



Application Notes for Configuring Tri-Line TIM Enterprise 3.0.0.92 with Avaya IP Office 500v2 9.1 to collect Station Message Detail Reports - Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning Avaya IP Office 500v2 9.1 with Tri-Line TIM Enterprise 3.0.0.92. The Tri-Line TIM Enterprise will collect Station Message Detail Reports by listening to a TCP port configured on the Avaya IP Office.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any 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

Tri-Line's TIM Enterprise is a call logger which runs as a Windows service and all of its functions, configuration, and call reports are accessible through a standard web browser. Tri-Line's TIM Enterprise collects Station Message Detail Reports (SMDR) data from Avaya IP Office by listening for connections on a specific TCP port. Tri-Line's TIM Enterprise provides a web interface which can be used to configure the connection with Avaya IP Office. This web interface also allows the system to be updated to add additional Avaya IP Offices and for general maintenance. Users can use this web interface for reporting purposes and access can be restricted by username and password and directory position.

2. General Test Approach and Test Results

The interoperability compliance test included both feature and functionality testing. The feature and functionality testing focused on verifying that SMDR is collected by TIM Enterprise and received in the format as generated by Avaya IP Office. The TIM Enterprise Call Logger collects SMDR data by listening on a TCP port configured on Avaya IP Office.

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 testing included feature and serviceability testing. The feature testing evaluated processing of SMDR data obtained from the Avaya IP Office via a TCP-IP link. The serviceability testing introduced failure scenarios to see if Tri-Line TIM Enterprise could resume after a link failure with the Avaya IP Office.

The testing included:

- Local internal call handling
- Handling of External Calls
- Call Forwarding
- Transfers – Blind and Supervised
- Conference Calls
- Call Pick Up
- Calls to hunt Groups
- Hold/Release
- Calls to unobtainable numbers
- Handling of calls to and from Avaya Digital, H323 and SIP phones

2.2. Test Results

Tests were performed to verify interoperability between Tri-Line's TIM Enterprise and the Avaya IP Office. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

2.3. Support

Technical support can be obtained for TRI-Line products as follows:

- Web Portal <http://www.tri-line.com/en/support/>
- E-mail: support@tri-line.com
- Telephone +44 (0)20 7265 2626

3. Reference Configuration

Figure 1 illustrates the network diagram of the configuration used during compliance testing. The Avaya IP Office is configured to output call records. A TCP link is established between Tri-Line's TIM Plus call logger and Avaya IP Office. From the Avaya IP Office, SMDR data is sent to a specified port number for collection and processing. The Tri-Line TIM Plus Call Logger is connected on the same LAN as the Avaya IP Office and will collect SMDR. A variety of Avaya 9600 series H323, 2400 series Digital and SIP soft phones were used to generate intra-switch calls (calls between phones on the same system), and outbound/inbound calls to/from the PSTN.

