



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Tri-Line TIM Plus with Avaya IP Office Server Edition and 500v2 Expansion - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring Avaya IP Office Server Edition with 500v2 Expansion to work with Tri-Line's TIM Plus. TIM Plus is a Windows-based call analysis software program that collects and reports on the Station Message Detail Reporting (SMDR) information generated by 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

The objective of this compliance test is to verify that Tri-Line's TIM Plus 3.0.0.108 call accounting software can interoperate with Avaya IP Office Server Edition with 500v2 Expansion 10.0. TIM Plus listens for connection from Avaya IP Office for the collection of Station Message Detail Reporting (SMDR) information. TIM Plus processes the collected SMDR data and accurately bills them. It provides querying and reporting functionality on the billed data. The data can also be exported to various formats for processing.

2. General Test Approach and Test Results

The general test approach was to manually place intra-switch calls, inter-switch calls, inbound and outbound PSTN trunk calls to and from telephones attached to the Avaya IP Office Server Edition and 500v2 Expansion, and to verify that TIM Plus collects the SMDR records from the Avaya IP Office and properly classifies and reports the attributes of the call. For serviceability testing, logical links were disabled/re-enabled, and IP Office and TIM Plus servers were rebooted.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The feature testing evaluated the ability of the Tri-Line's TIM Plus to collect and process SMDR records for various types of calls: intra-switch calls (calls between phones on the same site), outbound/inbound calls to/from the PSTN and outbound/inbound calls to/from the phones between the two sites via the IP trunk. The serviceability testing introduced failure scenarios to see if the TIM Plus can resume SMDR collection after failure recovery.

2.2. Test Results

All tests carried out passed successfully with the following observations

- Calls between the Server Edition and 500v2 are sent from the IP office as 2 identical records but the TIM Plus shows as a single call in Call View and Reports.

2.3. Support

Technical support from the Tri-Line can be obtained through the following:

Phone: +44 20 7265 2626
E-mail: support@tri-line.com.
Web: <http://www.tri-line.com/>
Address: 9-10 Telfords Yard
The Highway
LONDON
E1W 2BS
England

3. Reference Configuration

Figure 1 illustrates the network configuration used to verify the Tri-Line's TIM Plus solution. An Avaya IP Office Server Edition with a 500v2 Expansion using Avaya 1616 and, Avaya 2420 Digital Telephone, a H.323 IP trunk and an E1 ISDN-PRI trunk to simulated PSTN. Tri-Line TIM Plus was installed on a server running Microsoft Windows 2012 Server.

