



Avaya Solution & Interoperability Test Lab

Application Notes for Biamp Tesira SVC-2 and Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the procedures for configuring Biamp Tesira SVC-2 which were compliance tested with Avaya IP Office.

The overall objective of the interoperability compliance testing is to verify Biamp Tesira SVC-2 functionalities in an environment comprised of Avaya IP Office and various Avaya H.323, SIP IP Telephones, and DCP telephones.

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 procedures for configuring Biamp Tesira SVC-2 which was compliance tested with Avaya IP Office.

The Tesira SVC-2 enables conferencing over VoIP directly from Tesira SERVER-IO, with two channels of VoIP interface per card. Tesira SVC-2 allows Tesira SERVER-IO to connect directly to IP-based phone systems and eliminate the need for VoIP adapters. Used in conjunction with SEC-4 4-Channel Wideband Acoustic Echo Cancellation Input Cards and STC-2 Dual-Channel Telephone Interface Cards, the Tesira SVC-2 makes Tesira SERVER-IO a powerful, flexible, and affordable telephone conferencing product available. Combined with the STC-2 Card, the Tesira SVC-2 makes it possible to create redundancies within a conferencing system for multi-point conferences and/or back-up to VoIP lines. Up to 6 Tesira SVC-2 can be installed into a single Tesira SERVER-IO unit.

For further details on Tesira SVC-2 configuration steps not covered in this document, consult [2].

These Application Notes assume that Avaya IP Office is already installed and basic configuration steps have been performed. Only steps relevant to this compliance test will be described in this document. For further details on configuration steps not covered in this document, consult reference [1].

2. General Test Approach and Test Results

The general test approach was to place calls to and from Biamp Tesira SVC-2 and exercise basic telephone operations. The main objectives were to verify the following:

- Registration
- Codecs (G.711MU)
- Inbound calls
- Outbound calls
- Hold/Resume
- Call termination (origination/destination)
- Serviceability

2.1. Interoperability Compliance Testing

All test cases were performed manually. The general approach was to place various types of calls to and from Biamp Tesira SVC-2. Biamp Tesira SVC-2 operations such as inbound calls, outbound calls, hold, and Biamp Tesira SVC-2 interactions with Avaya IP Office, and Avaya SIP, H.323, and DCP telephones were verified. For serviceability testing, failures such as cable pulls and resets were applied.

2.2. Test Results

All test cases passed.

2.3. Support

Technical support for the Biamp Tesira SVC-2 solution can be obtained by contacting Biamp at:

- <http://www.biamp.com/support/index.aspx>
- (800)-826-1457

3. Reference Configuration

Figure 1 illustrates a sample configuration consisting of an Avaya IP Office and Biamp Tesira SVC-2. Avaya S8300D Server with an Avaya G450 gateway was included in the test to provide an inter-switch test scenario. For completeness, Avaya 5610 and 1616-I H.323 IP Telephones, Avaya 9600 Series SIP IP Telephones, Avaya 9600 Series H.323 IP Telephones, and Avaya 6400 and 1416 Series Digital Telephones, are included in **Figure 1** to demonstrate calls between Biamp Tesira SVC-2 and Avaya SIP, H.323, and digital telephones.

