



Avaya Solution & Interoperability Test Lab

Application Notes for Aiphone IX Series 2 Video Door Station (IX-DB) with Avaya Aura® Communication Manager and Avaya Aura® Session Manager - Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate Aiphone IX Series 2 Video Door Station (IX-DB) Version 7.00 with Avaya Aura® Communication Manager 10.1 and Avaya Aura® Session Manager 10.1. Aiphone IX-DB Video Door Station, which is part of the Aiphone IX Series 2 Video Door Stations, is used for the compliance test. Aiphone IX-DB Video Door Station is a surface mount, weather resistant Video door station. The Aiphone IX-DB Video Door Station registers with Avaya Aura® Session Manager as a SIP endpoint.

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

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

1. Introduction

These Application Notes describe the configuration steps required to integrate Aiphone IX Series 2 Video Door Station (IX-DB) Version 7.00 with Avaya Aura® Communication Manager 10.1 and Avaya Aura® Session Manager 10.1. Aiphone IX-DB Video Door Station, which is part of the Aiphone IX Series 2 Video Door Stations, was used for the compliance test. Aiphone IX-DB Video Door Station is a surface mount, weather resistant Video door station Aiphone IX-DB Video Door Station (IX-DB) registers with Avaya Aura® Session Manager as a SIP endpoint.

2. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing. The feature testing focused on establishing audio and video calls between Aiphone IX-DB Video Door Station, Avaya SIP and H.323 telephones, Avaya Workplace Client for Windows, Avaya Vantage™ K155, and the PSTN, and exercising basic telephony features, such as hold/resume, mute/unmute, transfer, conference, call forwarding, and call coverage from an Avaya IP endpoint. Additional telephony features, such as call forward and call coverage, were also verified.

The serviceability testing focused on verifying that the Aiphone IX-DB Video Door Station comes back into service after re-connecting the Ethernet cable.

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

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

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

For the testing associated with this Application Note, the interface between Avaya systems and Aiphone IX-DB Video Door Station did not include use of any specific encryption features as requested by Aiphone.

2.1. Interoperability Compliance Testing

Interoperability compliance testing covered the following features and functionality:

- SIP registration of IX-DB with Session Manager.
- Audio calls between IX-DB and Avaya SIP and H.323 deskphones with Direct IP Media (Shuffling) enabled and disabled.
- Audio and video calls between IX-DB, Workplace, and Vantage K155 with Direct IP Media (Shuffling) enabled and disabled. One-way video from IX-DB to Workplace and Vantage K155 was verified.
- Audio calls between IX-DB and the PSTN.
- G.711 codec support.
- UDP transport protocol.
- IX-DB placing, answering, and terminating calls.
- Basic telephony features, including hold/resume, mute/unmute, transfer, and 3-way conference, initiated from an Avaya IP endpoint.
- Proper system recovery after re-establishing IP connectivity to IX-DB.

2.2. Test Results

All test cases executed passed successfully with the following observations:

- IX-DB auto answers calls placed to them.
- IX-DB does not support remote door open via DTMF input of Door Release Authorization Authentication Key.
- IX-DB only supports G.711 codec.
- Video is activated on answer for IX-DB Station calls to Workplace Client or Vantage when Direct IP Media (shuffling) is enabled.
- Video may not be active on answer for IX-DB Video Station calls when shuffling is not enabled. If the called station is Vantage or Workplace Client, video from the IX stations can be initiated by Vantage or Workplace Client by starting video manually or cycling block video buttons.

2.3. Support

For technical support of Aiphone IX Series 2 Video Door Stations, contact Aiphone Technical Support via phone or website.

- Phone: +1 (800) 692-0200
- Web: <https://www.aiphone.com/support/technical-support>

3. Reference Configuration

Figure 1 illustrates a sample configuration with an Avaya SIP-based network. Aiphone IX-DB Video Door Station registered with Session Manager and was configured as an Off-PBX Station (OPS) on Communication Manager.

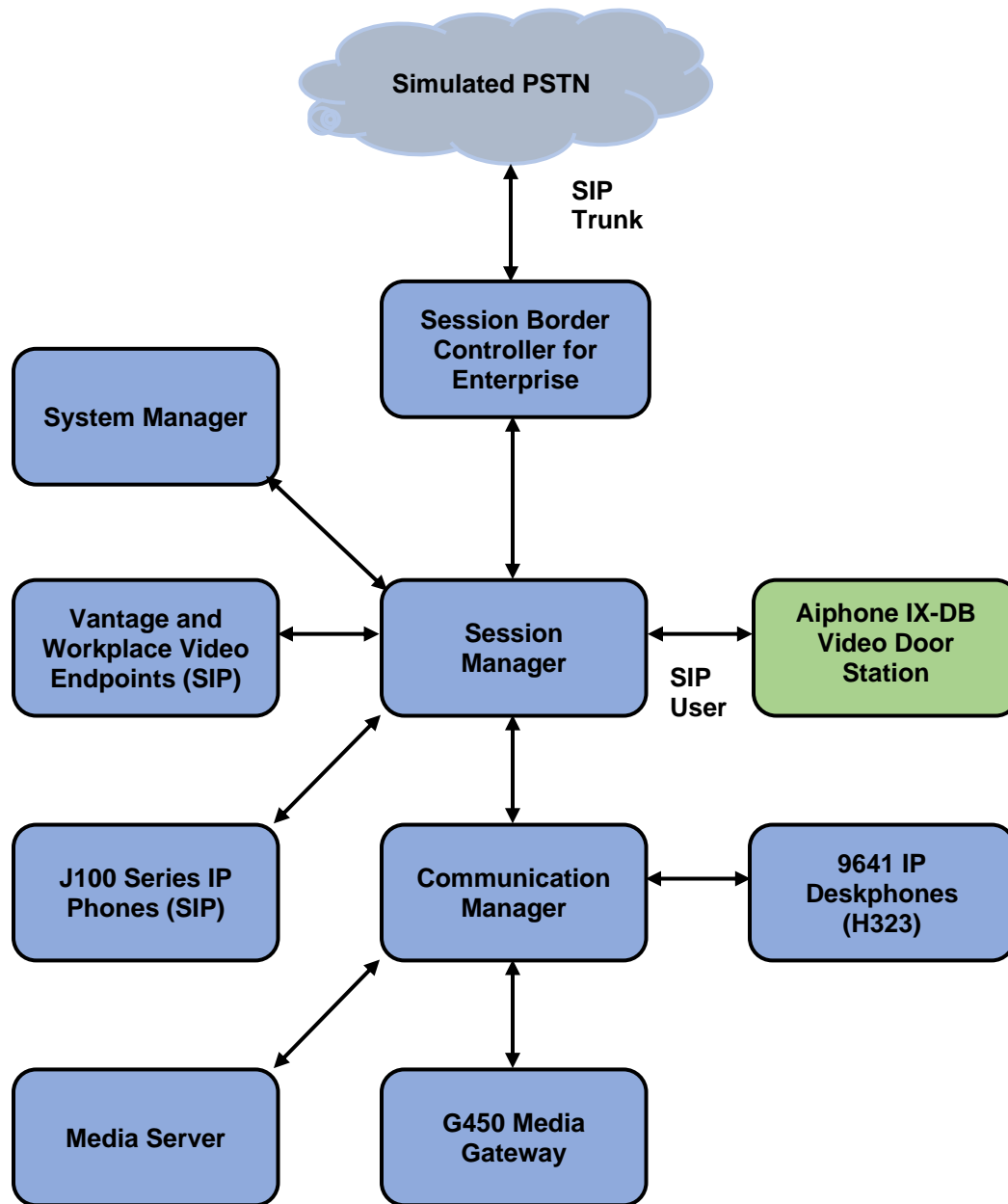


Figure 1: Avaya SIP Telephony Network with Aiphone IX-DB Video Door Station

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager	10.1.2.0 FP2 01.0.974.0-27783
Avaya G450 Media Gateway	FW 42.18.0
Avaya Aura® Media Server	10.1.0.125
Avaya Aura® System Manager	10.1.2.0 Feature Pack 2 10.1.2.0.0715476
Avaya Aura® Session Manager	10.1.2.0 Feature Pack 2 10.1.0.02.1012016
Avaya Session Border Controller for Enterprise	10.1.0.0-32-21432
Avaya 96x1 Series IP Deskphones	6.8.5.4 (H.323)
Avaya J100 Series IP Phones	4.1.0.0.9
Avaya K155 Vantage Device	3.1.1.2 (bld version 0012)
Avaya Workplace	3.32.0.75
Aiphone IX-DB Video Door Station	7.00

