Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Flying Voice Technology IP652 SIP Phones with Avaya Aura® Session Manager 6.1 and Avaya Aura® Communication Manager 6.0.1 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Flying Voice Technology IP652 SIP Phones to interoperate with Avaya Aura® Session Manager 6.1 and Avaya Aura® Communication Manager 6.0.1.

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 steps required to configure Flying Voice Technology IP652 SIP Phones to interoperate with an Avaya SIP infrastructure consisting of Avaya Aura® Session Manager 6.1 and Avaya Aura® Communication Manager 6.0.1. The IP652 is 5-line business IP phone for the enterprise.

2. General Test Approach and Test Results

To verify interoperability of Flying Voice IP652 SIP Phones with Session Manager and Communication Manager, calls were made between Flying Voice telephones and Avaya SIP, H.323 and Digital telephones using various codec settings and exercising common PBX features. The telephony features were activated and deactivated using speed-dial buttons.

2.1. Interoperability Compliance Testing

Interoperability compliance testing covered the following features and functionality:

- Successful registration of Flying Voice telephones with Session Manager.
- Calls between Flying Voice telephones and Avaya SIP, H.323, and digital telephones.
- G.722, G.711 and G.729A codec support and negotiation, with and without media shuffling.
- Basic features including phone display, mute/un-mute, answer, hang up, music on hold, DTMF transmission, Message Waiting Indicator (MWI) subscription and feature access code dialing.
- PBX features including Multiple Call Appearances, Hold, Transfer, and Conference.
- Proper system recovery after a Flying Voice telephone restart and loss of IP connection.

2.2. Test Results

All test cases were executed. The following were observations on Flying Voice IP652 from the compliance testing.

- For G.729A codec, calls with Avaya SIP users did not shuffle.
- For G.729A codec, calls between IP652 phones did not shuffle.
- For outgoing calls, DTMF was sent in-band as the RFC2833 negotiation was not successful.

2.3. Support

Technical support from Flying Voice Technology can be obtained through the following:

- Phone: +86-755-26099365
- E-mail: support@e3call.com

3. Reference Configuration

The diagram illustrates an enterprise site with an Avaya SIP-based network, including Session Manager, an S8800 Server running Communication Manager with a G450 Media Gateway, and Avaya SIP, H.323 and Digital endpoints. The enterprise site also contains two Flying Voice IP652 SIP Phones used in the compliance testing. The Flying Voice phones are registered with Session Manager and are configured as endpoint users.

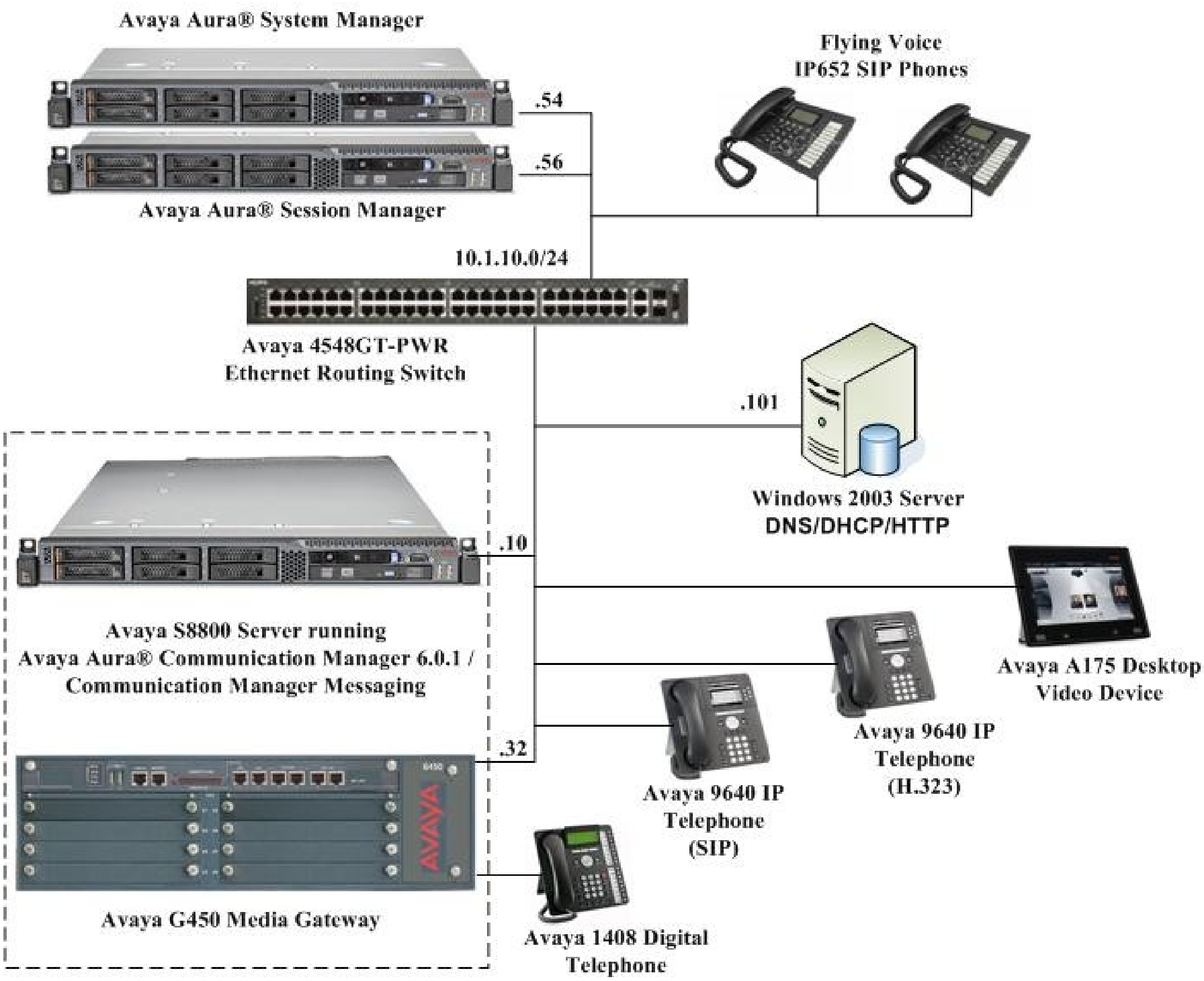


Figure 1: Flying Voice IP652 Phones with Avaya SIP Solution

Table 1 lists the extensions used for this testing.