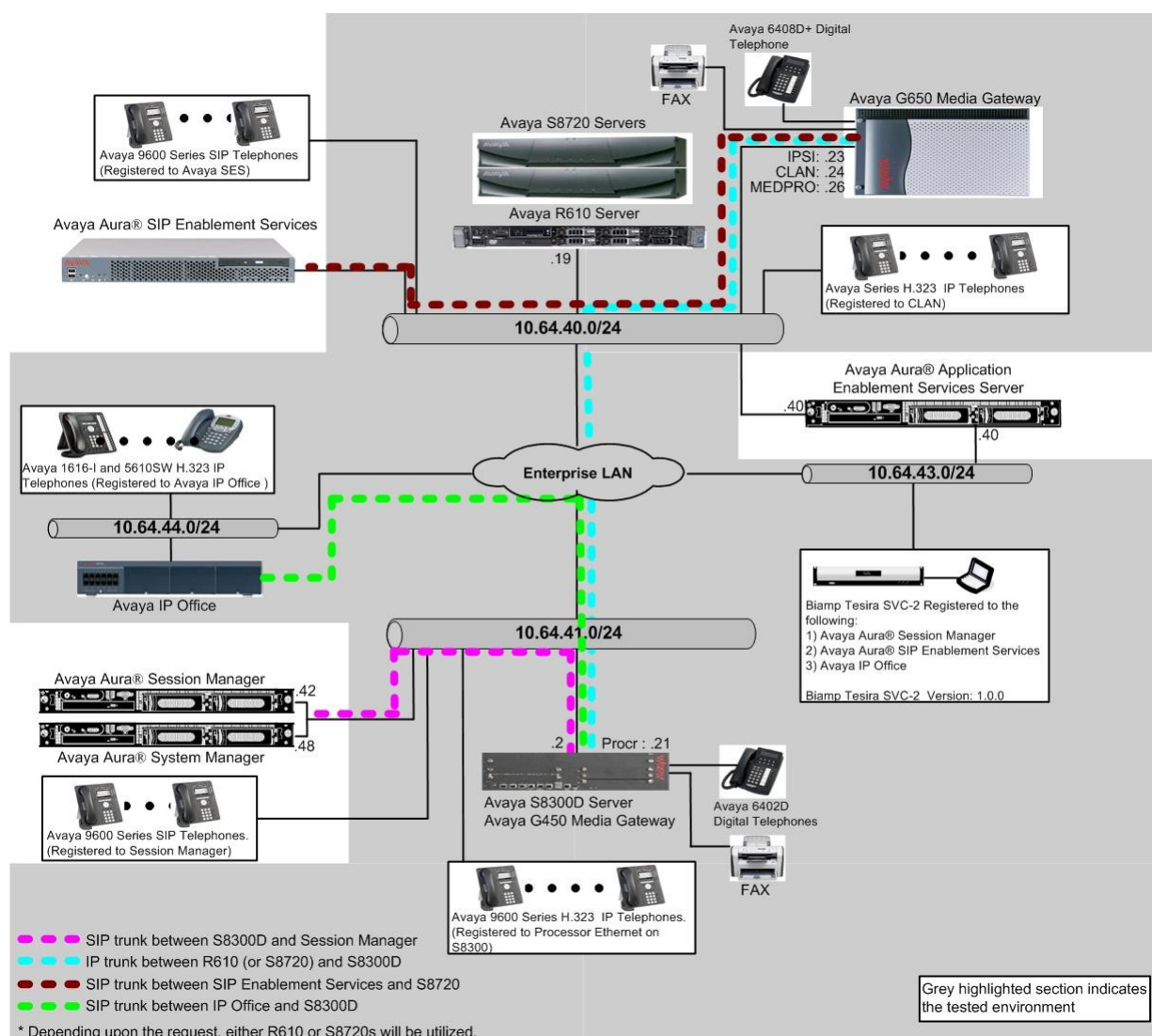


Figure 1: Test Configuration of Biamp Tesira SVC-2 with Avaya IP Office

4. Equipment and Software Validated

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

| Equipment | | Software/Firmware |
|---|----------------|--|
| Avaya IP Office 500 V2 | | 8.0 (16) |
| Avaya IP Office Manager | | 10.0 (16) |
| Avaya S8300D Media Server with Avaya G450 Media Gateway | | Avaya Aura® Communication Manager 6.0.1 (R016x.00.1.510.1) with SP2 (00.1.510.1-18860) |
| Avaya H.323 IP Telephones on IP Office | | |
| | 5610 (H.323) | 2.9.1 |
| | 1616-I (H.323) | 1.22 |
| Avaya 1416 Digital Telephone on IP Office | | - |
| Avaya 9600 Series H.323 Telephones on S8300D server | | |
| | 9620 (H.323) | 3.1 |
| | 9630 (H.323) | 3.1 |
| | 9650 (H.323) | 3.1 |
| Avaya 9600 Series SIP Telephones | | |
| | 9620 (H.323) | 2.6.4 |
| | 9630 (H.323) | 2.6.4 |
| Avaya 6408D+ Digital Telephone | | - |
| Biamp Tesira SVC-2 | | |
| Biamp Tesira | | 1.0.0 |
| Linux | | 2.6.32.28-BIAMP |

5. Configure Avaya IP Office

This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

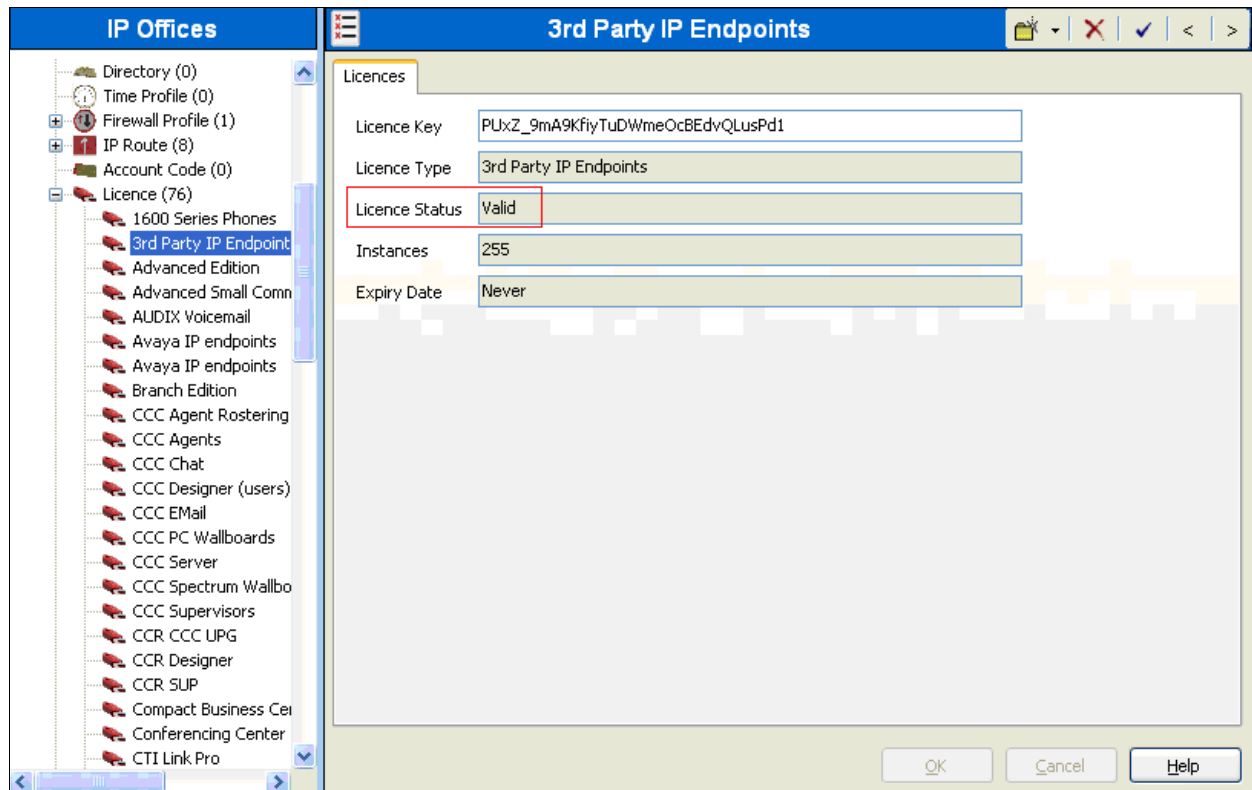
- Verify IP Office license
- Obtain LAN IP address
- Administer SIP registrar
- Administer SIP extensions
- Administer SIP users

