Avaya Solution & Interoperability Test Lab

Application Notes for Metropolis OfficeWatch XT with Avaya IP Office Server Edition – Issue 1.0

Abstract

These Application Notes describe the steps required to integrate the Metropolis OfficeWatch XT Call Accounting System with Avaya IP Office Server Edition 9.1. Metropolis OfficeWatch XT (OfficeWatch) Call Accounting System captures call records from Avaya IP Office using a Station Message Detail Recording (SMDR) link. In turn, OfficeWatch processes the call records and generates detailed reports.

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

These Application Notes describe the steps required to integrate the Metropolis OfficeWatch Call Accounting System with Avaya IP Office Server Edition 9.1. Metropolis OfficeWatch Call Accounting System captures call records from Avaya IP Office using a Station Message Detail Recording (SMDR) link. In turn, OfficeWatch processes the call records and generates detailed reports.

Avaya IP Office Server Edition solution consists of a primary Linux Server Edition and a 500V2 expansion. Both systems are linked by IP Office Line IP trunks that can enable voice networking across these trunks 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

This section describes the compliance testing used to verify interoperability of Metropolis OfficeWatch Call Accounting System with Avaya IP Office Server Edition 9.1. This section covers the general test approach and the test results. The testing covered feature and serviceability test cases. The feature testing covered the ability of OfficeWatch to capture and process call records.

The call records captured and displayed by OfficeWatch were compared for accuracy to the call records displayed by Avaya IP Office Monitor. Call records for various call types were generated, including internal calls, inbound and outbound trunk calls, PSTN calls, transferred calls, and conference calls.

The serviceability testing focused on the ability of OfficeWatch to recover from adverse conditions such as loss of network connectivity. It was also verified that call records that were generated while OfficeWatch was disconnected from the network were not lost.

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

Interoperability compliance testing covered the following features and functionality:

- Sending call records from IP Office (Server and Expansion) to OfficeWatch for various call types, including internal calls, inbound and outbound trunks, including PSTN calls, transferred calls, and conference calls
- Call records were captured and displayed on OfficeWatch
- Call records were processed by OfficeWatch, which generated detailed reports
- Proper system recovery after loss of network connectivity and power loss

2.2. Test Results

All test cases were executed and verified with an observation as explained below:

IP Office release 9.1 introduced changes in the SMDR logger related to IP Office Small Community Network (SCN). Four fields 31, 32, 33, and 34 in the SMDR log identify calls made through the IP Office Line IP trunks in SCN solution. Therefore, OfficeWatch generates report on calls across a SCN solution by reporting on each SCN node individually. As IP Office delivers individual SMDR for each leg of the call, OfficeWatch reports it as two individual calls: one call record in the IPO Server Edition Linux server and another call record in the 500V2 expansion.
As an example consider the case of an outbound PSTN call initiated from a user in the IPO Server Edition Linux server going through the IP Office Line and exiting through the PRI trunk in the IPO 500V2 expansion to PSTN. This is one outbound external call. During compliance testing, OfficeWatch reports it as two outbound external calls due to the reason as explained above.

2.3. Support

For technical support on Metropolis OfficeWatch Call Accounting System, contact Metropolis Customer Service by phone, through their website, or email.

Phone: (954) 414-2900 x32
Web: http://www.metropolis.com/support.html
Email: support2016@metropolis.com

3. Reference Configuration

Figure 1 illustrates the setup used to verify the OfficeWatch solution with Avaya IP Office Server Edition solution. OfficeWatch application is installed and deployed on a Windows Server 2012 R2 Standard running on Virtual Environment. Avaya IP Office Server Edition solution consists of a primary Linux Server Edition and a 500V2 expansion. Simulated PSTN was connected to Avaya IP Office 500V2 expansion via ISDN/T1 trunk and another one was connected to the primary Linux Server Edition via SIP trunk.

Avaya IP Office also consisted of Avaya IP (H323 and SIP) and Digital Telephones. OfficeWatch connects via the LAN and establishes a SMDR link to IP Office.

