thead> <tr> <th>Name</th> </tr> </thead> <tbody> <tr> <td>Primary</td> </tr> </tbody> </table> Select : None </div> <div> * Name: Primary </div> <div> Default : <input checked="" type="checkbox"/> </div> <div> Communication Address ▼ </div> <div> New Edit Delete </div> <div> <table border="1"> <thead> <tr> <th>Type</th> <th>Handle</th> <th>Domain</th> </tr> </thead> <tbody> <tr> <td colspan="3">No Records found</td> </tr> </tbody> </table> </div> <div> Type: Avaya SIP </div> <div> * Fully Qualified Address: 54000 @ avaya.com </div> <div> Add Cancel </div> <div> <input checked="" type="checkbox"/> Session Manager Profile ▼ </div> <div> * Primary Session Manager Select </div> <div> <table border="1"> <thead> <tr> <th>Primary</th> <th>Secondary</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div> <div> Secondary Session Manager (None) </div> <div> <table border="1"> <thead> <tr> <th>Primary</th> <th>Secondary</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div> <div> Origination Application Sequence (None) </div> <div> Termination Application Sequence (None) </div> <div> Survivability Server (None) </div> </div>	Name	Primary	Type	Handle	Domain	No Records found			Primary	Secondary	Maximum				Primary	Secondary	Maximum			
Name																					
Primary																					
Type	Handle	Domain																			
No Records found																					
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Primary	Secondary	Maximum																			

6. Configure Avaya Aura® Communication Manager

This section describes the Avaya Aura® Communication Manager configuration to support connectivity to Avaya Aura® Session Manager and related functionality.

The configuration of Avaya Aura® Communication Manager was performed using the System Access Terminal (SAT). After the completion of the configuration, perform a **save translation** command to make the changes permanent. Please refer that some administration was already performed prior to this test effort. Please refer to *Administering Avaya Aura® Communication Manager* for more details, if needed.

6.1. Trunk Configuration – for SIP Trunks to Avaya Aura® Session Manager

This section summarizes the configuration of the SIP trunk that connects the Avaya Aura® Communication Manager to Avaya Aura® Session Manager

Step	Description
1.	<p>System Parameters – Customer Options</p> <p>Use the display system-parameters customer-options command to verify that the options highlighted below are enabled on Page 4.</p> <div><pre>display system-parameters customer-options Page 4 of 11 OPTIONAL FEATURES Emergency Access to Attendant? y IP Stations? y Enable 'dadmin' Login? y Enhanced Conferencing? y ISDN Feature Plus? y Enhanced EC500? y ISDN/SIP Network Call Redirection? n Enterprise Survivable Server? n ISDN-BRI Trunks? y Enterprise Wide Licensing? n ISDN-PRI? y ESS Administration? n Local Survivable Processor? n Extended Cvg/Fwd Admin? y Malicious Call Trace? y External Device Alarm Admin? n Media Encryption Over IP? y Five Port Networks Max Per MCC? n Mode Code for Centralized Voice Mail? n Flexible Billing? n Forced Entry of Account Codes? n Multifrequency Signaling? y Global Call Classification? n Multimedia Call Handling (Basic)? y Hospitality (Basic)? y Multimedia Call Handling (Enhanced)? y Hospitality (G3V3 Enhancements)? n Multimedia IP SIP Trunking? y IP Trunks? y IP Attendant Consoles? n</pre></div>

Step	Description
2.	<p>Node Names</p> <p>Use the change node-names ip command to create node names for Avaya Aura[®] Session Manager. The example below shows the node names and IP addresses used for the compliance test. These node names will be used in the administration of other forms in Avaya Aura[®] Communication Manager.</p> <div> <pre> change node-names ip Page 1 of 2 Name IP Address default 0.0.0.0 procr 205.168.62.28 procr6 :: sm 205.168.62.18 </pre> </div>
3.	<p>IP network region</p> <p>The Avaya Aura[®] Communication Manager, Avaya Aura[®] Session Manager and VoIP (H.323/SIP) endpoints were located in a single IP network region (IP network region 1) using the parameters described below. Use the change ip-network-region 1 command to view these settings. By default, all elements will also be in IP network region 1 unless specifically placed in a separate region using the ip-network-map command. The example below shows the values used for the compliance test.</p> <ul style="list-style-type: none"> ▪ A descriptive name was entered for the Name field. ▪ The Codec Set field was set to the IP codec set to be used for calls within this IP network region. In this case, IP codec set 1 was selected. This is the codec set that will be used for calls between the Movitas and Avaya Aura[®] Communication Manager, via Avaya Aura[®] Session Manager since all components are in IP network region 1. ▪ The default values were used for all other fields. <div> <pre> change ip-network-region 1 Page 1 of 20 Region: 1 Location: 1 Authoritative Domain: avaya.com Name: Public Domain MEDIA PARAMETERS Codec Set: 1 Intra-region IP-IP Direct Audio: yes Inter-region IP-IP Direct Audio: yes IP Audio Hairpinning? n UDP Port Min: 2048 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 H.323 IP ENDPOINTS H.323 Link Bounce Recovery? y Idle Traffic Interval (sec): 20 Keep-Alive Interval (sec): 5 Keep-Alive Count: 5 AUDIO RESOURCE RESERVATION PARAMETERS RSVP Enabled? n </pre> </div>