These steps are performed from the Avaya IP Office Manager.

5.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start → All Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system if there are more than one IP Office system, and log in with the appropriate credentials.

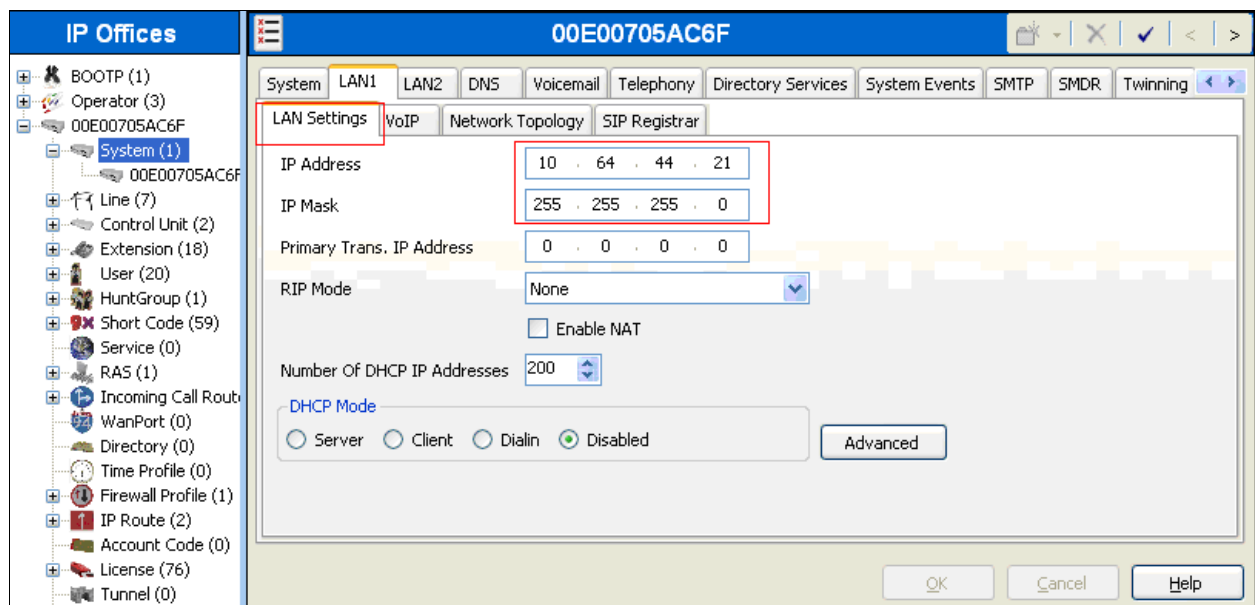
The Avaya IP Office Manager screen is displayed. From the configuration tree in the left pane, select **Licence → 3rd Party IP Endpoints** to display the Avaya IP endpoints screen in the right pane. Verify that the License Status field is set to **Valid**.



