Avaya Solution & Interoperability Test Lab

Application Notes for IPC Alliance 16 with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a Centralized Messaging Environment – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for IPC Alliance 16 to interoperate with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a centralized messaging environment.

IPC Alliance 16 is a trading communication solution. In the compliance testing, IPC Alliance 16 used SIP trunks to Avaya Aura® Session Manager, for IPC turret users to obtain voice messaging services from Avaya Aura® Messaging. A SIP trunk was used from IPC Alliance 16 to Avaya Aura® Session Manager, and a SIP trunk was used from Avaya Aura® Session Manager to Avaya Aura® Messaging. The Avaya Aura® Messaging system in the Central site supported local subscribers from Avaya Aura® Communication Manager at the Central site, and from IPC turret users at the Remote site.

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 required for IPC Alliance 16 to interoperate with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a centralized messaging environment.

IPC Alliance 16 is a trading communication solution. In the compliance testing, IPC Alliance 16, more specifically Enterprise SIP Server (ESS), used a SIP trunk to Avaya Aura® Session Manager, for IPC turret users to obtain voice messaging services from Avaya Aura® Messaging. The Avaya Aura® Messaging system in the Central site supported local subscribers from Avaya Aura® Communication Manager at the Central site, and IPC turret users at the Remote site.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually established among IPC turret users with Avaya SIP, Avaya H.323, PSTN users, and/or the Avaya Aura® Messaging voicemail pilot to verify various call scenarios. The Avaya Aura® Messaging User Preference Option was used to configure subscriber features such as Personal Operator, Live Attendant, Reach Me (Find Me in Avaya Modular Messaging), and Notify Me (Call Me in Avaya Modular Messaging).

The serviceability test cases were performed manually by disconnecting and reconnecting the cable connection to IPC.

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

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing included subscriber login, greeting, voice message, message waiting indicator, call forward, multiple call forward, personal operator, live attendant, reach me, notify me, call sender, transfer, and vector.

The serviceability testing focused on verifying the ability of IPC Alliance 16 to recover from adverse conditions, such as disconnecting/reconnecting the cable connection to IPC Alliance 16.

2.2. Test Results

All test cases were executed and passed. The following were the observations from the compliance testing.

- IPC does not offer the Coverage feature, therefore coverage to voicemail for the turret users were accomplished by setting the Avaya Aura® Messaging pilot number as the Call Forwarding destination for the users.
- During the multiple call forward scenario, the call went to Forward-To voicemail.

2.3. Support

Technical support on IPC Alliance 16 can be obtained through the following:

- **Phone:** (800) NEEDIPC, (203) 339-7800
- **Email:** systems.support@ipc.com

3. Reference Configuration

As shown in the test configuration below, IPC Alliance 16 at the Remote Site consisted of the System Center, ESS, and Turrets. A SIP trunk was used from ESS to Session Manager, and another SIP trunk was used between Session Manager and Avaya Aura® Messaging. In the test configuration, the SIP trunk allowed IPC turret users at the Remote Site to "cover" to Avaya Aura® Messaging at the Central site for voice messaging services.

The configuration of Session Manager is performed via the web interface of System Manager. The detailed administration of basic connectivity among Communication Manager, Session Manager, and Avaya Aura® Messaging is not the focus of these Application Notes and will not be described. These Application Notes will focus on the additional configuration required to support IPC turret users as local subscribers on Avaya Aura® Messaging.

The detailed administration of the SIP trunk between Session Manager and IPC Alliance 16, to enable IPC turret users to reach users on Communication Manager and on the PSTN, is assumed to be in place with details described in [3]. A five digit Uniform Dial Plan (UDP) was used to facilitate dialing between the Central and Remote sites. Unique extension ranges were associated with Communication Manager user(s) at the Central site (7200x), (7202x), and IPC turret users at the Remote site (332xx). The Avaya Aura® Messaging pilot number was 7777.