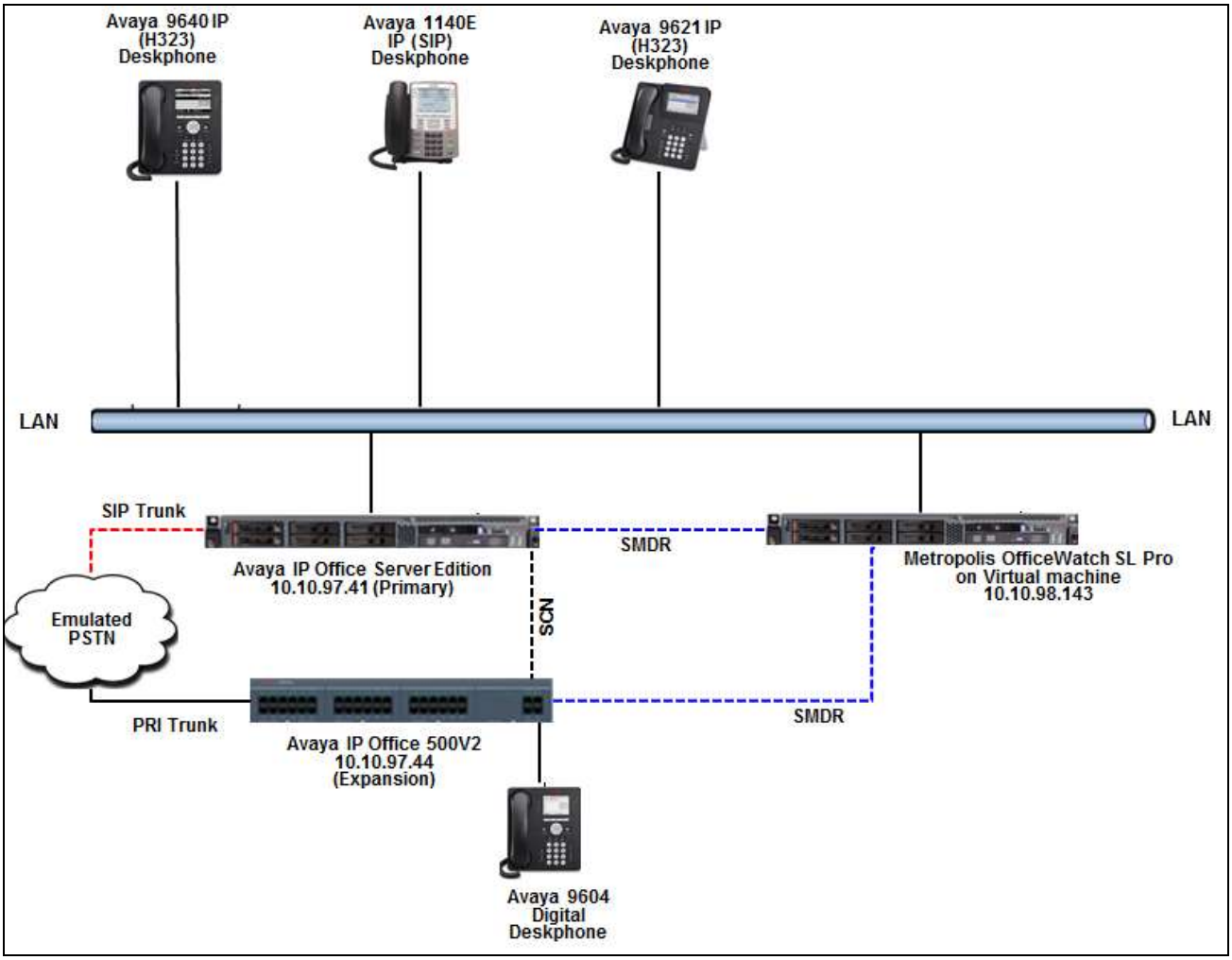


Figure 1: Metropolis OfficeWatch Call Accounting System with Avaya IP Office

4. Equipment and Software Validated

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

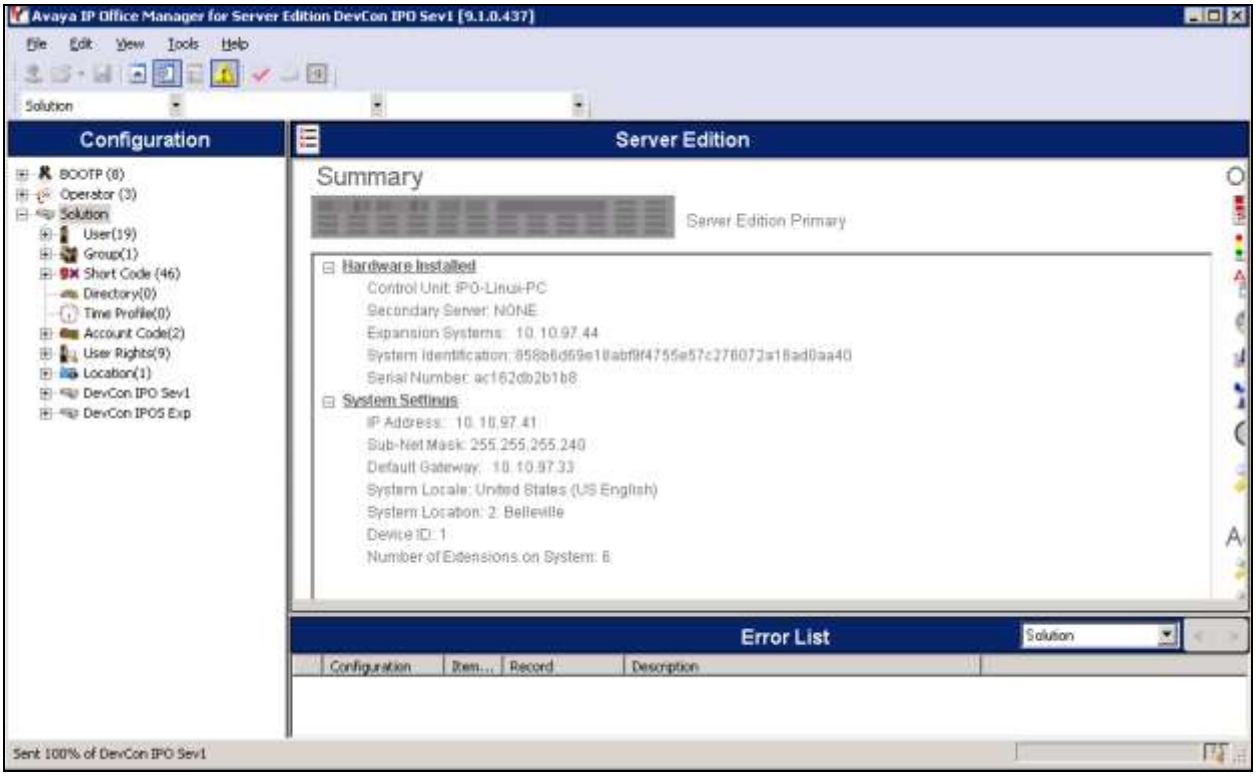
Equipment	Release/Version
Avaya IP Office Server Edition running on HP ProLiant DL360 G7	9.1.500.145
Avaya IP Office 500V2 Expansion	9.1.500.145
Avaya Telephones: • 9640 IP (H323) Deskphone • 1140 IP (SIP) Deskphone • 9621 IP (H323) Deskphone • 9508 Digital Deskphone	 6.4014 4.04.18 6.6029 0.55
Metropolis OfficeWatch XT running on Windows Server 2012 R2 Standard running on Virtual Environment	2015.12.22a