5. Configure Avaya Aura® Communication Manager

This section describes the configuration of a SIP trunk to Session Manager and routing calls to IX-DB. Administration of Communication Manager was performed using the System Access Terminal (SAT). The following configuration is covered:

- Verify Communication Manager license.
- Administer IP Node Names.
- Administer IP Codec Set.
- Administer IP Network Region.
- Administer SIP Trunk to Session Manager.
- Configure Private Numbering.

5.1. Verify Communication Manager License

Using the SAT, verify that the Off-PBX Telephones (OPS) option is enabled on the **system-parameters customer-options** form. The license file installed on the system controls these options. If a required feature is not enabled, contact an authorized Avaya sales representative.

On **Page 1**, verify that the number of OPS stations allowed in the system is sufficient for the number of SIP endpoints, including IX-DB Video Door Stations, that will be deployed.

```
display system-parameters customer-options                                Page 1 of 12
                                OPTIONAL FEATURES

G3 Version: V20                                                         Software Package: Enterprise
Location: 2                                                             System ID (SID): 1
Platform: 28                                                            Module ID (MID): 1

                                USED
Platform Maximum Ports: 48000 108
Maximum Stations: 150 73
Maximum XMOBILE Stations: 36000 0
Maximum Off-PBX Telephones - EC500: 150 0
Maximum Off-PBX Telephones - OPS: 150 42
Maximum Off-PBX Telephones - PBFMC: 150 0
Maximum Off-PBX Telephones - PVFMC: 150 0
Maximum Off-PBX Telephones - SCCAN: 0 0
Maximum Off-PBX Telephones - EMX: 150 0
Maximum Survivable Processors: 313 0

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

5.2. Administer IP Node Names

In the **IP Node Names** form, assign an IP address and host name for Communication Manager (*procr*) and Session Manager (*sm10*). The host names will be used in other configuration screens of Communication Manager.

```
change node-names ip                                     Page 1 of 2

                                IP NODE NAMES

      Name                IP Address
aes10                   10.64.110.247
ams10                   10.64.110.214
default                 0.0.0.0
procr                  10.64.110.213
procr6                  ::
sm10                  10.64.110.212

( 6 of 6 administered node-names were displayed )
Use 'list node-names' command to see all the administered node-names
Use 'change node-names ip xxx' to change a node-name 'xxx' or add a node-name
```

5.3. Administer IP Codec Set

In the **IP Codec Set** form, select the audio codec type supported for calls routed over the SIP trunk to IX-DB. The form is accessed via the **change ip-codec-set 1** command. Note the codec set number since it will be used in the IP Network Region covered in the next section. For the compliance test, the G.711MU codec was verified. The following IP codec set is configured with G.711MU.

Media encryption was enabled for Avaya IP endpoints. IX-DB wasn't configured to support SRTP, so the *none* option was also included under **Media Encryption**.

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

                                IP MEDIA PARAMETERS

      Codec Set: 1

      Audio      Silence      Frames      Packet
      Codec      Suppression  Per Pkt    Size(ms)
1: G.711MU      n           2       20
2:
3:
4:
5:
6:
7:

      Media Encryption                                Encrypted SRTP: best-effort
1: 1-srtp-aescm128-hmac80
2: 10-srtp-aescm256-hmac80
3: none
4:
5:
```

On **Page 2**, enable **Allow Direct-IP Multimedia** and set **Maximum Call rate for Direct-IP Multimedia** and **Maximum Call Rate for Priority Direct-IP Multimedia** to *4096 Kbits* as shown below.

change ip-codec-set 1 Page 2 of 2

IP MEDIA PARAMETERS

Allow Direct-IP Multimedia? y

Maximum Call Rate for Direct-IP Multimedia: 4096:Kbits

Maximum Call Rate for Priority Direct-IP Multimedia: 4096:Kbits

	Mode	Redun- dancy	Packet Size (ms)
FAX	t.38-standard	0 ECM: y	
Modem	pass-through	0	
TDD/TTY	US	3	
H.323 Clear-channel	y	0	
SIP 64K Data	n	0	20

Media Connection IP Address Type Preferences

1: IPv4

2:

5.4. Administer IP Network Region

In the **IP Network Region** form, the **Authoritative Domain** field is configured to match the domain name configured on Session Manager. In this configuration, the domain name is *avaya.com*. By default, **IP-IP Direct Audio** (shuffling) is enabled to allow audio traffic to be sent directly between IX-DB and IP endpoints without using media resources in the Avaya G450 Media Gateway or Avaya Media Server. The **IP Network Region** form also specifies the **IP Codec Set** to be used for calls routed over the SIP trunk to Session Manager. This codec set is used when its corresponding network region (i.e., IP Network Region 1) is specified in the SIP signaling group.

change ip-network-region 1		Page 1 of 20
IP NETWORK REGION		
Region: 1	NR Group: 1	
Location: 1	Authoritative Domain: avaya.com	
Name: Main	Stub Network Region: n	
MEDIA PARAMETERS	Intra-region IP-IP Direct Audio: yes	
Codec Set: 1	Inter-region IP-IP Direct Audio: yes	
UDP Port Min: 2048	IP Audio Hairpinning? n	
UDP Port Max: 65535		
DIFFSERV/TOS PARAMETERS		
Call Control PHB Value: 46		
Audio PHB Value: 46		
Video PHB Value: 26		
802.1P/Q PARAMETERS		
Call Control 802.1p Priority: 6		
Audio 802.1p Priority: 6		
Video 802.1p Priority: 5		
AUDIO RESOURCE RESERVATION PARAMETERS		
H.323 IP ENDPOINTS	RSVP Enabled? n	
H.323 Link Bounce Recovery? y		
Idle Traffic Interval (sec): 20		
Keep-Alive Interval (sec): 5		
Keep-Alive Count: 5		

5.5. Administer SIP Trunk to Session Manager

Prior to configuring a SIP trunk group for communication with Session Manager, a SIP signaling group must be configured. Configure the **Signaling Group** form as follows:

- Set the **Group Type** field to *sip*.
- Set the **IMS Enabled** field to *n*.
- The **Transport Method** field was set to *tls*.
- Specify the Ethernet processor (*procr*) of Communication Manager and Session Manager (*sm10*) as the two ends of the signaling group in the **Near-end Node Name** field and the **Far-end Node Name** field, respectively. These field values are taken from the **IP Node Names** form in **Section 5.2**.
- Set **IP Video** field to *y*.
- Ensure that the TLS port value of *5061* is configured in the **Near-end Listen Port** and the **Far-end Listen Port** fields.
- The preferred codec for the call will be selected from the IP codec set assigned to the IP network region specified in the **Far-end Network Region** field.
- Enter the domain name of Session Manager in the **Far-end Domain** field. In this configuration, the domain name is *avaya.com*.
- The **Direct IP-IP Audio Connections** field was enabled on this form.
- The **DTMF over IP** field should be set to the default value of *rtp-payload*.
- Set **Initial IP-IP Direct Media** field to *y*.

