



Avaya Solution & Interoperability Test Lab

Application Notes for Eastcom Telephone Call Accounting & Audit Package 8.21 with Avaya IP Office Server Edition 9.1 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Eastcom Systems Telephone Call Accounting & Audit Package (TelCAAP) to interoperate with Avaya IP Office Server Edition.

TelCAAP is an enterprise software solution that provides customers with detailed analysis of IP Office communication usage. TelCAAP used Station Message Details Recording (SMDR) from Avaya IP Office Server Edition to collection of call detail records (CDR).

Readers should pay attention to **Section** Error! Reference source not found., in particular the scope of testing as outlined in **Section** Error! Reference source not found. as well as any observations noted in **Section** Error! Reference source not found., 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 interoperability compliance testing is to verify that Eastcom Systems Telephone Call Accounting & Audit Package 8.21 (TelCAAP) can interoperate with Avaya IP Office Server Edition 9.1.

TelCAAP is a reporting solution that uses Station Message Details Recording from Avaya IP Office to collect call detail records (CDR) and produces detailed reports.

Avaya IP Office Server Edition 9.1 (IPO) solution consists of a primary Linux server and a IP500 V2 expansion. Both systems are linked by IP Office Lines - Small Network Community (SCN) that can enable voice networking across these lines to form a multi-site network. Each system in the solution automatically learns each other's extension numbers and user names. This allows calls between systems and support for a range of internal call features.

2. General Test Approach and Test Results

The general test approach was to manually place intra-switch calls, inter-switch SCN trunk calls, inbound and outbound SIP PSTN trunk calls to and from telephones on Avaya IP Office Server Edition systems, to verify proper parsing and displaying of received SMDR data by TelCAAP.

The serviceability test cases were performed manually by simulated disconnecting and reconnecting the Ethernet connection to TelCAAP. The test results and observations are listed in **Section 2.2**.

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.

For feature testing focused on verifying the proper parsing and displaying of SMDR data by TelCAAP for call scenarios including internal, voicemail, inbound PSTN, outbound PSTN, hold, reconnect, transfer, conference, park, forward and account codes.

The serviceability testing focused on verifying the ability of TelCAAP to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to or reboot TelCAAP. During compliance test, Grabber application was turned off and on to simulate the loss of network connection on TelCAAP.

2.2. Test Results

All test cases described in **Section 2.1** are completed and passed with the following observations.

IPO introduced changes in the SMDR logger related to SCN. Four fields 31, 32, 33, and 34 in the SMDR log identify calls made through the SCN trunks, but the current version of TelCAAP does not use these 4 fields to associate calls made through the IP Office Line. Therefore, TelCAAP generates report on calls across a SCN by reporting on each SCN node individually. For example consider the case of an outbound call to PSTN initiated from a user in the primary Linux server going through the SCN trunk and exiting through the PRI trunk in the IP500 V2 expansion to PSTN. This is one outbound call but TelCAAP reports it as two outbound calls: one call record in the primary Linux server and another call record in the IP500 V2 expansion.

2.3. Support

Technical support for TelCAAP can be obtained by contacting Eastcom as follow:

- Telephone: +65 63232822
- Email: support@eastcom-systems.com
- Web: <http://www.eastcom-systems.com/support.html>

3. Reference Configuration

Figure 1 illustrates the setup used to verify the TelCAAP with IPO. One TelCAAP server is installed and deployed on a Windows Server 2012 R2 Standard running on VMware machine. IPO consists of a primary Linux Server Edition and IP500 V2 expansion and this 2 system is connected via SCN. Simulated PSTN was connected to IP500 V2 expansion via ISDN/T1 trunk. Avaya IP deskphones, digital and analogue phones were used to register to both the primary server and the IP500 V2 expansion to make calls between these systems..