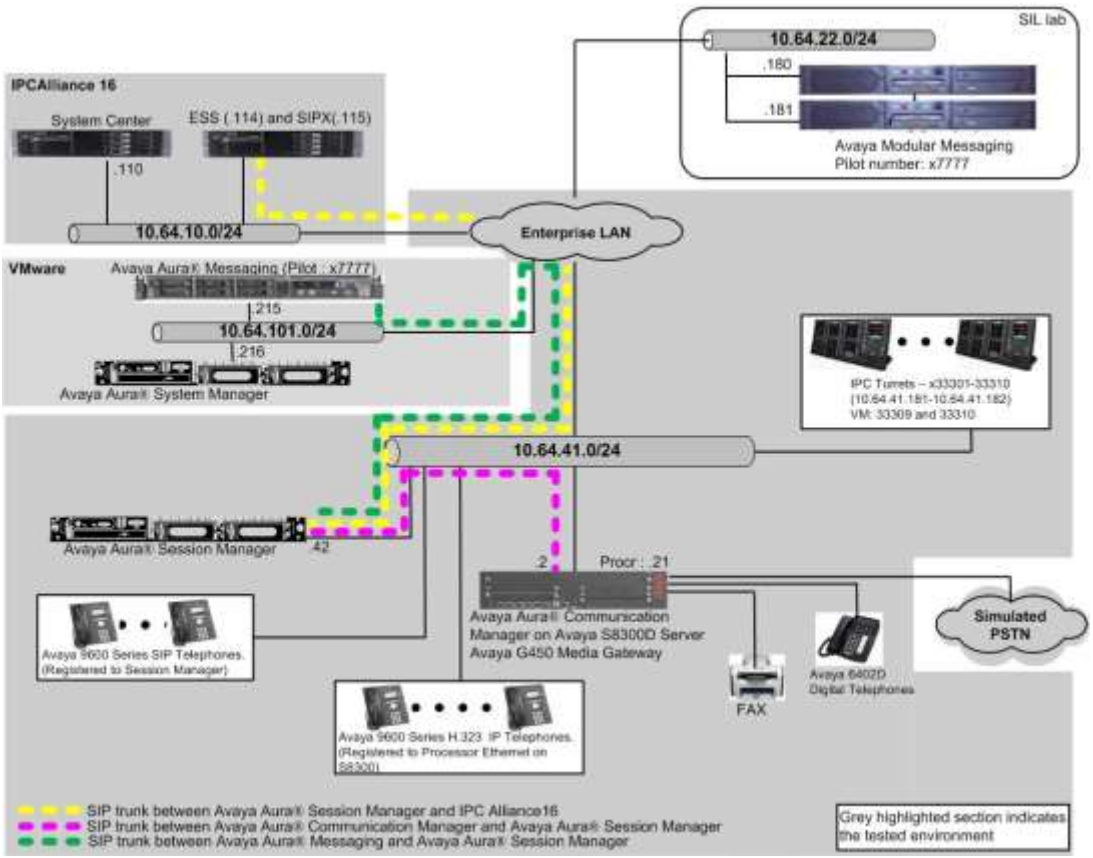


Figure 1: Test Configuration of IPC Alliance 16 with Avaya Aura® Messaging

4. Equipment and Software Validated

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

Equipment	Software
Avaya Aura® Messaging	MSG-03.0.124.0-321_0103
Avaya Aura® Communication Manager on Avaya S8300D Server	6.3 (R016x.03.0.124.0-21754)
Avaya G450 Media Gateway	36.9
Avaya Aura® Session Manager	6.3.9.0.639011
Avaya Aura® System Manager	6.3.9
Avaya 96x0 Series IP Telephone (H.323)	3.2.2
Avaya 96x1 Series IP Telephone (H.323)	6.2.3.13
Avaya 96x0 Series IP Telephone (SIP)	2.6.12
Avaya 96x1 Series IP Telephone (SIP)	6.4.1.25
IPC • One Management System (OneMS) • Enterprise SIP Server (ESS)	 16.02.01.09 2.01.00-03

5. Configure Avaya Aura® Communication Manager

For the SIP trunk configuration between Session Manager and IPC Alliance 16, please refer to [3].

During the compliance test and when testing REFER for transfers, the following issues were observed.
Call scenario:

- Avaya Aura® Messaging sends REFER to Communication Manager and Communication Manager responds with 202 Accepted. Right after the 202 Accepted message, Communication Manager sends a Notify. In the Notify message, the message "SIP / 2.0 481 Call Transaction does not exist". The result is Communication Manager does not know where to send the call to.
- During a Personal Operator scenario, no RTP was observed between Calling party and Personal Operator.

The following two configuration changes fixed the issues.

- Change the **locations** form
- Change the **trunk-group** form

In the main location, if Communication Manager does not know where to send the call to, Communication Manager will send the call to trunk 92.

```
change locations                                                Page   1 of   1
                                   LOCATIONS

                ARS Prefix 1 Required For 10-Digit NANP Calls? y

Loc  Name           Timezone DST     City/                              Proxy Sel
 No                  Offset          Area                                 Rte Pat
1    Main             + 00:00  0                                          92
```

Enable the **Build Refer-To URI of REFER from Contact for NCR** field.

```
change trunk-group 92                                           Page   4 of  21
                              PROTOCOL VARIATIONS

                                       Mark Users as Phone? n
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? y
                                  Send Diversion Header? n
                                 Support Request History? y
                              Telephone Event Payload Type:

                        Convert 180 to 183 for Early Media? n
                  Always Use re-INVITE for Display Updates? n
                        Identity for Calling Party Display: P-Asserted-Identity
            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
```