Communication Manager supports DTMF transmission using RFC 2833. The default values for the other fields may be used.

display signaling-group 1		Page 1 of 3
SIGNALING GROUP		
Group Number: 1	Group Type: sip	
IMS Enabled? n	Transport Method: tls	
Q-SIP? n		
IP Video? y	Priority Video? n	Enforce SIPS URI for SRTP? n
Peer Detection Enabled? y	Peer Server: SM	Clustered? n
Prepend '+' to Outgoing Calling/Alerting/Diverting/Connected Public Numbers? y		
Remove '+' from Incoming Called/Calling/Alerting/Diverting/Connected Numbers? n		
Alert Incoming SIP Crisis Calls? n		
Near-end Node Name: procr	Far-end Node Name: sm10	
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: rtp-payload	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? y	
	Alternate Route Timer(sec): 6	

Configure the **Trunk Group** form as shown below. This trunk group is used for SIP calls to IX-DB. Set the **Group Type** field to *sip*, set the **Service Type** field to *tie*, specify the signaling group associated with this trunk group in the **Signaling Group** field, and specify the **Number of Members** supported by this SIP trunk group. Accept the default values for the remaining fields.

display trunk-group 1		Page 1 of 5	
TRUNK GROUP			
Group Number: 1	Group Type: sip	CDR Reports: y	
Group Name: SM Trunk 1	COR: 1	TN: 1	TAC: 101
Direction: two-way	Outgoing Display? n		
Dial Access? n	Night Service:		
Queue Length: 0			
Service Type: tie	Auth Code? n		
		Member Assignment Method: auto	
		Signaling Group: 1	
		Number of Members: 10	

On **Page 3** of the trunk group form, set the **Numbering Format** field to *private*. This field specifies the format of the calling party number sent to the far-end.

display trunk-group 1		Page 3 of 5	
TRUNK FEATURES			
ACA Assignment? n	Measured: both		
		Maintenance Tests? y	
Suppress # Outpulsing? n	Numbering Format: private		
		UII Treatment: shared	
		Maximum Size of UII Contents: 128	
		Replace Restricted Numbers? n	
		Replace Unavailable Numbers? n	
		Modify Tandem Calling Number: no	
Send UCID? y			
Show ANSWERED BY on Display? y			
DSN Term? n			

On **Page 4** of the trunk group form, the default settings were used as shown below.

display trunk-group 1	Page 5 of 5
<p>PROTOCOL VARIATIONS</p> <p>Mark Users as Phone? n</p> <p>Prepend '+' to Calling/Alerting/Diverting/Connected Number? n</p> <p>Send Transferring Party Information? n</p> <p>Network Call Redirection? n</p> <p>Send Diversion Header? n</p> <p>Support Request History? y</p> <p>Telephone Event Payload Type: 101</p> <p>Convert 180 to 183 for Early Media? n</p> <p>Always Use re-INVITE for Display Updates? n</p> <p>Resend Display UPDATE Once on Receipt of 481 Response? n</p> <p>Identity for Calling Party Display: P-Asserted-Identity</p> <p>Block Sending Calling Party Location in INVITE? n</p> <p>Accept Redirect to Blank User Destination? n</p> <p>Enable Q-SIP? n</p> <p>Interworking of ISDN Clearing with In-Band Tones: keep-channel-active</p> <p>Request URI Contents: may-have-extra-digits</p>	

5.6. Configure Private Numbering

Configure the **Numbering – Private Format** form to send the calling party number to the far-end. Add an entry so that local stations with a 5-digit extension beginning with ‘7’ whose calls are routed over any trunk group, including SIP trunk group 1, have their extension sent.

change private-numbering 0	Page 1 of 2																		
<p>NUMBERING - PRIVATE FORMAT</p> <table> <thead> <tr> <th>Ext Len</th> <th>Ext Code</th> <th>Trk Grp(s)</th> <th>Private Prefix</th> <th>Total Len</th> <th></th> </tr> </thead> <tbody> <tr> <td>5</td> <td>7</td> <td></td> <td></td> <td>5</td> <td>Total Administered: 1</td> </tr> <tr> <td colspan="5"></td> <td>Maximum Entries: 540</td> </tr> </tbody> </table>		Ext Len	Ext Code	Trk Grp(s)	Private Prefix	Total Len		5	7			5	Total Administered: 1						Maximum Entries: 540
Ext Len	Ext Code	Trk Grp(s)	Private Prefix	Total Len															
5	7			5	Total Administered: 1														
					Maximum Entries: 540														

6. Configure Avaya Aura® Session Manager

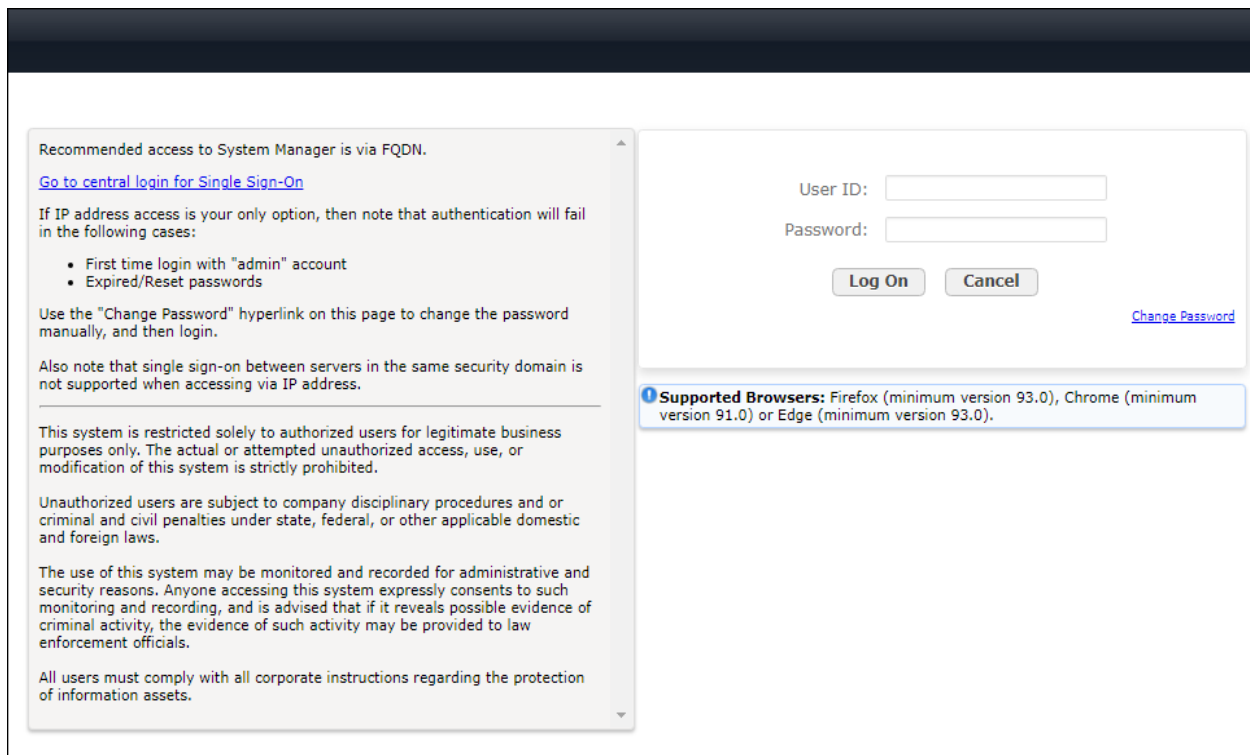
This section covers the procedure for adding a SIP user in Session Manager. The configuration covers:

- Launch System Manager
- Set Network Transport Protocol for IX-DB
- Administer SIP User

Note: It is assumed that basic configuration of Session Manager has already been performed.