Extension	Note
10099	Avaya 9640 IP Telephone (H.323)
10051	Avaya 9640 IP Telephone (SIP)
10016	Avaya 1408 Digital Telephone
10061	Avaya Desktop Video Device (ADVD) (SIP)
10067 to 10068	Flying Voice IP652 SIP Phones

Table 1 – Extension Setup

4. Equipment and Software Validated

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

Equipment	Software
Avaya S8800 Server	Avaya Aura® Communication Manager 6.0.1 (Service Pack 4 00.1.510.1-19100) / Avaya Aura® Communication Manager Messaging 6.0.1
Avaya G450 Media Gateway	31.20.0
Avaya S8800 Server	Avaya Aura® Session Manager 6.1 Service Pack 2
Avaya S8800 Server	Avaya Aura® System Manager 6.1 Service Pack 2
Avaya 9600 Series IP Telephones	2.6.4.0 (SIP) 3.1 SP2 (H.323)
Avaya 1408 Digital Telephone	-
Avaya Desktop Video Device	1.0.3
Avaya 4548GT-PWR Ethernet Routing Switch	V5.4.0.008
Flying Voice IP652 SIP Phones	Hardware Version: 1.0.1 Firmware Version: 1.3.4 (Hy0811225428) DSP Version: D2.63

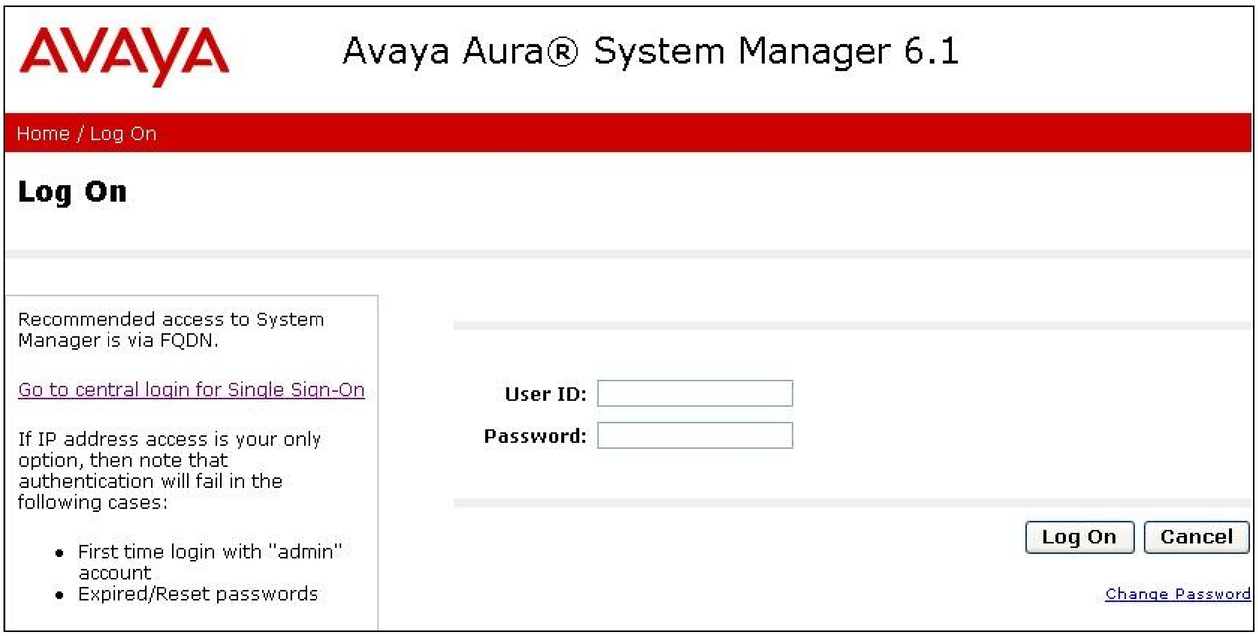
5. Configure Avaya Aura® Session Manager