Step	Description																
4.	<div><div><div><div><div>Codecs</div><div>Use the change ip-codec-set 1 command to define the codecs used by IP codec set 1. Please note that G.711MU and G.729A are the only supported codecs for this configuration.</div></div></div><div><div><div><div><div>change ip-codec-set 1</div><div>Page 1 of 2</div></div><div><div>IP Codec Set</div><div>Codec Set: 1</div><div><table><thead><tr><th>Audio Codec</th><th>Silence Suppression</th><th>Frames Per Pkt</th><th>Packet Size (ms)</th></tr></thead><tbody><tr><td>1: G.711MU</td><td>n</td><td>2</td><td>20</td></tr><tr><td>2: G.729A</td><td>n</td><td>2</td><td>20</td></tr><tr><td>3:</td><td></td><td></td><td></td></tr></tbody></table></div></div></div></div></div></div></div>	Audio Codec	Silence Suppression	Frames Per Pkt	Packet Size (ms)	1: G.711MU	n	2	20	2: G.729A	n	2	20	3:			
Audio Codec	Silence Suppression	Frames Per Pkt	Packet Size (ms)														
1: G.711MU	n	2	20														
2: G.729A	n	2	20														
3:																	

Step	Description
5.	<p>Signaling Group</p> <p>Use the add signaling-group <i>n</i> command, where <i>n</i> is an unused signaling group, to create a new signaling group for each SIP trunk to Avaya Aura[®] Session Manager. For compliance test, signaling group 4 was created for the trunk to Avaya Aura[®] Session Manager. Signaling group 4 was configured using the parameters highlighted below. Default values were used for all other fields.</p> <ul style="list-style-type: none"> ▪ Set the Group Type to <i>sip</i>. ▪ Set the Near-end Node Name to <i>procr</i>. This node name maps to the IP address of the Avaya Aura[®] Communication Manager. Node names are defined using the change node-names ip command (Step 2). ▪ Set the Far-end Node Name to <i>sm</i>. This node name maps to the IP address of the Avaya Aura[®] Session Manager as defined using the change node-names ip command (Step 2). ▪ Set the Near-end Listen Port and Far-end Listen Port to <i>5061</i>. ▪ Set the Far-end Network Region to <i>1</i>. This is the IP network region which contains the Avaya Aura[®] Session Manager. ▪ Set DTMF over IP to <i>in-band</i> ▪ The default values were used for all other fields. <div data-bbox="347 926 1401 1501" style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <pre> add signaling-group 4 SIGNALING GROUP Group Number: 2 Group Type: sip IMS Enabled? n Transport Method: tls Q-SIP? n SIP Enabled LSP? n IP Video? n Enforce SIPS URI for SRTP? y Peer Detection Enabled? y Peer Server: SM Near-end Node Name: procr Far-end Node Name: sm Near-end Listen Port: 5061 Far-end Listen Port: 5061 Far-end Network Region: 1 Far-end Domain: avaya.com Incoming Dialog Loopbacks: eliminate Bypass If IP Threshold Exceeded? n DTMF over IP: in-band RFC 3389 Comfort Noise? n Session Establishment Timer(min): 3 Direct IP-IP Audio Connections? y Enable Layer 3 Test? y IP Audio Hairpinning? n H.323 Station Outgoing Direct Media? n Initial IP-IP Direct Media? n Alternate Route Timer(sec): 6 </pre> </div>

Step	Description
6.	<p>Trunk Group</p> <p>Use the add trunk-group <i>n</i> command, where <i>n</i> is an unused trunk group, to create a new trunk group for each SIP trunk to Avaya Aura® Session Manager. For the compliance test, trunk group 4 was created for the trunk to Avaya Aura® Session Manager. Trunk group 4 was configured using the parameters highlighted below.</p> <p>On Page 1:</p> <ul style="list-style-type: none"> ▪ Set the Group Type to <i>sip</i>. ▪ Enter a descriptive name for the Group Name. ▪ Enter an available trunk access code (TAC) that is consistent with the existing dial plan in the TAC field. ▪ Set the Service Type to <i>tie</i>. ▪ Set the Member Assignment Method to <i>auto</i>. ▪ Set the Signaling Group to the signaling group shown in the previous step. ▪ Set the Number of Members field to the number of channels available in this trunk. For the compliance test, the number of members was chosen to be <i>10</i>. ▪ Set Outgoing Display to <i>y</i> ▪ The default values were used for all other fields. <div data-bbox="355 926 1391 1213" style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <pre> TRUNK GROUP Group Number: 4 Group Type: sip CDR Reports: y Group Name: Movitas COR: 1 TN: 1 TAC: *004 Direction: two-way Outgoing Display? y Dial Access? n Night Service: Queue Length: 0 Service Type: tie Auth Code? n Member Assignment Method: auto Signaling Group: 4 Number of Members: 10 </pre> </div>

