



## **Avaya Solution & Interoperability Test Lab**

---

# **Application Notes for Avaya IP Office Release 11.0 with Tri-Line TIM Plus to Collect Call Detailed Records - Issue 1.0**

### **Abstract**

These Application Notes contain configuration steps required for Tri-Line TIM Plus to interoperate with Avaya IP Office Release 11.0.

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 TIM Plus is accounting software which provides call classification and billing information gathered from Avaya IP Office Release 11.0. TIM Plus listens for connection from Avaya IP Office for the collection of Station Message Detail Reporting (SMDR) information.

## 2. General Test Approach and Test Results

Interoperability testing contained functional tests mentioned in **Section 2.1**. 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 these DevConnect Application Notes 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.

### 2.1. Interoperability Compliance Testing

During Interoperability Compliance testing, several call routing scenarios were testing to ensure that Tri-Line TIM Plus could capture SMDR data.

SMDR data collected included:

- Local internal call handling
- Local calls between Primary and Expansion over SCN trunk
- Handling of Incoming Network calls over PRI and SIP trunks
- Handling of External Calls
- Call Forwarding on busy or No Answer
- Transfers –Blind and Supervised
- Conference Calls
- Call Park and Call Pick Up
- Mobile Twining
- Account Codes

- Serviceability

## 2.2. Test Results

The testing was successful except for the following observations which were noted:

1. Mobile Twining – This is an issue with SMDR not displaying record with U MT cause for mobile twinning scenario. This issue is being investigated by Avaya.
2. Conference Calls – This is an issue with SMDR display no duration (00:00:00) for 1 Party in Conference. This issue is being investigated by Avaya.

## 2.3. Support

Support for Tri-Line TIM Plus 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 a sample configuration that consists of Avaya IP Office 11 and Tri-Line TIM Plus server. Tri-Line TIM Plus was installed on a VMware virtual appliance for Windows Server 2012.