6.1. Launch 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 System Manager IP address. Log in using the appropriate credentials.



Recommended access to System Manager is via FQDN.

[Go to central login for Single Sign-On](#)

If IP address access is your only option, then note that authentication will fail in the following cases:

- First time login with "admin" account
- Expired/Reset passwords

Use the "Change Password" hyperlink on this page to change the password manually, and then login.

Also note that single sign-on between servers in the same security domain is not supported when accessing via IP address.

This system is restricted solely to authorized users for legitimate business purposes only. The actual or attempted unauthorized access, use, or modification of this system is strictly prohibited.

Unauthorized users are subject to company disciplinary procedures and or criminal and civil penalties under state, federal, or other applicable domestic and foreign laws.

The use of this system may be monitored and recorded for administrative and security reasons. Anyone accessing this system expressly consents to such monitoring and recording, and is advised that if it reveals possible evidence of criminal activity, the evidence of such activity may be provided to law enforcement officials.

All users must comply with all corporate instructions regarding the protection of information assets.

User ID:

Password:

[Change Password](#)

Supported Browsers: Firefox (minimum version 93.0), Chrome (minimum version 91.0) or Edge (minimum version 93.0).

6.2. Set Network Transport Protocol for IX-DB

From the System Manager **Home** screen, select **Elements** → **Routing** → **SIP Entities** and edit the SIP Entity for Session Manager shown below.

The screenshot shows the AVAYA Aura System Manager 10.1 interface. The top navigation bar includes 'Users', 'Elements', 'Services', 'Widgets', and 'Shortcuts'. The 'Routing' tab is selected. The 'SIP Entity Details' form for 'sm10' is displayed. The 'General' section includes fields for Name (sm10), IP Address (10.64.110.212), SIP FQDN, Type (Session Manager), Notes, Location (DevConnect), Outbound Proxy, Time Zone (America/Denver), Minimum TLS Version (Use Global Setting), and Credential name. The 'Monitoring' section includes SIP Link Monitoring (Link Monitoring Enabled), Proactive Monitoring Interval (900), Reactive Monitoring Interval (120), and Number of Tries (1). Buttons for 'Commit' and 'Cancel' are at the top right.

Field	Value
Name	sm10
IP Address	10.64.110.212
SIP FQDN	
Type	Session Manager
Notes	
Location	DevConnect
Outbound Proxy	
Time Zone	America/Denver
Minimum TLS Version	Use Global Setting
Credential name	
SIP Link Monitoring	Link Monitoring Enabled
Proactive Monitoring Interval (in seconds)	900
Reactive Monitoring Interval (in seconds)	120
Number of Tries	1

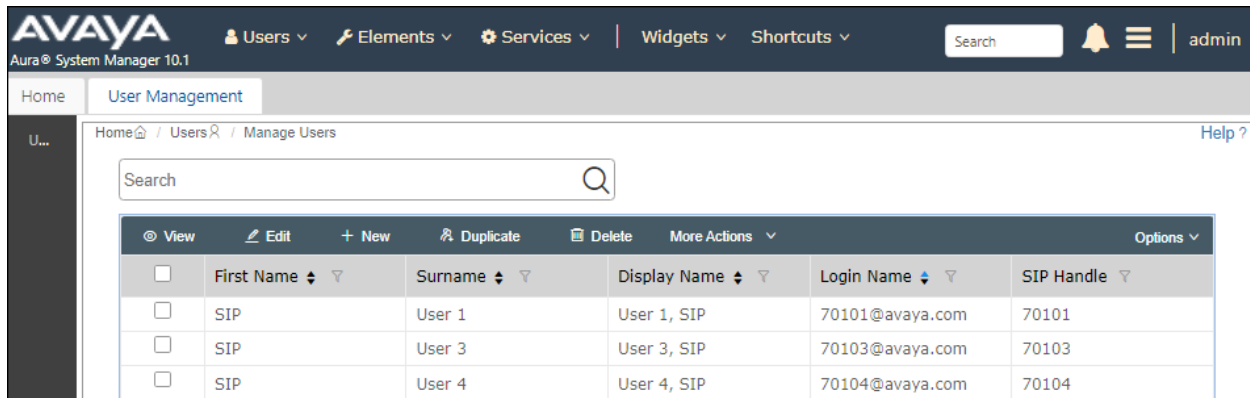
Scroll down to the **Listen Ports** section and verify that the transport network protocol used by IX-DB is specified in the list below. For the compliance test, the solution used UDP network transport.

The screenshot shows the 'Listen Ports' section. It includes an 'Add' button and a 'Remove' button. Below the buttons, there is a table with 3 items. The table has columns for 'Listen Ports', 'Protocol', 'Default Domain', 'Endpoint', and 'Notes'. The 'Filter' is set to 'Enable'. The table contains three rows: 5060 (TCP), 5060 (UDP), and 5061 (TLS). All three rows have a checkmark in the 'Endpoint' column. The 'Default Domain' for all rows is 'avaya.com'. The 'Notes' column is empty for all rows. At the bottom, there is a 'Select' dropdown with options 'All' and 'None'.

Listen Ports	Protocol	Default Domain	Endpoint	Notes
5060	TCP	avaya.com	<input checked="" type="checkbox"/>	
5060	UDP	avaya.com	<input checked="" type="checkbox"/>	
5061	TLS	avaya.com	<input checked="" type="checkbox"/>	

6.3. Administer SIP User

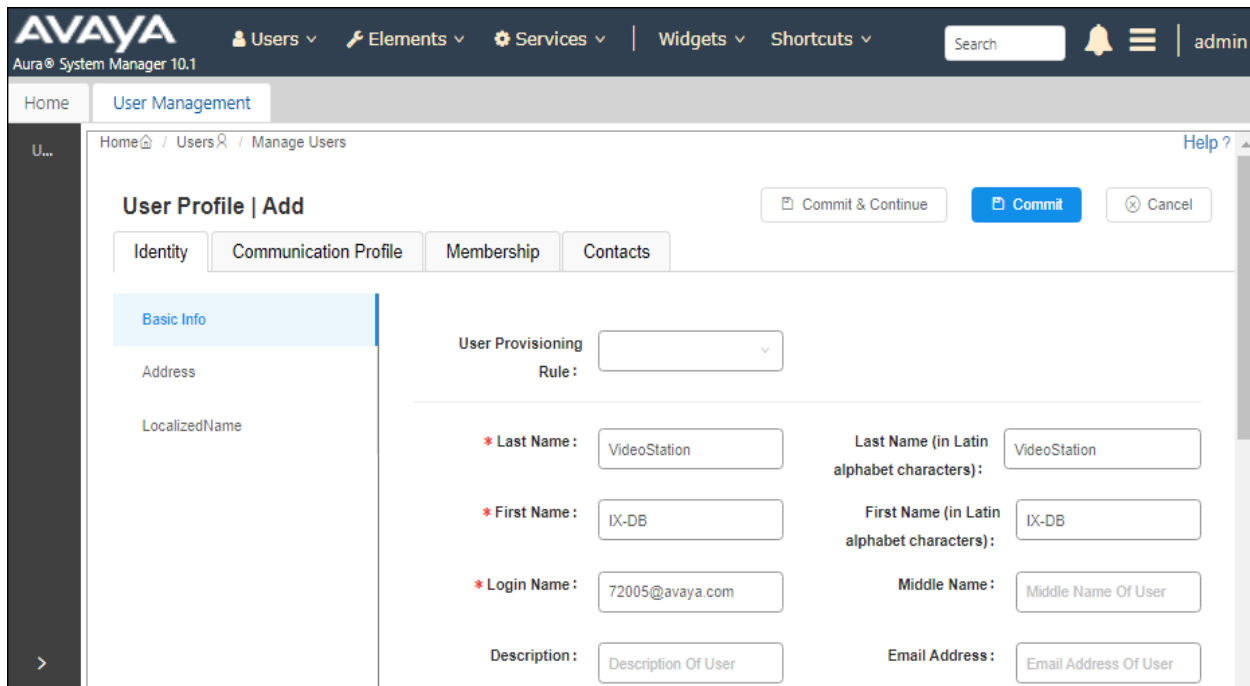
In the subsequent screen (not shown), select **Users** → **User Management** → **Manage Users** to display the **User Management** screen below. Click **New** to add a user.