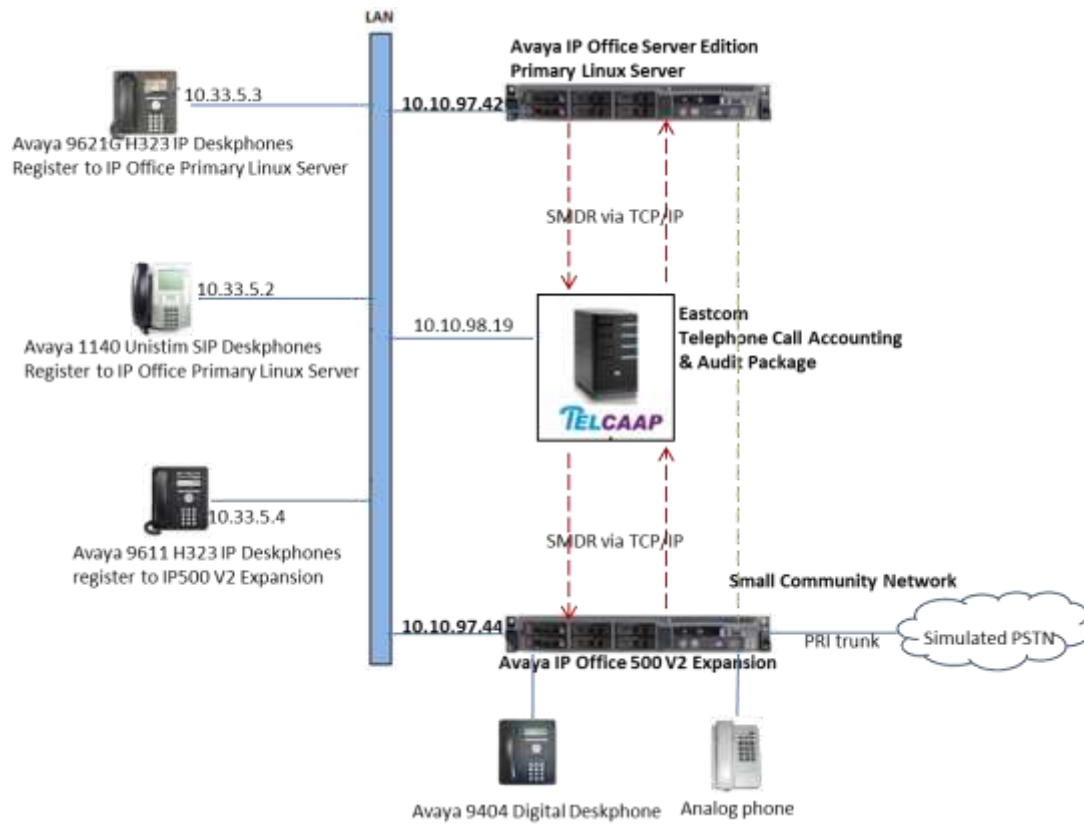


Figure 1: Test configuration for TelCAAP Solution

4. Equipment and Software Validated

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

Equipment	Software
Avaya S8800 Server IP Office Server Edition Primary Linux Server	9.1
IP500 V2 IP Office Expansion	9.1
Avaya 9600 Series IP Telephones <ul style="list-style-type: none">• 9621• 9611	6.4 (H.323) 6.4 (H.323)
Avaya 1140 Unistim IP SIP Deskphone - 1616	4.4.18 (SIP)
Avaya 9404 Digital Telephone	R2 SP2
TelCAAP	8.21

Note: Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

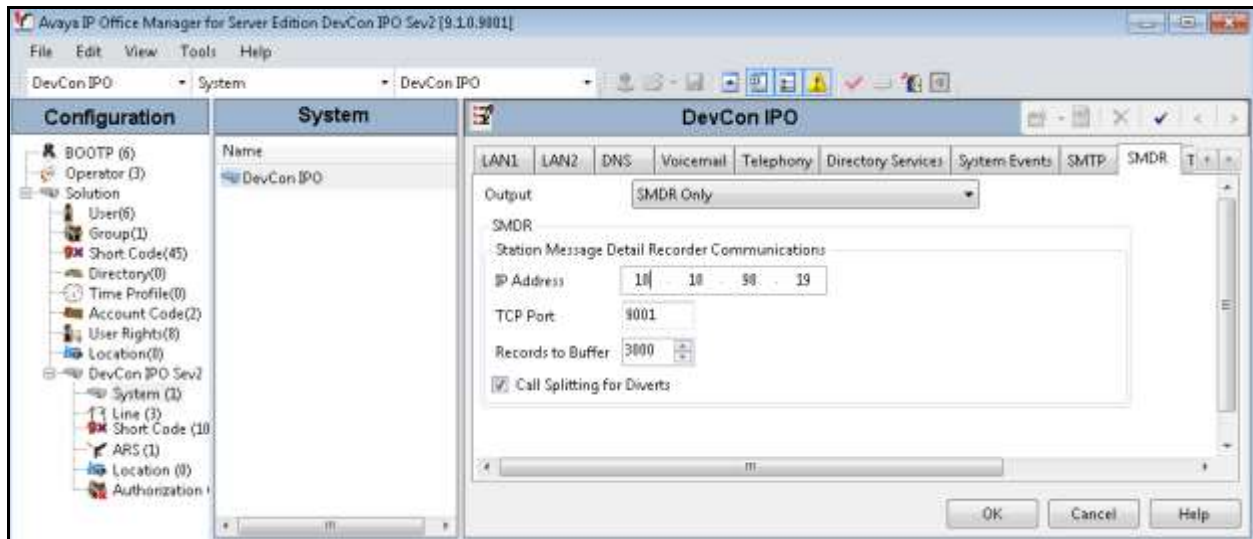
5. Configure Avaya IP Office Server Edition