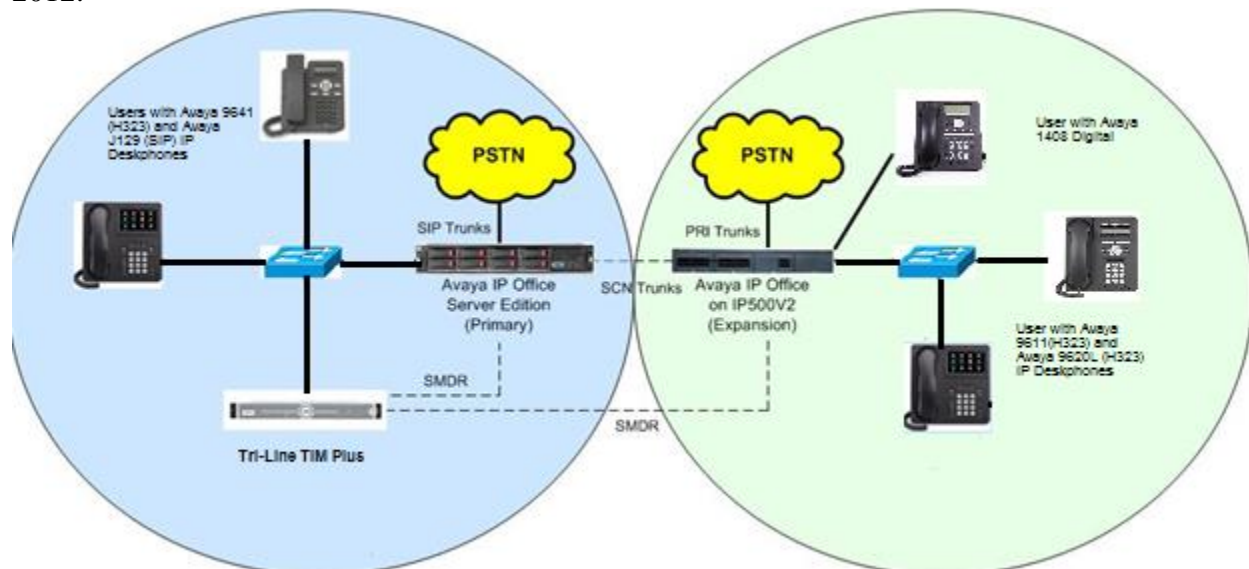


Figure 1: Test Configuration for Tri-Line TIM Plus

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500v2 Expansion System	11.0.0.0 Build 849
Avaya IP Office Manager running on a Windows 7 PC	11.0.0.0 Build 849
Avaya IP Office Server Edition on VMware	11.0.0.0 Build 849
Avaya Digital 1408	Application R48
Avaya 9641 H323	6.5.0.06 V474
Avaya 9621 H323	6.5.0.06 V474
Avaya 9611 H323	6.5.0.06 V474
Avaya 9620 H323	3.2.2
Avaya J129	R2_0_0_0_45
Tri-Line TIM Plus running on Window Server2012	3.0.0.119
Avaya Communicator for Windows	2.1.4.0

## 5. Configure of Avaya IP Office

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 IP Office for this solution. It is implied a working system is already in place with the necessary licensing. 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:

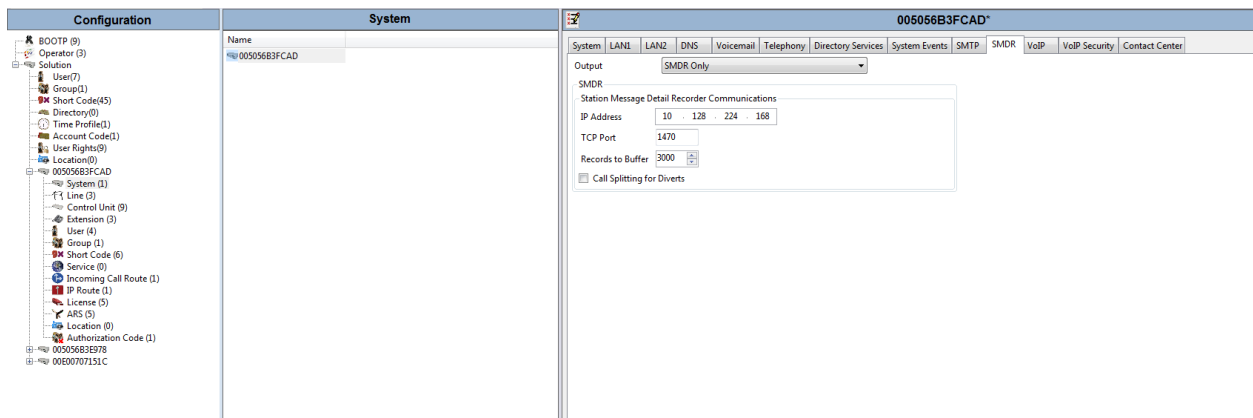
- Launch Avaya IP Office Manager (Administration)
- Configure SMDR
- Save Configuration

### 5.1. Launch Avaya IP Office Manager (Administration)

From the Avaya IP Office Manager PC, go to **Start > Program > IP Office > Manager** to launch the Manager application. Log into **Avaya IP Office** using the appropriate credentials to receive its configuration (Not Shown).

### 5.2. SMDR configuration on IPO Server Edition Primary

Select **IPO Server Edition (Primary) > System** followed by the **SMDR** tab and enters the following:



- For **Output** select **SMDR Only** from the drop box.
- **IP Address** Enter the IP Address of the TIM Plus Server.
- **TCP Port** Enter 1470.
- **Records to Buffer** Enter 3000. This is maximum available.
- Click the OK button to save (Not Shown).

### 5.3. SMDR Configuration on Avaya IP Office 500V2 (Expansion)

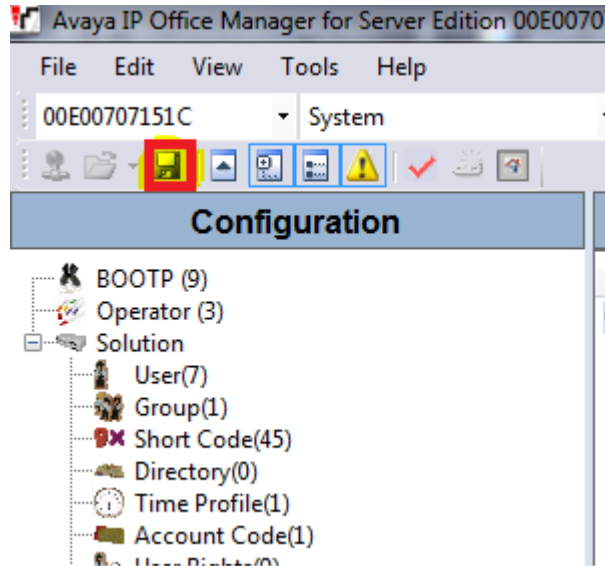
Select **IPO 500V2 (Expansion)** > System followed by the **SMDR** tab and enters the following:

The screenshot displays the Avaya IP Office configuration interface. On the left is a tree view of the configuration hierarchy, with the system '00E00707151C' selected. The main area shows the configuration for this system, with the 'SMDR' tab active. The 'Output' dropdown is set to 'SMDR Only'. The 'Station Message Detail Recorder Communications' section is expanded, showing the following settings: IP Address (10.128.224.168), TCP Port (1471), and Records to Buffer (3000). The 'Call Splitting for Diverts' checkbox is unchecked.

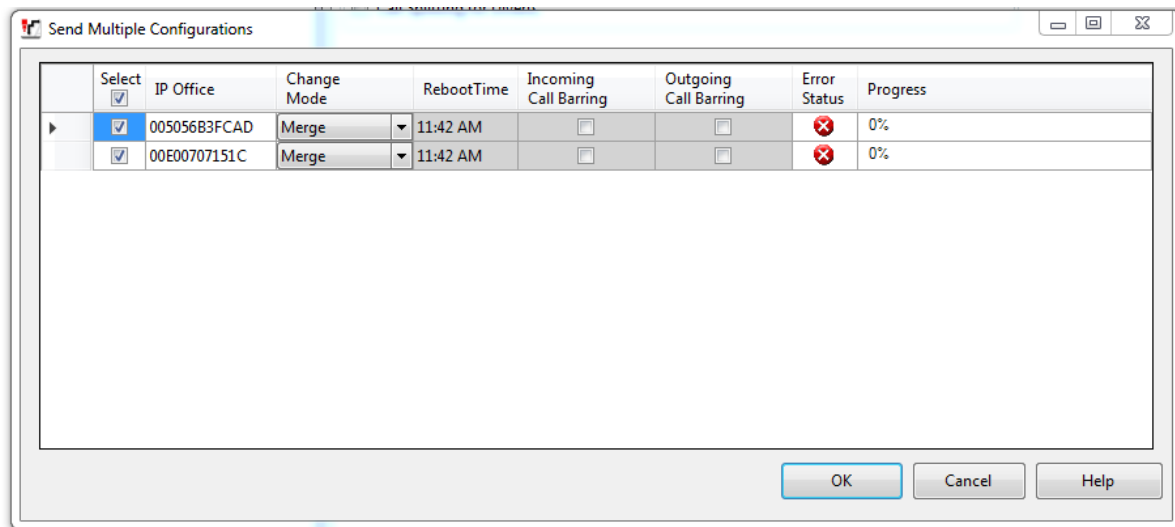
- For **Output** Select **SMDR Only** from the drop box.
- **IP Address** Enter the IP Address of the TIM Plus Server.
- **TCP Port** Enter 1471.
- **Records to buffer** Enter 3000. This is maximum available.
- Click the OK button to save (Not Shown).

## 5.4. Save Configuration

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

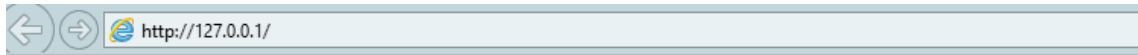


Once the Send Multiple Configurations Window opens, click the OK button:



## 6. Configure Tri-Line TIM Plus

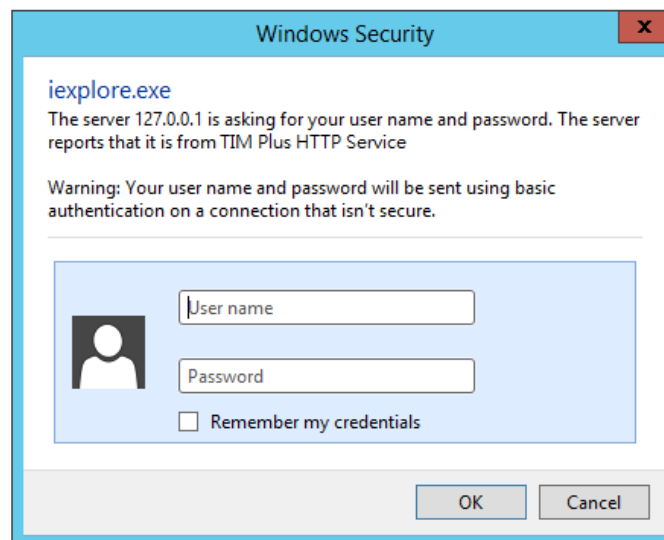
This section provides the procedures for configuring the TIM Plus to receive SMDR for various call types output by the Avaya IP Office. To access TIM Plus, open a web browser and enter the IP address of the TIM Plus server e.g. <http://x.x.x.x/> where x.x.x.x is the IP address of the machine running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