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

The document assumes that Avaya IP Office Server Edition has been installed and configured to work with a 500V2 expansion. This section only describes the details on how to configure the IP Office Server Edition solution to work with OfficeWatch application.

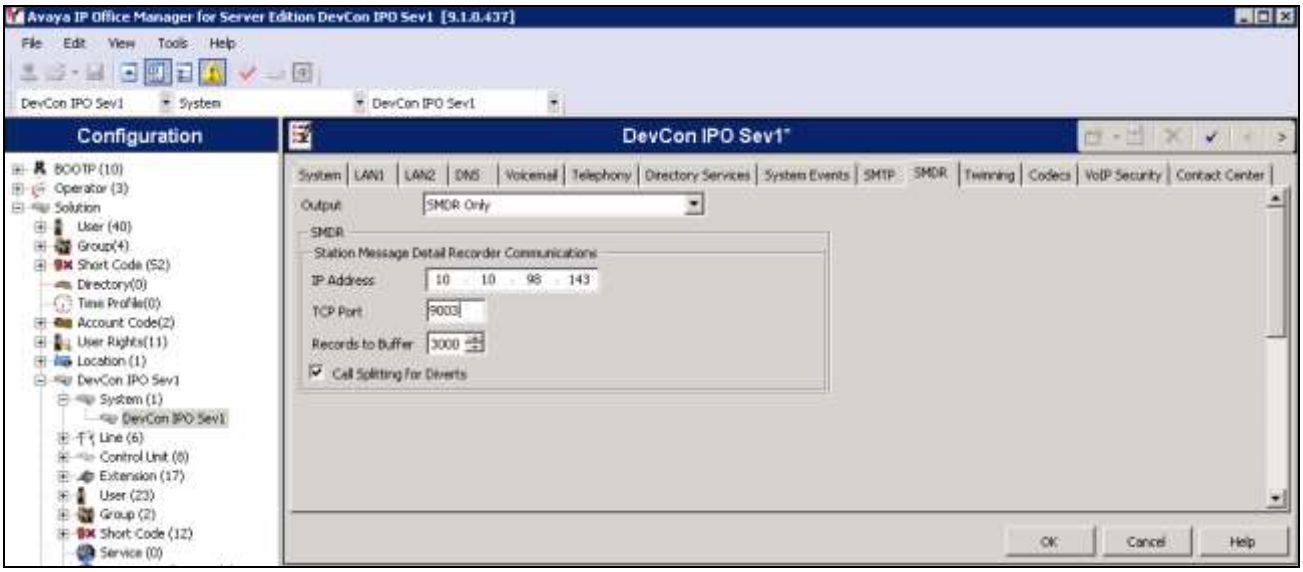
From a PC running the IP Office Manager application, select **Start → Programs →IP Office → Manager** to launch the Manager application. Select the proper IP Office system, and log in using the appropriate credentials. The Avaya IP Office Manager for Server Edition screen is displayed as shown below.