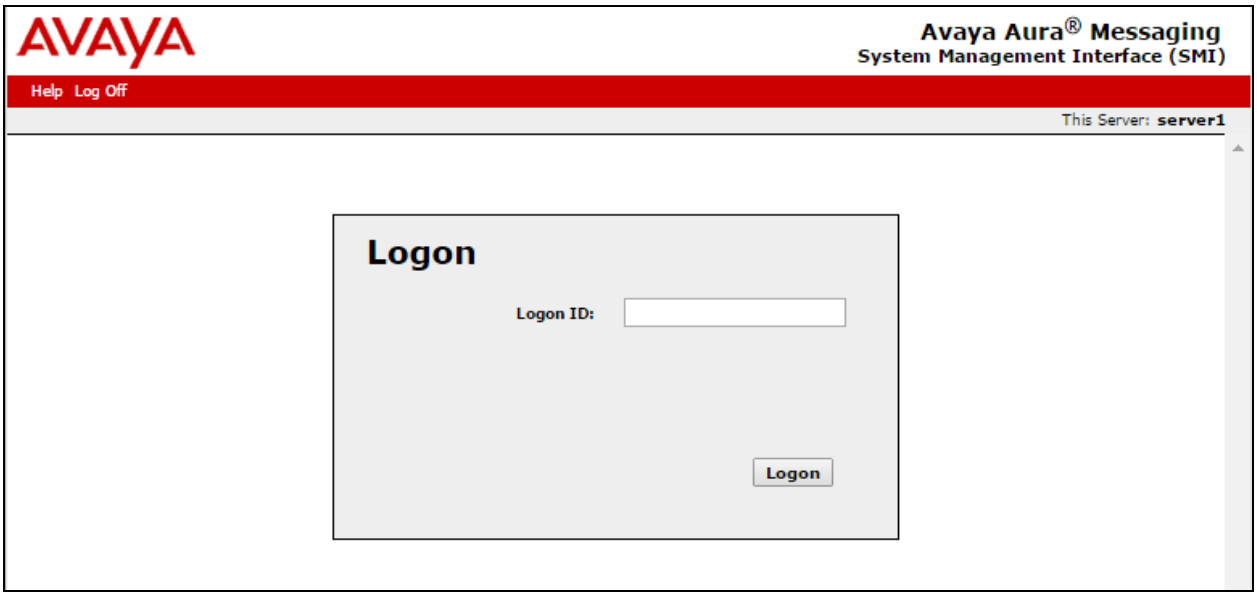
6. Configure Avaya Aura® Messaging

This section provides the procedures for configuring IPC turret users as local subscribers on Avaya Aura® Messaging. The configuration procedures include the following areas:

- Launch messaging administration
- Administer subscriber extension ranges
- Administer subscribers

6.1. Launch Messaging Administration

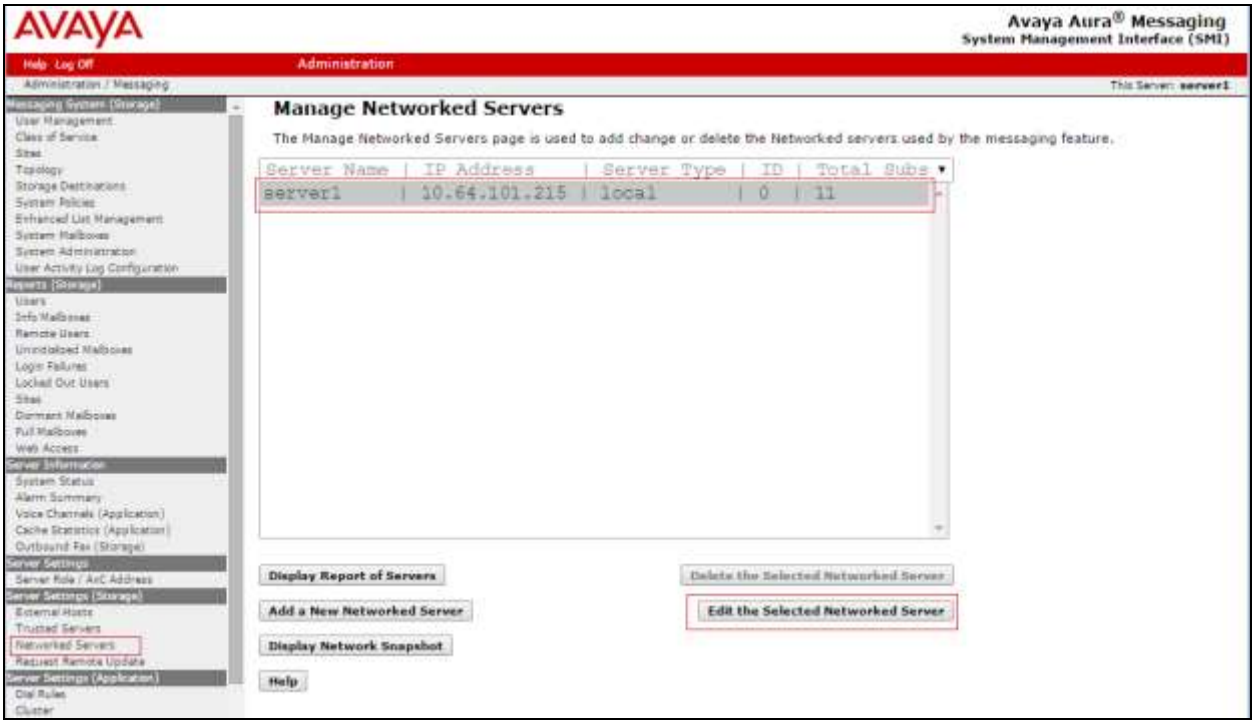
Access the Avaya Aura® Messaging web interface by using the URL http://ip-address in an Internet browser window, where "ip-address" is the IP address of the Avaya Aura® Messaging server. The **Logon** screen is displayed. Log in using a valid user name and password. The **Password** field will appear after a value is entered into the **Username** field.



The **Messaging Administration** screen appears, as shown below. Navigate to **Administration → Messaging** (not shown).