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

- Launch System Manager
- Administer users

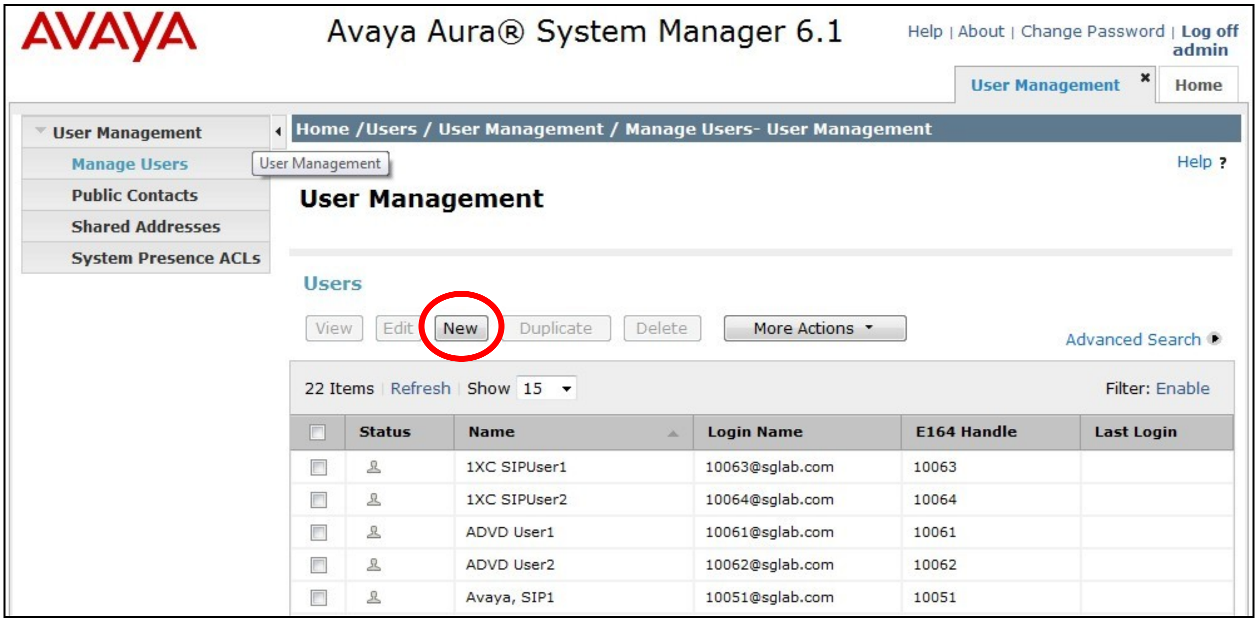
5.1. Launch Avaya Aura® System Manager

Access the System Manager Web interface by using the URL **https://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.



5.2. Administer Users

In the subsequent screen (not shown), select **Users → User Management → Manage Users** to display the **User Management** screen below. Click **New** to add a user.