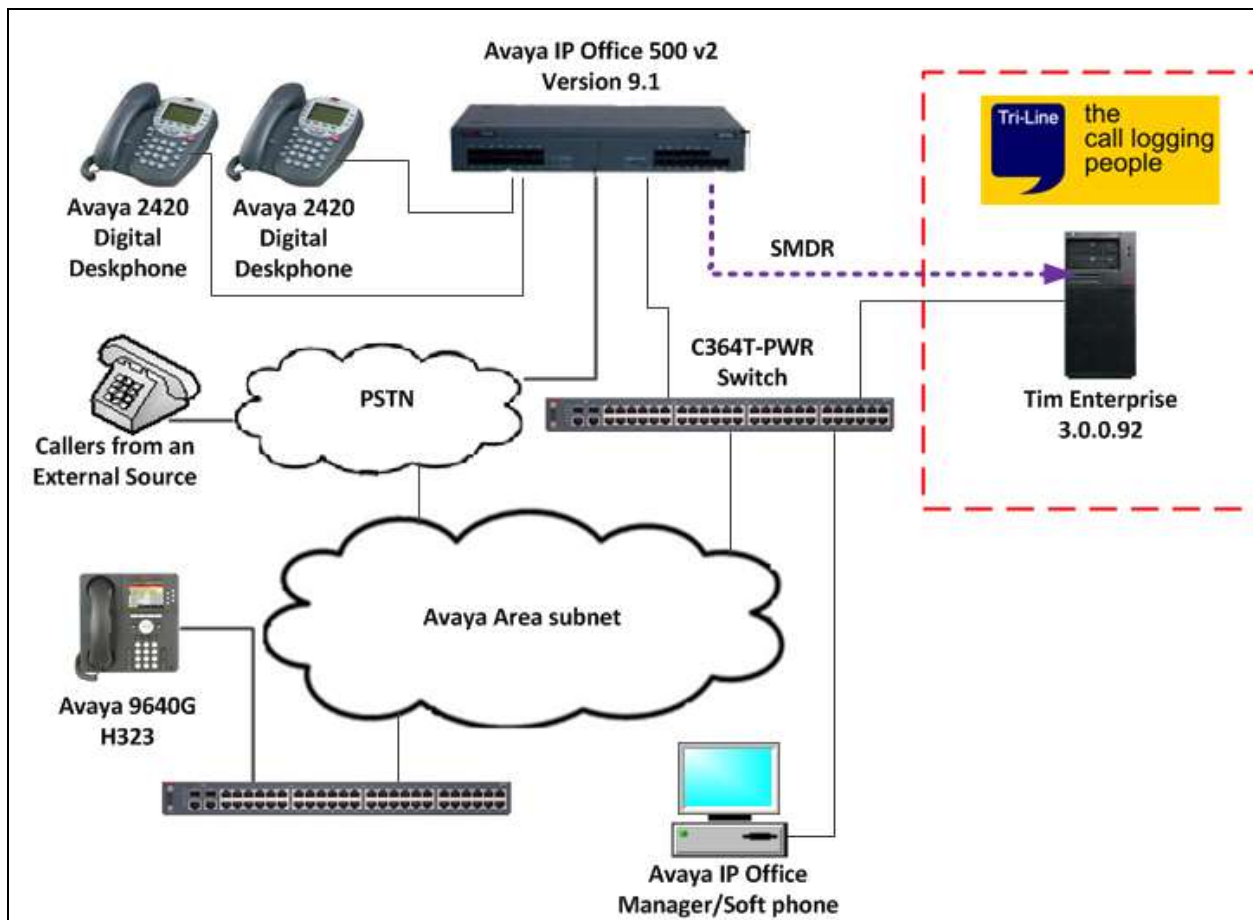


Figure 1: Avaya IP Office and Tri-Line TIM Plus Reference Configuration

4. Equipment and Software Validated

The hardware and associated software used in the compliance testing is listed below.

Avaya Equipment/Software	Release/Version
IP Office 500v2	R9.1.0.437
IP Office Manager	R9.1 Build 437
Avaya one-X® Deskphone Edition for 9600 Series IP Telephones	Release 3.2
Avaya 2420 Digital Telephones	F/W 6
Avaya IP Office softphone	3.2.3.49 68975
Tri-Line Equipment/Software	Release/Version
TIM Plus running on a Dell PowerEdge R610 with Windows 2008 R2 (64 Bit)	Version 3.0.0.92

Note: Testing was completed with IP Office 500 V2 R9.1. Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 only.