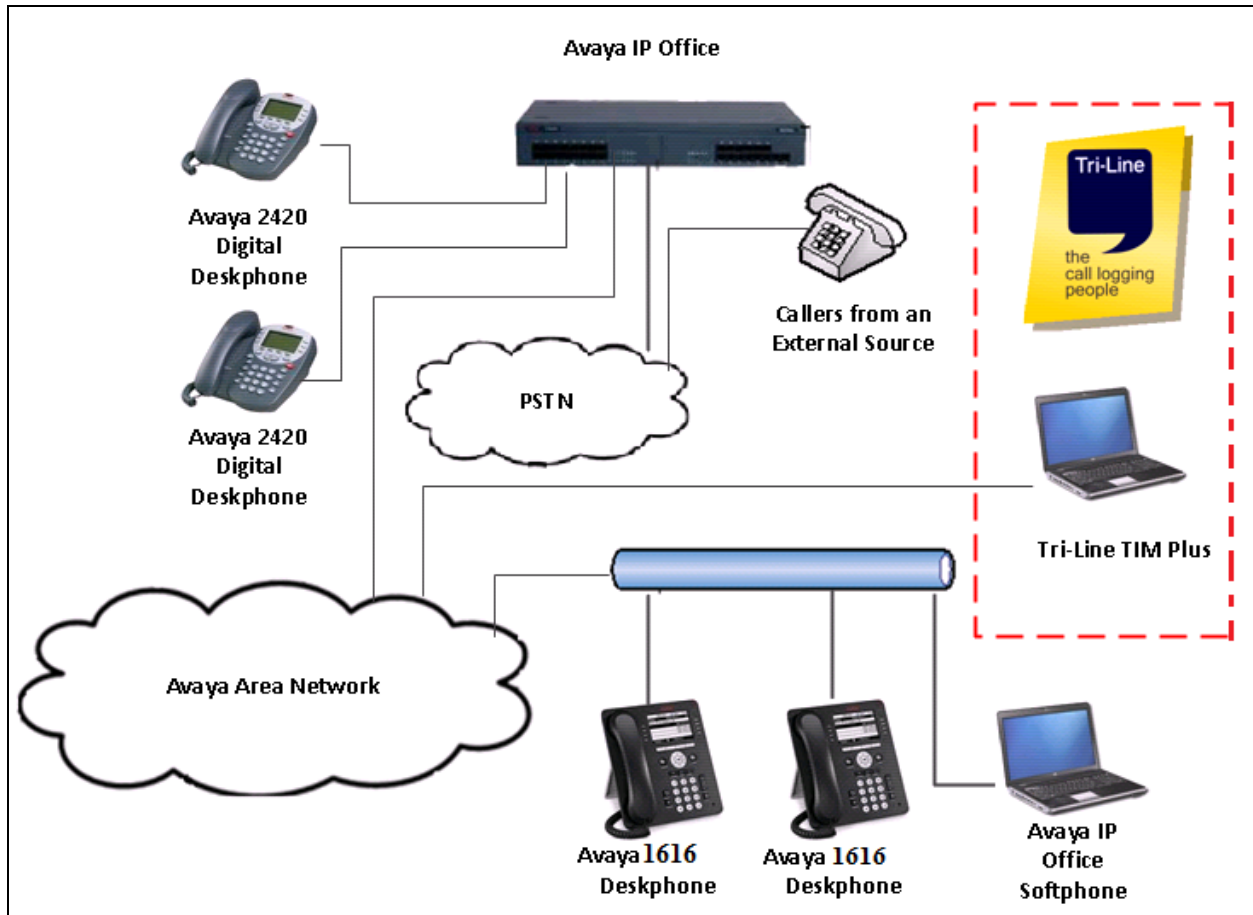


Figure 1: Tri-Line TIM Plus with Avaya IP Office

4. Equipment and Software Validated

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

| Equipment | Software |
|---|----------------------|
| Avaya IP Office Server Edition | 10.0.0.0.0 Build 550 |
| Avaya IP Office 500v2 | 10.0.0.0.0 Build 550 |
| Avaya IP Office Manager on Windows PC | 10.0.0.0.0 Build 550 |
| Avaya 1616 IP Deskphones | 1.390.0A (H.323) |
| Avaya 2420 Digital Telephones | - |
| Avaya Communicator for Windows | 2.1.3.0 |
| TIM Plus running on Microsoft Windows 2012 Server | 3.0.0.108 |