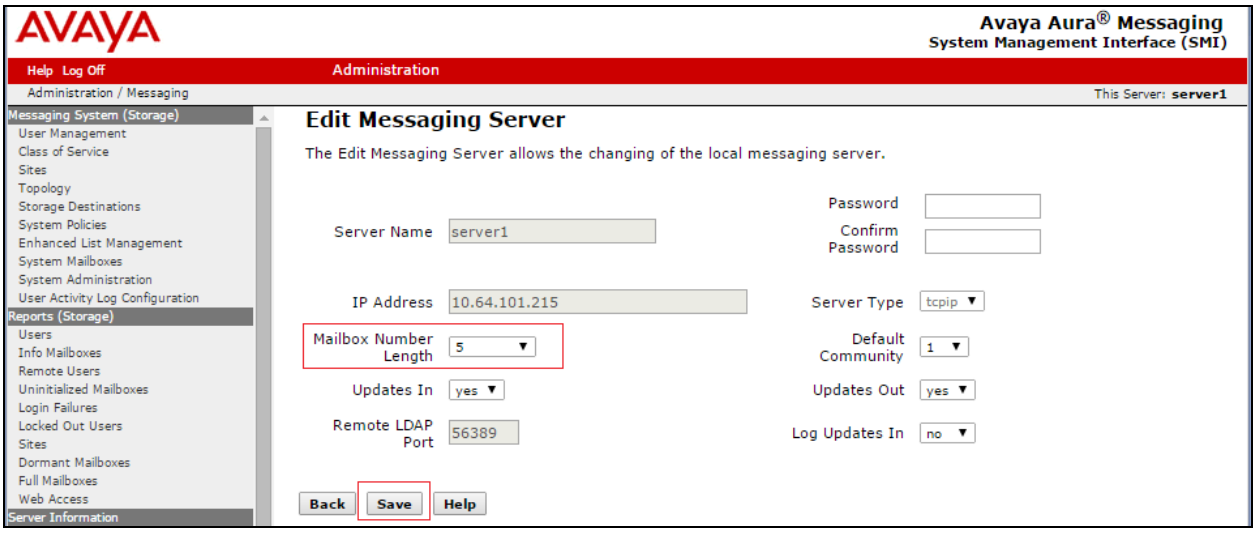
6.2. Administer Subscriber Extension Ranges

Navigate **Server Settings (Storage) → Networked Servers** from the left pane, to display the **Manage Networked Servers** screen. Select the Avaya Aura® Messaging server from the table listing, and click **Edit the Selected Networked Server** toward the bottom right of the screen.



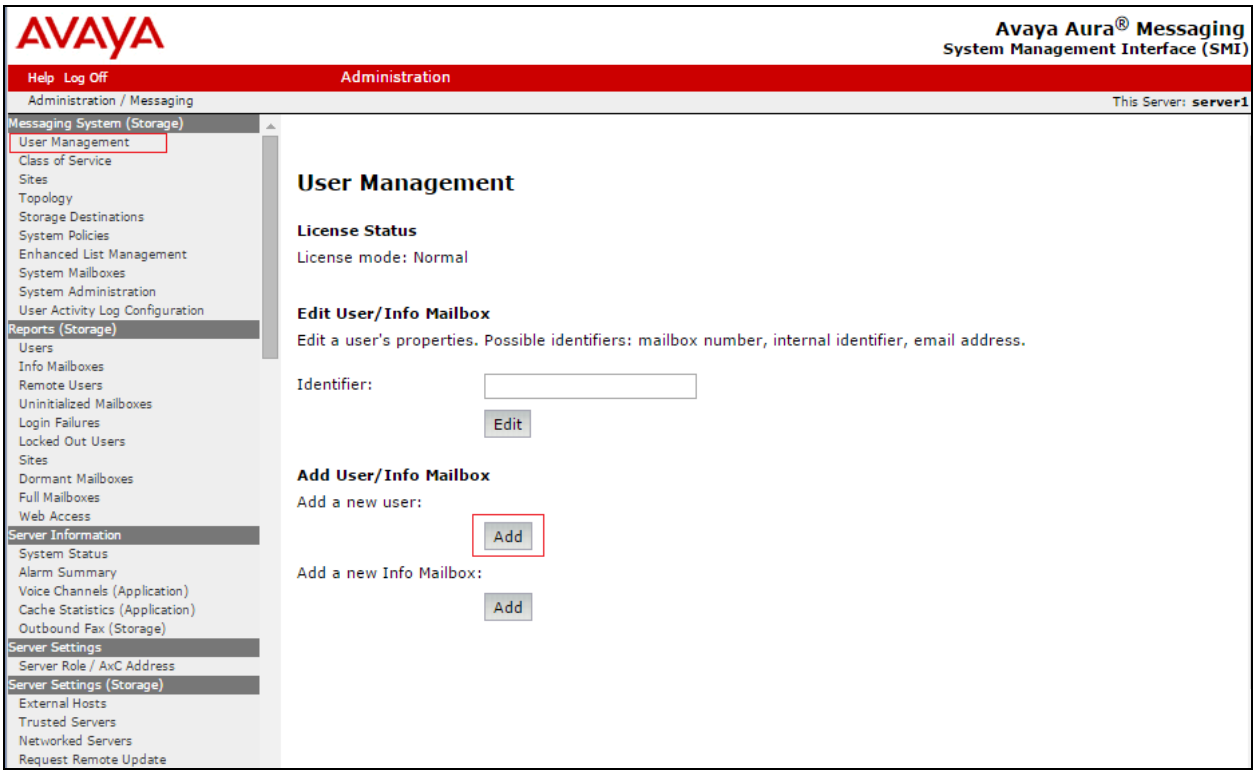
The **Edit Messaging Server** screen is displayed. Select **5** using drop-down menu on the Mailbox Number Length field. In the compliance test, 5 digit extensions were used by Avaya Aura® Messaging.