This section provides the procedures for configuring SMDR in IPO. These steps describe the procedure used for the primary Linux server. All steps are the same for the IP500 V2 expansion is configured to generate and send the CDR records to TelCAAP server over TCP/IP connection.

In IPO Manager, select **System** click on **SMDR** tab, enter the following information:

- **Output:** select *SMDR Only* option from the drop down list.
- **IP Address:** enter IP address that will be received CDR record, in this case, TelCAAP IP address, *10.10.98.19*.
- **TCP Port:** enter an un-used port on TelCAAP to receive CDR record, example *9001*.
- **Records to Buffer:** use default value, example *3000*.
- **Call Splitting for Diverts:** make sure this checkbox is **checked**.

Click **OK** to save changes.



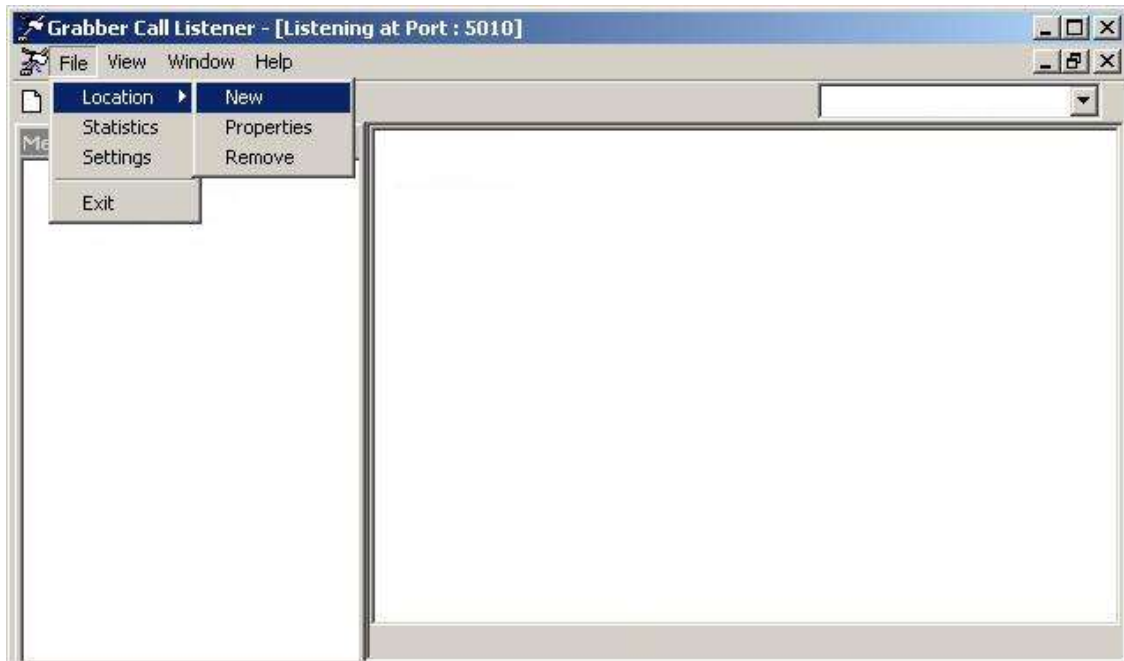
Perform same step on IP500 V2 Expansion. Use the same parameter except **TCP Port** is **9002**.