View	Edit	New	Duplicate	Delete	More Actions	Options
First Name	Surname	Display Name	Login Name	SIP Handle		
SIP	User 1	User 1, SIP	70101@avaya.com	70101		
SIP	User 3	User 3, SIP	70103@avaya.com	70103		
SIP	User 4	User 4, SIP	70104@avaya.com	70104		

6.3.1. Identity

The **New User Profile** screen is displayed. Enter desired **Last Name** and **First Name**. For **Login Name**, enter `<extension>@<domain>`, where `<extension>` is the desired IX-DB SIP extension and `<domain>` is the applicable SIP domain name from **Section 5.4**. Retain the default values in the remaining fields.



User Profile | Add

Commit & Continue Commit Cancel

Identity Communication Profile Membership Contacts

Basic Info

Address

LocalizedName

User Provisioning Rule: [v]

* Last Name: VideoStation Last Name (in Latin alphabet characters): VideoStation

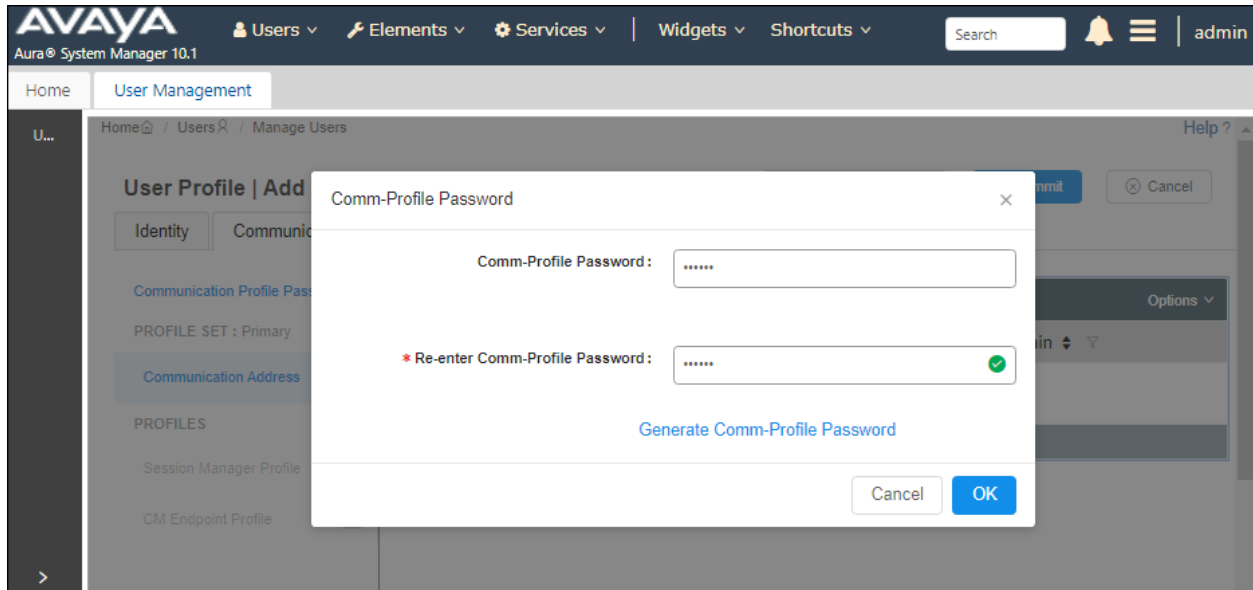
* First Name: IX-DB First Name (in Latin alphabet characters): IX-DB

* Login Name: 72005@avaya.com Middle Name: Middle Name Of User

Description: Description Of User Email Address: Email Address Of User

6.3.2. Communication Profile Password

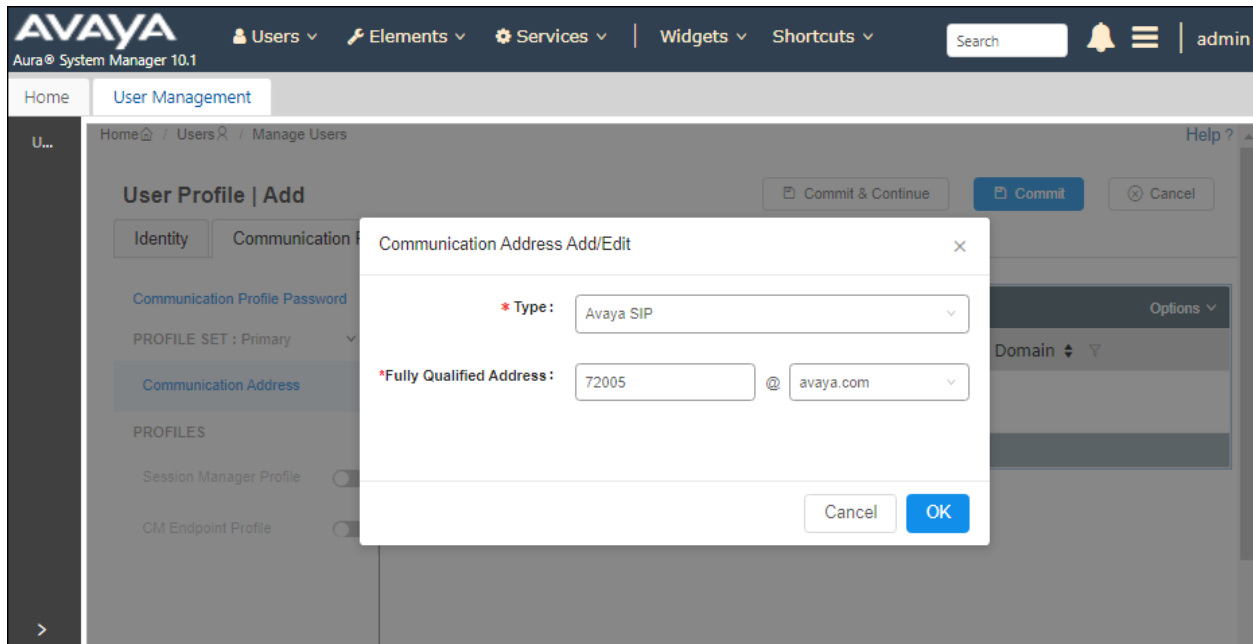
Select the **Communication Profile** tab. Next, click on **Communication Profile Password**. For **Comm-Profile Password** and **Re-enter Comm-Profile Password**, enter the desired password for the SIP user to use for registration. Click **OK**.



The screenshot displays the Avaya Aura System Manager 10.1 web interface. The top navigation bar includes the Avaya logo, a search bar, and user information (admin). The main menu on the left shows 'User Management' selected. The central area displays the 'User Profile | Add' form, with the 'Communication Profile Password' tab active. A modal dialog box titled 'Comm-Profile Password' is open, featuring two password input fields: 'Comm-Profile Password' and '* Re-enter Comm-Profile Password'. The second field has a green checkmark icon, indicating the passwords match. Below the fields is a 'Generate Comm-Profile Password' link. The dialog box has 'Cancel' and 'OK' buttons at the bottom right.