Click on **Save** at the bottom of the screen.



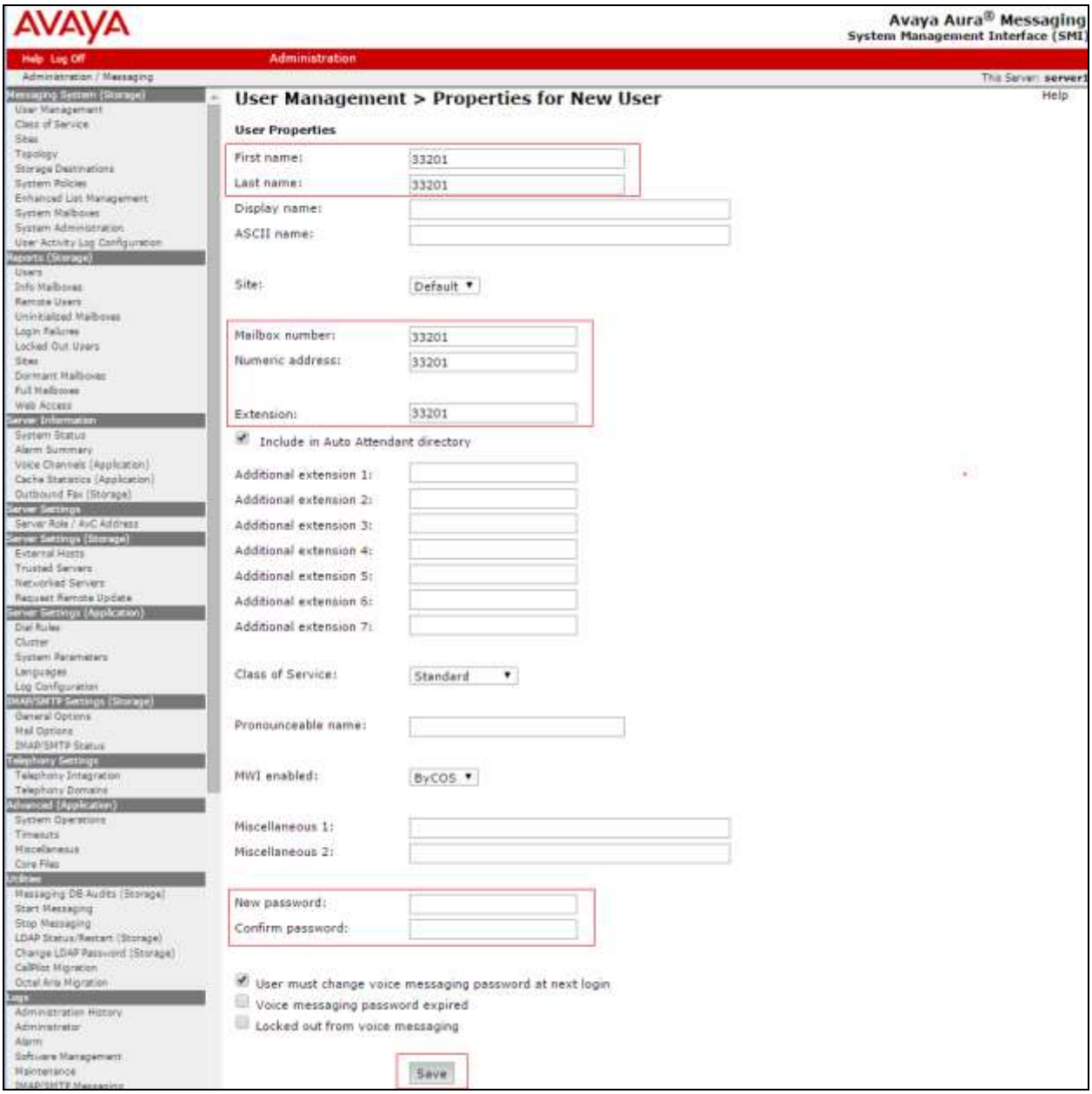
6.3. Administer Subscribers

Select **Messaging System (Storage) → User Management** from the left pane, to display the **User Management** screen. Click **Add** under the **Add a new user** section.



The **User Management > Properties for New User** screen is displayed next. Enter the desired string into the **First Name**, **Last Name**, and **Password** fields.

In the compliance testing, the same telephone extensions for the IPC subscribers were used for the **Mailbox number, Numeric address,** and **Extension** fields. Select the appropriate **Class Of Service**, and retain the default values in the remaining fields.
Scroll down to the bottom of the screen and click **Save**.



Repeat this section to add all IPC subscribers. During the compliance test, 33201 and 33202 were used.

