



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya IP Office 7.0 with Tri-Line TIM Plus 3.0.0.78 using TCP - Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning Avaya IP Office 7.0 with Tri-Line TIM Plus 3.0.0.78. Tri-Line TIM Plus will collect Station Message Detail Reports by listening to a TCP port configured on Avaya IP Office

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 TIM Plus is a call logger which runs as a Windows Service and all of its functions, configuration, and call reports are accessible through any standard web browser. Tri-Line TIM Plus collects Station Message Detail Reports (SMDR) data from Avaya IP Office by listening for connections on a specific TCP port, and it uses a native SQL database for storing and processing data. Tri-Line TIM Plus provides a web interface which can be used for configuration with Avaya IP Office. This web interface also allows the system to be updated for 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 Plus and received in the format as generated by Avaya IP Office. The TIM Plus Call Logger collects SMDR data by listening on a TCP port configured on Avaya IP Office.

2.1. Interoperability Compliance Testing

The testing included:

- Verification of connectivity between TIM Plus and Avaya IP Office using a TCP connection.
- Verification that SMDR was collected as output by Avaya IP Office.
- Link Failure/Recovery was also tested to ensure successful reconnection on link failure.

2.2. Test Results

Tests were performed to insure full interoperability between TIM Plus and Avaya IP Office. The tests were all functional in nature and performance testing was not included. All 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. Avaya IP Office is configured to output call records. A TCP link is established between Tri-Line TIM Plus and Avaya IP Office. From Avaya IP Office, SMDR data are sent to a specified port for collection and processing. The Tri-Line TIM Plus Call Logger is connected on the same LAN as Avaya IP Office and will collect SMDR.