6.3.3. Communication Address

Click on **Communication Address** and then click **New** to add a new entry. The **Communication Address Add/Edit** dialog box is displayed as shown below. For **Type**, retain *Avaya SIP*. For **Fully Qualified Address**, enter the SIP user extension and select the domain name to match the login name from **Section 6.3.1**. Click **OK**.



6.3.4. Session Manager Profile

Click on toggle button by **Session Manager Profile**. For **Primary Session Manager**, **Origination Sequence** and **Termination Sequence** (Application Sequences), and **Home Location**, select the values corresponding to the applicable Session Manager and Communication Manager. Retain the default values in the remaining fields.

AVAYA
Aura® System Manager 10.1

Users ▾ Elements ▾ Services ▾ | Widgets ▾ Shortcuts ▾ Search 🔍 🔔 ☰ | admin

Home User Management

U... Home / Users / Manage Users Help ?

User Profile | Add Commit & Continue Commit Cancel

Identity Communication Profile Membership Contacts

Communication Profile Password

PROFILE SET : Primary ▾

Communication Address

PROFILES

Session Manager Profile ☒

CM Endpoint Profile ☐

SIP Registration

* Primary Session Manager : sm10 🔍

Secondary Session Manager : Start typing... 🔍

Survivability Server : Start typing... 🔍

Max. Simultaneous Devices : Select ▾

Block New Registration When Maximum Registrations Active? ☐

Application Sequences

Origination Sequence : cm10 App Seq ▾

Termination Sequence : cm10 App Seq ▾

Scroll down to the **Call Routing Settings** section to configure the **Home Location**.

Call Routing Settings

* Home Location : DevConnect 🔍

Conference Factory Set : Select ▾

6.3.5. CM Endpoint Profile

Click on the toggle button by **CM Endpoint Profile**. For **System**, select the value corresponding to the applicable Communication Manager. For **Extension**, enter the SIP user extension from **Section 6.3.1**. For **Template**, select *9641SIP_DEFAULT_CM_10_1*. Retain the default values in the remaining fields. Click on **Endpoint Editor** (i.e., the Edit icon in the Extension field) to configure **IP Video**.

The screenshot displays the Avaya Aura System Manager 10.1 User Management interface. The top navigation bar includes the Avaya logo, 'Users', 'Elements', 'Services', 'Widgets', and 'Shortcuts' menus, along with a search bar and a user profile icon labeled 'admin'. The main content area is titled 'User Profile | Add' and features tabs for 'Identity', 'Communication Profile', 'Membership', and 'Contacts'. The 'Communication Profile' tab is active, showing a form for adding a new profile. The form includes fields for 'System' (set to 'cm10'), 'Profile Type' (set to 'Endpoint'), 'Extension' (set to '72005'), 'Template' (set to '9641SIP_DEFAULT_CM_10_1'), 'Set Type' (set to '9641SIP'), 'Security Code' (placeholder: 'Enter Security Code'), 'Port' (set to 'IP'), 'Voice Mail Number', 'Preferred Handle' (set to 'Select'), 'Calculate Route Pattern' (checkbox), 'SIP Trunk' (set to 'aar'), 'SIP URI' (set to 'Select'), 'Delete on Unassign from User or on Delete User' (checkbox), 'Override Endpoint Name and Localized Name' (checkbox), and 'Allow H.323 and SIP Endpoint Dual' (checkbox). The left sidebar shows the 'Communication Profile Password' section with 'PROFILE SET : Primary' and a list of profiles including 'Session Manager Profile' and 'CM Endpoint Profile' (which is highlighted).

In the **Endpoint Editor**, navigate to the **Feature Options** tab and enable **IP Video** under **Features** as shown below.

General Options (G) *	Feature Options (F)	Site Data (S)	Abbreviated Call Dialing (A)	Enhanced Call Fwd (E)
Button Assignment (B)	Profile Settings (P)	Group Membership (M)		

Active Station Ringing	single ▼	Auto Answer	none ▼
MWI Served User Type	None ▼	Coverage After Forwarding	system ▼
Per Station CPN - Send Calling Number	None ▼	Display Language	english ▼
IP Phone Group ID	<input type="text"/>	Hunt-to Station	<input type="text"/>
Remote Soft Phone Emergency Calls	as-on-local ▼	Loss Group	19
LWC Reception	spe ▼	Survivable COR	internal ▼
AUDIX Name	None ▼	Time of Day Lock Table	None ▼
EC500 State	enabled ▼	Voice Mail Number	<input type="text"/>
Short/Prefixed Registration Allowed	default ▼	Bridging Tone for This Extension	None ▼
Music Source	<input type="text"/>		

Features

<input type="checkbox"/> Always Use	<input type="checkbox"/> Idle Appearance Preference
<input type="checkbox"/> IP Audio Hairpinning	<input type="checkbox"/> IP SoftPhone
<input type="checkbox"/> Bridged Call Alerting	<input checked="" type="checkbox"/> LWC Activation
<input type="checkbox"/> Bridged Idle Line Preference	<input type="checkbox"/> CDR Privacy
<input checked="" type="checkbox"/> Coverage Message Retrieval	<input checked="" type="checkbox"/> Precedence Call Waiting
<input type="checkbox"/> Data Restriction	<input checked="" type="checkbox"/> Direct IP-IP Audio Connections
<input checked="" type="checkbox"/> Survivable Trunk Dest	<input type="checkbox"/> H.320 Conversion
<input type="checkbox"/> Bridged Appearance Origination Restriction	<input checked="" type="checkbox"/> IP Video
<input checked="" type="checkbox"/> Restrict Last Appearance	<input type="checkbox"/> Per Button Ring Control
<input type="checkbox"/> Turn on mute for remote off-hook attempt	
<input type="checkbox"/> IP Hoteling	

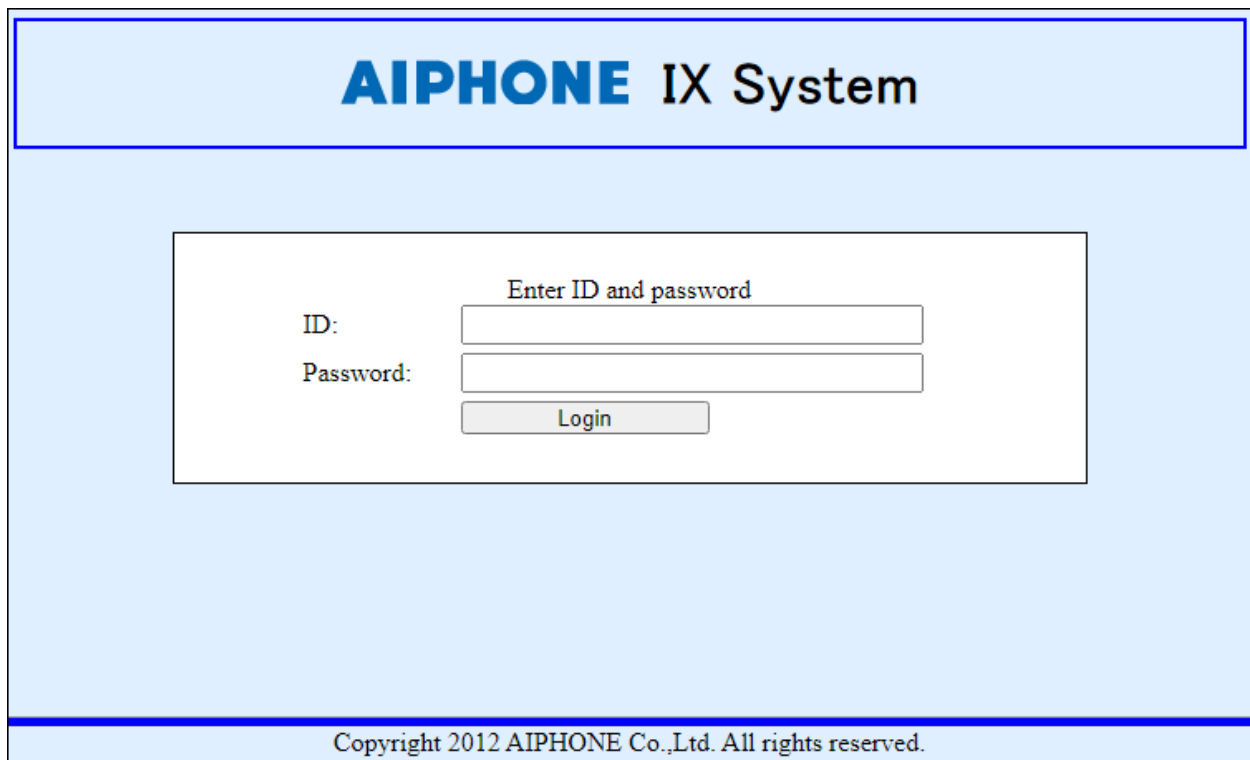
7. Configure Aiphone IX-DB Video Door Station