5.2. Obtain LAN IP Address

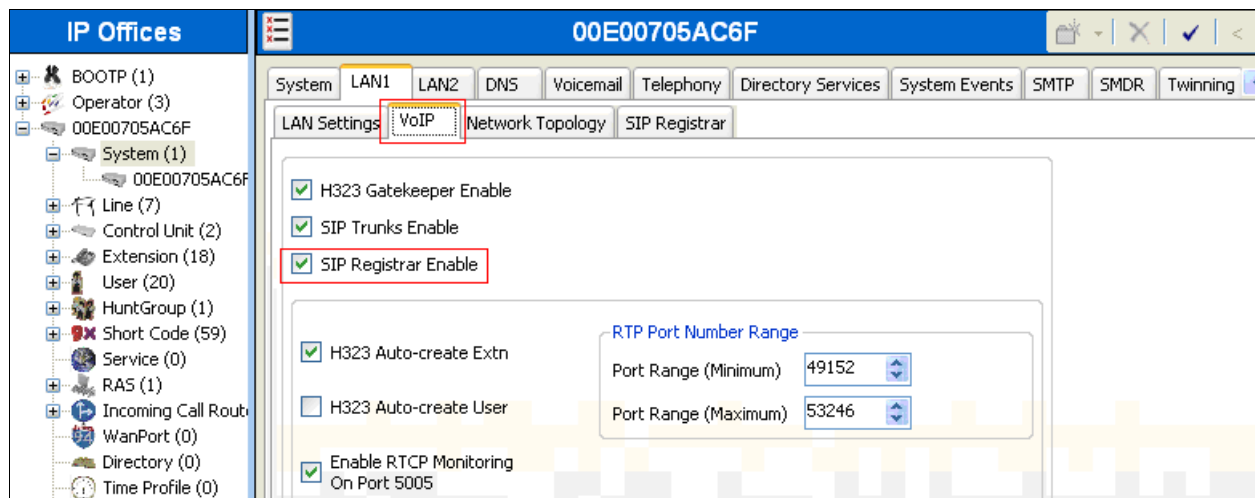
From the configuration tree in the left pane, select **System** to display the System screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure Biamp Tesira SVC-2.

Note: During the initial configuration of Avaya IP Office, the LAN1 was configured on the private network side and LAN2 was configured on the public network side. Avaya IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, but the compliance test used the LAN1 interface. Thus, only the LAN1 configuration will be discussed in these Application Notes.

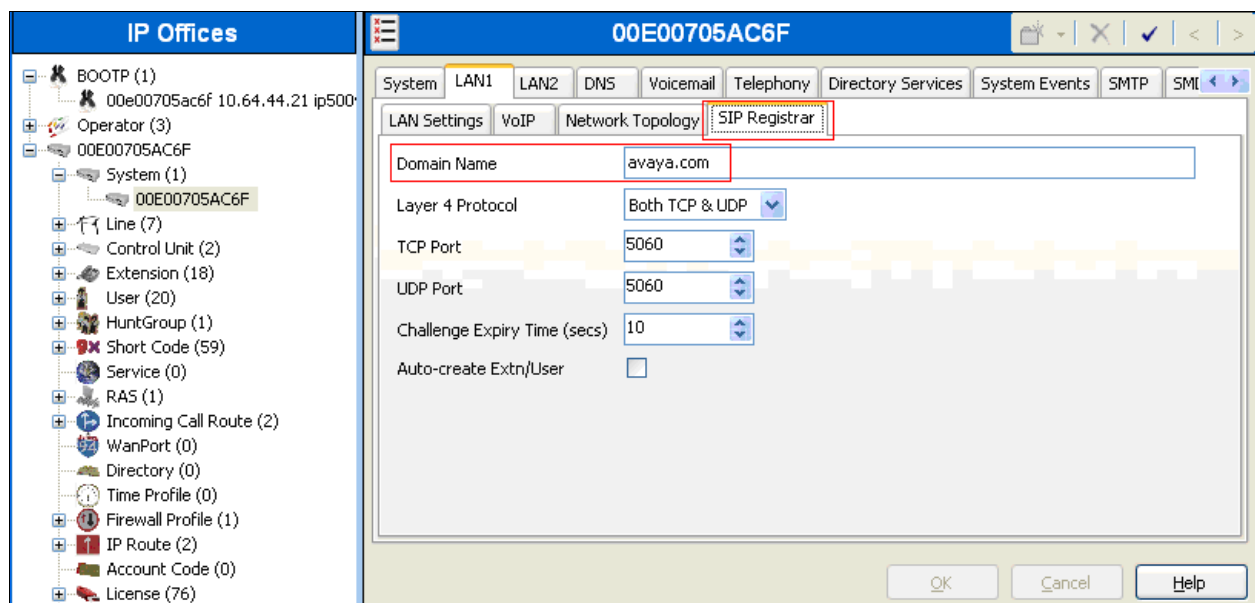


5.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Ensure that **SIP Registrar Enable** is checked, as shown below.



Select the **SIP Registrar** sub-tab, and enter a valid Domain Name for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** field was set to **avaya.com**. If the **Domain Name** field is left blank, then the SIP endpoints will use the LAN IP address for registration.



5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension** and select **New → SIP Extension** from the pop-up list to add a new SIP extension. Enter the desired digits for the **Base Extension** field.

The screenshot shows the 'SIP Extension: 8003 77018' configuration window. The left pane lists IP Offices with extensions 2 77002 through 8011 77025. The main pane has tabs for 'Extn', 'VoIP', and 'T38 Fax'. The 'Extn' tab is active, showing fields for Extension Id (8003), Base Extension (77018), Caller Display Type (On), Reset Volume After Calls (checkbox), Device type (Unknown SIP device), Module (0), Port (0), and Force Authorization (checkbox).

Select the **VoIP** tab, and retain the default values in all fields.

Repeat this section to add a new SIP extension for each Biamp Tesira SVC-2. During the compliance test, extensions 77018 and 77019 were created for Biamp Tesira SVC-2.