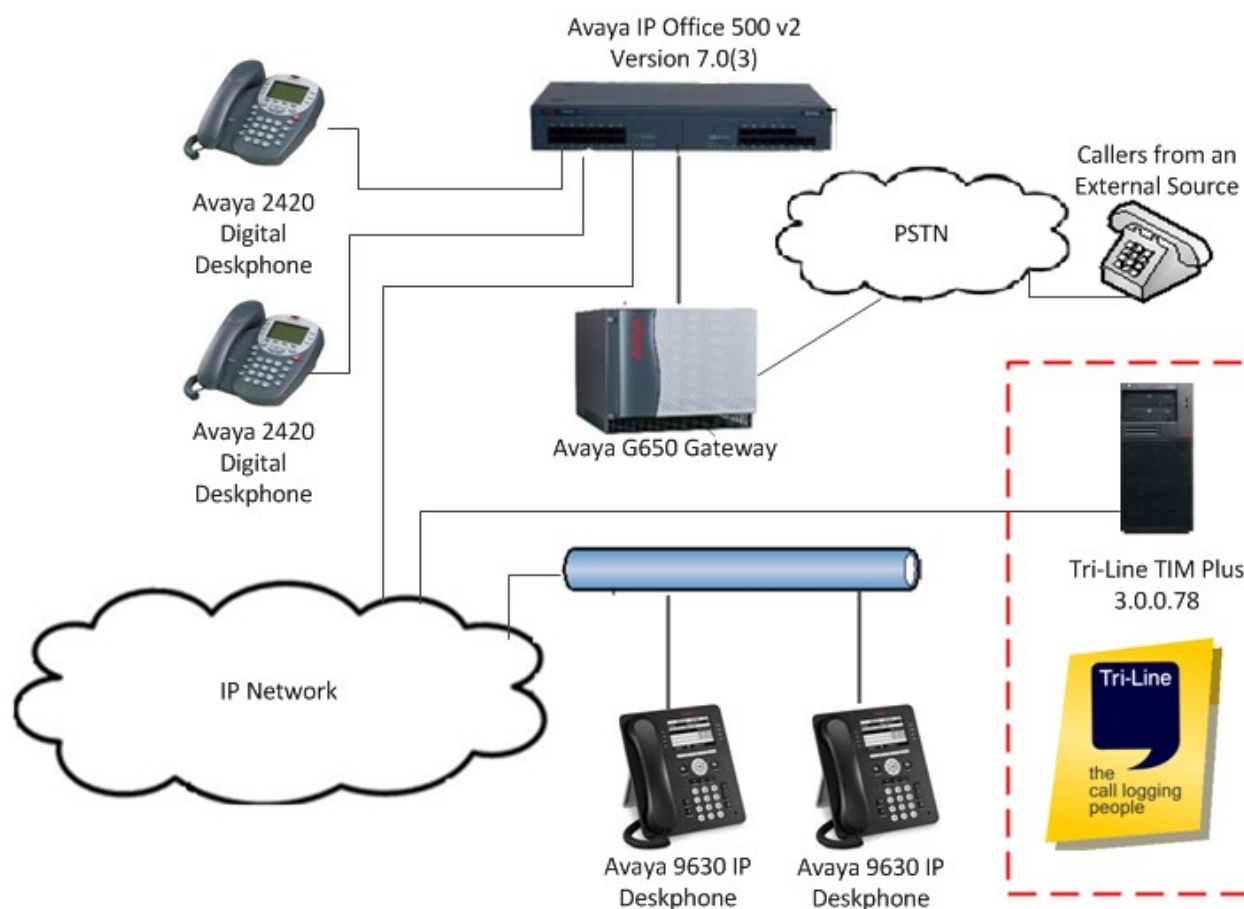


Figure 1: Avaya IP Office with Tri-Line TIM Plus Reference Configuration

4. Equipment and Software Validated

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

Equipment	Software Version
Avaya IP Office 500v2 700417462 PRI Card 700417330 DS1 Card	Avaya IP Office 7.0(3) Avaya IP Office Manager 9.0(3)
Avaya 960-Series IP Telephones (9620, 963000)	96xx H.323 Release 3.1 SP2
Avaya 2420 Digital Telephones	N/A
Tri-Line TIM Plus	TIM Plus Version 3.0 .0.78

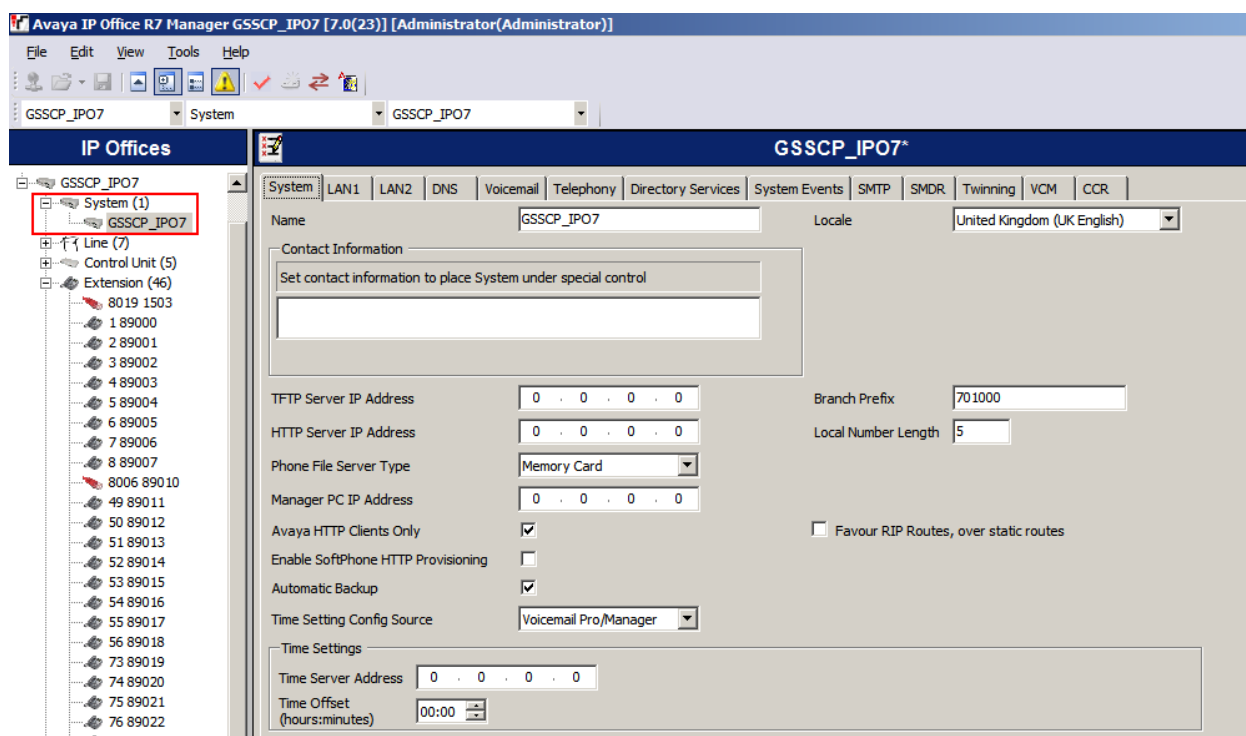
5. Avaya IP Office Configuration

Configuration and verification operations on 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 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 described in this section can be summarized as follows:

- Launch Avaya IP Office Manager
- SMDR Configuration
- Push Configuration to Avaya IP Office

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. In the IP Offices window, expand the Configuration Tree and double-click **System**. During compliance testing the System was called **GSSCP_IPO7**

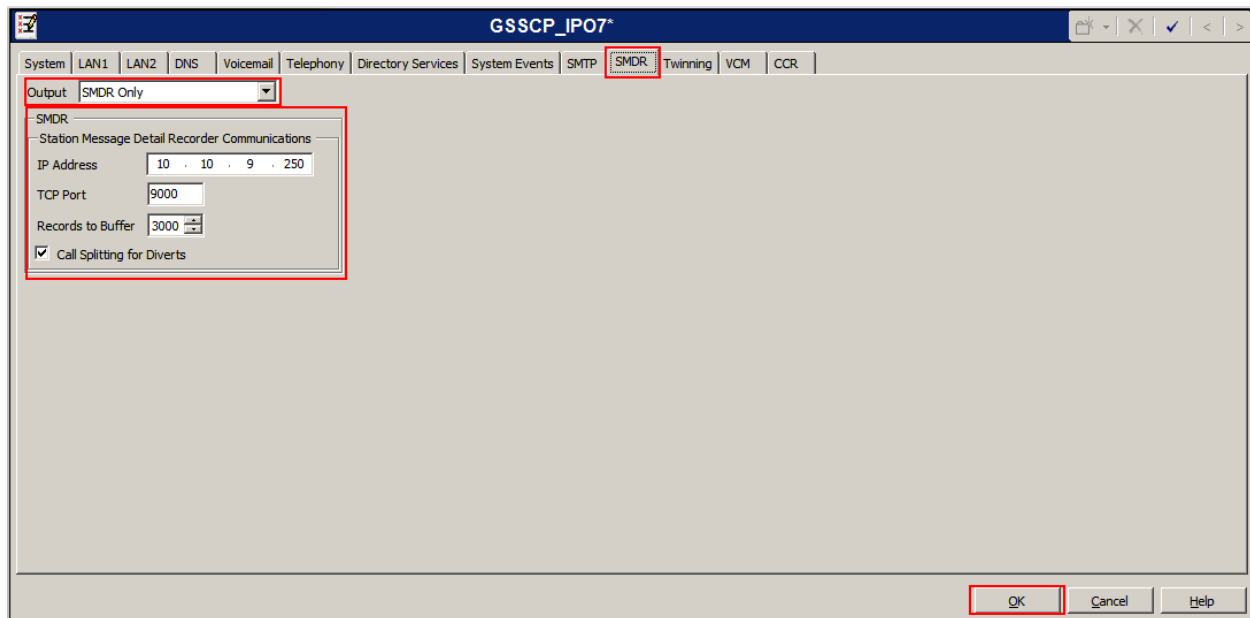


5.2. SMDR configuration

Select the **SMDR** tab and enter the following information:

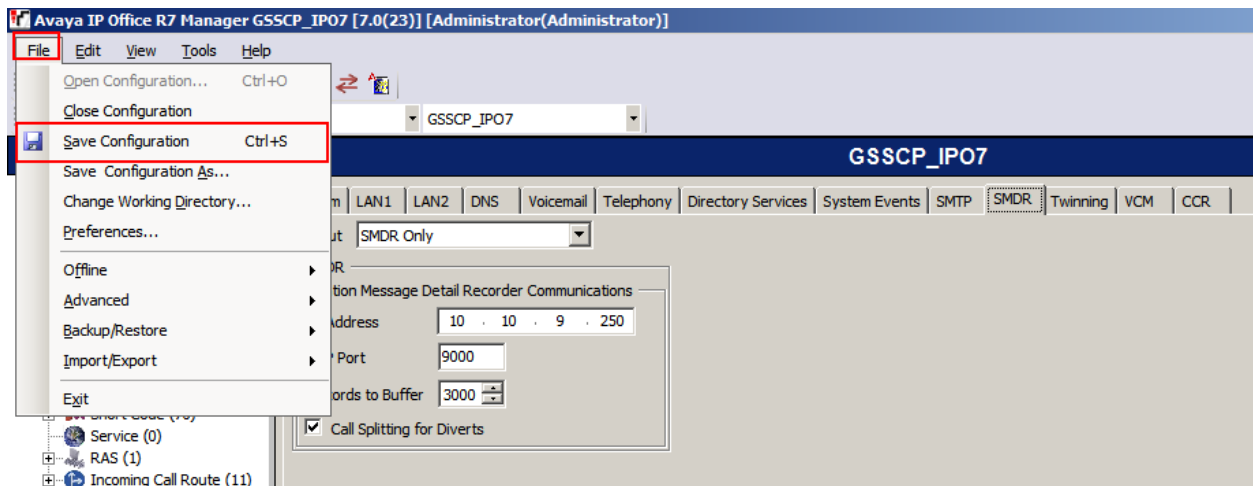
- **Output** Select **SMDR** from the drop box
- **IP Address** Enter the IP Address of the PC TIM Plus is installed
- **TCP Port** Enter **9000**
- **Records to buffer** Enter **3000**. This is maximum available.
- Check the **Call Splitting for Diverts** Check box

Click the **OK** button to save.



5.3. Push Configuration to Avaya IP Office

After the configuration is saved, it must be pushed to Avaya IP Office. Select **File→Save** to push the configuration to Avaya IP Office and wait for the system to update.



6. Configuring Tri-Line TIM Plus

A number of steps are required to configure TIM Plus to interoperate with Avaya IP Office. The TIM Plus Call Logger uses a TCP port to collect CDR data from Avaya IP Office. The TIM Plus application requires a template file which matches the PBX type during configuration. Both TIM Plus application and template file can be downloaded from the Tri-Line Web Site once the end customer has a registered account.

The configuration of the TIM Plus Call Logger is achieved during the initial installation. An installation wizard is used whereby certain steps require specific information relating to the TIM Plus configuration. The configuration described in this section can be summarized as follows:

- Downloading Avaya IP Office template.
- Configure Site information
- Create an administrator account
- Logging into TIM Plus Call logger
- Access to TIM Plus

6.1. Downloading Avaya IP Office template

As part of configuring Avaya IP Office, a template is required. This template is used as the **PBX model** in **Section 6.2**. Once the end customer has a registered account with Tri-Line, the template is available for download as a ZIP file. Download the Avaya IP Office template ZIP file. During compliance testing, the template **Avaya IP Office.tdt** was used. Unzip the template file to the directory **C:\Program Files\Tri-Line\TIM Plus\config**.

6.2. Configure Site information

Start the installation wizard after the TIM Plus application is downloaded. Follow the wizard steps until step 5. The **PBX model** used is a template which was downloaded as described in **Section 6.1**. The following information is required for the initial site setup:

- **Site name** Enter an informative name, i.e. **Test Site**
- **PBX model** Choose **Avaya IP Office** from the dropdown box.
- **Method** Choose **Listen for connection from PBX** from the dropdown box.
- **Port** Enter **9000**
Note this is the Remote Port as configured in **Section 5.1**

Click on the **Next** button to continue.

Site Progress 1 2 3 4 5 6 7 8

In order to collect call data from your telephone system, an initial site needs to be setup.

First, give the site a name:

Site name Test Site

Choose the make and model of the telephone system from the drop-down list below. If the list is empty, you'll need to obtain the correct **interface file** from your vendor, copy this file to the C:\Program Files\Tri-Line\TIM Plus\config\ folder, then refresh this page.

PBX model Avaya IP Office

Specify the type of connection that the telephone system requires, as well as any further information, such as login details and connection script:

Method Listen for connection from PBX

Host

Port 9000

Some telephone systems require further options in order to successfully capture call information. You may need to check with your vendor if these options apply to your installation:

☐ Enable timestamp on received data

☐ The data is in binary format

If no data is received from your telephone system for a user-definable time period, an inactivity alarm can be sent by email to one or more people. To use this feature, tick the box below:

☐ Enable inactivity timer

Back Next

6.3. Create an administrator account

Once the wizard has progressed to step 8, an administrator account must be created. This account allows web users to log into the TIM Plus Call Logger. The following information is required to create the administrator account:

- **Display name** Enter an informative name, i.e. **Tri-Line support**
- **User Name** Enter a User name, i.e. **admin**
- **Password** Enter a password.