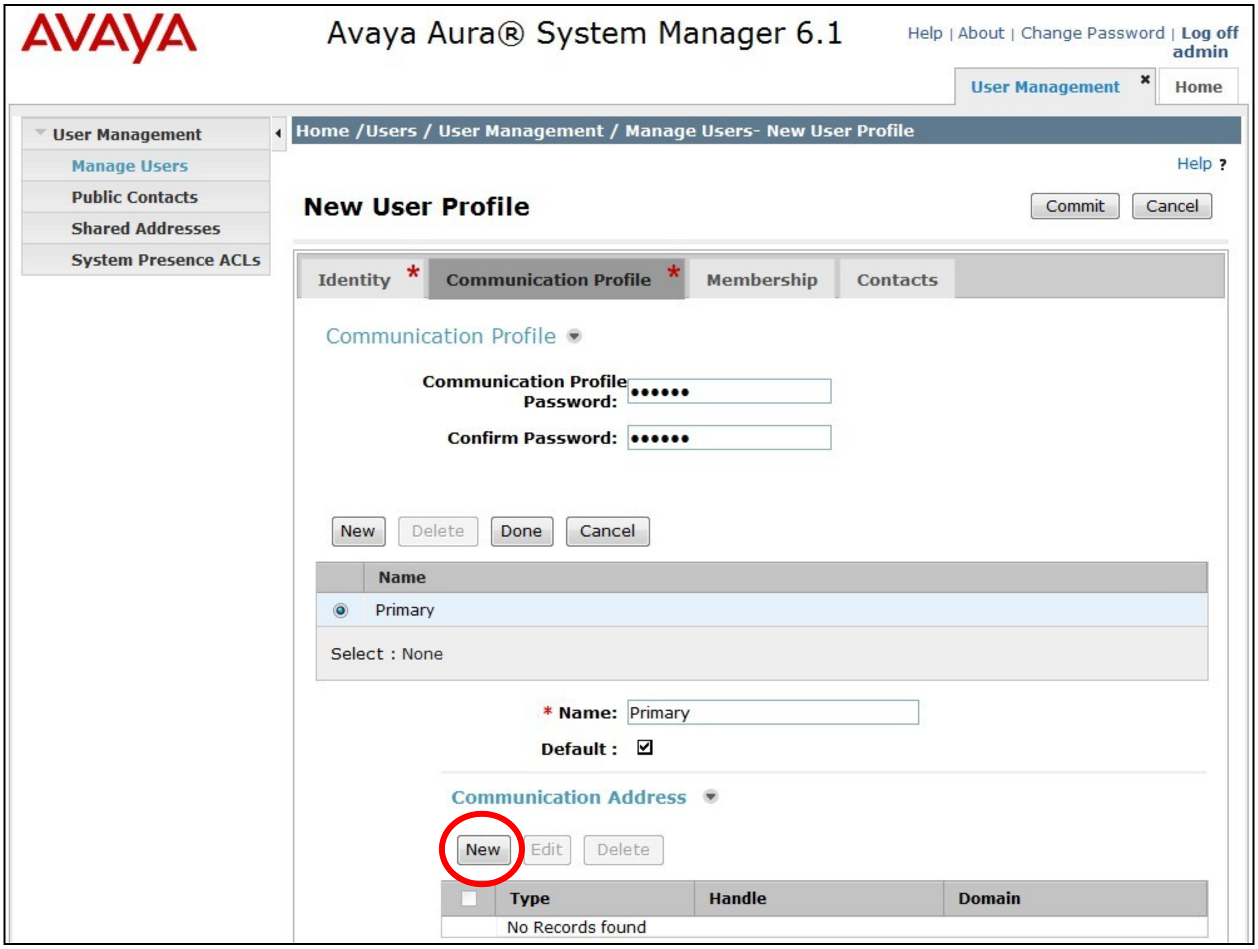


5.2.1. Identity

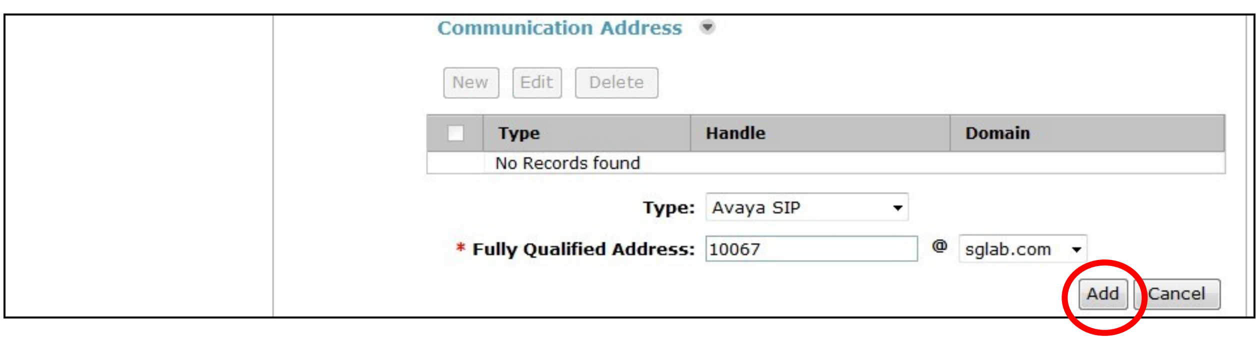
The **New User Profile** screen is displayed. Enter desired **Last Name** and **First Name**. For **Login Name**, enter **n@x**, where **n** is the first IP652 user extension and **x** is the domain name used for compliance testing, in this case **sglab.com**. For **Password** and **Confirm Password**, enter the appropriate credentials for System Manager. Retain the default values in the remaining fields.

5.2.2. Communication Profile

Select the **Communication Profile** tab. For **Communication Profile Password** and **Confirm Password**, enter the desired password for the SIP user to use for registration. Scroll down to the **Communication Address** sub-section, and click **New** to add a new address.

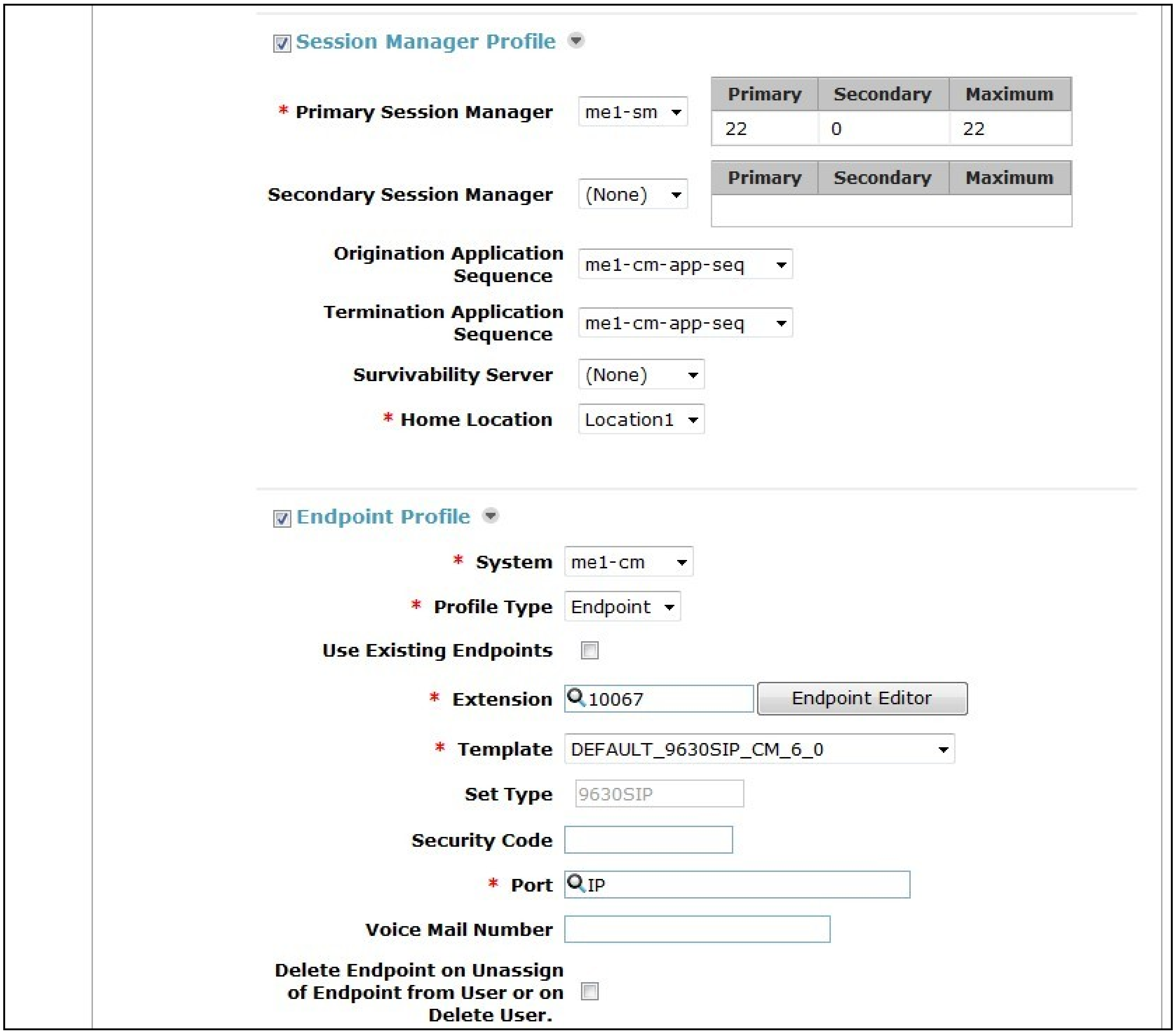


For **Type**, retain **Avaya SIP**. For **Fully Qualified Address**, enter and select the SIP user extension and domain name from **Section 5.2.1**. Click **Add**.