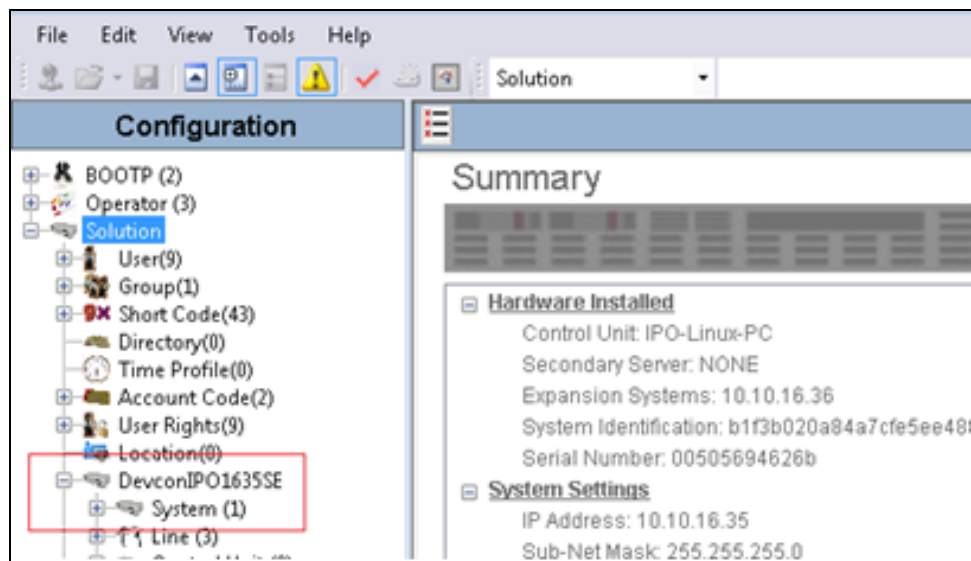
5. Avaya IP Office Configuration

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

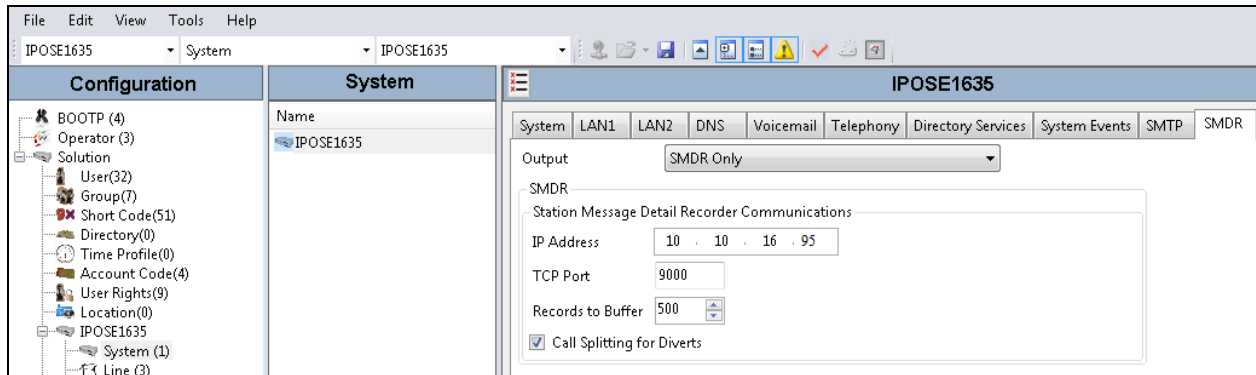
From the Avaya IP Office Manager PC, go to **Start**→**Programs**→**IP Office**→**Manager** to launch the Manager application. Log in to Avaya IP Office using the appropriate credentials to receive its configuration (Not shown). In the IP Offices window expand the Configuration Tree and double-click **System**. During compliance testing the System was called DevconIPO1635SE.



5.2. SMDR configuration

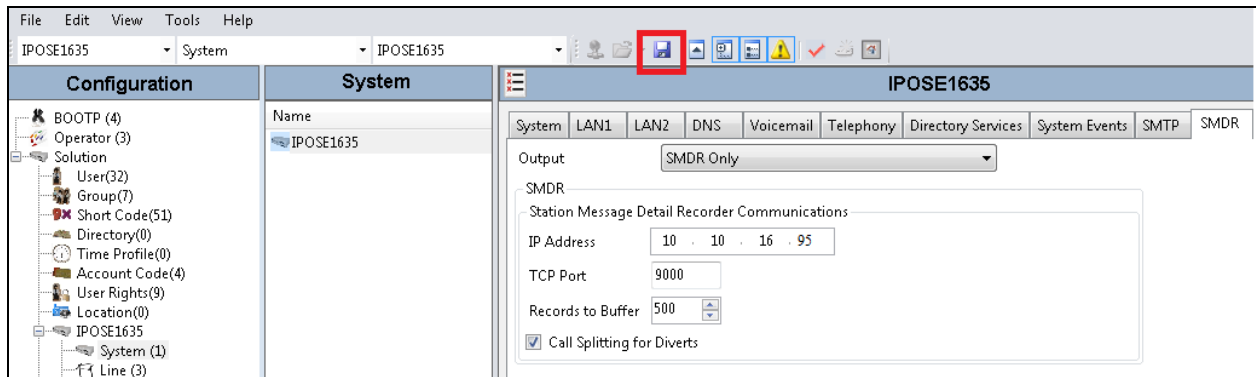
Select the **SMDR** tab and enter the following information:

- **Output** Select **SMDR Only** from the drop box
- **IP Address** Enter the IP Address of the TIM Plus Server
- **TCP Port** Enter **9000**
- **Records to buffer** Can be left as the default.
- Check the **Call Splitting for Diverts** Check box
- Click the **OK** button to save (not shown).

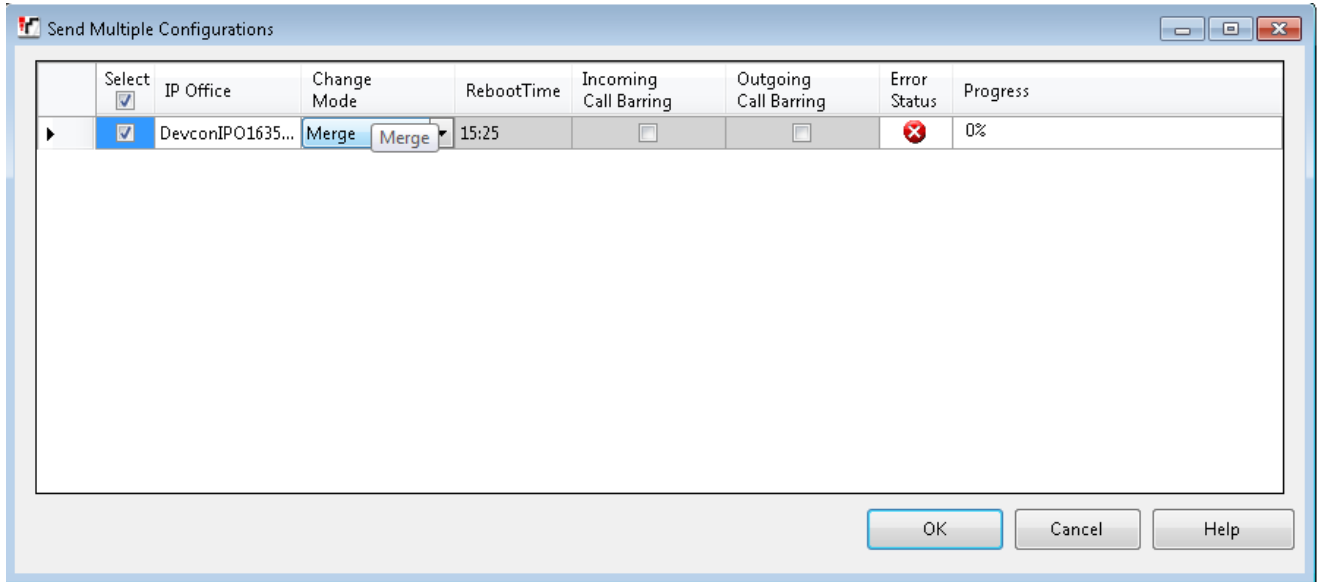


5.3. Save Configuration

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

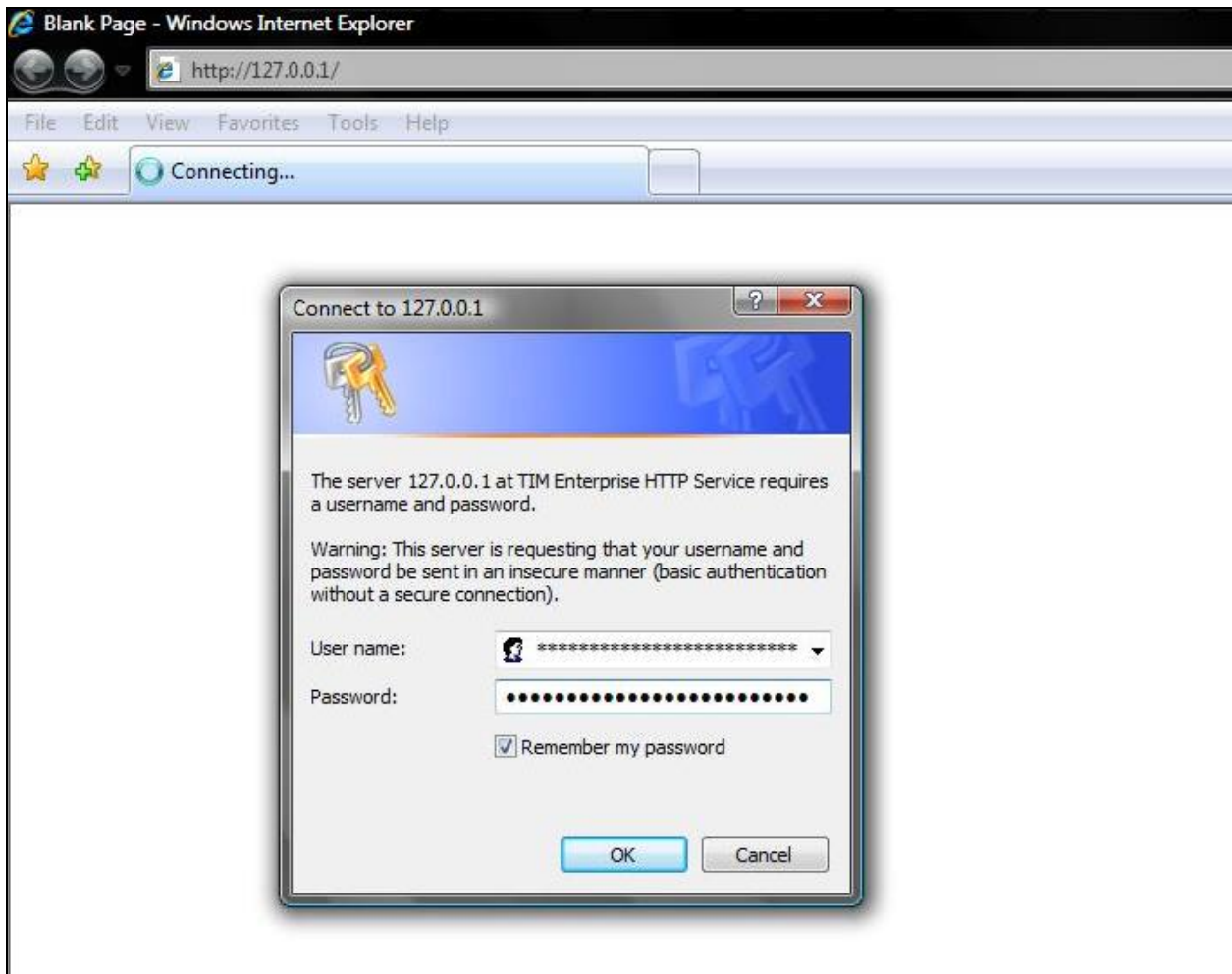


Once the **Save Configuration** Window opens, click the **OK** button.