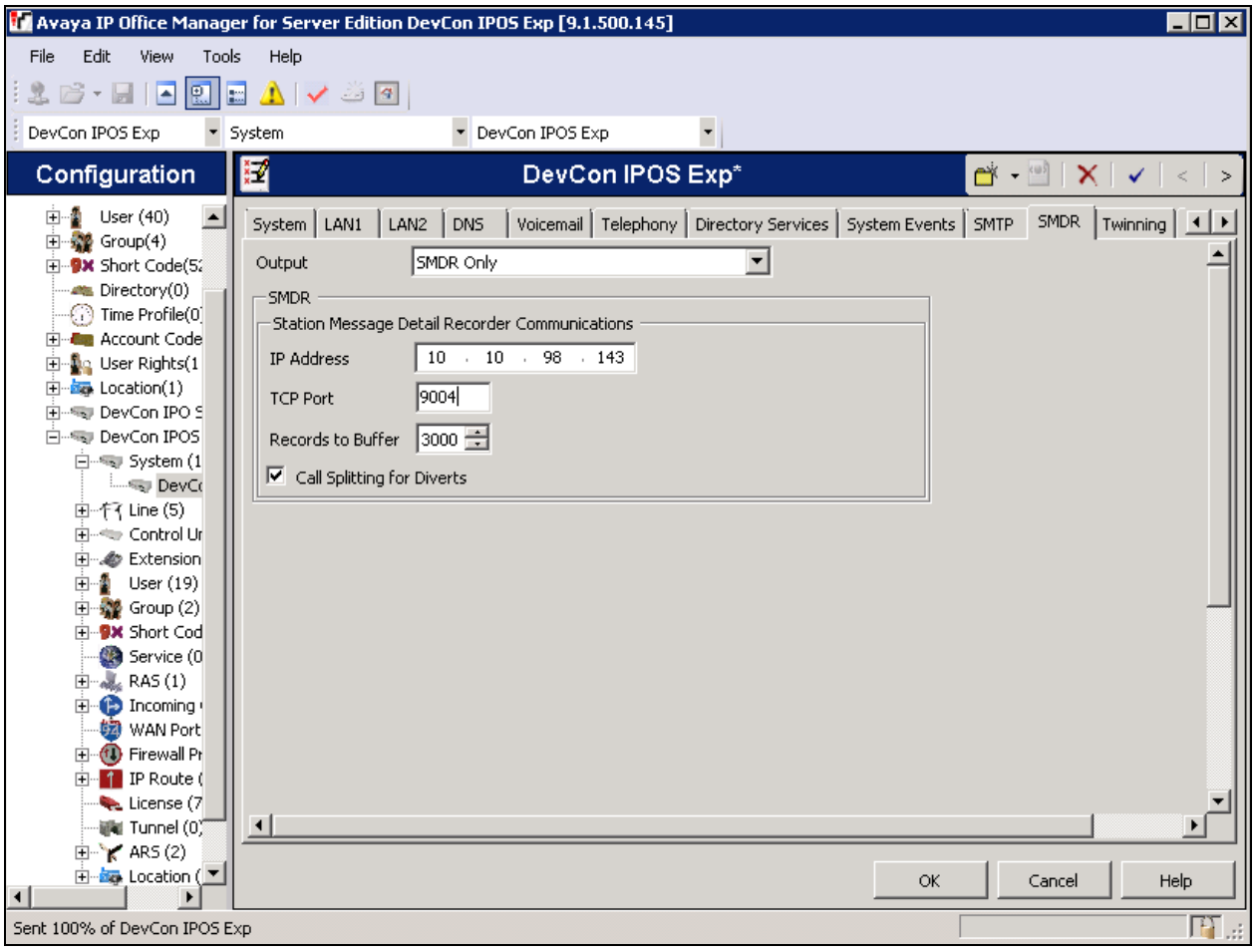
From the configuration tree in the left pane, navigate to **DevCon IPOS Sev1 → System (1) → DevCon IPOS Sev1** to display the Server Edition screen in the right pane. Select the **SMDR** tab. Select "SMDR Only" from the **Output** drop-down list, to display the SMDR sub-section.