Step	Description														
7.	<p>Trunk Group – continued On Page 3:</p> <ul style="list-style-type: none">It is required that the Send Name field is set to y and the Send Calling Number field is set to y.Set the Format field to <i>public</i>. This field specifies the format of the calling party number sent to the far-end.The default values were used for all other fields. <div><div>add trunk-group 31</div><div>TRUNK FEATURES</div><div>ACA Assignment? n</div><div>Measured: none</div><div>Internal Alert? n</div><div>Maintenance Tests? y</div><div>Data Restriction? n</div><div>NCA-TSC Trunk Member:</div><div>Send Name: y</div><div>Send Calling Number: y</div><div>Used for DCS? n</div><div>Send EMU Visitor CPN? n</div><div>Suppress # Outpulsing? n</div><div>Format: public</div><div>UUI IE Treatment: service-provider</div><div>Replace Restricted Numbers? n</div><div>Replace Unavailable Numbers? n</div><div>Send Connected Number: n</div><div>Hold/Unhold Notifications? n</div><div>Modify Tandem Calling Number? n</div><div>Send UUI IE? y</div><div>Send UCID? n</div><div>Send Codeset 6/7 LAI IE? y</div></div>														
8.	<p>Automatic Route Selection (ARS) For the compliance test, ARS was used to route calls to EC500 extension that was 5 digits long and leading digit was 7. Use the change ars analysis command to create an entry in the ARS table.</p> <ul style="list-style-type: none">Set Dialed String to 7Set Total Min and Max to 5Set Route Pattern to 4Set Call Type to <i>svcl</i> <div><div>change ars analysis 7</div><div>ARS DIGIT ANALYSIS TABLE</div><div>Location: all</div><div>Percent Full: 2</div><div><table><tr><td>Dialed String</td><td>Total Min</td><td>Total Max</td><td>Route Pattern</td><td>Call Type</td><td>Node Num</td><td>ANI Reqd</td></tr><tr><td>7</td><td>5</td><td>5</td><td>4</td><td>svcl</td><td></td><td>n</td></tr></table></div></div>	Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Reqd	7	5	5	4	svcl		n
Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Reqd									
7	5	5	4	svcl		n									

Step	Description
9.	<p>Route Patterns</p> <p>Use the change route pattern <i>n</i> command, where <i>n</i> is an unused route pattern.</p> <p>The example below shows route pattern 4 used in the compliance test. Route pattern 1 was accessed when ARS matches on a dialed string of 7xxxx. For the first entry, set the Grp No. field to the trunk group of Avaya Aura[®] Session Manager (trunk group 4). Set the Facility Restriction Level (FRL) of the trunk to an appropriate level to allow authorized users to access the trunk. The level of 0 is the least restrictive.</p> <pre> change route-pattern 4 Page 1 of 3 Pattern Number: 4 Pattern Name: SCCAN? n Secure SIP? n Grp FRL NPA Pfx Hop Toll No. Inserted DCS/ IXC No Mrk Lmt List Del Digits QSIG Intw 1: 4 0 n user 2: n user 3: n user 4: n user 5: n user 6: n user BCC VALUE TSC CA-TSC ITC BCIE Service/Feature PARM No. Numbering LAR 0 1 2 M 4 W Request Dgts Format Subaddress 1: y y y y y n n rest none 2: y y y y y n n rest none 3: y y y y y n n rest none 4: y y y y y n n rest none 5: y y y y y n n rest none 6: y y y y y n n rest none </pre>

6.2. Trunk Configuration – for ISDN/PRI to PSTN

ISDN calls to PSTN were also tested. For PSTN interconnections.

Step	Description
1.	<p>System Parameters – Customer Options</p> <p>Use the display system-parameters customer-options command to verify that the options highlighted below are enabled. If this option is disabled please check with Avaya sales or business partner to get appropriate license.</p> <pre> display system-parameters customer-options Page 4 of 11 OPTIONAL FEATURES Emergency Access to Attendant? y IP Stations? y Enable 'dadmin' Login? y Enhanced Conferencing? y ISDN Feature Plus? y Enhanced EC500? y ISDN/SIP Network Call Redirection? n Enterprise Survivable Server? n ISDN-BRI Trunks? y Enterprise Wide Licensing? n ISDN-PRI? y ESS Administration? n Local Survivable Processor? n Extended Cvg/Fwd Admin? y Malicious Call Trace? y External Device Alarm Admin? n Media Encryption Over IP? y Five Port Networks Max Per MCC? n Mode Code for Centralized Voice Mail? n Flexible Billing? n Forced Entry of Account Codes? n Multifrequency Signaling? y Global Call Classification? n Multimedia Call Handling (Basic)? y Hospitality (Basic)? y Multimedia Call Handling (Enhanced)? y Hospitality (G3V3 Enhancements)? n Multimedia IP SIP Trunking? y IP Trunks? y IP Attendant Consoles? n </pre>