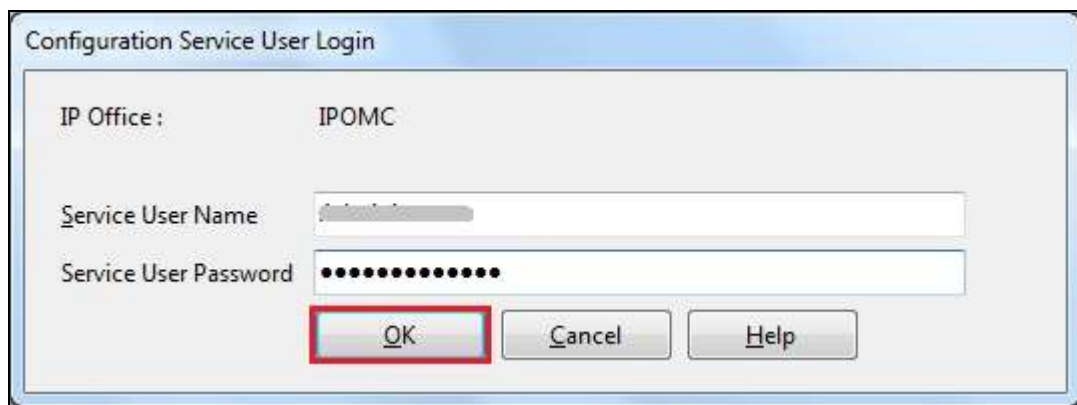
5. Avaya IP Office Configuration

Configuration and verification operations on the Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of the Avaya IP Office for this solution. It is implied a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Launch Avaya IP Office Manager
- SMDR Configuration
- Save Configuration

5.1. Launch Avaya IP Office Manager

From the Avaya IP Office Manager PC, go to **Start→Programs→IP Office→Manager** to launch the Manager application. Log in to Avaya IP Office using the appropriate credentials to receive its configuration.



5.2. SMDR Configuration

Select **System** (not shown) followed by the **SMDR** tab and enter the following information:

- **Output** Select **SMDR** from the drop box
- **IP Address** Enter the IP Address of the PC where TIM Enterprise is installed
- **TCP Port** Enter **9000**
- **Records to buffer** Enter **3000**. This is maximum available
- Check the **Call Splitting for Diverts** check box

Click the **OK** button to save.

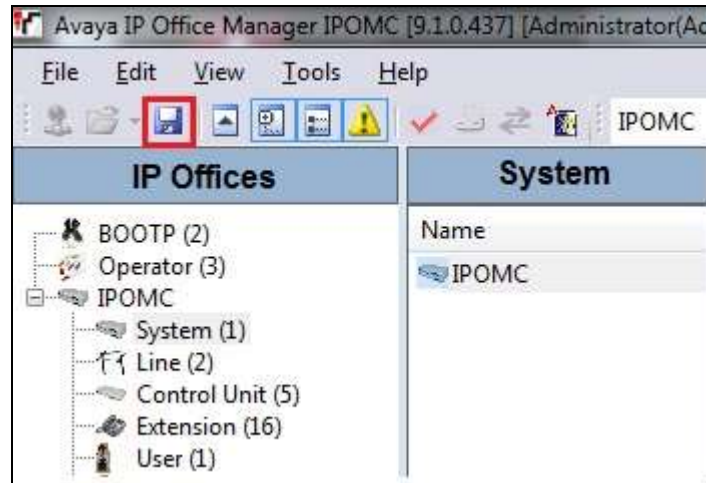
The screenshot shows the IPOMC* application window with the SMDR tab selected. The 'Output' dropdown menu is set to 'SMDR Only'. The 'SMDR' section contains the following fields and settings:

- Station Message Detail Recorder Communications**
- IP Address:** 10 . 10 . 60 . 56
- TCP Port:** 9000
- Records to Buffer:** 3000
- ☒ **Call Splitting for Diverts**