Scroll down to check and expand **Session Manager Profile**. For **Primary Session Manager**, **Origination Application Sequence**, **Termination Application Sequence**, and **Home Location**, select the values corresponding to the applicable Session Manager. Retain the default values in the remaining fields. These settings are configured during the initial setup of Session Manager.

Scroll down to check and expand **Endpoint Profile**. For **System**, select the value corresponding to the applicable Communication Manager. For **Extension**, enter the SIP user extension from **Section 5.2.1**. For **Template**, select **DEFAULT_9630SIP_CM_6_0**. For **Port**, select **IP**. Retain the default values in the remaining fields.



Click **Commit** to complete the creation of the new user (not shown).

Repeat **Section 5.2** to add a user for each Flying Voice IP652 user. In the compliance testing, two users with extensions **10067** and **10068** were added.

6. Configure Avaya Aura® Communication Manager

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

- Verify Communication Manager license
- Administer IP codec set

6.1. Verify Avaya Aura® Communication Manager License

Log in to the System Access Terminal (SAT) to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that there is sufficient capacity for SIP stations by comparing the **Maximum Off-PBX Telephones - OPS** field value with the corresponding value in the **USED** column. The difference between the two values needs to be greater than or equal to the number of Flying Voice IP652 SIP Phone extensions.

The license file installed on the system controls the maximum permitted. If there is insufficient capacity, contact an authorized Avaya sales representative to make the appropriate changes.

```
display system-parameters customer-options                          Page   1 of  11
                                OPTIONAL FEATURES

     G3 Version: V16                             Software Package: Enterprise
       Location: 2                                System ID (SID): 1
       Platform: 28                               Module ID (MID): 1

                                                             USED
                                Platform Maximum Ports: 6400  281
                                      Maximum Stations: 1000  173
                              Maximum XMOBILE Stations: 2400  0
                    Maximum Off-PBX Telephones - EC500: 250   0
                    Maximum Off-PBX Telephones -   OPS: 1000  32
                    Maximum Off-PBX Telephones - PBFMC: 250   0
                    Maximum Off-PBX Telephones - PVFMC: 250   0
                    Maximum Off-PBX Telephones - SCCAN: 0     0
                         Maximum Survivable Processors: 10    1




        (NOTE: You must logoff & login to effect the permission changes.)
```

6.2. Administer IP Codec Set

Use the **change ip-codec-set n** command, where **n** is the existing codec set number associated with the SIP trunk group to Session Manager. Update the audio codec types in the **Audio Codec** fields as necessary to include G.722-64K, G.711A, G.711MU and G.729AB.

```
change ip-codec-set 6                                             Page   1 of   2

                          IP Codec Set

    Codec Set: 6

    Audio        Silence      Frames   Packet
    Codec        Suppression  Per Pkt  Size(ms)
 1: G.722-64K                   2        20
 2: G.711MU          n          2        20
 3: G.711A           n          2        20
 4: G.729AB          n          2        20
```