### Internet Explorer Enhanced Security Configuration is enabled

Internet Explorer Enhanced Security Configuration is currently enabled on your server. This configures a complete list of the security settings in this configuration, see [Effects of Internet Explorer Enhanced Security Configuration](#)

This enhanced level of security can prevent Web sites from displaying correctly in Internet Explorer and require you to add the Web site to the inclusion lists in the Local intranet or Trusted sites zones. For more information, see [Internet Explorer Enhanced Security Configuration](#)

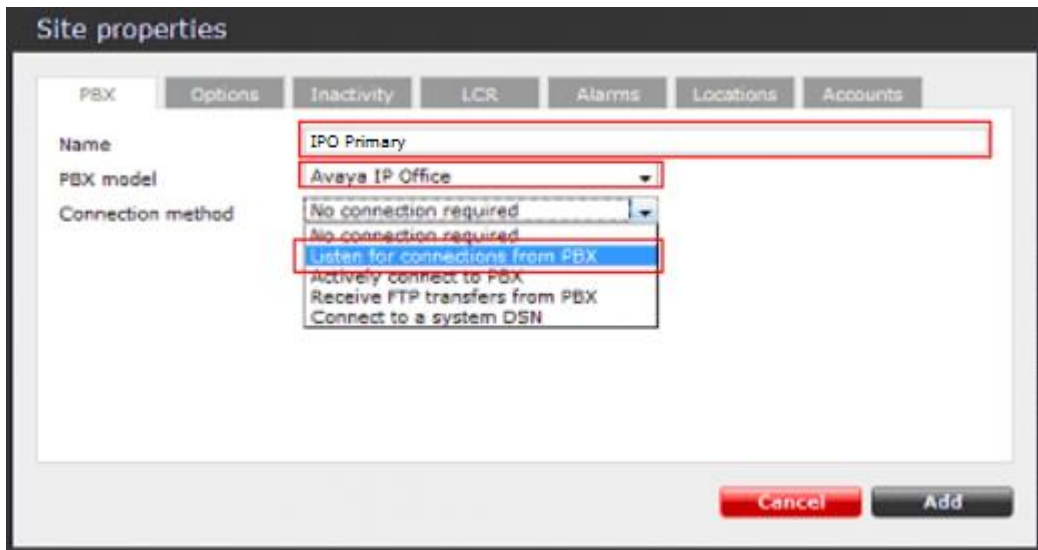




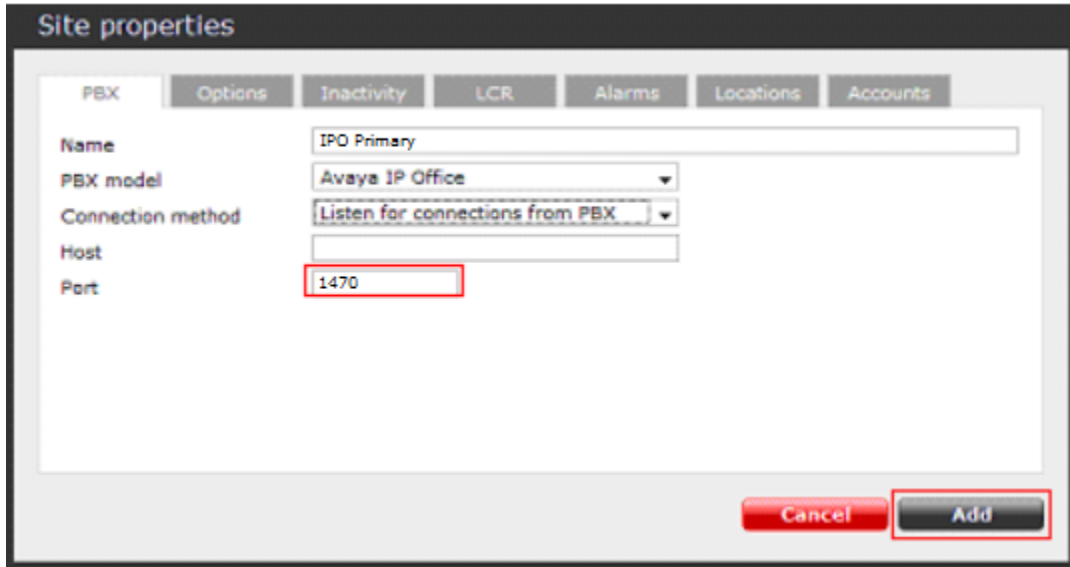
After successful login, click on the **Directory** tab in the TIM Plus menu and **Directory** tab content will be displayed as shown below. On the default Directory screen, click the **Add** button to add a new site.