Step	Description
2.	<p>Add DS1</p> <p>Use the add ds1 <i>Board-location</i> command to add a DS1. In this case, board V2 was used. The gateway used for this testing, was connected to another Avaya Media Gateway which had access to PSTN. This configuration pertains to the Media Gateway G430 as show in the Test Configuration diagram.</p> <ul style="list-style-type: none"> • Set Signaling Mode to <i>isdn-pri</i> • Set Name to a desired name • Set Line Coding to <i>b8zs</i> • Set Protocol Version to <i>b</i> <div data-bbox="316 604 1385 1108" style="border: 1px solid black; padding: 10px;"> <pre> add ds1 01V2 DS1 CIRCUIT PACK Page 1 of 2 Location: 001V2 Bit Rate: 1.544 Line Compensation: 1 Signalng Mode: isdn-pri Connect: network TN-C7 Long Timers? n Interworking Message: PROGress Interface Companding: mulaw Idle Code: 11111111 Name: PSTN Line Coding: b8zs Framing Mode: esf Country Protocol: 1 Protocol Version: b CRC? n DCP/Analog Bearer Capability: 3.1kHz T303 Timer(sec): 4 Slip Detection? n Near-end CSU Type: other Echo Cancellation? n Block Progress Indicator? n </pre> </div>
3.	<p>Signaling Group</p> <p>Use the add signaling-group <i>n</i> command, where <i>n</i> is an unused signaling group, to create a new signaling group for each ISDN to PSTN Gateway. For the compliance test, signaling group 3 was created for the trunk to the PSTN Gateway.</p> <ul style="list-style-type: none"> ▪ Set the Group Type to <i>isdn-pri</i>. ▪ Set the Trunk Group for Channel Selection field to the trunk group created in the next step. This cannot be done until the trunk group is created. Thus, initially this field is left blank and later changed to the correct value after the trunk group is created. A separate trunk group will be created for each signaling-group. ▪ Set Primary D-Channel as the 24th channelfor ds1 added in Step 2. ▪ The default values were used for all other fields. <div data-bbox="345 1587 1401 1824" style="border: 1px solid black; padding: 10px;"> <pre> add signaling-group 3 SIGNALING GROUP Page 1 of 5 Group Number: 3 Group Type: isdn-pri Associated Signaling? y Primary D-Channel: 001V224 Max number of NCA TSC: 0 Max number of CA TSC: 0 Trunk Group for NCA TSC: Trunk Group for Channel Selection: TSC Supplementary Service Protocol: a X-Mobility/Wireless Type: NONE Network Call Transfer? n </pre> </div>

Step	Description
4.	<p>Trunk Group</p> <p>Use the add trunk-group <i>n</i> command, where <i>n</i> is an unused trunk group, to create a new trunk group for each ISDN/PRI to PSTN gateway. For the compliance test, trunk group 3 was created for the trunk to the Media Gateway as shown in the Test Configuration diagram.</p> <p>On Page 1:</p> <ul style="list-style-type: none"> ▪ Set the Group Type to <i>isdn</i>. ▪ Enter a descriptive name for the Group Name. ▪ Enter an available trunk access code (TAC) that is consistent with the existing dial plan in the TAC field. ▪ Set the Carrier Medium to <i>PRI/BRI</i>. ▪ Set the Service Type to <i>public-ntwrk</i>. ▪ The default values were used for all other fields. <div data-bbox="344 779 1406 1094" style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <pre> add trunk-group 3 Page 1 of 21 TRUNK GROUP Group Number: 3 Group Type: isdn CDR Reports: r Group Name: PSTN COR: 1 TN: 1 TAC: *003 Direction: two-way Outgoing Display? y Carrier Medium: PRI/BRI Dial Access? y Busy Threshold: 255 Night Service: Queue Length: 0 Service Type: public-ntwrk Auth Code? n TestCall ITC: rest Far End Test Line No: TestCall BCC: 4 </pre> </div>

Step	Description
5.	<p>Trunk Group – Continued On Page 3:</p> <ul style="list-style-type: none"> Set Send Name to <i>y</i> Set Send Calling Number to <i>y</i> Set Format to <i>Public</i> Set Connected Number to <i>y</i> <div> <pre> add change trunk-group 3 TRUNK FEATURES ACA Assignment? n Measured: none Wideband Support? n Data Restriction? n Maintenance Tests? y Send Name: y NCA-TSC Trunk Member: Send Calling Number: y Used for DCS? n Send EMU Visitor CPN? n Suppress # Outpulsing? n Format: public Outgoing Channel ID Encoding: preferred UUI IE Treatment: service-provider Replace Restricted Numbers? n Replace Unavailable Numbers? n Send Connected Number: y Network Call Redirection: none Hold/Unhold Notifications? n Send UUI IE? y Modify Tandem Calling Number: no Send UCID? n Send Codeset 6/7 LAI IE? y Dsl Echo Cancellation? n Apply Local Ringback? n US NI Delayed Calling Name Update? n Show ANSWERED BY on Display? y Network (Japan) Needs Connect Before Disconnect? n </pre> </div>
6.	<p>Trunk Group – Continued On Page 5, type in define all 23 ports for the ds1 added in Step 3. Ports are defined in the format such that Port value is set as board name followed by channel number. In our case the board was 001V2 and channel numbers 01-04 were used, as seen the box below.</p> <div> <pre> change trunk-group 3 TRUNK GROUP Administered Members (min/max): 1/4 GROUP MEMBER ASSIGNMENTS Total Administered Members: 4 Port Code Sfx Name Night Sig Grp 1: 001V201 MM710 3 2: 001V202 MM710 3 3: 001V203 MM710 3 4: 001V204 MM710 3 </pre> </div>