6. Configure Eastcom Telephone Call Accounting & Audit Package

This section describes step on how to configure TelCAAP to received SDR from IPO.

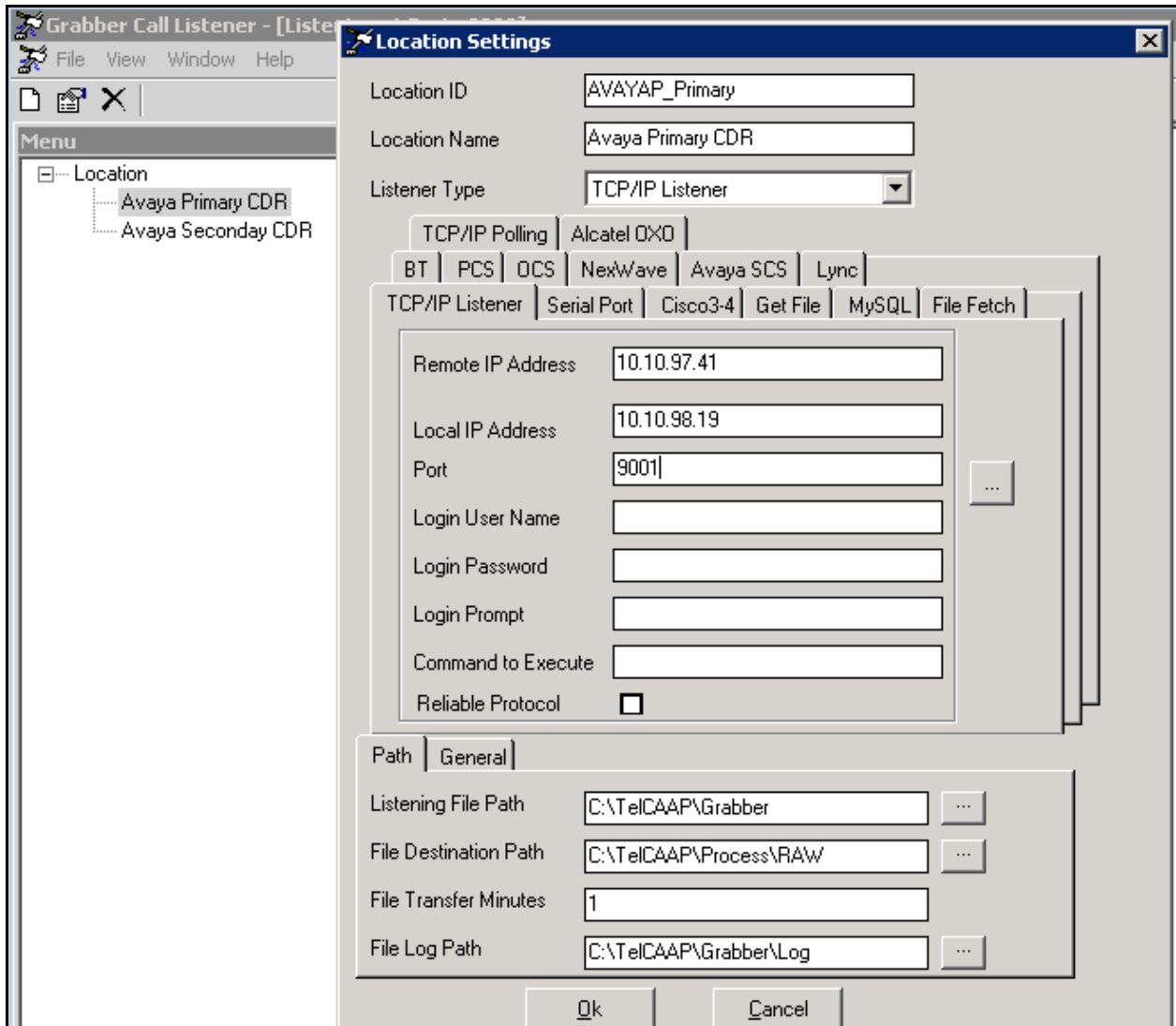
From the TelCAAP server, click **Start** → **Run** and launch the TelCAAP Grabber Listener application **Grabber.exe** located in the folder **C:\TelCAAP\Grabber** (not shown). Select **File** → **Location** → **New** to define the settings for a new IPO.