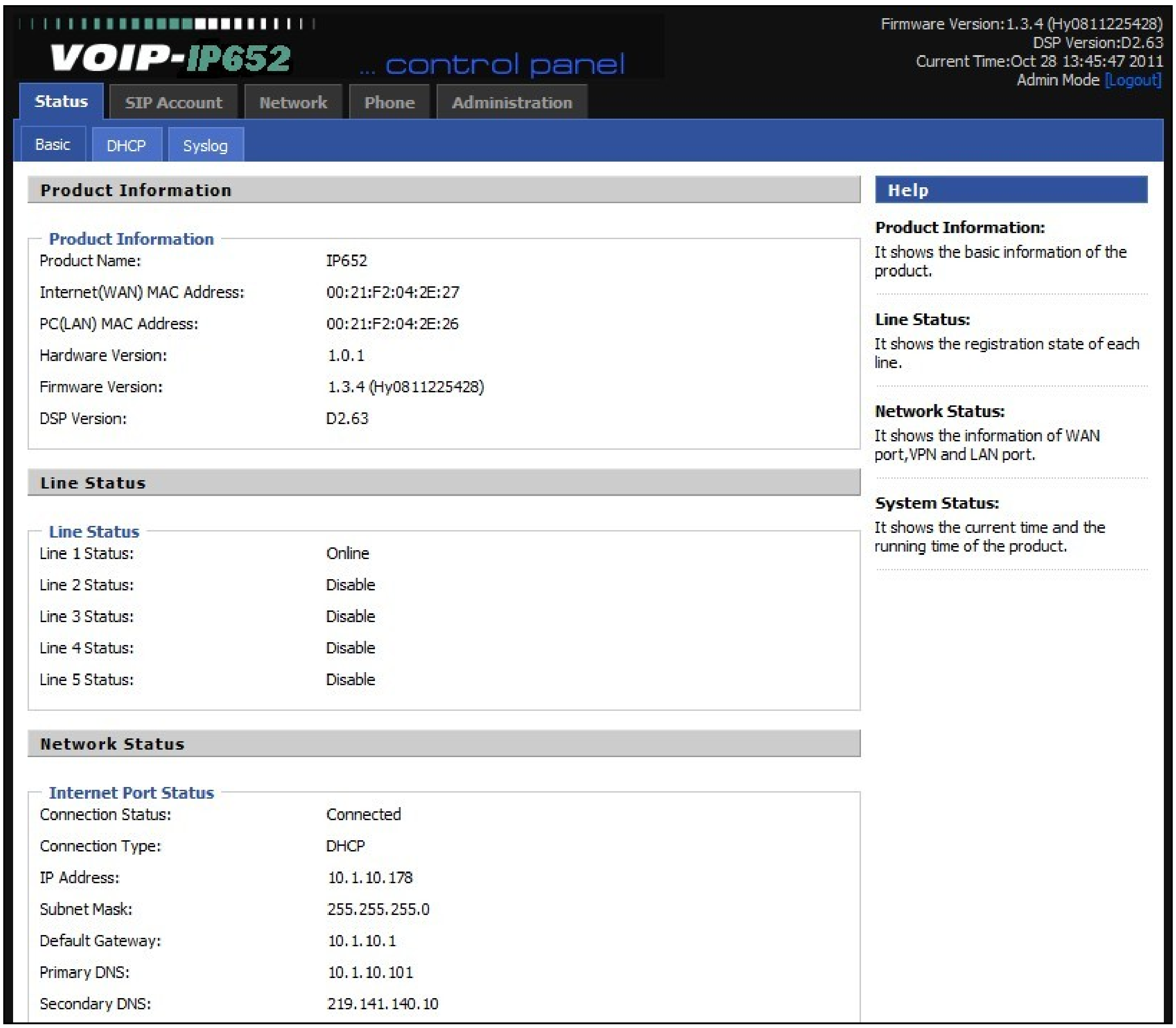
7. Configure Flying Voice IP652 SIP Phones

This section provides the procedures for configuring Flying Voice IP652 SIP Phones. The procedures include the following areas:

- Access Web Interface
- Configure SIP Account

7.1. Access Web Interface

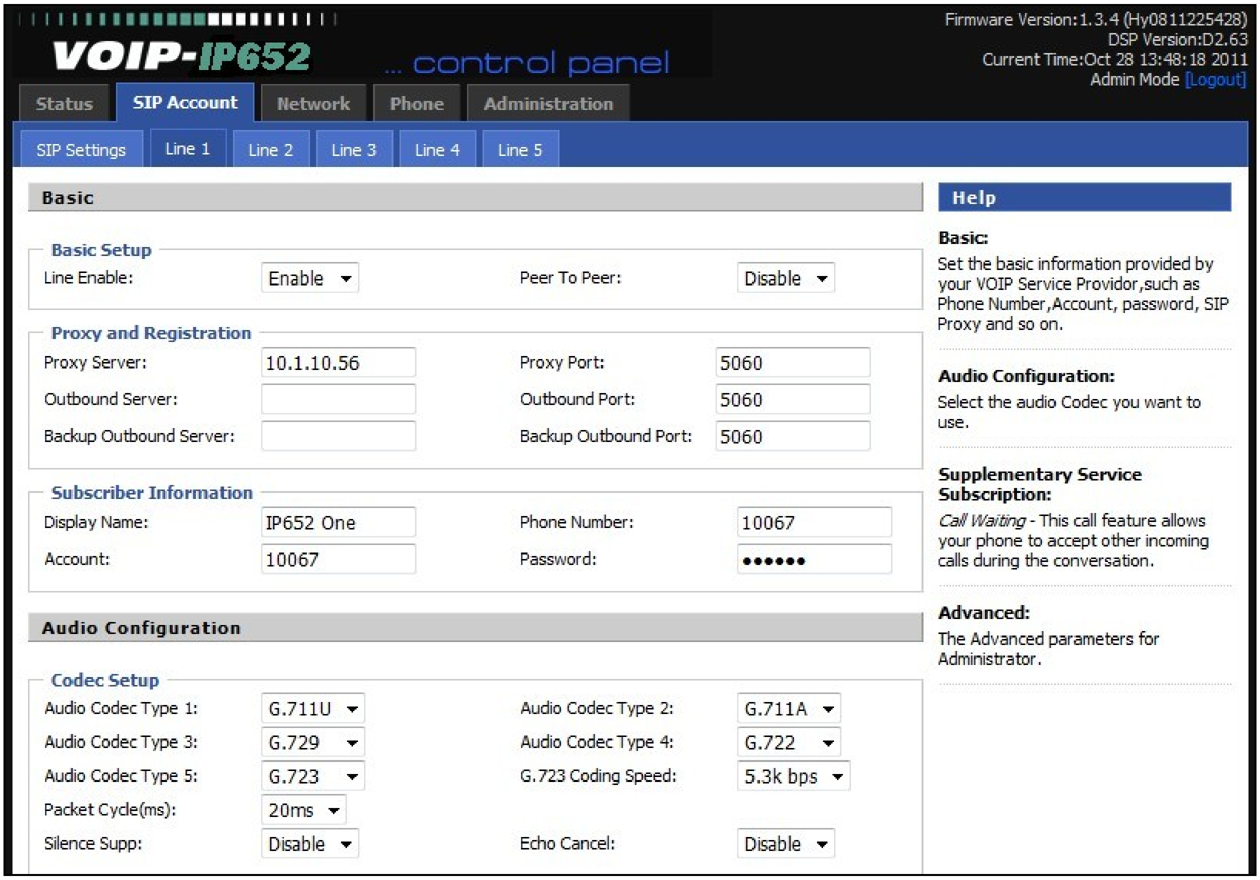
Enter **http://<ip-addr>:8080/**, where **<ip-addr>** is the IP address of the IP652 phone, into the address bar of web browser and log in using a valid account. The **Status** screen is displayed.