On the new **Site properties** window that appears, the default **PBX** tab is displayed. Enter the **Name** of IPO Server Edition Primary as **IPO Primary**. From the drop down list select **Avaya IP Office** as the **PBX model** and **Listen for connections from PBX** for the **Connection method**.

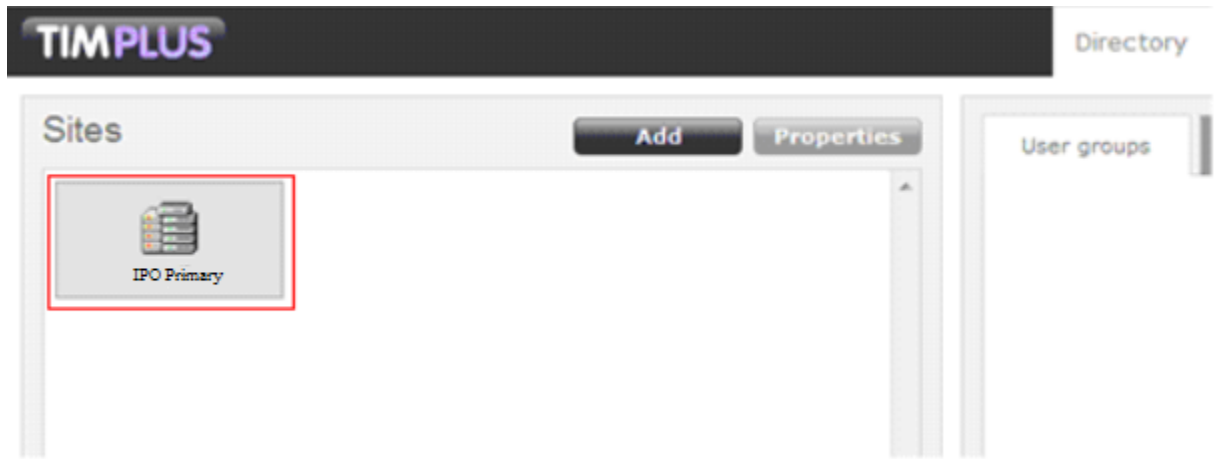


After selecting **Listen for connections from PBX** as the connection method, new parameters that need to be configured appear on the PBX tab as shown below. Configure **Port** parameter as **1470**, which is SMDR TCP port configured Avaya IP Office in **Section 5**, and press **Add**.



The screenshot shows the 'Site properties' dialog box with the 'PBX' tab selected. The 'Name' field contains 'IPO Primary'. The 'PBX model' dropdown is set to 'Avaya IP Office'. The 'Connection method' dropdown is set to 'Listen for connections from PBX'. The 'Host' field is empty. The 'Port' field is highlighted with a red box and contains the value '1470'. At the bottom right, there are 'Cancel' and 'Add' buttons.

Configured IPO Server Edition Primary will appear on Directory screen as shown below.



Repeat the above steps to add a new **Directory** for the IP Office Expansion. In this case **Port** was configured as **1471**.

## 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 Tri-Line TIM Plus is listening port 1470 and 1471 by checking information log file (C:\...\Tri-Line\TIM Plus\logs\2018\yyyy-mm-dd-information.log)

```
7/19/2018 7:42:34 PM Data source "\\ IPO Primary\ \" listening on port 1470
7/19/2018 7:42:34 PM Data source "\\ IPO Expansion \" listening on port 1471
7/19/2018 7:42:34 PM Network beacon started successfully
```

- Make incoming, outgoing and abandoned calls. Select **Call view** tab on the **TIM Plus** menu and verify the accuracy of the call details in the **Call view**.