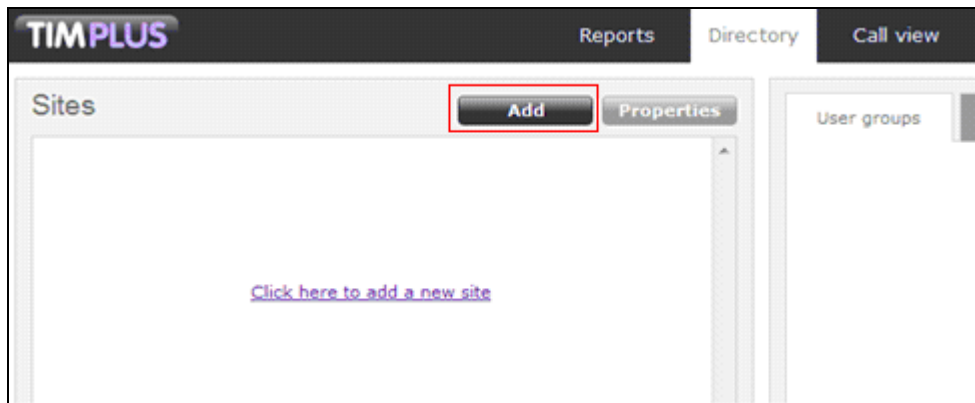


6. Configure the TIM Plus

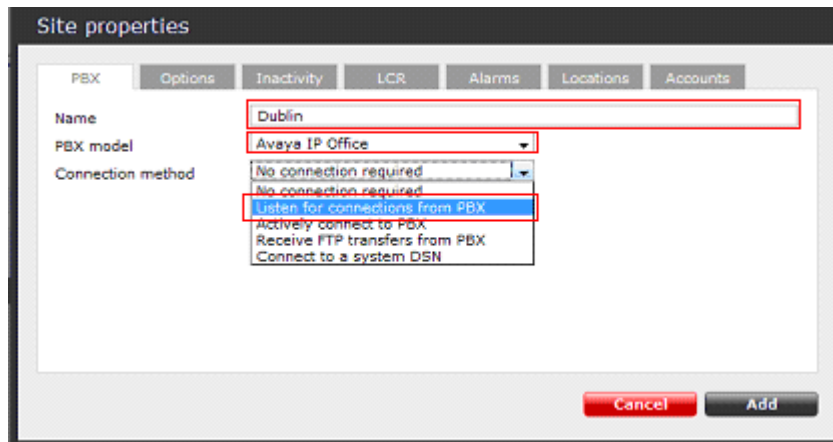
This section provides the procedures for configuring the TIM Plus to receive SMDR for various call types output by the Avaya IP Office. To access TIM Plus, open a web browser and enter the IP address of the TIM Plus server e.g. <http://x.x.x.x/> where x.x.x.x is the IP address of the machine running the TIM Plus. Enter a valid username and a password in the authentication window and select **OK**.



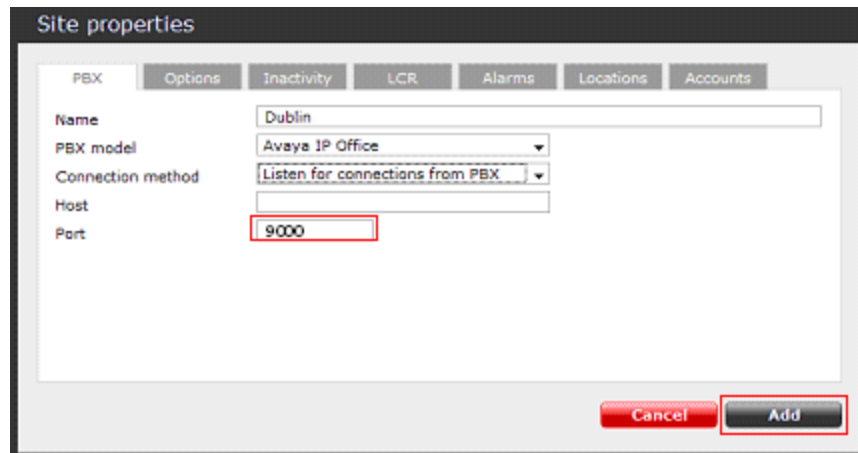
After successful login, click on the **Directory** tab in the TIM Plus menu (not shown) and Directory tab content will be displayed as shown below. On the default Directory screen, click the **Add** button to add a new site.



On the new **Site properties** window that appears, the default **PBX** tab is displayed. Enter the **Name** of the site; in this case **Dublin** was specified. From the drop down list select **Avaya IP Office** as the **PBX model** and **Listen for connections from PBX** for the **Connection method**.