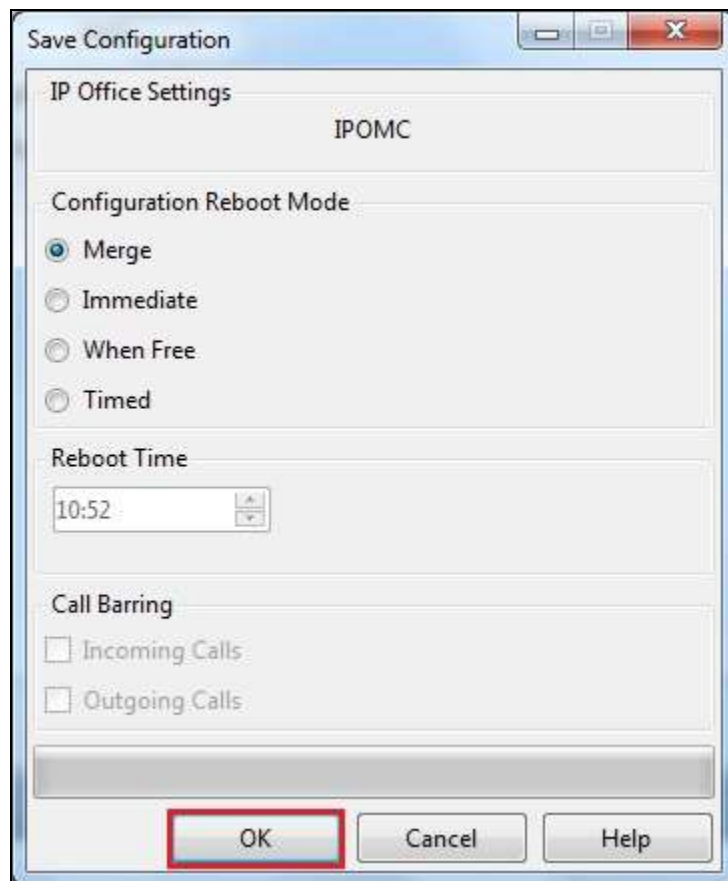
The 'OK' button is highlighted with a red box.

5.3. Save Configuration

Once all the configurations have been made it must be sent to the IP Office. Click on the **Save** Icon as shown below.



Once the **Save Configuration** Window opens, click the **OK** button.



6. Configuring Tri-Line TIM Enterprise

A number of steps are required to Configure TIM Enterprise to interoperate with the Avaya IP Office. The TIM Enterprise Call Logger uses a TCP port to collect SMDR data from Avaya IP Office. The TIM Enterprise application is downloaded from the Tri-Line Web Site once the end customer has a registered account. The end customer can also download a template file which matches the PBX type (although this is supplied by default with the download of the installation package). This template file is required during configuration.

It is implied that TIM Enterprise software is already installed. The configuration operations described in this section can be summarized as follows:

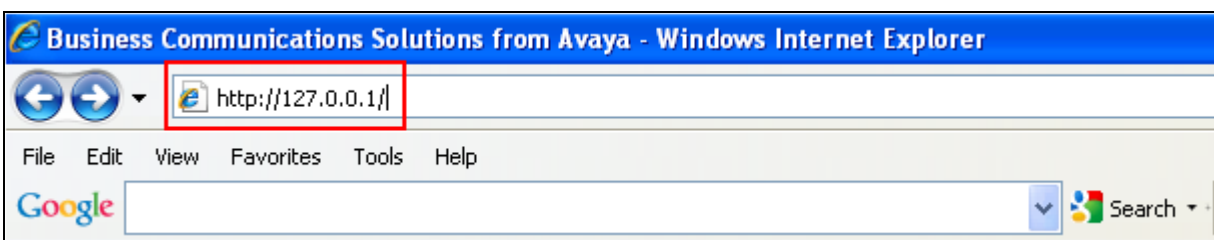
- Downloading Avaya IP Office template
- Accessing TIM Enterprise
- Add new object
- Configuring Properties

6.1. Downloading Avaya IP Office Template

As part of configuration an Avaya IP Office template is required. This template is provided as standard with the installation package. During compliance testing the template used was called **Avaya IP Office 6+.tdt**.