Step	Description																																																																																																																																																																																																			
7.	<div><div>Automatic Route Selection (ARS)</div><div>For the compliance test, an entry was added to route call to PSTN by dialing an 11 digit Telephone Number (TN) and 10 digit TN. The entry is highlighted below which is used to route calls to PSTN by dialing 1303xxxxxxx. This dialed string is mapped to route pattern 3 which routes calls to trunk 3 connected to the PSTN.</div><div><div>change ars analysis 13</div><div>ARS DIGIT ANALYSIS TABLE</div><div>Location: all</div><div>Percent Full: 2</div><div><table><tr><th>Dialed</th><th>Total</th><th>Route</th><th>Call</th><th>Node</th><th>ANI</th></tr><tr><th>String</th><th>Min</th><th>Max</th><th>Pattern</th><th>Type</th><th>Num</th></tr><tr><td>1303</td><td>11</td><td>11</td><td>3</td><td>hnpa</td><td>n</td></tr></table></div></div></div>	Dialed	Total	Route	Call	Node	ANI	String	Min	Max	Pattern	Type	Num	1303	11	11	3	hnpa	n																																																																																																																																																																																	
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8.	<div><div>Route Pattern – PSTN Trunk</div><div>This route pattern is used in cases where the SIP Users or Avaya Extensions need to be used to calls the PSTN number. Avaya Aura® Communication Manager will then route the call out the PSTN trunk.</div><div><div><div>Set Grp No to trunk group in Step 4, 3</div><div>Set FRL to 0</div></div><div><div>change route-pattern 4</div><div>Pattern Number: 4</div><div>Pattern Name:</div><div>SCCAN? n</div><div>Secure SIP? n</div><div><table><tr><th>Grp</th><th>FRL</th><th>NPA</th><th>Pfx</th><th>Hop</th><th>Toll</th><th>No.</th><th>Inserted</th><th>DCS/</th><th>IXC</th></tr><tr><th>No</th><th></th><th></th><th>Mrk</th><th>Lmt</th><th>List</th><th>Del</th><th>Digits</th><th>QSIG</th><th></th></tr><tr><td colspan="9"></td><td>Intw</td></tr><tr><td>1:</td><td>3</td><td>0</td><td colspan="6"></td><td>n</td><td>user</td></tr><tr><td>2:</td><td></td><td></td><td colspan="6"></td><td>n</td><td>user</td></tr><tr><td>3:</td><td></td><td></td><td colspan="6"></td><td>n</td><td>user</td></tr><tr><td>4:</td><td></td><td></td><td colspan="6"></td><td>n</td><td>user</td></tr><tr><td>5:</td><td></td><td></td><td colspan="6"></td><td>n</td><td>user</td></tr><tr><td>6:</td><td></td><td></td><td colspan="6"></td><td>n</td><td>user</td></tr></table></div><div><table><tr><th>BCC</th><th>VALUE</th><th>TSC</th><th>CA-TSC</th><th>ITC</th><th>BCIE</th><th>Service/Feature</th><th>PARM</th><th>No.</th><th>Numbering</th><th>LAR</th></tr><tr><td>0</td><td>1</td><td>2</td><td>M</td><td>4</td><td>W</td><td>Request</td><td></td><td>Dgts</td><td>Format</td><td></td></tr><tr><td colspan="10"></td><td>Subaddress</td></tr><tr><td>1:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>2:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>3:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>4:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>5:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>6:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr></table></div></div></div></div>	Grp	FRL	NPA	Pfx	Hop	Toll	No.	Inserted	DCS/	IXC	No			Mrk	Lmt	List	Del	Digits	QSIG											Intw	1:	3	0							n	user	2:									n	user	3:									n	user	4:									n	user	5:									n	user	6:									n	user	BCC	VALUE	TSC	CA-TSC	ITC	BCIE	Service/Feature	PARM	No.	Numbering	LAR	0	1	2	M	4	W	Request		Dgts	Format												Subaddress	1:	y	y	y	y	y	n	n	rest		none	2:	y	y	y	y	y	n	n	rest		none	3:	y	y	y	y	y	n	n	rest		none	4:	y	y	y	y	y	n	n	rest		none	5:	y	y	y	y	y	n	n	rest		none	6:	y	y	y	y	y	n	n	rest		none
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6.3. EC500 Configuration

Step	Description
1.	<p>Use change off-pbx-telephone station-mapping <i>n</i> to map an EC500 extension where <i>n</i> is the Avaya Extension.</p> <ul style="list-style-type: none">Set Application to <i>EC500</i>Set Phone Number to the SIP User extension on MvPBX. Note that this phone number must comply ars analysis for calls starting with digit 7 in Section 6.2.Set Trunk Selection to <i>ars</i>

change off-pbx-telephone station-mapping 54006

Page 1 of 3

STATIONS WITH OFF-PBX TELEPHONE INTEGRATION

Station Extension	Application	Dial Prefix	CC	Phone Number	Trunk Selection	Config Set	Dual Mode
54006	EC500	-		73306	ars	1	
		-					
		-					
		-					
		-					
		-					

7. Configure Movitas

Configuration for Movitas MvPBX was performed by a Movitas Engineer. This document assumes that the Movitas MvPBX system was properly installed and configured by a Movitas Engineer. This section provides the steps of how to configure Movitas MvPBX working with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager.