The screenshot shows the 'SIP Extension: 8003 77018' configuration window with the 'VoIP' tab selected. The left pane lists IP Offices with extensions 2 77002 through 26 77027. The main pane shows the VoIP configuration. Fields include IP Address (0.0.0.0), Codec Selection (System Default), Fax Transport Support (None), TDM->IP Gain (Default), IP->TDM Gain (Default), and DTMF Support (RFC2833). Checkboxes on the right include VoIP Silence Suppression, Local Hold Music, Allow Direct Media Path (checked), Re-invite Supported (checked), Use Offerer's Preferred Codec, Reserve Avaya IP endpoint license, and Reserve 3rd party IP endpoint license.

5.5. Administer SIP Users

From the left pane, right-click on **User**, and select **New** from the pop-up list. Enter desired values for the **Name** and **Full Name** fields. For the **Extension** field, enter the SIP extension created in **Section 5.4**.

The screenshot shows the Avaya SIP User configuration interface. The left pane displays a tree of IP Offices and Users, with '77018 Extn218' selected. The main pane shows the configuration for 'Extn218: 77018'. The 'User' tab is active, showing fields for Name (Extn218), Password (*****), Confirm Password (*****), Full Name (Biamp1), Extension (77018), Locale, Priority (5), System Phone Rights (None), and Profile (Basic User). There are also checkboxes for Receptionist, Enable Softphone, Enable one-X Portal Services, Enable one-X TeleCommuter, Enable Remote Worker, and Ex Directory.

Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Check the **Call Waiting On** field, as shown below.

The screenshot shows the Avaya SIP User configuration interface, specifically the 'Call Settings' sub-tab under the 'Telephony' tab. The 'Call Settings' sub-tab is active, showing fields for Outside Call Sequence, Inside Call Sequence, Ringback Sequence, No Answer Time (secs), Wrap-up Time (secs), Transfer Return Time (secs), and Call Cost Mark-Up. The 'Call Waiting On' checkbox is checked.

Select the **Supervisor Settings** sub-tab, and enter a desired **Login Code**.

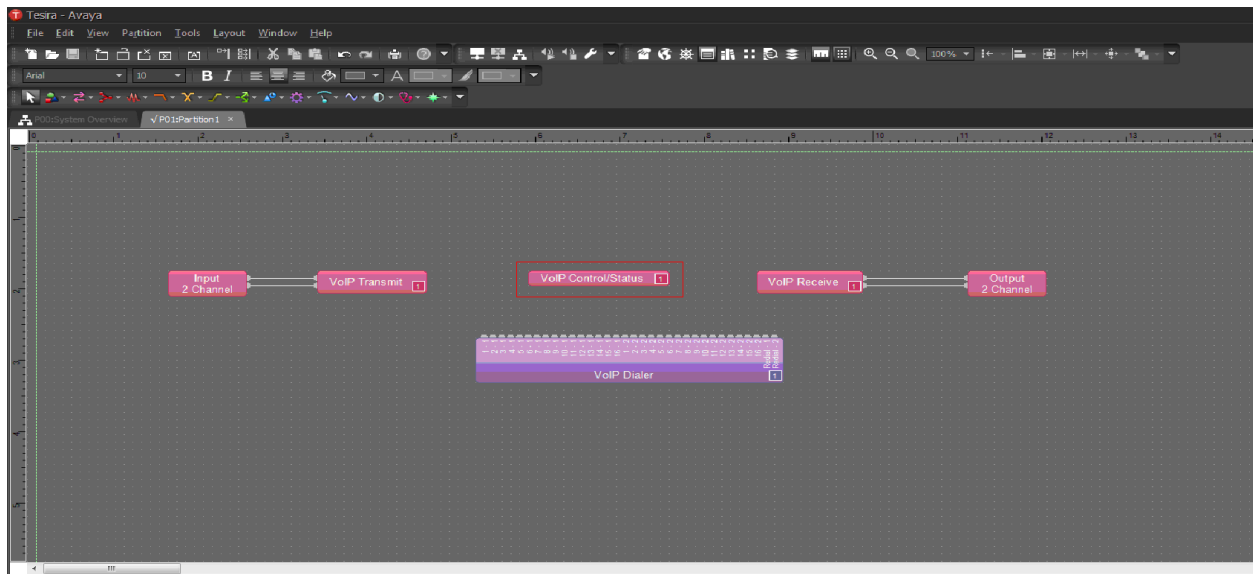
Repeat this section for each SIP extension from **Section 5.4**.

The screenshot displays the Avaya IP Office configuration interface. On the left, a tree view under 'IP Offices' lists various extensions, with '77018 Extn218' selected. The main window is titled 'Extn218: 77018' and contains several tabs: 'Menu Programming', 'Mobility', 'Phone Manager Options', 'Hunt Group Membership', 'Announcements', 'SIP', 'Personal Directory', 'User', 'Voicemail', 'DND', 'ShortCodes', 'Source Numbers', 'Telephony', 'Forwarding', 'Dial In', 'Voice Recording', and 'Button Programming'. The 'Telephony' tab is active, and within it, the 'Supervisor Settings' sub-tab is selected. The 'Login Code' field is highlighted with a red box and contains '*****'. Other fields include 'Login Idle Period (secs)', 'Monitor Group' (set to '<None>'), 'Coverage Group' (set to '<None>'), and 'Status on No-Answer' (set to 'Logged On (No change)'). There are also checkboxes for 'Force Login', 'Force Account Code', 'Outgoing Call Bar', 'Inhibit Off-Switch Forward/Transfer', 'Can Intrude', 'Cannot be Intruded' (checked), 'Can Trace Calls', 'CCR Agent', and 'Automatic After Call Work'. A 'Reset Longest Idle Time' section has radio buttons for 'All Calls' (selected) and 'External Incoming'. At the bottom, 'After Call Work Time (secs)' is set to 'System Default (10)'.