7.2. Configure SIP Account

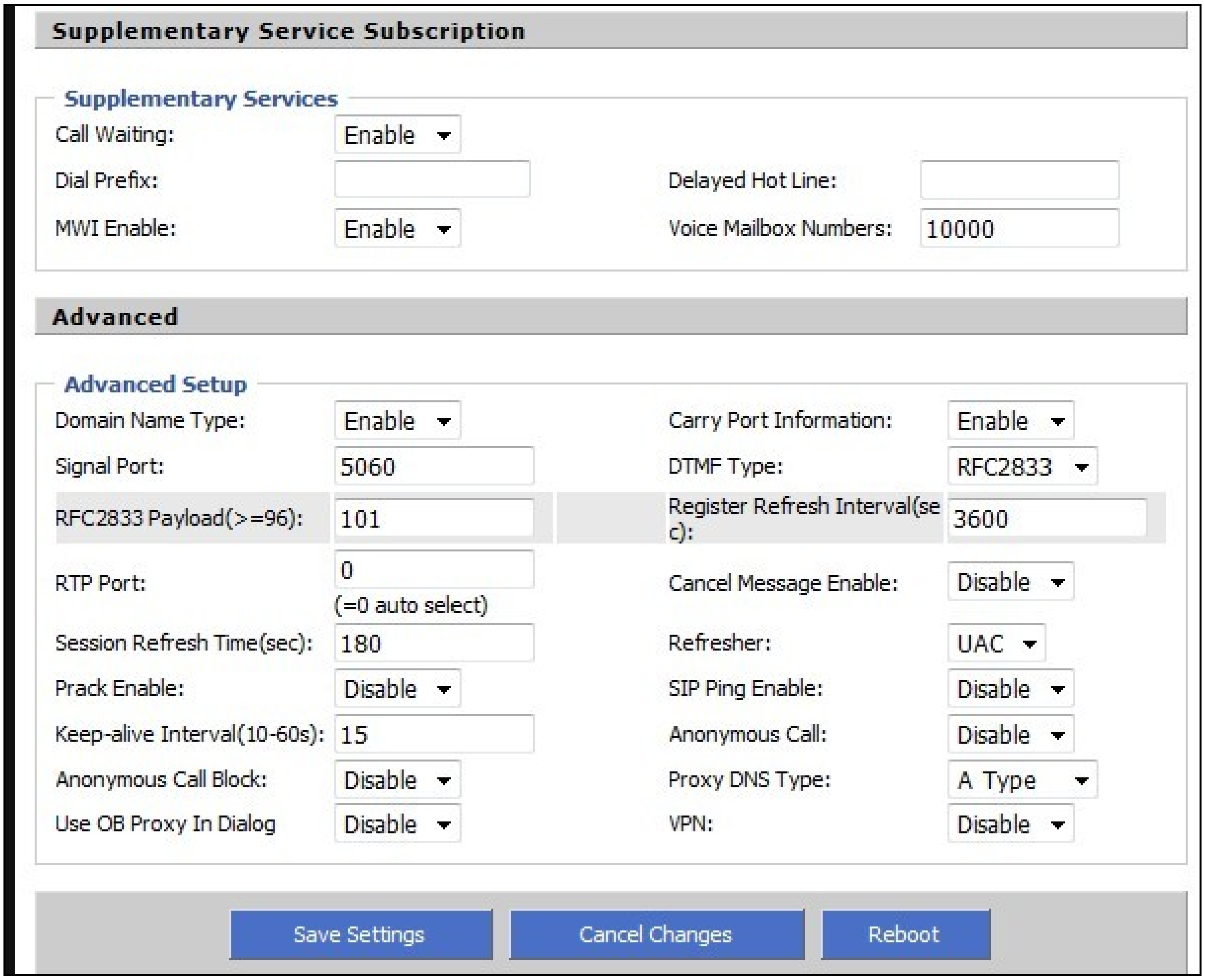
Select **SIP Account → Line 1** from the top menu. Set the **Line Enable** field to **Enable**. Enter the IP address of Session Manager signaling interface as shown in **Figure 1** for the **Proxy Server** field. For the fields **Account**, **Phone Number** and **Password**, enter the account details as shown below to match the User settings in Session Manager added in **Section 5.2**.

In the **Codec Setup** section, prioritize the audio codecs accordingly.



In the **Supplementary Service** section, ensure that the **MWI Enable** field is set to **Enable**.