7.1. Configure Business Account

As a partner on Movitas.com, a business account is established by signing up, choosing a name for the account and providing any necessary billing information. Once this is established the content, users, designs and business extensions can be managed via the Movitas interface.

7.2. Enable the Business Account for Calling

After a business account is established, a Movitas admin can set up the business to enable calling functionality on the Account Settings Price Profile page. This can be done by logging into the Movitas system, clicking on Account Settings in the top right, and then clicking on the Price Profile tab. Note: This is only available to Movitas Admins and not all admins. Once calling is enabled, this will result in an additional account setting tab where the SIP trunk can be set, IP addresses can be setup to restrict calls to certain sites, push notifications can be configured and more. For Avaya Aura[®] Communication Manager testing, the only required field is the SIP Trunk, which will be assigned in step 7.3 below.

Test Dreams Account Settings

« back to the Main Menu

Basic Business InfoManage LocationsBilling & PaymentUpgrade!Business Price ProfilesConnect to NetworksManage Call Settings

Account Settings

Calling Settings

☐ Long Distance Enabled

☐ Local Calls Enabled

☐ International Warning

☐ Bridge Numbers Enabled

☐ Extensions Enabled

☐ Restrict Outgoing SIP Calls to Designated IP's

☐ Restrict Incoming SIP Calls to Designated IP's

☐ Restrict Outgoing External Calls to Designated IP's

Restricted IP's (separate multiple ID's by commas and subnets are supported)

74.94.59.225,71.225

Primary SIP Trunk Extension

avayatest

Allowed Country Codes

Secondary SIP Trunk Extension

Android App URL

iOS App URL

Consumer Caller ID Number Format

<roomnumber>

Consumer Caller ID Name Format

<roomnumber> <booki

Extension Caller ID Number Format

<extensionname>

Extension Caller ID Name Format

<callerid>

Save Settings

iPhone App Settings

Note

Upload Certificate (.p12)Choose File

p12 File Password (optional):

Confirm Password:

UploadDelete

Android App Settings

Note

Account Type:

Google or Hosted

Sender ID:

ogelfond@movitas.com

Password:

Confirm Password:

Application ID:

com.movitas.sip.custo

SaveClear

7.3. Configure SIP Trunk in MvPBX

Once a business is setup, Movitas can assign a SIP Trunk username and password for the Avaya system. The required settings for this are:

- Name: a short name to use as an identifier for the trunk
- Fullname: a human-friendly used to describe the trunk
- Secret: the password used for authentication from the CS1K

- Host: the IP address of the Avaya Aura[®] Communication Manager that we will be connecting to as a user
- Transport: should be set to UDP
- Directmedia: should be set to nonat
- Register: registration entry for MvPBX (ex. 54000@avaya.com:movitas:54000@205.168.62.18/54000~3600)
- Default country code: the numerical country code for outgoing international call parsing
- PSTN prefix: prefix for outbound calls
- From Domain: from domain where calls will come from (ex. avaya.com)

Once established the credentials are provided to complete the setup in Avaya Aura[®] Session Manager and Avaya Aura[®] Communication Manager.

7.4. Assign SIP Trunk to Business Account

Following the trunk creation, the account administrator can return to the business account for the application and enter the SIP Trunk name into the Primary SIP Trunk field.

7.5. Setup Business Extensions

Once the trunk is established, administrators can navigate to the room extensions page where they can create and manage extensions.

[» skip to sitemap](#)
dbellenger@movitas.com
[Change Password](#)
[Sign out](#)

movitas
» Movitas
» Test Dreams

[Build Your Site](#)
[Send Messages](#)
[See Who's Signed Up](#)
[Help Desk](#)
[Account Settings](#)

Extension Management

[Add Extension](#)
[Delete Selected Extensions](#)

<input type="checkbox"/>	Name	Description	# of Destinations	# of Users
<input type="checkbox"/>	54006	Test room for Avaya Testing	1	1
<input type="checkbox"/>	001	Test front desk extensions for Avaya testing	1	1
<input type="checkbox"/>	Room 102	Second Room Phone for Avaya Test	1	1
<input type="checkbox"/>	1235	Room 1235	1	0
<input type="checkbox"/>	2435	Room 2435	1	0
<input type="checkbox"/>	1135	Room 1135	1	0
<input type="checkbox"/>	1142	Room 1142	1	0
<input type="checkbox"/>	1215	Room 1215	1	0
<input type="checkbox"/>	1240	Room 1240	1	0
<input type="checkbox"/>	2335	Room 2335	1	0