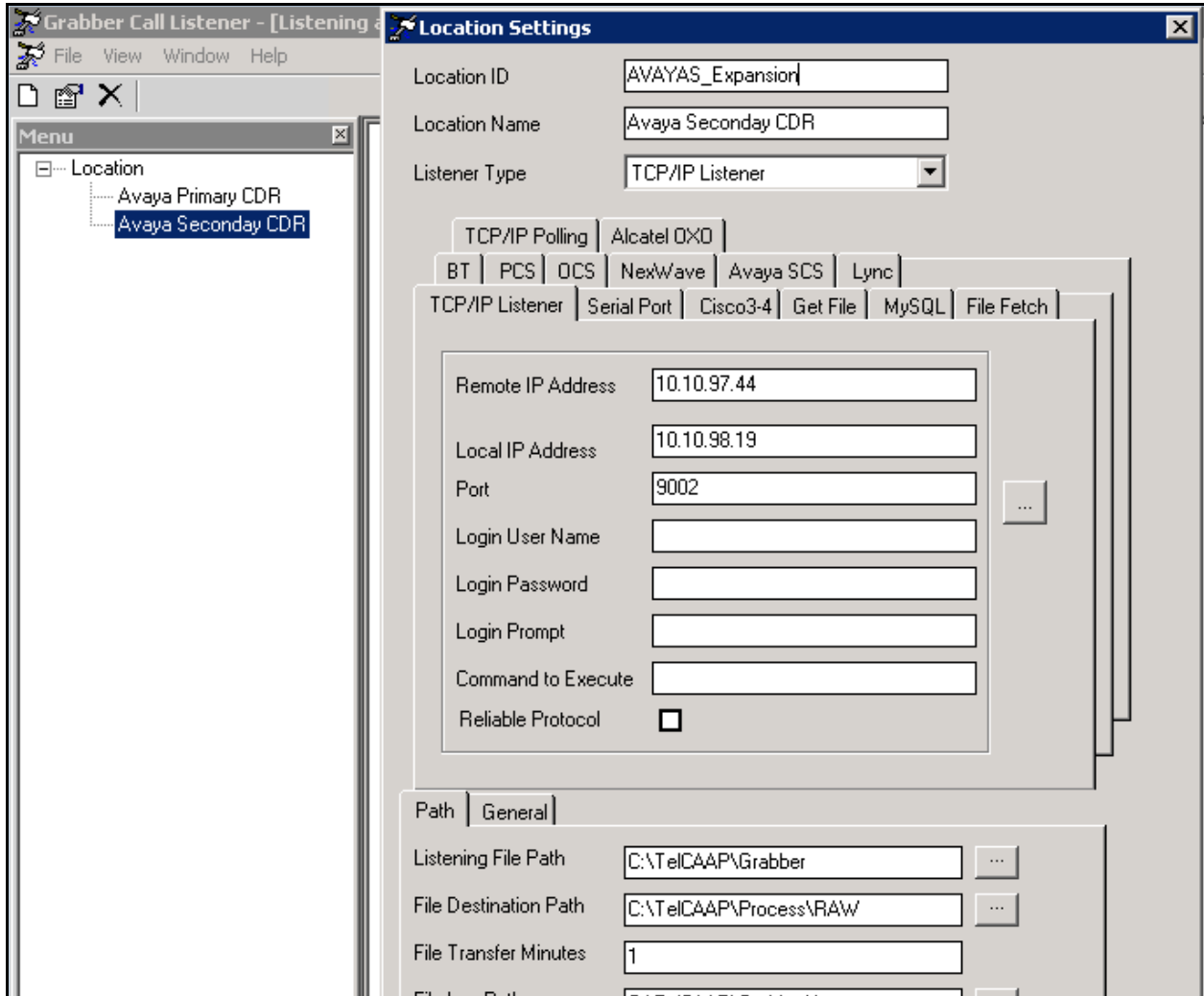
In the **Location Setting**, select **TCP/IP Listener tab**, enter the following information:

- **Location ID:** Enter any descriptive name, example *AVAYA_Primary*.
- **Location Name:** Enter any descriptive name, example *Avaya Primary CDR*.
- **Listener Type:** Select *TCP/IP Listener* from the dropdown list.
- **Remote IP Address:** Enter IP address of IPO Primary Server, example *10.10.97.41*.
- **Local IP Address:** Enter IP address of TelCAAP Server, example *10.10.98.19*.
- **Port:** Enter port configured in Primary Server in Section 5, *9001*.