7. Configure Avaya Aura® Session Manager

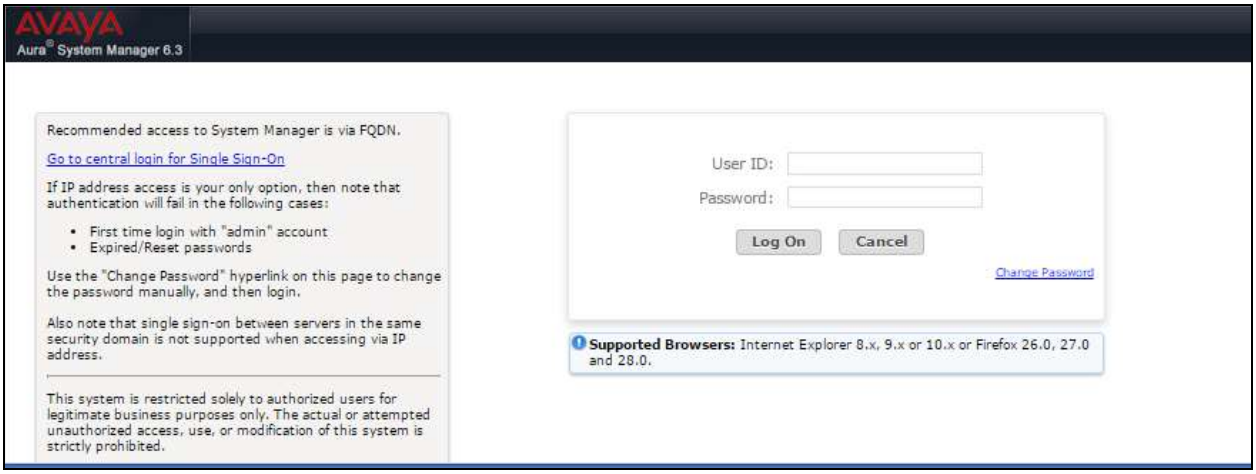
This section provides the procedures for configuring Session Manager. The procedures include the following areas:

- Launch System Manager
- Administer dial patterns

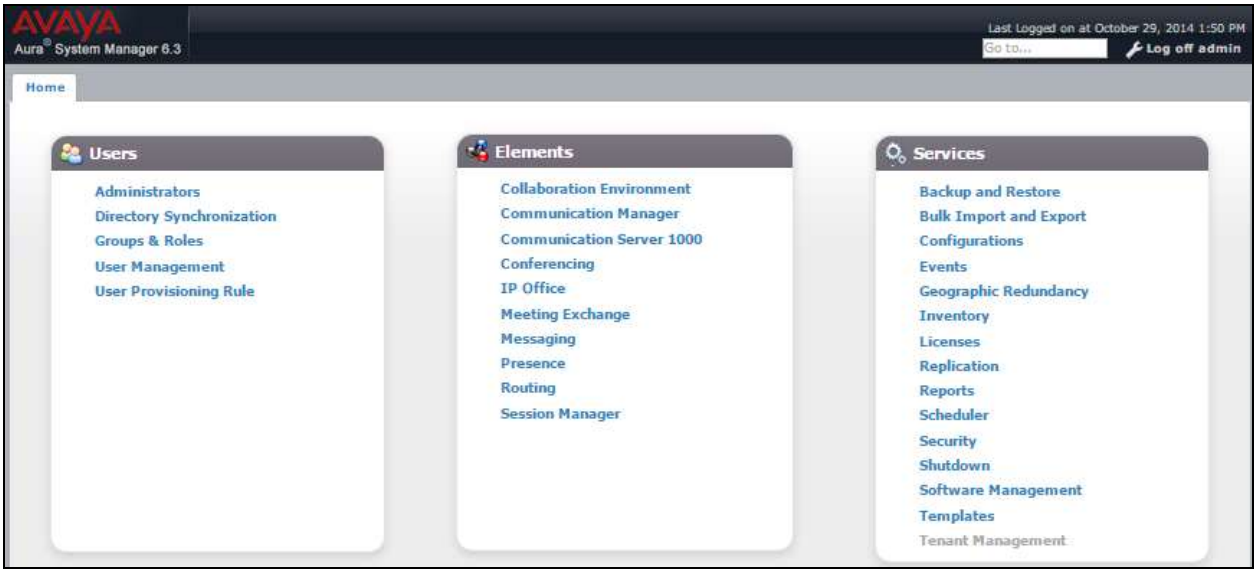
7.1. Launch System Manager

Access the System Manager Web interface by using the URL http://ip-address in an Internet Browser window, where "ip-address" is the IP address of the System Manager server. Log in using the appropriate credentials.