Page: 1 of 1
Go
Page size: 10
Change
Item 1 to 10 of 10

Then click “**Add Extension**” to be taken to the new extension page shown below:

» skip to sitemap dbellenger@movitas.com | Change Password | Sign out

movitas > Movitas > Test Dreams

Build Your Site | Send Messages | See Who's Signed Up | Help Desk | Account Settings

Room Extension « back to Manage Extensions

Extension Details

Extension Name:

Description:

Caller ID:

Third Party Extension:

☐ Allow Voicemails

SIP Login

SIP Username: Username Generated On Save

SIP Password: Password Generated On Save

The information that should be added is

- Extension Name – a familiar name that can be used to identify the extension (ex. Room 101)
- Description – a description of the name if required
- Caller ID – if a different caller ID is required for the extension it can be entered here. (Note: caller ID and caller Number for consumer extensions and business extensions can also be formatted on the call settings page using variables such as room number, first name, last name, booking last name, caller ID, extension name, etc).
- Third Party Extension – for Avaya implementations, the PCA number should be added here in order to map calls to these extensions. This number must be unique for each business extension

Once all the settings are complete, click **Save Extension** and the extension will now be enabled and call destinations can be configured such as users, DID's, SIP extensions, or Avaya Aura[®] Communication Manager extensions. An example of the updated page is below.

Room Extension
« back to Manage Extensions

Extension Details

Extension Name:

Description:

Caller ID:

Third Party Extension:

☐ Allow Voicemails

SIP Login

SIP Username:

SIP Password:

Save Extension

Extension Destinations

Calls made to this extension will be directed to:

☒ one destination number at a time, in the order that they are listed. (Drag and drop to re-order)

☐ all destination numbers at the same time.

Add Destination

Priority	Name	Destination #	Type	
1	54006 Avaya Extension	54006	Extension	Edit Delete

1
Page 1 of 1 items 1 to 1 of 1

Manage Extension Users

Add or remove users from this extension number. Click on a user's name to view and edit their information.

Add User to Extension

User's Name	User's Email	
Doug Bellenger	doug.bellenger@gmail.com	Delete

1
Page 1 of 1 items 1 to 1 of 1

7.6. Setup Call Destinations for the Extension

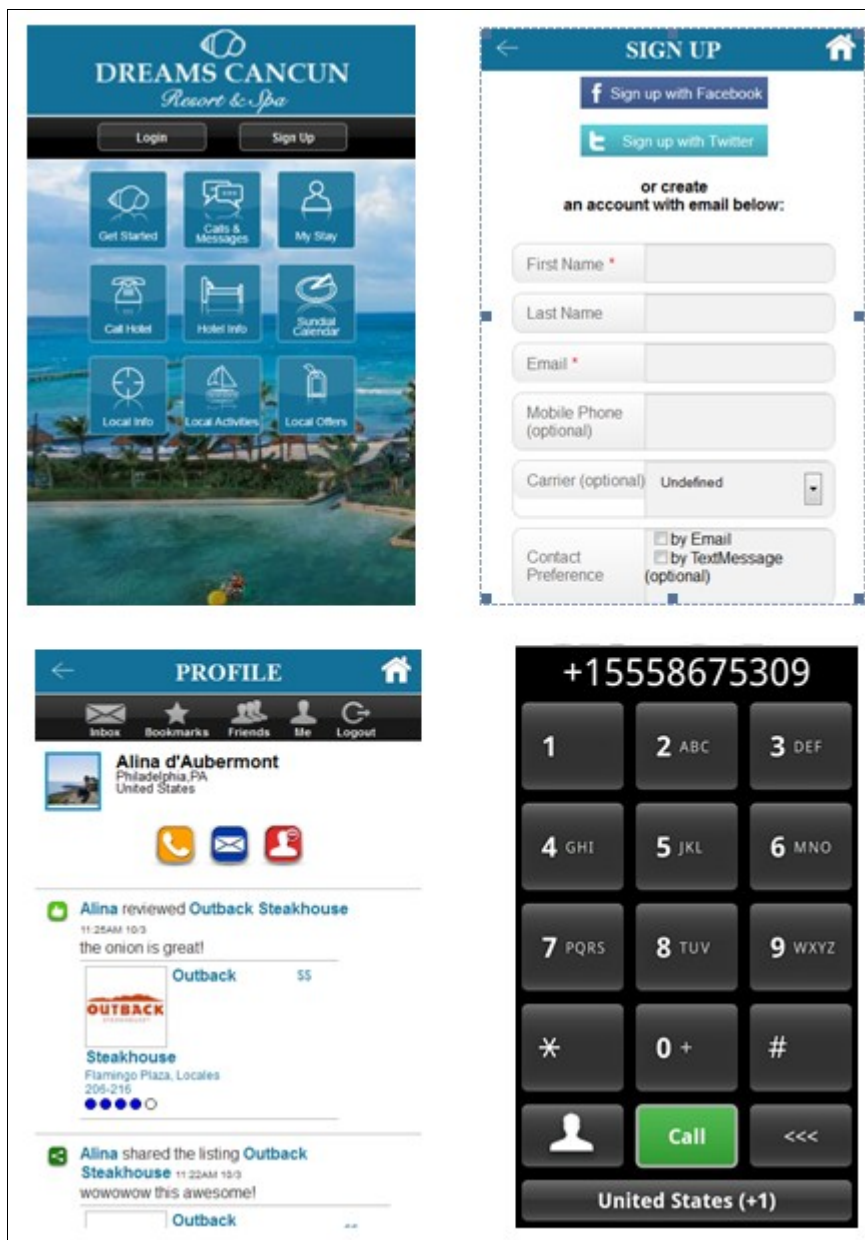
In order to forward calls from a user to the room, in addition to setting up the Third Party Extension with the appropriate redirect number, the Direct Number (DN) also should be added as an extension as shown above. (Warning: setting up the redirect number as a call destination is not recommended due to the creation of a loop between the two systems). In addition to hotel extensions, a call destination can be pointed at a SIP address, a DID, or a user in the system.