6.2. Accessing Tri-Line TIM Enterprise

During compliance testing access to TIM Enterprise was via a web browser on the same PC as the TIM Enterprise service was installed. The loopback address **http://127.0.0.1** was used.

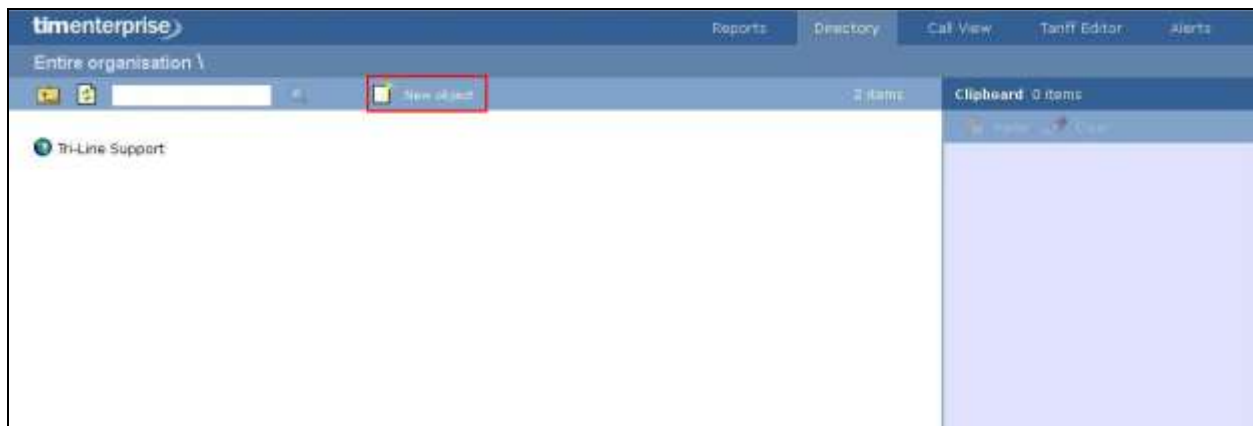


Authentication is required to log into TIM Enterprise. Enter **User Name** and **Password** followed by clicking the **OK** button.