This section provides the procedure for configuring IX-DB to provide SIP connectivity to Session Manager. Configuration of IX-DB is performed via Aiphone IX System web interface. The following configuration is covered:

- Log into Aiphone IX System Web Interface
- Administer Station Information
- Administer SIP Parameters
- Administer Video SIP Channel
- Administer Audio Settings
- Administer Call Settings

7.1. Log into Aiphone IX System Web Interface

Access the Aiphone IX System Web Interface by using the URL <https://<ip-address>/webset.cgi?login> in an Internet browser, where <ip-address> is the IX-DB IP address. Select language (not shown) and log in using the appropriate credentials.



AIPHONE IX System

Enter ID and password

ID:

Password:

Login

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7.2. Administer Station Information

Navigate to **Station Information** → **Identification** and set the **Number** to the IX-DB SIP extension (e.g., 72005). Input an appropriate **Name**.

The screenshot displays the AIPHONE IX System Setting web interface for a Video Door Station. The top header includes the AIPHONE IX logo and a navigation bar with a keypad and an 'Update' button. The main content area is titled 'Station Information' and contains a sub-section for 'Identification'. The 'Identification' section has three input fields: 'Number' (set to 72005, with a red note '3-5 digits'), 'Name' (set to IX-DB, with a red note '1-24 alphanumeric characters'), and 'Location' (empty, with a red note '1-24 alphanumeric characters'). A left sidebar contains links for 'Station Information' (with sub-links for Identification, ID and Password, Language, and Time) and 'Network Settings' (with sub-links for IP Address, DNS, and SIP).

Station Information	
● Identification	
Number: ♦	<input type="text" value="72005"/> 3-5 digits
Name:	<input type="text" value="IX-DB"/> 1-24 alphanumeric characters
Location:	<input type="text"/> 1-24 alphanumeric characters

7.3. Administer SIP Parameters

Navigate to **Network Settings** → **SIP** from the left pane and configure the following parameters:

- **SIP Signaling Port:** Set to *5060*.
- **User Agent:** Enter desired value (e.g., *IX-DB*).
- **ID:** Set to SIP extension (e.g., *72005*) from **Section 6.3.1**.
- **Password:** Enter SIP password from **Section 6.3.2**.
- **IPv4 Address:** Set to signaling IP address of Session Manager (e.g., *10.64.110.212*).
- **Port:** Set to *5060*.

Click **Update** to save changes.

The screenshot displays the AIPHONE IX System Setting web interface. The top header shows 'AIPHONE IX System Setting' and 'Station Type: Video Door Station'. A navigation menu on the left includes 'Station Information' (Identification, ID and Password, Language, Time), 'Network Settings' (IP Address, DNS, SIP, Multicast Address, Video, Audio, Packet Priority, NTP), 'System Information' (Custom Sound Registry), and 'Contact / Audio Output Settings' (Contact Input). The main content area is titled 'Network Settings' and contains the 'SIP' configuration section. This section includes 'SIP Connections' with fields for 'SIP Signaling Port' (set to 5060) and 'User Agent' (set to IX-DB). Below this is the 'SIP Server' section, which includes a dropdown for 'SIP Compatibility Mode' (set to Standard Mode) and a 'Primary Server' section with fields for 'ID' (72005), 'Password' (masked with dots), 'IPv4 Address' (10.64.110.212), 'IPv6 Address' (empty), and 'Port' (5060). Red text next to the input fields indicates character limits: 1-65535 for the signaling port and port, 1-36 alphanumeric characters for the user agent, and 1-24 alphanumeric characters for the ID and password. An 'Update' button is located in the top right corner.

Field	Value	Validation
SIP Signaling Port	5060	1-65535
User Agent	IX-DB	1-36 alphanumeric characters
SIP Compatibility Mode	Standard Mode	
Primary Server ID	72005	1-24 alphanumeric characters
Primary Server Password	*****	1-24 alphanumeric characters
Primary Server IPv4 Address	10.64.110.212	1.0.0.0-223.255.255.255
Primary Server IPv6 Address		::FF:0-FE:FF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF
Primary Server Port	5060	1-65535

7.4. Administer Video SIP Channel

Navigate to **Network Settings** → **Video** in the left pane and configure the video settings as shown below.

The screenshot displays the AIPHONE IX System Setting web interface. The top header includes the product name and a navigation bar with a keypad and an 'Update' button. The left sidebar contains a tree view with categories like Station Information, Network Settings, System Information, and Contact / Audio Output Settings. The main content area is titled 'Network Settings' and features a 'Video' section. This section contains a 'SIP Channel' subsection with various configuration options, each with a dropdown menu or input field. Red text provides important notes about the RTP End Port configuration.

Setting	Value	Range/Notes
Coding System	H.264 / AVC	
Resolution	320x240 (QVGA)	
Frame Rate [fps]	15	
Select Profile [H.264 / AVC]	High	
I-picture interval [H.264 / AVC]	15	1-100
Bit rate [kbps] [H.264 / AVC]	512	
Select Quality [Motion-JPEG]	6	
RTP Start Port	30000	1-65534
RTP End Port	31000	1-65535

7.5. Administer Audio Settings

Navigate to **Network Settings** → **Audio** in the left pane and set **Audio Codec** to select *G.711 (u-law)*.

The screenshot displays the 'AI PHONE IX System Setting' web interface. The top header includes the product name and a navigation keypad. Below the header, the 'Station Type' is set to 'Video Door Station'. The left sidebar contains a tree view with categories: 'Station Information' (Identification, ID and Password, Language, Time), 'Network Settings' (IP Address, DNS, SIP, Multicast Address, Video, Audio, Packet Priority, NTP), 'System Information' (Custom Sound Registry), 'Contact / Audio Output Settings' (Contact Input, Output Specifications), 'Call Settings' (Called Stations, Call Origination), and 'Function Settings' (Door Release Settings, Contact Input Call). The main content area is titled 'Network Settings' and features a sub-section for 'Audio'. This section contains several configuration fields: 'Audio CODEC' with radio buttons for 'G.711(μ-law)' (selected) and 'G.711(A-law)'; 'Audio RTP Transmission Interval [msec]' set to 20; 'RTP Idle Detection Time [sec]' set to 10; 'SIP Channel' settings for RTP Start Port (20000) and RTP End Port (21000); 'ONVIF Transmit Channel' settings for RTP Start Port (22000) and RTP End Port (23000); and 'Audio Buffer' settings for Packets Buffered at Audio Start (1) and Maximum Packets Buffered (3). Red text provides additional context: 'The 'Sip Channel' RTP End Port should be greater than 210 digits from the RTP Start Port.', 'The 'ONVIF Transmit Channel' RTP End Port should be greater than 10 digits from the RTP Start Port.', and 'Maximum Packet Buffer must be larger than Audio Start Buffer.' An 'Update' button is located in the top right corner.