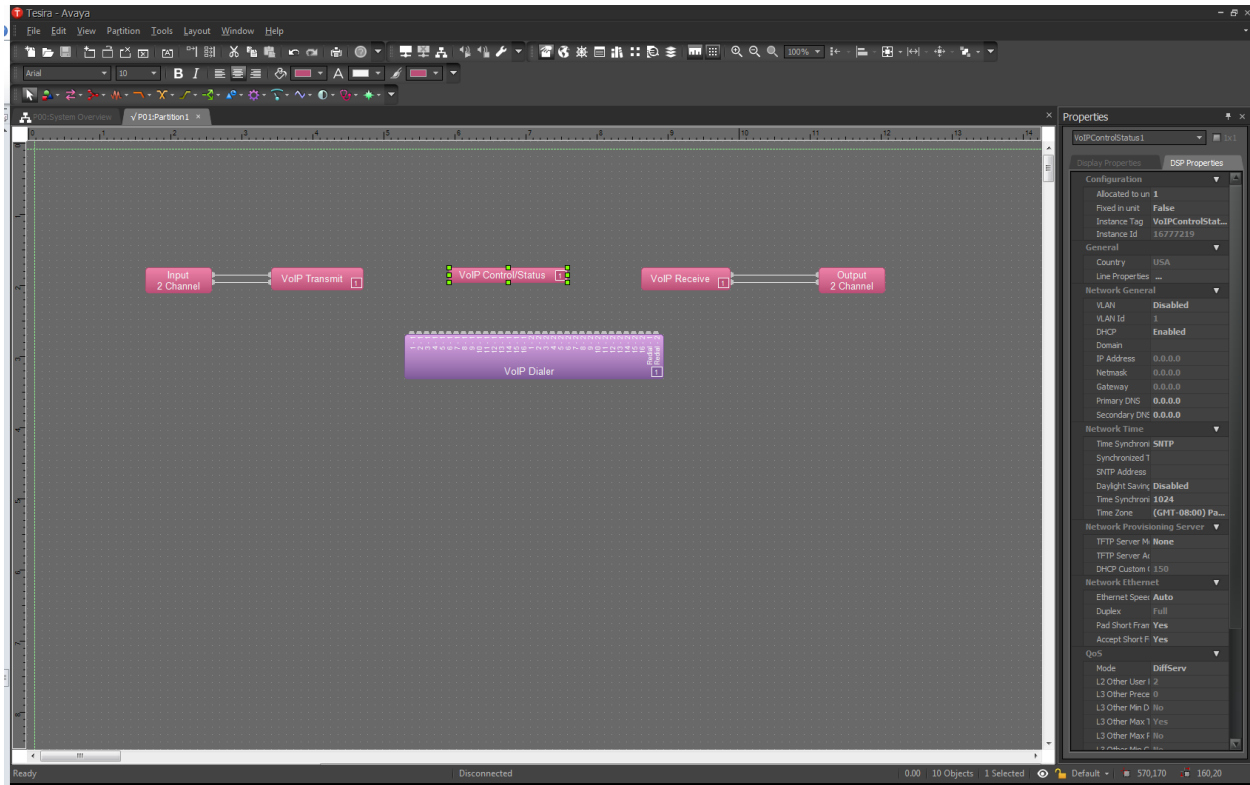
6. Configure Biamp Tesira SVC-2

Biamp installs, configures, and customizes the Tesira SVC-2 application for their end customers. This section only provides steps to configure Biamp Tesira SVC-2 to interface with Avaya IP Office. Select the Tesira icon from Desktop to start Tesira software and design a VoIP system. How to configure a Tesira system is out of the scope.

- Highlight the **VoIPControl/Status** block, as shown below.



- Click right mouse button and select **Properties**, and the Properties menu will display on the right



- Navigate the **Protocol SIP→Transport** to configure transport to be used. The default is UDP.



- Select **Line Properties** under the General section

Properties

VoIPControlStatus1 1x1

Display Properties DSP Properties

Configuration

| | |
|-------------------|--------------------|
| Allocated to unit | 1 |
| Fixed in unit | False |
| Instance Tag | VoIPControlStatus1 |
| Instance Id | 16777227 |

General

| | |
|-----------------|-----|
| Country | USA |
| Line Properties | ... |

Network General

| | |
|---------------|---------------|
| VLAN | Disabled |
| VLAN Id | 1 |
| DHCP | Enabled |
| Domain | Disabled |
| IP Address | Enabled |
| Netmask | 255.255.255.0 |
| Gateway | 10.64.43.1 |
| Primary DNS | 205.171.3.65 |
| Secondary DNS | 205.171.2.65 |