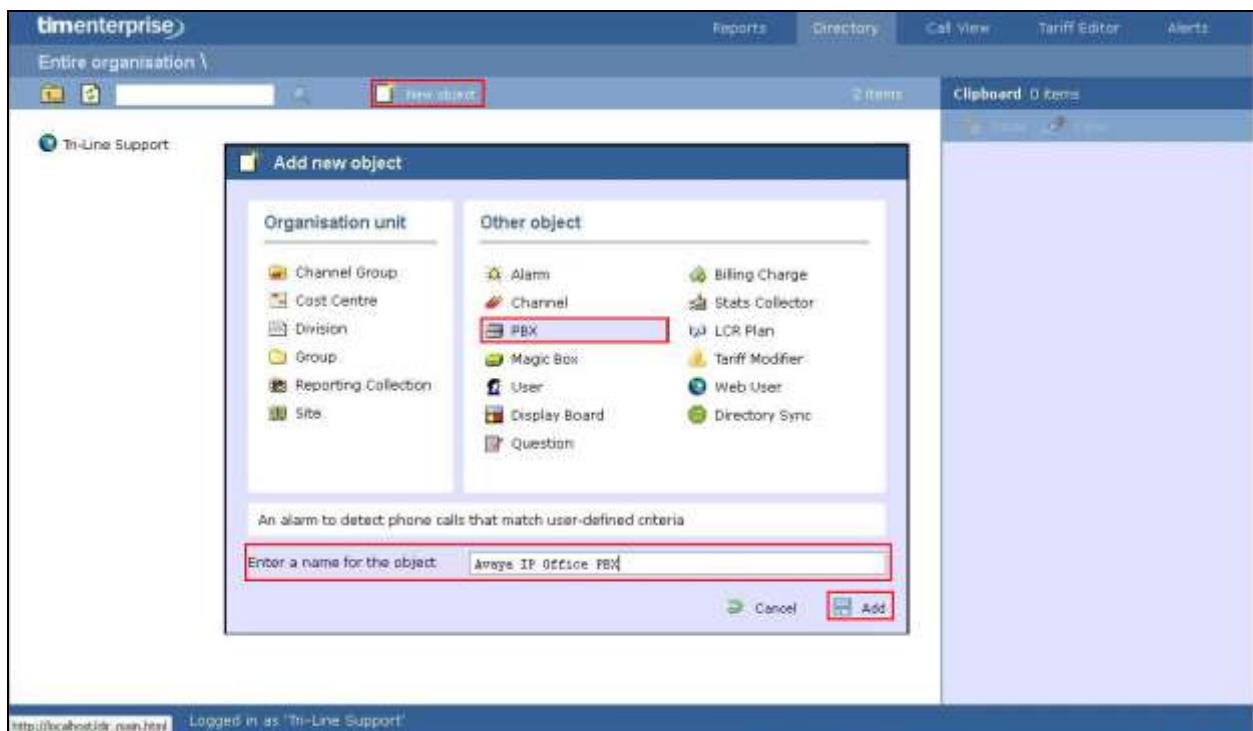


6.3. Add New Object

The first time after logging into TIM Enterprise the default window will appear. A new object needs to be added. Click on the **New object** Icon.



In the Add new object window that appears, select **PBX**. In the field **Enter a name for the object**, enter an informative name. During compliance testing **Avaya IP Office PBX** was used. Click the **Add** icon as shown below.



6.4. Configuring Properties

Once the new object is added **Avaya IP Office PBX** appears in the directory. To configure TIM Enterprise to receive information from Avaya IP Office, click on the Avaya IP Office PBX object and select **Properties** as shown below.



Once the Properties window opens select the **General** tab and select **Avaya IP Office 6+** in the **Data format** pane.



Select the **Connection** tab, and select **Listen for connections from PBX** and enter the **Port** number **9000** as configured for the **TCP Port** in **Section 5.2**. Click the **Save** icon as shown below.

The screenshot displays the Avaya IP Office PBX Configuration interface. On the left, a vertical navigation pane contains the following tabs: General, Connection (highlighted), Inactivity, and Options. The main content area is divided into three sections:

- Connection method:** A list of connection options with icons. The option "Listen for connections from PBX" is highlighted with a red rectangular box.
- Connection details:** A section containing two input fields: "Host" (empty) and "Port" (containing the value "9000"). The "Port" field is also highlighted with a red rectangular box.
- Connection options:** A section with three checkboxes: "Binary data", "Timestamp data", and "Delay processing by" (followed by a text input field containing "ms").