For IP Address, enter the IP address 10.10.98.143 of OfficeWatch. For TCP Port, enter a desired port, in this case "9003". Make a note of the port number, to be used later for configuring OfficeWatch.

Modify Records to Buffer to the desired value, and check **Call Splitting for Diverts**. The record buffer is used by IP Office to cache SMDR records in case of communication failure with OfficeWatch. Click **OK** button to save the configuration.



Navigate to **DevCon IPOS Exp → System** (1)→ **DevCon IPOS Exp** to display the 500V2 expansion in the right pane. Select the **SMDR** tab. Use the same information above to configure SDMR in the 500V2 expansion, except for the TCP port, in the **TCP Port** field enter the port "9004". Click **OK** button to save the configuration.



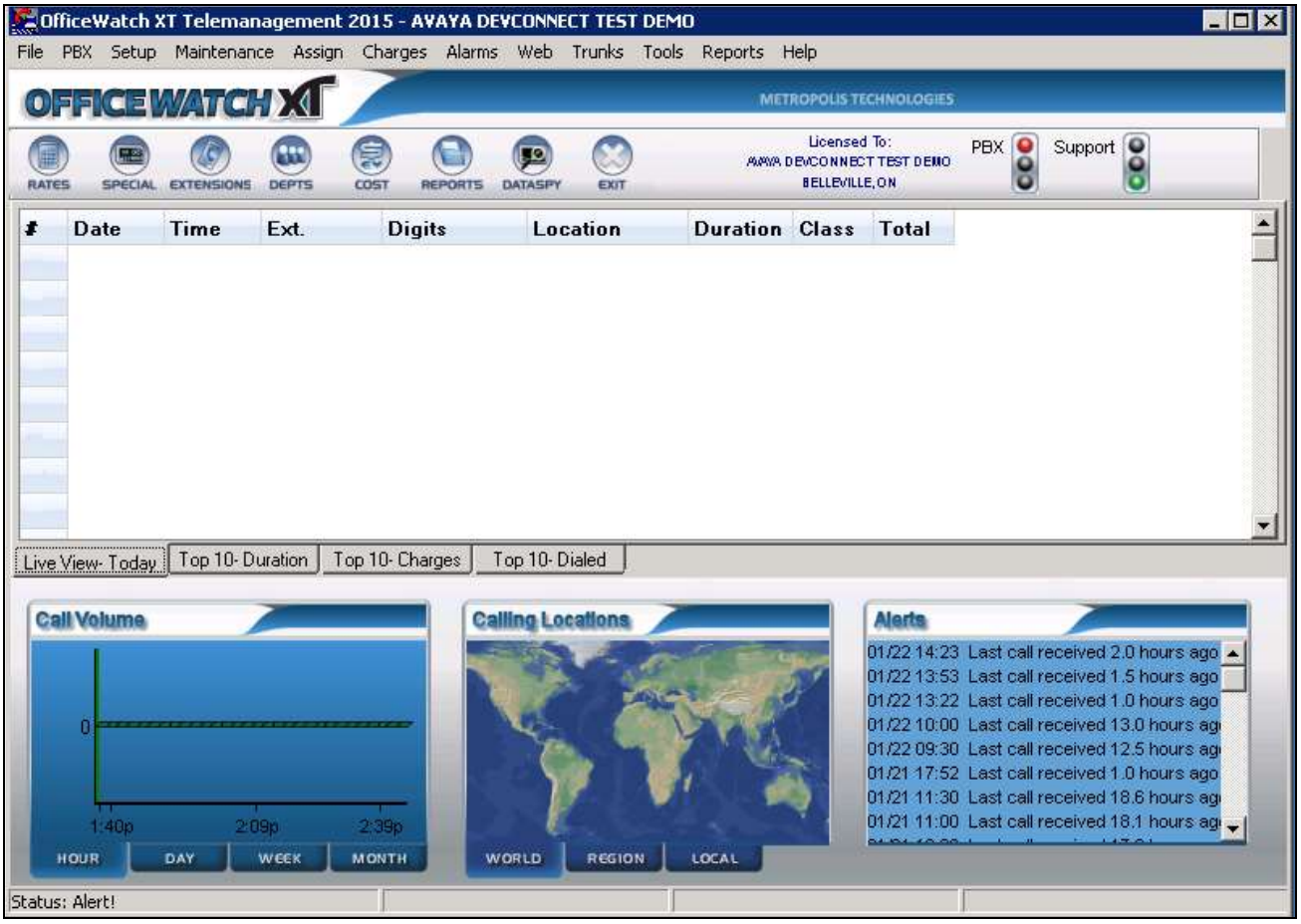
6. Configure Metropolis OfficeWatch Call Accounting System