7.7. Deploy Applications Via App Stores

In order to complete the setup of the applications, Movitas will package the content and calling functionality into the required apps and enter them into the appropriate app store. Once completed the application will be available for download and the content and extensions can be updated via the Movitas portal. Any changes to the SIP Trunk for the business, IP addresses or other settings can be updated as well.

7.8. User Creates Account on Application

In order to place calls via the application following the setup, a user will signup for an account, log in to the application and then they will be registered with MvPBX automatically. Once they are logged in, they can navigate to the dialpad where they can dial an extension direct or dial another user account.



Note: The above shows an example hotel website with the following sections:

- Top Left: Home screen with icons related to hotel services, local information, and guest communication tools
- Top Right: An example of a sign up page for the hotel application
- Bottom Right: An example profile for a user from the application
- Bottom Left: An example dial pad from the Android application for the hotel

7.9. Assign User Such as Front Desk to Extension

Once a user account is setup, administrators can assign users to extensions by accessing the business extension from the extension management page in section 7.5 and the clicking on the extension to manage. When on the extension management page, an administrator can assign a user to an extension by adding their email address under the Manage Extension Users section on the right side of the page. A user can also be deleted from this page by clicking the “delete” link by their name once they have been added.

Room Extension [« back to Manage Extensions](#)

Extension Details

Extension Name:

Description:

Caller ID:

Third Party Extension:

☐ Allow Voicemails

SIP Login

SIP Username:

SIP Password:

Extension Destinations

Manage Extension Users

Add or remove users from this extension number. Click on a user's name to view and edit their information.

User's Name	User's Email	
Doug Bellenger	doug.bellenger@gmail.com	Delete

1 Page 1 of 1, items 1 to 1 of 1

7.10. Assigning User to Room Phone From Application

Pending the availability of web services into a Property Management System (PMS) for a specific client, for example a hotel, a page may be setup to enable forwarding of the room phone as outlined below. This will associate the user with the appropriate extension that calls can be forwarded or received from. This can also be handled by web services and will need to be established custom for each implementation by Movitas.

The screenshot shows a web application interface with a dark navigation bar at the top containing icons and labels for 'Inbox', 'Bookmarks', 'Friends', 'Me', and 'Logout'. Below this, there are three main sections, each with a blue header and a white content area. The first section, 'My Room Info', contains a text prompt, two input fields (one with 'Bellenger' and one with '1235'), and a 'Submit' button. The second section, 'My Bill', contains a text prompt and a 'View Bill' button. The third section, 'My Room Phone', contains a text prompt and an 'Enable Room Forwarding' button.

Inbox Bookmarks Friends Me Logout

My Room Info

Please fill in your last name and room number to turn on My Stay functions.

Last Name

Room No.

Submit

My Bill

Click the button to view your current charges.

View Bill

My Room Phone

Click the button to activate call forwarding from your room phone to this phone.

Enable Room Forwarding

Note: This is an example of a page setup for hotels, as mentioned in 7.1.10, that allows their guests to enable room forwarding from the CM to the application for the length of their stay. At the end of their stay calls will no longer be forwarded to them based on their checkout date.

8. Verification Steps

The following are typical steps to verify the interoperability between the Movitas system and Avaya Aura® Communication Manager and Avaya Aura® Session Manager

- Place a call to Front Desk phone which is one of three Avaya extensions associated with Movitas SIP users
- The Front Desk phone in the Avaya Aura® Communication Manager rings and the Movitas SIP user associated with the Front Desk phone also rings.
- Accept the call on the Movitas SIP user, the Front Desk phone in Avaya Aura® Communication Manager stops ringing and become idle.
- Check two-way audio path between the caller and Movitas SIP user

9. Conclusion

All of the executed test cases have passed and met the objectives as outlined in Section 2. The Movitas SIP MvPBX system and its respective iPhone, Android and Blackberry applications are considered compliant with Avaya Aura® Communication Manager and Avaya Aura® Session Manager.

10. Additional References

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

Avaya

- [1] *Administering Avaya Aura® Communication Manager*, Doc # 03-603558, Release 6.0.1, Issue 1.3, December 2010.
- [2] *Administering Avaya Aura® Session Manager*, Doc # 03-603324, Release 6.1 November 2010

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