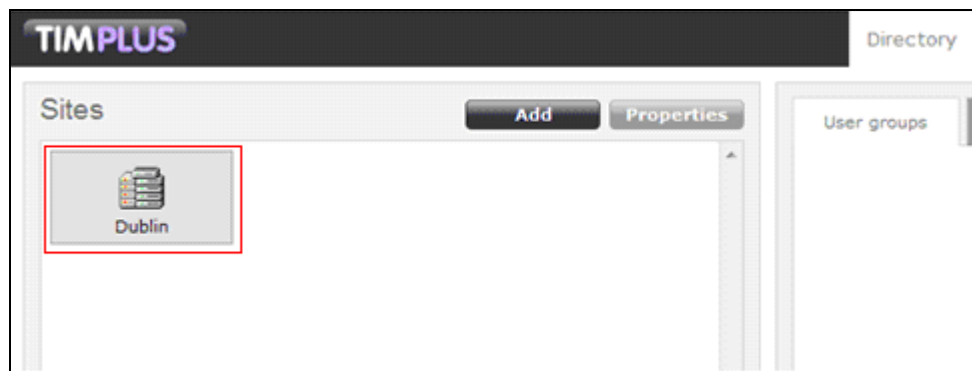


After selecting **Listen for connections from PBX** as the connection method, new parameters that need to be configured appear on the PBX tab as shown below. Configure **Port** parameter as **9000**, which is SMDR TCP port configured Avaya IP Office in **Section 5**, and press **Add**.



The screenshot shows the 'Site properties' dialog box with the 'PBX' tab selected. The 'Name' field contains 'Dublin'. The 'PBX model' dropdown is set to 'Avaya IP Office'. The 'Connection method' dropdown is set to 'Listen for connections from PBX'. The 'Port' field contains '9000'. The 'Add' button is highlighted with a red box.

Configured **Dublin** site will appear on Directory screen as shown below.



Repeat the above steps to add a new Directory for the Avaya IP Office in Site B. In this case **Port** was configured as **9001**.

7. Verification Steps

The following steps may be used to verify the configuration:

- Use the **ping** utility on the Tri-Line's TIM Plus server to verify the IP connectivity to the Avaya IP Office.
- Verify that TIM Plus receives the raw SMDR record for the call. Compare the values of data fields in the SMDR record with the expected values and verify that they match.
- Place internal, inbound trunk, outbound trunk and abandoned calls to and from various telephones. Select **Call view** tab on the TIM Plus menu and verify accuracy of the call details in the Call view. The screens shots below represent examples of the internal, inbound trunk, outbound trunk and abandoned calls respectively.

The following is an example of the Internal Call.

| | | | | | |
|------------|---------|---------|-----|--|--|
| 12:37 | 8270005 | 8270003 | 19s | | |
| 30 January | 8270005 | 8270003 | 0 | | |

The following is an example of the Inbound Call.

| | | | | | |
|------------|---------|---------|----|--|--|
| 12:42 | 711 002 | 8270005 | 3s | | |
| 30 January | | 8270005 | 2 | | |

The following is an example of the Outbound Call.

| | | | | | |
|------------|---------|-------------|------|--|--|
| 12:37 | 8270005 | Cross-site | 30s | | |
| 30 January | 8270005 | 01418230001 | 0.00 | | |

The following is an example of the Abandoned Call.

| | | | | | |
|------------|------------|--------------|----|--|--|
| 11:07 | Cross-site | H323Station3 | 4s | | |
| 30 January | 08270005 | 08350003 | | | |

8. Conclusion

These Application Notes describe the procedures for configuring the Tri-Line's TIM Plus to collect SMDR records from Avaya IP Office. The TIM Plus successfully passed all compliance testing.

9. Additional References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

[1] *IP Office R10 Doc library*

The Tri-Line TIM Plus documentation can be provided by Tri-Line on request.

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