This section provides the procedures for configuring Metropolis OfficeWatch Call Accounting System. The procedures include the following areas:

- Administer PBX
- Administer Call Processing Options
- Administer Grace Periods
- Administer Data Collector Server

6.1. Administer PBX

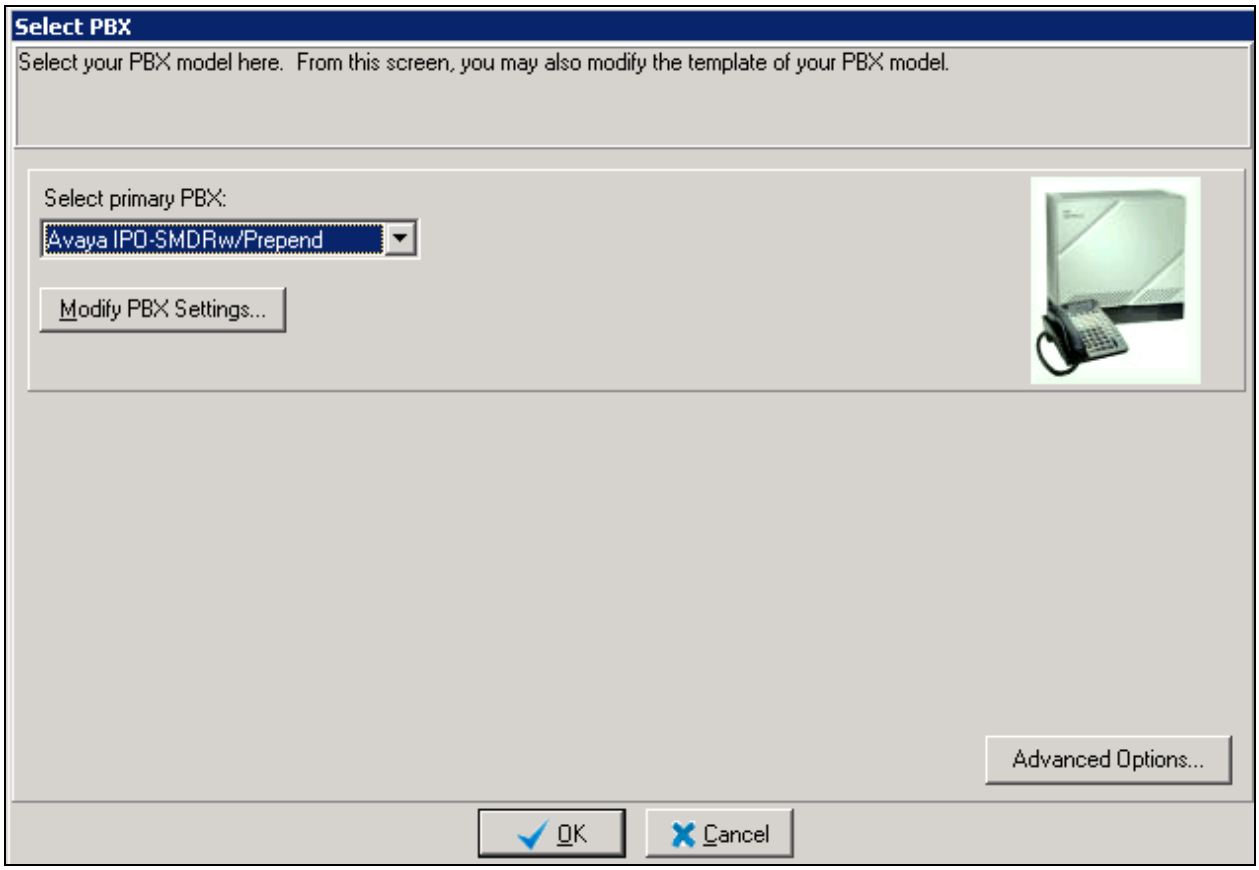
From the Metropolis OfficeWatch Call Accounting System server, launch **OfficeWatch (Start → All Program →Metropolis →OWXT)** to display the **OfficeWatch XT Telemanagement 2015 – AVAYA DEVCONNECT TEST DEMO** screen as shown below. Select **PBX → Select PBX** (not shown) from the top menu.