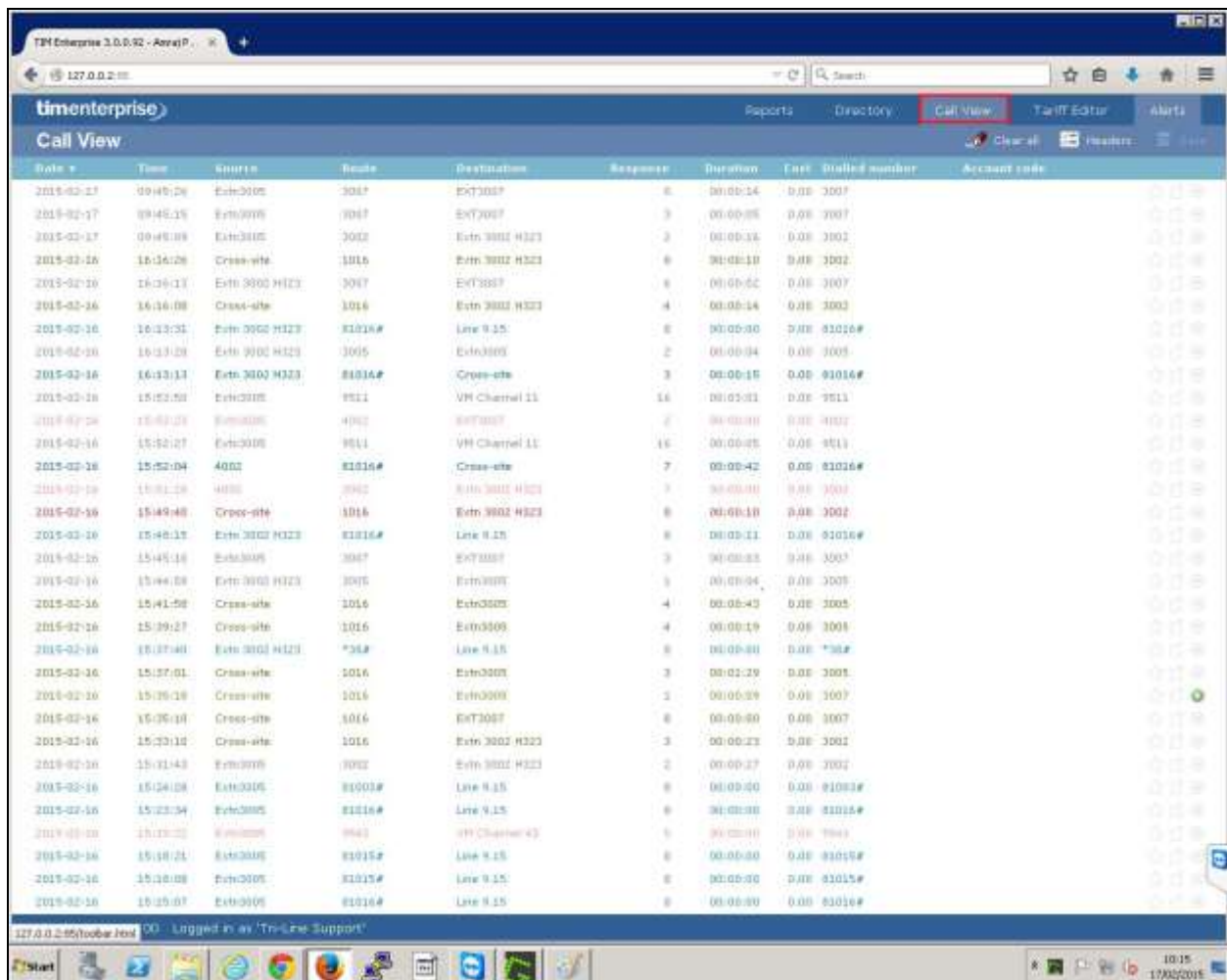
At the bottom right of the interface, there are two buttons: "Cancel" (with a green circular arrow icon) and "Save" (with a blue floppy disk icon).

7. Verification Steps

This section provides the tests that can be performed to verify correct configuration of the Avaya IP Office and TIM Enterprise.

7.1. Verify Tri-Line TIM Enterprise Call Logger Retrieving SMDR data

To ensure that the TIM Enterprise Call Logger is retrieving SMDR data make some calls on the Avaya IP Office. Log in using the procedure in **Section 6.2** and click on the **Call View** tab to verify that something similar to the following is presented.