Click on the **Finish** button to continue.

The screenshot shows a web-based wizard titled "Create an administrator account". At the top right, a progress bar indicates the current step is 8 out of 8. The main content area contains instructions: "To administer TIM Plus further, as well as to perform the additional site-specific tasks required to complete the installation, you need to create an administrator's web user account." and "As with all web users, a display name is important because it is used as a signature when you create reports, in addition to other duties you may perform as a user of the system." Below this, it says "Enter a display name for the administrator user now:". There is a text input field labeled "Display name" with the value "Tri-Line Support". Then, it says "Specify a username and password to associate with this administrator account." Below this are two input fields: "Username" with the value "admin" and "Password" with masked characters "••••••". A red box highlights the "Finish" button at the bottom right. A red text warning at the bottom states: "Henceforth, these login details should be used to log in to TIM Plus as the system administrator including right now, after clicking the Finish button below to complete this wizard."

Create an administrator account

Progress 1 2 3 4 5 6 7 8

To administer TIM Plus further, as well as to perform the additional site-specific tasks required to complete the installation, you need to create an administrator's web user account.

As with all web users, a display name is important because it is used as a signature when you create reports, in addition to other duties you may perform as a user of the system.

Enter a display name for the administrator user now.

Display name Tri-Line Support

Specify a username and password to associate with this administrator account.

Username admin

Password ••••••

Henceforth, these login details should be used to log in to TIM Plus as the system administrator **including right now, after clicking the Finish button below to complete this wizard.**

Back Finish

6.4. Logging into the Tri-Line TIM Plus Call Logger

Once the administrator account is created, the user is prompted to log in. Log into the TIM Plus Call logger by entering the **User name** and **Password** as created in **Section 6.3**.

Click the **OK** button to log in.

The screenshot shows the 'Create an administrator account' wizard window. The title bar is dark blue with the text 'Create an administrator account' and a progress indicator showing steps 1 through 8. The main content area has a light gray background with instructional text. A modal dialog box titled 'Authentication Required' is overlaid on the wizard. The dialog has a blue header bar with a question mark icon and a red 'X' close button. The message inside the dialog reads: 'A username and password are being requested by http://localhost. The site says: "TIM Plus HTTP Service"'. Below the message are two input fields: 'User Name:' and 'Password:'. The 'OK' button is highlighted with a red rectangle. At the bottom of the wizard window, there are 'Back' and 'Finish' buttons.

Create an administrator account Progress 1 2 3 4 5 6 7 8

To administer TIM Plus further, as well as to perform the additional site-specific tasks required to complete the installation, you need to create an administrator's web user account.

As with all web users, a display name is important because it is used as a signature when you create reports, in addition to other duties you may perform as a user of the system.

Enter a display name for the administrator user now.

Display Name:

Specify a user name for the administrator user now.

User Name:

Password:

Henceforth, you will log into the TIM Plus Call Logger using the user name and password you just created. **Now, after clicking the Finish button below to complete this wizard.**

Authentication Required

A username and password are being requested by http://localhost. The site says: "TIM Plus HTTP Service"

User Name:

Password:

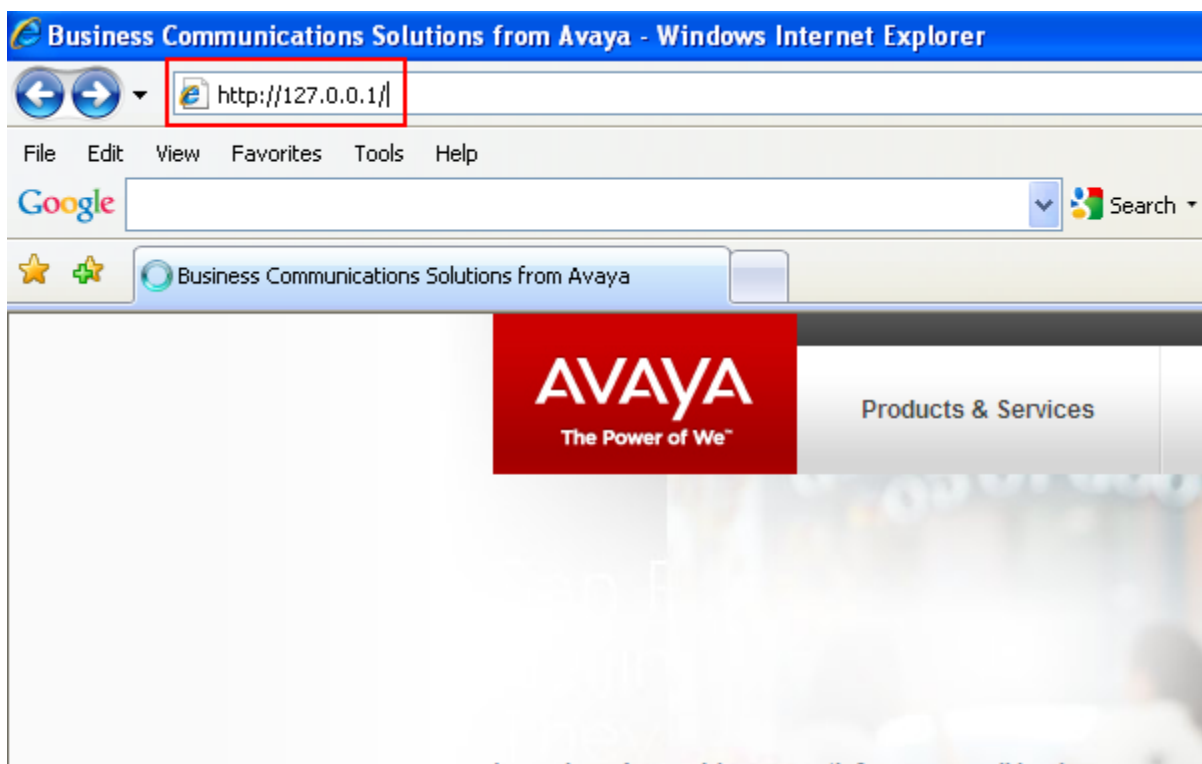
OK Cancel

Back Finish

6.5. Access to Tri-Line TIM Plus

A web browser is required to view the call record. During compliance testing, web browser and TIM Plus service were installed on the same PC. The loopback address **http://127.0.0.1** was used.

Note: The **User name** and **Password** as created in **Section 6.4** is required for log in.



7. Verification Steps

This section provides a set of tests that can be performed to verify correct configuration of Avaya IP Office and TIM Plus.

7.1. Verify that Tri-Line TIM Plus Call Logger retrieves CDR data

To ensure that TIM Plus Call Logger is retrieving CDR data make some calls on Avaya IP Office. Verify that something similar to the following is presented.

Most recent calls					Columns	Save
Time	Source	Route	Destination	Duration		
16:52:49	Extn 89011	89103	89103	00:00:09		
16:52:37	Extn 89013	89011	Extn 89011	00:00:12		
16:50:58	Extn 89011	89103	89103	00:00:15		
16:50:32	Extn 89013	89011	Extn 89011	00:00:17		
16:47:37	89103	89011	Extn 89011	00:00:01		
16:38:55	89103	02085551000	London	00:00:08		
16:36:57	Extn 89013	89011	Extn 89011	00:00:17		
16:35:45	Extn 89011	89103	89103	00:00:04		
16:35:40	Extn 89013	89011	Extn 89011	00:00:10		
16:33:56	Extn 89013	89011	Extn 89011	00:00:09		
16:32:46	Unknown	1601	Extn 89013	00:00:10		
16:32:36	Extn 89011	89013	Extn 89013	00:00:07		
16:32:30	Unknown	1601	Extn 89011	00:00:16		
16:32:16	Unknown	1601	VM Channel 42	00:00:09		

8. Conclusion

These Application Notes describe the configuration steps required for Avaya IP Office to successfully interoperate with Tri-Line TIM Plus 3.0.0.78 using a TCP connection. Tri-Line TIM Plus 3.0.0.78 is considered compliant with Avaya IP Office. All test cases have passed and met the objectives outlined in **Section 2.2**.

9. Additional References

This section references Avaya and Tri-Line documentation that is relevant to these Application Notes.

Product documentation for Avaya products is available at <http://support.avaya.com>

[1] Avaya IP Office Release 7.0 Manager 9.0, Document No: 15-601011, 17th March 2011

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

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