Network Time

| | |
|--------------------|-----------------------|
| Time Synchronizal | SNTP |
| Synchronized Time | |
| SNTP Address | |
| Daylight Savings T | Disabled |
| Time Synchronizal | 1024 |
| Time Zone | (GMT-08:00) Pacifi... |

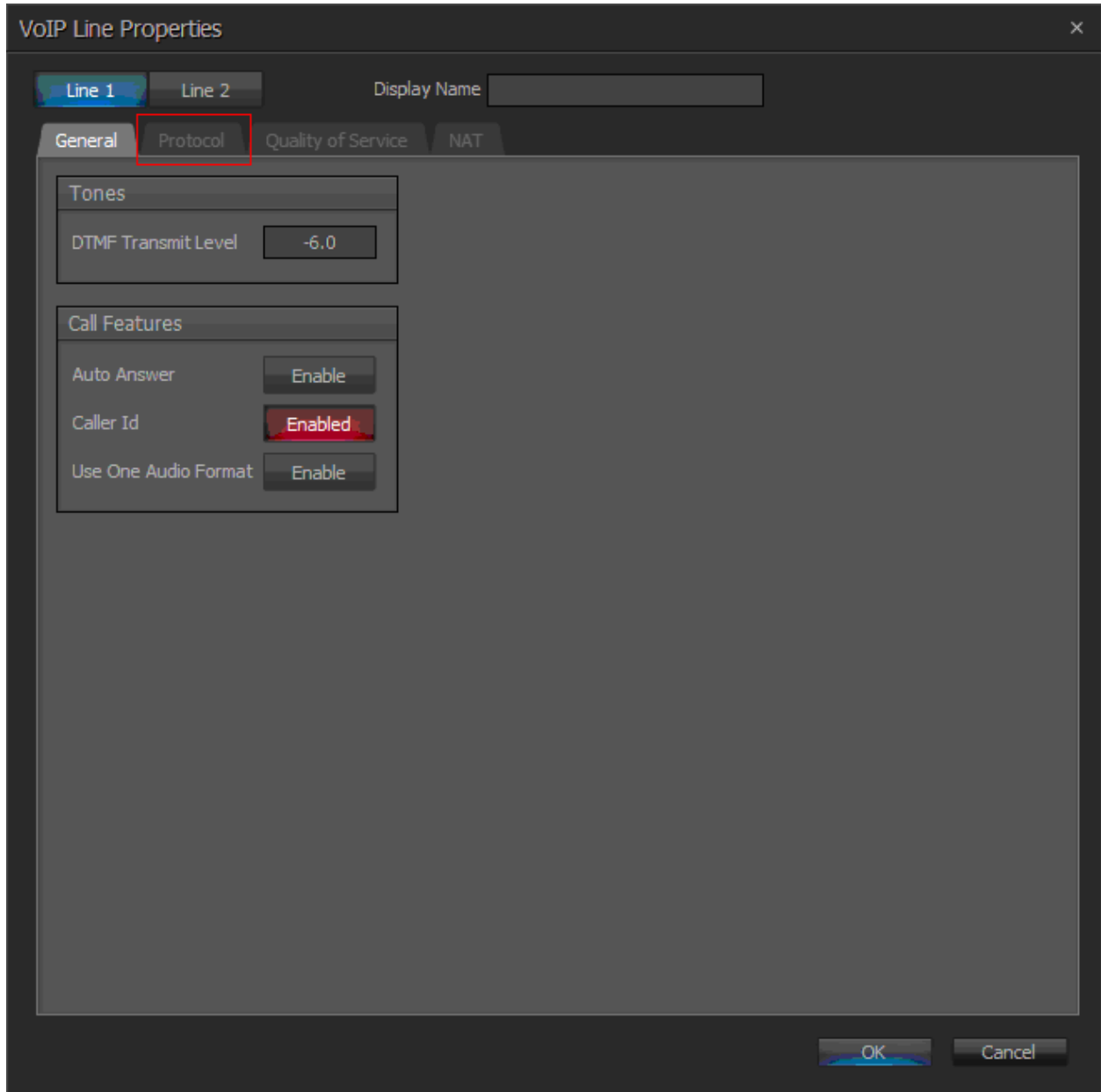
Network Provisioning Server

| | |
|------------------|--------------|
| TFTP Server Mode | None |
| TFTP Server Addr | 172.16.8.128 |
| DHCP Custom Opt | 150 |

Network Ethernet

| | |
|----------------|------|
| Ethernet Speed | Auto |
|----------------|------|

- From the Line Properties page, click the **Protocol** tab.



- From the Protocol page, provide the following information:
 - **SIP User Name** – Enter a user created in Avaya IP Office.
 - **Authentication User Name** – Enter a user created in Avaya IP Office.
 - **Authentication Password** – Enter the password for the user in Avaya IP Office.
 - **Proxy Vendor** – Select Avaya IP Office
 - **Proxy Address** – Enter the IP address of IP Office.
 - **Proxy Port** – Enter either 5060.
 - UDP or TCP – 5060
 - Click on the **OK** button. Default values may be used for all other fields.