Date	Time	Source	Route	Destination	Response	Duration	Cost	Dialed number	Account code
2015-12-17	09:46:26	Extn3005	3005	Ext3005	6	00:00:14	0.00	3005	
2015-12-17	09:46:15	Extn3005	3005	Ext3005	3	00:00:05	0.00	3005	
2015-12-17	09:46:08	Extn3005	3002	Extn 3002 H323	3	00:00:13	0.00	3002	
2015-12-16	16:34:26	Cross-site	3016	Extn 3002 H323	6	00:00:10	0.00	3002	
2015-12-16	16:34:13	Extn 3002 H323	3007	Ext3007	6	00:00:02	0.00	3007	
2015-12-16	16:34:08	Cross-site	3016	Extn 3002 H323	4	00:00:14	0.00	3002	
2015-12-16	16:33:31	Extn 3002 H323	81016#	Line 9.15	6	00:00:00	0.00	81016#	
2015-12-16	16:33:28	Extn 3002 H323	3005	Extn3005	2	00:00:04	0.00	3005	
2015-12-16	16:33:13	Extn 3002 H323	81016#	Cross-site	3	00:00:15	0.00	81016#	
2015-12-16	15:53:50	Extn3005	9511	VN Channel 11	16	00:01:01	0.00	9511	
2015-12-16	15:53:23	Extn3005	4002	Ext3007	2	00:00:00	0.00	4002	
2015-12-16	15:52:27	Extn3005	9511	VN Channel 11	16	00:00:05	0.00	9511	
2015-12-16	15:52:04	4002	81016#	Cross-site	7	00:00:42	0.00	81016#	
2015-12-16	15:51:28	4002	3002	Extn 3002 H323	3	00:00:00	0.00	3002	
2015-12-16	15:49:48	Cross-site	3016	Extn 3002 H323	6	00:00:10	0.00	3002	
2015-12-16	15:48:13	Extn 3002 H323	81016#	Line 9.15	6	00:00:11	0.00	81016#	
2015-12-16	15:45:16	Extn3005	3007	Ext3007	3	00:00:03	0.00	3007	
2015-12-16	15:44:58	Extn 3002 H323	3005	Extn3005	3	00:00:04	0.00	3005	
2015-12-16	15:41:58	Cross-site	3016	Extn3005	4	00:00:43	0.00	3005	
2015-12-16	15:39:27	Cross-site	3016	Extn3009	4	00:00:19	0.00	3009	
2015-12-16	15:37:40	Extn 3002 H323	*368	Line 9.15	6	00:00:00	0.00	*368	
2015-12-16	15:37:01	Cross-site	3016	Extn3005	3	00:01:29	0.00	3005	
2015-12-16	15:36:18	Cross-site	3016	Extn3005	2	00:00:29	0.00	3007	
2015-12-16	15:36:18	Cross-site	3016	Ext3007	6	00:00:00	0.00	3007	
2015-12-16	15:33:10	Cross-site	3016	Extn 3002 H323	3	00:00:23	0.00	3002	
2015-12-16	15:31:43	Extn3005	3002	Extn 3002 H323	2	00:00:27	0.00	3002	
2015-12-16	15:24:08	Extn3015	81003#	Line 9.15	6	00:00:00	0.00	81003#	
2015-12-16	15:23:34	Extn3005	81016#	Line 9.15	6	00:00:00	0.00	81016#	
2015-12-16	15:13:22	Extn3005	9543	VN Channel 43	5	00:00:00	0.00	9543	
2015-12-16	15:11:21	Extn3005	81015#	Line 9.15	6	00:00:00	0.00	81015#	
2015-12-16	15:10:08	Extn3005	81015#	Line 9.15	6	00:00:00	0.00	81015#	
2015-12-16	15:10:07	Extn3005	81016#	Line 9.15	6	00:00:00	0.00	81016#	

8. Conclusion

These Application Notes describe the configuration steps required for Tri-Line's TIM Enterprise 3.0.0.92 to successfully interoperate with Avaya IP Office R9.1 using a TCP connection. Tri-line's TIM Enterprise 3.0.0.92 is considered compliant with the Avaya IP Office R9.1. All of the executed test cases have passed and met all objectives.

9. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be obtained from <http://support.avaya.com> or from your Avaya representative.

[1] Administering Avaya IP Office™ Platform with Manager Release 9.1 10.01 December 2014

Product Documentation for Tri-Line can be obtained at <http://gateway.tri-line.com/>. Login required.

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