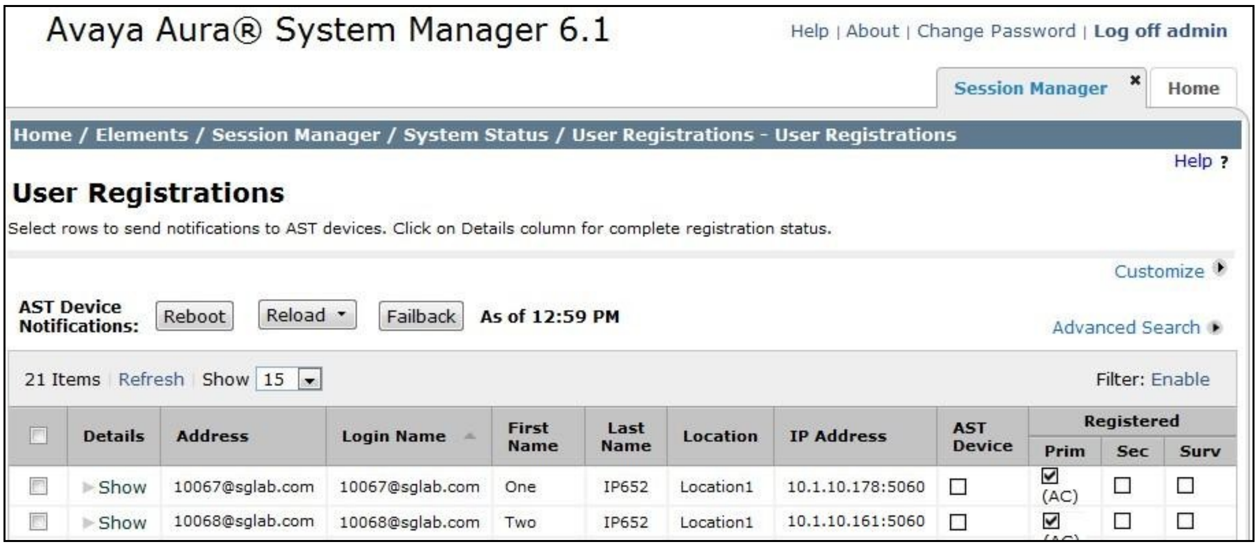
In the **Advanced Setup** section, set **DTMF Type** to **RFC2833**. The rest of the fields can be left at their default values. Click **Save Settings**, then followed by **Reboot** to restart the phone. This completes the configuration required for Flying Voice IP652 SIP Phones.



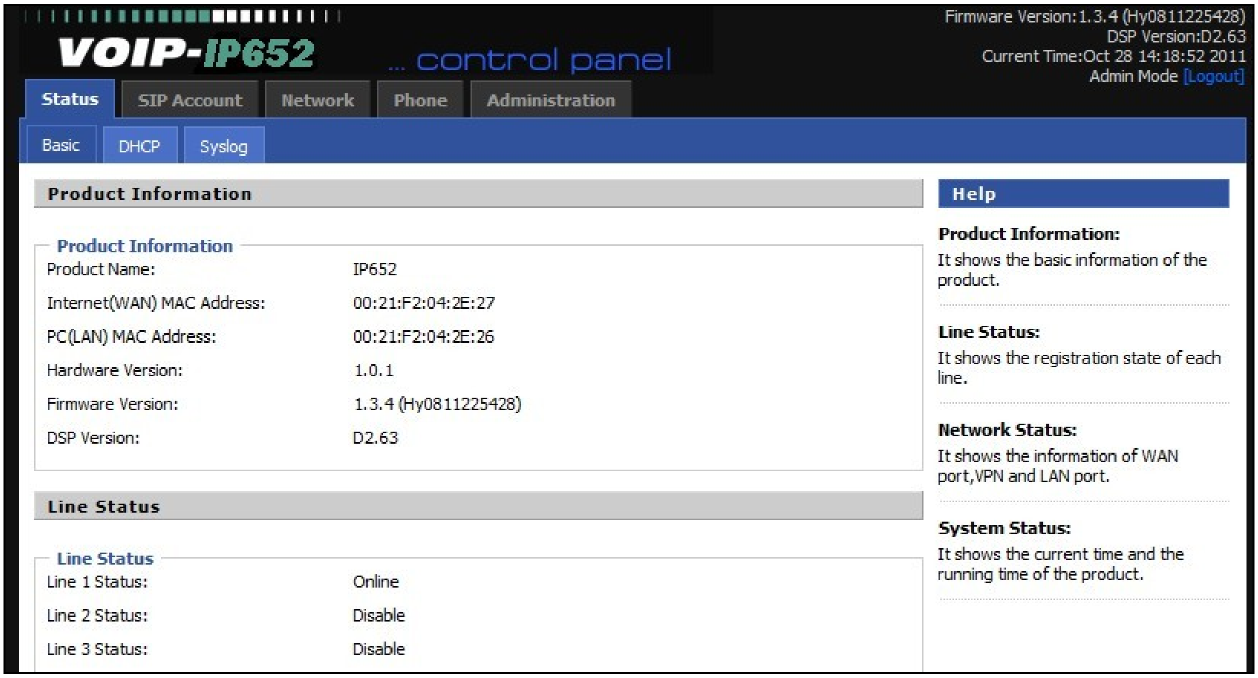
8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Aura® Session Manager and Flying Voice IP652 SIP Phones.

From the System Manager Web interface, select **Elements → Session Manager → System Status → User Registrations** to display the **User Registrations** screen. Verify that the users from **Section 5.2** are registered, as shown below with a check in the **Registered Prim** column.



From the web interface of the IP652 phones, click **Status** → **Basic** from the top menu. Verify that the line status for **Line 1 Status** shows as **Online**.



9. Conclusion

These Application Notes describe the configuration steps required for Flying Voice Technology IP652 SIP Phones to successfully interoperate with Avaya Aura® Session Manager 6.1 and Avaya Aura® Communication Manager 6.0.1. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

10. Additional References

This section references documentation relevant to these Application Notes. Avaya product documentation is available at http://support.avaya.com.

[1] *Administering Avaya Aura® Communication Manager*, Release 6.0, Doc ID 03-300509, June 2010.

[2] *Administering Avaya Aura® Session Manager*, Release 6.1, Doc ID 03-603324, Issue 1, November 2010.

The following the App Notes will be shipped with the product by Flying Voice Technology.

[3] *Flying Voice IP652 User Manual*, V1.9, May 2011,

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.