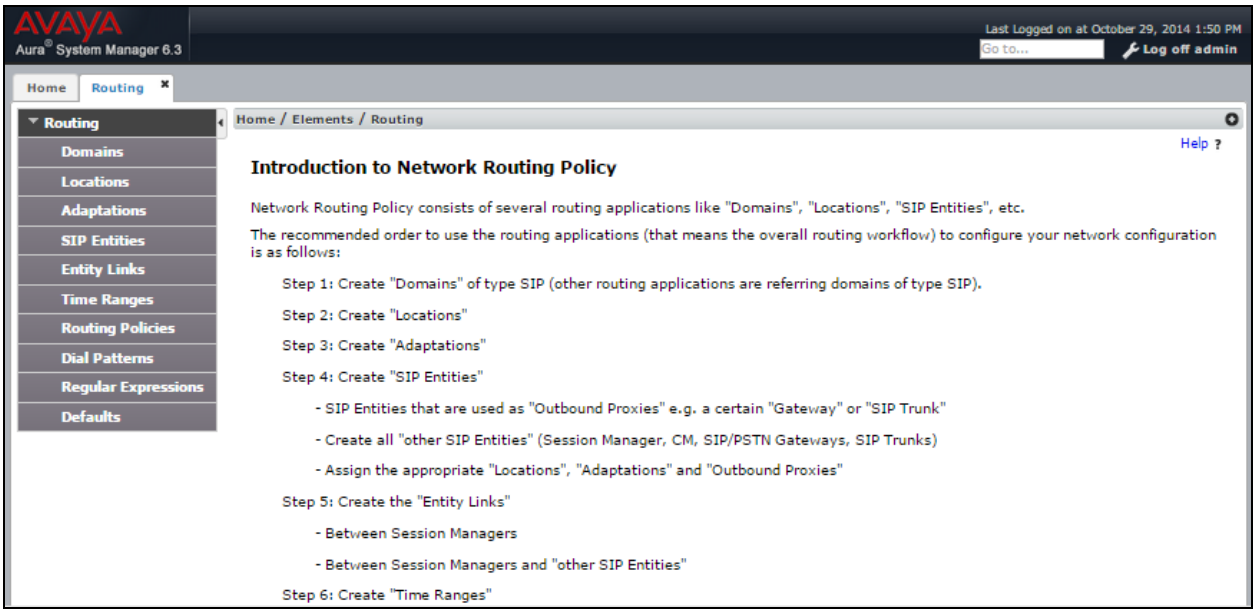
Note: During the compliance the System Manager was installed onto a VMware.



The **Main** screen is displayed. Navigate to **Elements → Routing**



The **Introduction to Network Routing Policy** screen is displayed next.
Navigate to **Routing → Dial Patterns** from the left pane.



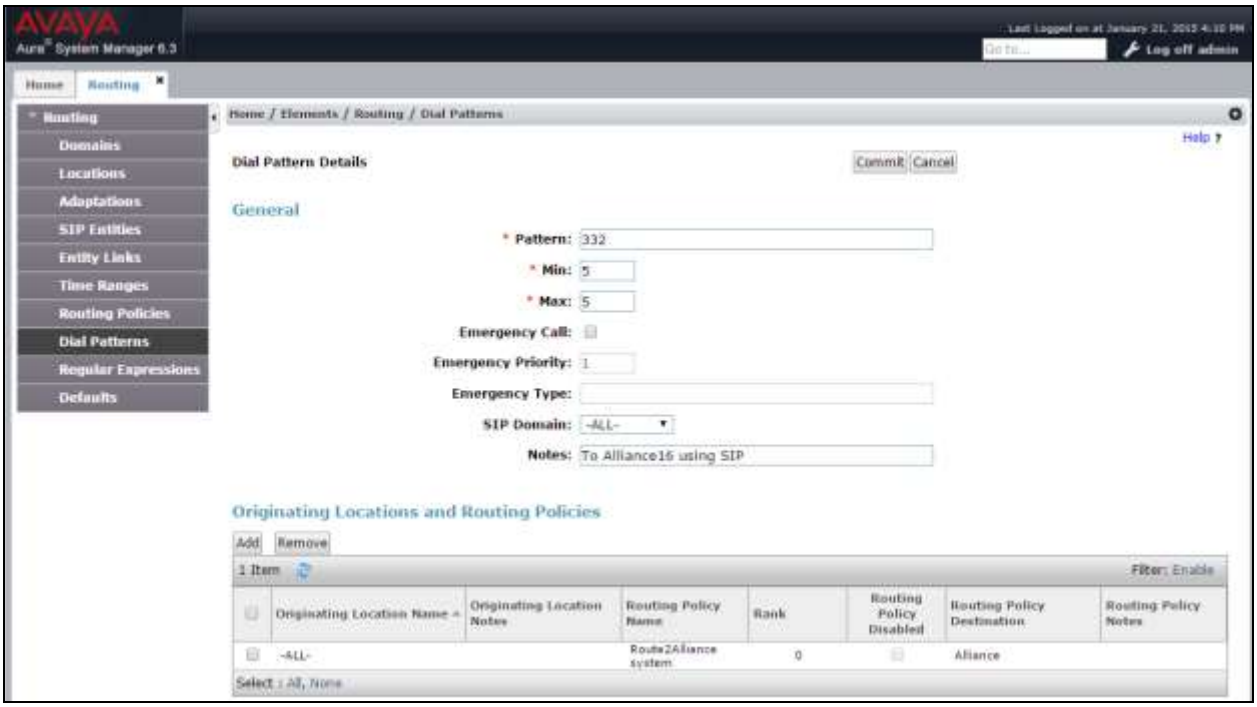
7.2. Administer Dial Patterns

On the **Dial Pattern Details** screen, click **New** in the subsequent screen (not shown) to add a new dial pattern for Avaya Aura® Messaging to reach IPC turret users.