AI PHONE IX System Setting

Station Type: Video Door Station

Network Settings

• **Audio**

The 'Sip Channel' RTP End Port should be greater than 210 digits from the RTP Start Port.
The 'ONVIF Transmit Channel' RTP End Port should be greater than 10 digits from the RTP Start Port.

Audio CODEC: ☒ G.711(μ-law) ☐ G.711(A-law)

Audio RTP Transmission Interval [msec]: 20 This setting is ignored when transmitting to multiple stations (paging, etc.)

RTP Idle Detection Time [sec]: 10 10-180sec

SIP Channel

RTP Start Port: 20000 1-65534

RTP End Port: 21000 1-65535

ONVIF Transmit Channel

RTP Start Port: 22000 1-65534

RTP End Port: 23000 1-65535

Audio Buffer

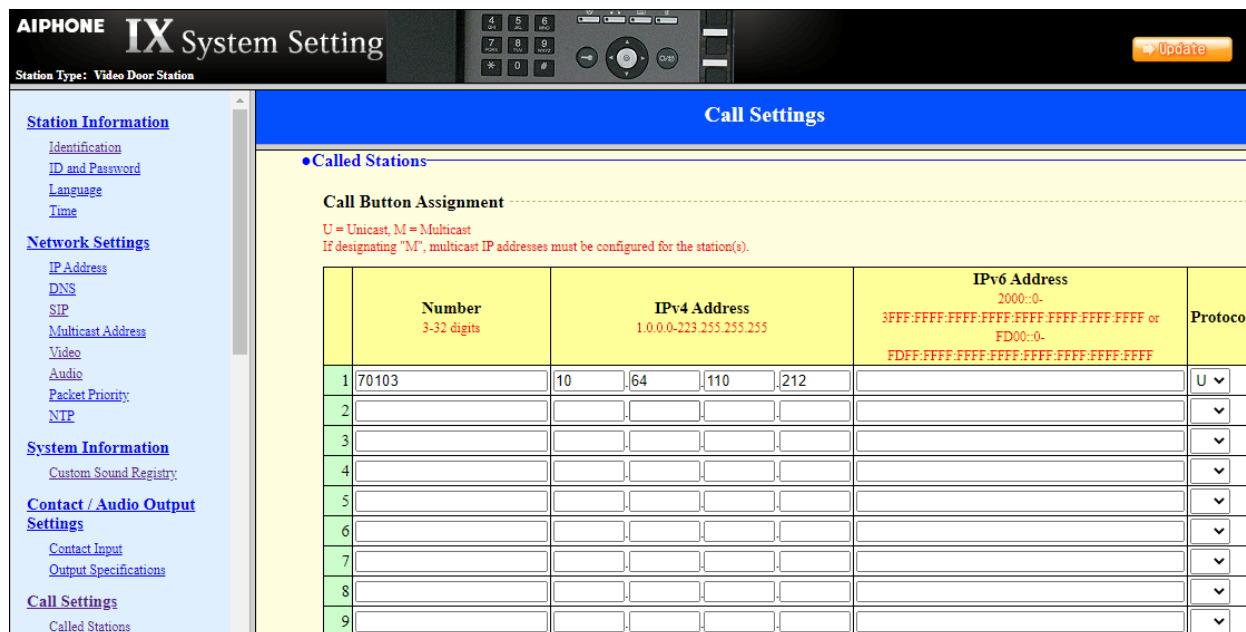
Packets Buffered at Audio Start: 1

Maximum Packets Buffered: 3 Maximum Packet Buffer must be larger than Audio Start Buffer.

Update

7.6. Administer Call Settings

Navigate to **Call Settings** → **Called Stations** in the left pane. In the **Called Stations** section, add an entry that specifies the number that should be dialed when the call button is pressed. Set the **Station Number** to the called number (e.g., 70103), set the **IPv4 Address** to the signaling IP address of Session Manager (e.g., 10.64.110.212), and set **Protocol** to *U*.



The screenshot shows the AIPHONE IX System Setting web interface. The top header includes the product name and a navigation bar with 'Station Type: Video Door Station' and an 'Update' button. The left sidebar contains a tree view with categories like Station Information, Network Settings, System Information, Contact / Audio Output Settings, and Call Settings. The main content area is titled 'Call Settings' and features a 'Called Stations' section. Below this, there is a 'Call Button Assignment' table with columns for Number, IPv4 Address, IPv6 Address, and Protocol. The table has 9 rows, with the first row pre-filled with example data.

	Number 3-32 digits	IPv4 Address 1.0.0.0-223.255.255.255	IPv6 Address 2000::0- 3FFF:FFFF:FFFF:FFFF:FFFF:FFFF or FD00::0- FDFE:FFFF:FFFF:FFFF:FFFF:FFFF	Protocol
1	70103	10.64.110.212		U
2				
3				
4				
5				
6				
7				
8				
9				

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Session Manager, and Aiphone IX-DB Video Door Station.

1. Verify that IX-DB has successfully registered with Session Manager. In System Manager, navigate to **Elements** → **Session Manager** → **System Status** → **User Registrations** to check the registration status as shown below.

AVAYA Aura® System Manager 10.1

Users ▾ Elements ▾ Services ▾ Widgets ▾ Shortcuts ▾ Search [] admin

Home Session Manager

User Registrations

Select rows to send notifications to devices. Click on Details column for complete registration status.

View ▾ Default Export Force Unregister AST Device Notifications: Reboot Reload ▾ Failback As of 2:24 PM Customize ▾ Advanced Search ▾

19 Items Show 15 ▾ Filter: Enable

<input type="checkbox"/>	Details	Address	First Name	Last Name	Actual Location	IP Address	Policy	Shared Control	Simult. Devices	AST Device	Registered					
											Prim	Sec	3rd	4th	Surv	Visiting
<input type="checkbox"/>	Show	72009@avaya.com	IX-MV7-HBT	MasterStation	---	10.64.10.83	fixed	<input type="checkbox"/>	1/1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Show	72008@avaya.com	IX-EAT	VideoStation	---	10.64.10.82	fixed	<input type="checkbox"/>	1/1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Show	72007@avaya.com	IX-DVT	VideoStation	---	10.64.10.81	fixed	<input type="checkbox"/>	1/1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Show	72006@avaya.com	IX-DBT	VideoStation	---	10.64.10.80	fixed	<input type="checkbox"/>	1/1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Show	72005@avaya.com	IX-DB	VideoStation	---	10.64.10.79	fixed	<input type="checkbox"/>	1/1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Establish inbound and outbound video calls to IX-DB with Workplace Client and/or Vantage endpoints and verify two-way audio and one-way video.

9. Conclusion

These Application Notes describe the administration steps required to integrate Aiphone IX Series 2 Video Door Stations (IX-DB) with Avaya Aura® Communication Manager and Avaya Aura® Session Manager. The Aiphone IX-DB Video Door Station successfully registered with Avaya Aura® Session Manager as a SIP endpoint and audio and video calls were verified. All test cases executed passed with observations as noted in **Section 2.2**.

10. References

This section references the Avaya and Aiphone documentation relevant to these Application Notes.

- [1] *Administering Avaya Aura® Communication Manager*, Release 10.1.x, Issue 5, March 2023, available at <http://support.avaya.com>.
- [2] *Administering Avaya Aura® System Manager*, Release 10.1.x, Issue 8, February 2023, available at <http://support.avaya.com>.
- [3] *Administering Avaya Aura® Session Manager*, Release 10.1.x, Issue 5, February 2023, available at <http://support.avaya.com>.
- [4] *Aiphone IX Door Stations Web Setting Manual*, Software version 6.00 or later, available from Aiphone.

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