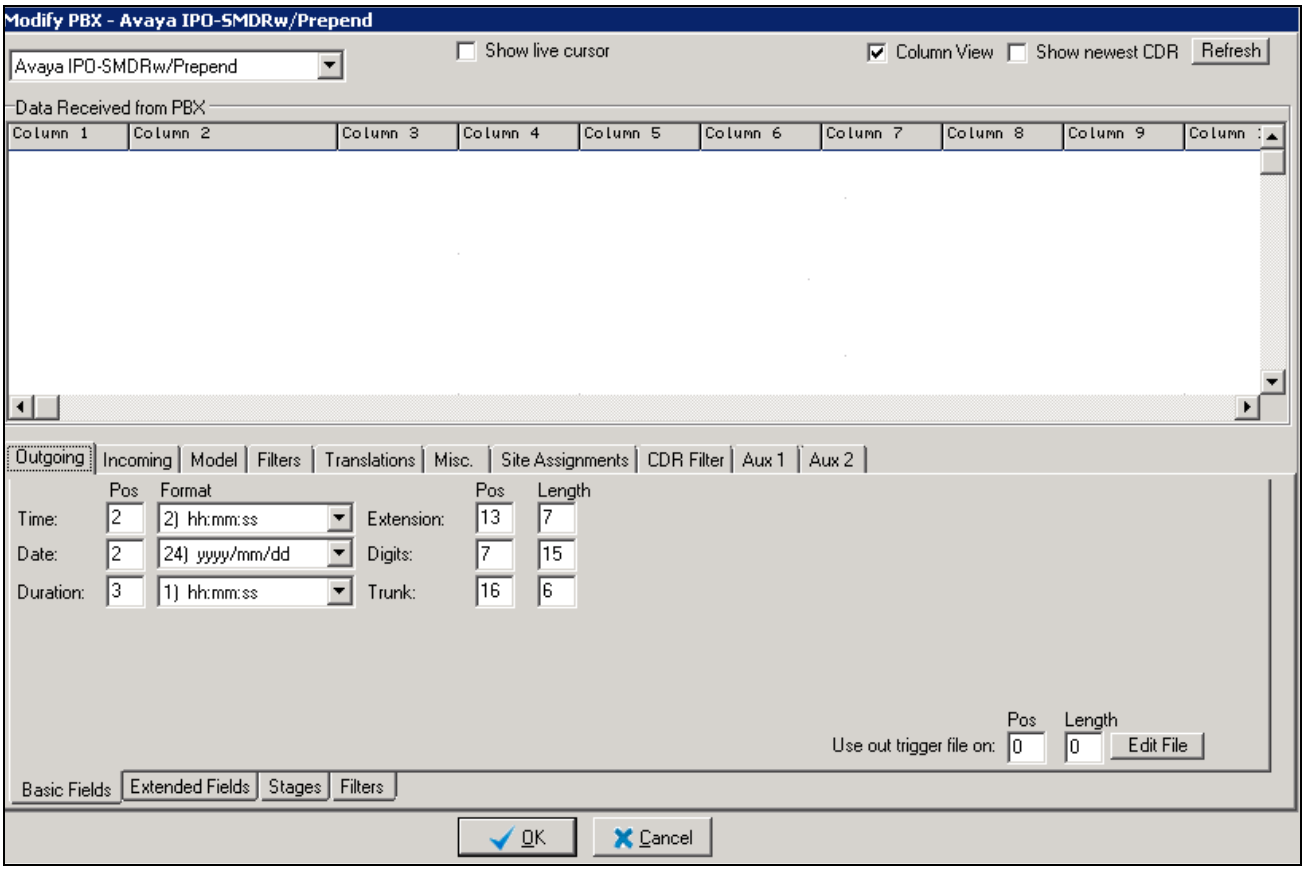
The **Select PBX** screen is displayed next. Enter the following value for the specified field.