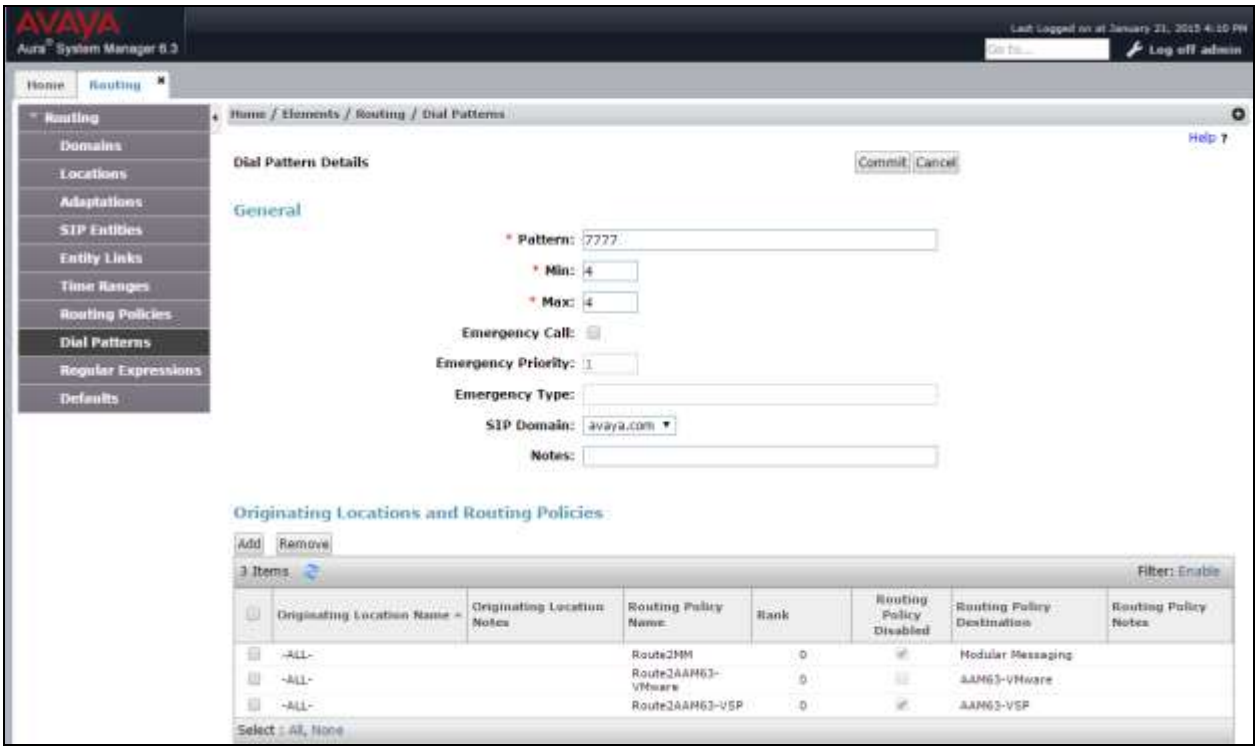
The **Dial Pattern Details** screen is displayed. In the **General** sub-section, enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Pattern:** A dial pattern to match.
- **Min:** The minimum number of digits to be matched.
- **Max:** The maximum number of digits to be matched.
- **SIP Domain:** Select the applicable domain for the relevant Communication Manager.
- **Notes:** Any desired description.

In the **Originating Locations and Routing Policies** sub-section, click **Add** and create a new policy for reaching IPC turret users with extensions 332xx. In the compliance testing, the policy allowed for call origination from location "Apply The Selected Routing Policies to All Originating Locations", and the destination is "Route2Alliance system", as shown below. Retain the default values in the remaining fields. Avaya Aura® Messaging will dial out to IPC turret users for features such as Call Sender. The SIP call will be delivered from Aura® Messaging to Session Manager The SIP call is then delivered from Session Manager to IPC Alliance 16



The following screen shows the dial pattern details. 7777 is the pilot number for Avaya Aura® Messaging.



8. Configure IPC Alliance 16

For the compliance test, no special configuration is needed for the IPC Alliance 16. For a SIP trunk configuration between Session Manager and IPC Alliance 16, please refer to [3].

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Aura® Communication Manager, Avaya Aura® Messaging, Avaya Aura® Session Manager, and IPC Alliance 16.

Place a call from an IPC turret user to the Avaya Aura® Messaging pilot number. Verify that Avaya Aura® Messaging recognizes the calling party as a local subscriber.

10. Conclusion

These Application Notes describe the configuration steps required for IPC Alliance 16 to successfully interoperate with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a centralized messaging environment using SIP trunks. All feature and serviceability test cases were completed with an observation noted in **Section 2.2**.

11. Additional References

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

1. *Administering Avaya Aura® Communication Manager*, Document 03-300509, Release 6.3, Issue 10, June 2014, available at http://support.avaya.com.
2. *Avaya Aura® Communication Manager Screen Reference*, Document 03-602878, Release 6.3, Issue 8, December 2014, available at http://support.avaya.com.
3. *Application Notes for IPC Alliance 16 with Avaya Aura® Session Manager 6.3 using SIP Trunks*, Issue 1.0, available at http://support.avaya.com.

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