Use default value for other fields. Click **OK** to save changes.



Perform same step on IP500 V2 expansion. Use the same parameter except **TCP Port** is **9002** as shown below:



7. Verification Steps

The following steps may be used to verify the proper setup on TelCAAP to IPO:

- Use the **ping** utility on the TelCAAP server to verify the IP connectivity between IPO and TelCAAP .
- Use **IP Office SysMonitor** to verify that CDR is send to TelCAAP for each call made. Example: The highlight record below show that the user of extension **26102** makes outbound PSTN call to **55145**.

```

Avaya IP Office SysMonitor - Monitoring 106.10.97.44 (DevCen IPDS Exp (Server Edition[E])): Log Settings - C:\Users\... \sysmonitorsettings.xml
File Edit View Filters Status Help
696152419ad CDR: SEND OUTPUT '2015/03/19 16:53:09,00:00:12,0,26103,E,26604,26604,,1,1000313,0,E26103,Extcn 26103,T9508,VM Channel 0,0,0,0,n/a,,,,,,,,,,,,,10.97.44,1917,10.97.44,3182
696152419ad CDR: Trying TCP to send data to 10.96.19 on port: 9002
*****
SysMonitor v9.1.1.0 build 437 [connected to 10.97.44 (DevCen IPDS Exp (Server Edition[E]))] *****
696760756ad CDR: SEND OUTPUT '2015/03/19 17:03:32,00:00:02,2,26103,E,Agent 26602,Agent 26602,0,1000314,0,E26103,Extcn 26103,T9508,VM Channel 0,0,0,0,n/a,,,,,,,,,,,,,10.97.44,1920,10.10
696760756ad CDR: Trying TCP to send data to 10.96.19 on port: 9002
696797322ad CDR: SEND OUTPUT '2015/03/19 17:03:43,00:00:28,2,26103,D,55145@vmslab.com,55145@vmslab.com,,0,1000315,0,E26103,Extcn 26103,T9009,Line 9,1,0,0,n/a,,,,,,,,,,,,,10.97.44,1923,13
  
```

- For an outbound PSTN call that made in above bullet, verify that TelCAAP display a correct retry in the report.. Using a web browser to login to TelCAAP web page by entering TelCAAP’s IP address and enter appropriated login credential (not shown). TelCAAP report is displayed. Verify that there is a reported entry matching to the SMDR data captured in IPO SysMonitor for the outbound call.

Date	Time	Extn From	Called / Calling Number	Area / Country	Duration (HH:MM:SS)	Charges
Extn #: 26002 User Name :						
Intercom						
06/03/2015	17:05		26603		00:00:47	0.000
06/03/2015	17:06		26603		00:00:22	0.000
06/03/2015	17:20		26603		00:00:32	0.000
06/03/2015	18:12		26603		00:00:21	0.000
06/03/2015	18:17		26603		00:00:15	0.000
06/03/2015	18:17		26603		00:00:12	0.000
06/03/2015	18:19		26604		00:00:28	0.000
Sub TotalIntercom					00:02:57	0.000
Sub Total for Extn #: 26002 - User Name :					00:02:57	0.000

- Place internal, inbound trunk, and outbound trunk calls to and from various telephones, generate an appropriate report in TelCAAP and verify the report’s accuracy.

8. Conclusion

These Application Notes describe the procedures for configuring Eastcom Systems Telephone Call Accounting & Audit Package (TelCAAP) to collect call detail records from Avaya IP Office

Server Edition Release 9.1(all configurations) TelCAAP successfully passed the compliance testing.

9. Additional References

This section references the Avaya documentation that is relevant to these Application Notes.

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

1. *Administering Avaya IP Office™ Platform with Manager Release 9.1.0 Issue 10.04 February 2015*
2. *Centralized SMDR logger.docx*
3. *Administering Avaya IP Office™ Platform with Web Manager Release 9.1.2 Issue 02.05 February 2015*

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