15:32 25 July	Ext56021 56021	VM Channel 0 56021	0s
15:28 25 July	Ext55001 55001	Ext56021 56021	4m 34s 1
15:27 25 July	Ext55001 55001	Ext56021 56021	4m 34s 1
15:27 25 July	Ext55001 55001	Ext56021 56021	0s
15:26 25 July	Ext55001 55001	Ext56021 56021	0s
19:29 23 July	Ext56002 56002	Service Charge Call 0904579110	5s 0.00

- Compare the values in Call info with the expected values and verify that they match

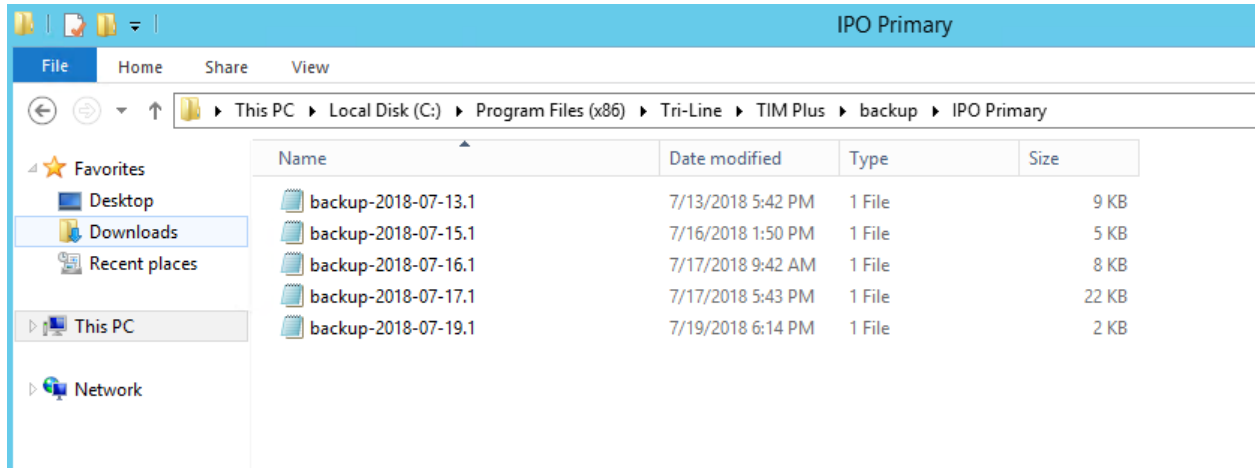
17:14 26 July	Ext56021 56021	Ext56001	
17:11 26 July	Ext56021 56021		
17:11 26 July	Ext56021 56021		
17:10 26 July	Ext56021 56021		
17:10 26 July	Ext56001 56001		
17:10 26 July	Ext56021 56021		
17:10 26 July	Ext56021 56021		

Audio
Notes
Scoring
Related
Call info
✕

Date & time	2018-07-26 17:11:22	LCR digits	
Call type	Internal	Data source	\\
Source	Ext56021	Flags	0
Destination	Ext55001	Account code	n/a
Response	4 seconds	Voice location	
Duration	00:00:21	Voice file name	
Dialled number	55001		
Carrier	IPO Host		
Charge band			
Cost	0		

00.00 / 00.00
🔊
Format .wav Save

- Check again Call details with SMDR log backup at C:\...\Tri-Line\TIM Plus\backup\



## 8. Conclusion

These Application Notes describe the procedures for configuring Tri-line TIM Plus with Avaya IP Office Server Edition. Testing was successful with observations outlined in **Section 2.2**.

## 9. Additional References

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

- i. *Deploying IP Office Essential Edition (IP500 V2) IP Office™ Platform 11.0, Issue 33g, May 22, 2018*
- ii. *Deploying Avaya IP Office™ Server Edition Solution (English), Release 11, May 2018.*
- iii. *Administering Avaya IP Office with Manager (English), Release 11, May 2018.*
- iv. *Administering Avaya IP Office with Web Manager (English), Release 11, May 2018.*

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

---

**©2018 Avaya Inc. All Rights Reserved.**

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at [devconnect@avaya.com](mailto:devconnect@avaya.com).