Note: *Biamp Tesira SVC-2 can provide two inbound extensions (L1 and L2).*

VoIP Line Properties

Line 1 Line 2

General Protocol Quality of Service NAT

SIP

| | | | | |
|--------------------------|--|----------------------------|---------|---------|
| SIP User Name | 770 18 | Registration Expiration | 3600 | seconds |
| SIP Display Name | 770 18,IP | Signaling Port | 5060 | |
| SIP Domain Name | | T1 Timer | 500 | ms |
| Authentication User Name | 770 18 | Retransmit Timeout | 32000 | ms |
| Authentication Password | ***** | Session Timer | Enabled | |
| Proxy Vendor | Avaya IP Office | Session Refresher | Auto | |
| Proxy Address | 10.64.44.21 | Session Expiration | 1800 | seconds |
| Proxy Port | 5060 | Minimum Session Expiration | 90 | seconds |
| Outbound Proxy Address | | Prack | None | |
| Outbound Proxy Port | 5060 | | | |
| Local Dial Plan | [2-9]11 0T 011xxx.T [0-1][2-9]xxxxxxxx [2-9]xxxxxxxx [2-9]xxxT | | | |

RTP/SRTP

| | |
|---------------------|----------|
| Port Start | 10000 |
| Port End | 14999 |
| Static RTP Port | Enable |
| SRTP | |
| G.723 Encoding Rate | 5.3 kbps |

SIPS

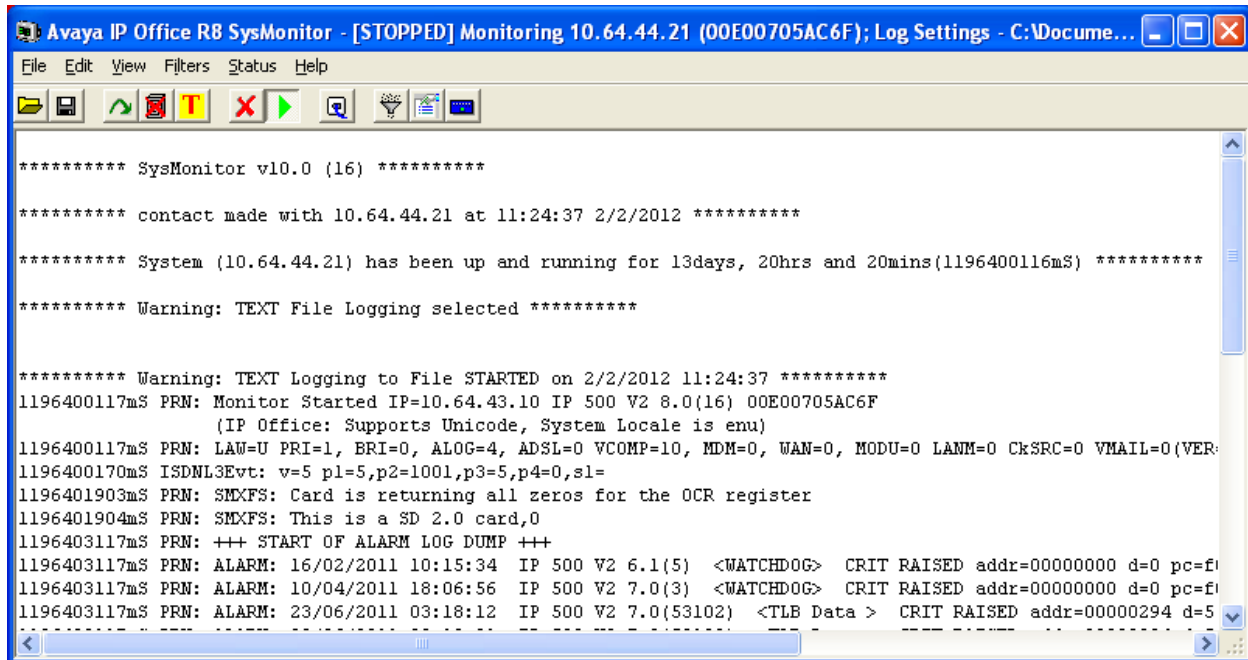
Keyword

OK Cancel

7. Verification Steps

The following steps may be used to verify the configuration:

- From a PC running the Avaya IP Office Monitor application, select **Start → All Programs → IP Office → Monitor** to launch the application. The **Avaya IP Office SysMonitor** screen is displayed, as shown below. Select **Status → SIP Phone Status** from the top menu.



- Verify that there is an entry for each Biamp Tesira SVC-2 extensions from **Section 5.4** and the Status is **SIP: Registered**.
- Place calls to and from Biamp Tesira SVC-2 Wireless telephones and verify that the calls are successfully established with two-way talk path.

8. Conclusion

Biamp Tesira SVC-2 was compliance tested with Avaya IP Office. Biamp Tesira SVC-2 functioned properly for feature and serviceability. During compliance testing, Biamp Tesira SVC-2 successfully registered with Avaya IP Office, placed and received calls to and from SIP and non-SIP telephones, and executed other telephony features like three-way conference, transfers, hold, etc.

9. Additional References

The following Avaya product documentation can be found at <http://support.avaya.com>

[1] *Avaya IP Office Manager*, May 2011, Release 7.0, Issue 26h, Document Number 15-601011.

The following document was provided by Biamp

[2] *Tesira Operation Manual Document*

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