- **Select primary PBX:** Select an applicable type, in this case *Avaya IPO-SMDRw/Prepend*

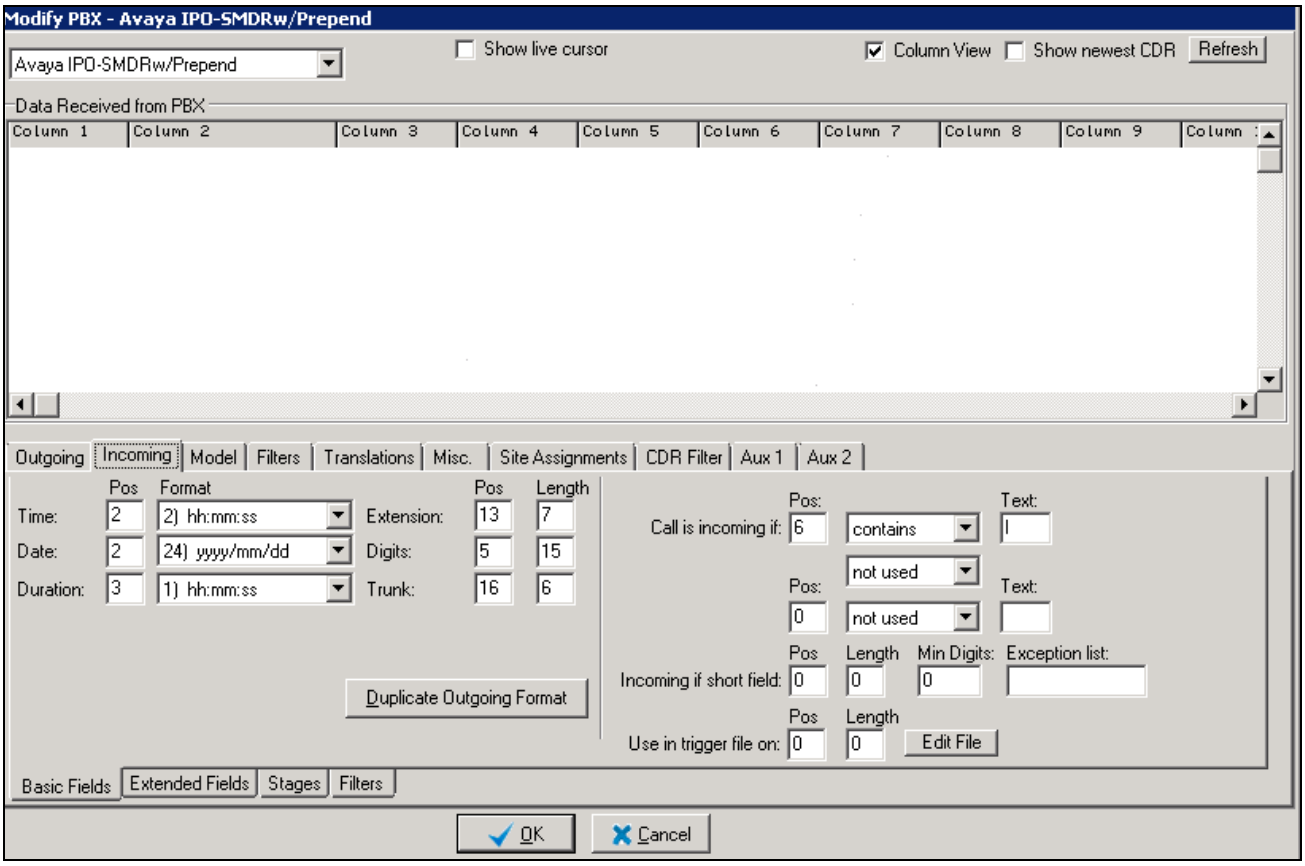
Click **Modify PBX Settings** in the left pane.



The **Modify PBX – Avaya IPO – SMDRw/Prepend** screen is displayed. Note that in a live customer environment, SMDR data may start appearing in the top portion of the screen. Select the **Outgoing** tab. For **Extension Length**, enter the maximum number of digits used for internal extensions on Avaya IP Office, in this case "7". Retain the default values in the remaining fields.



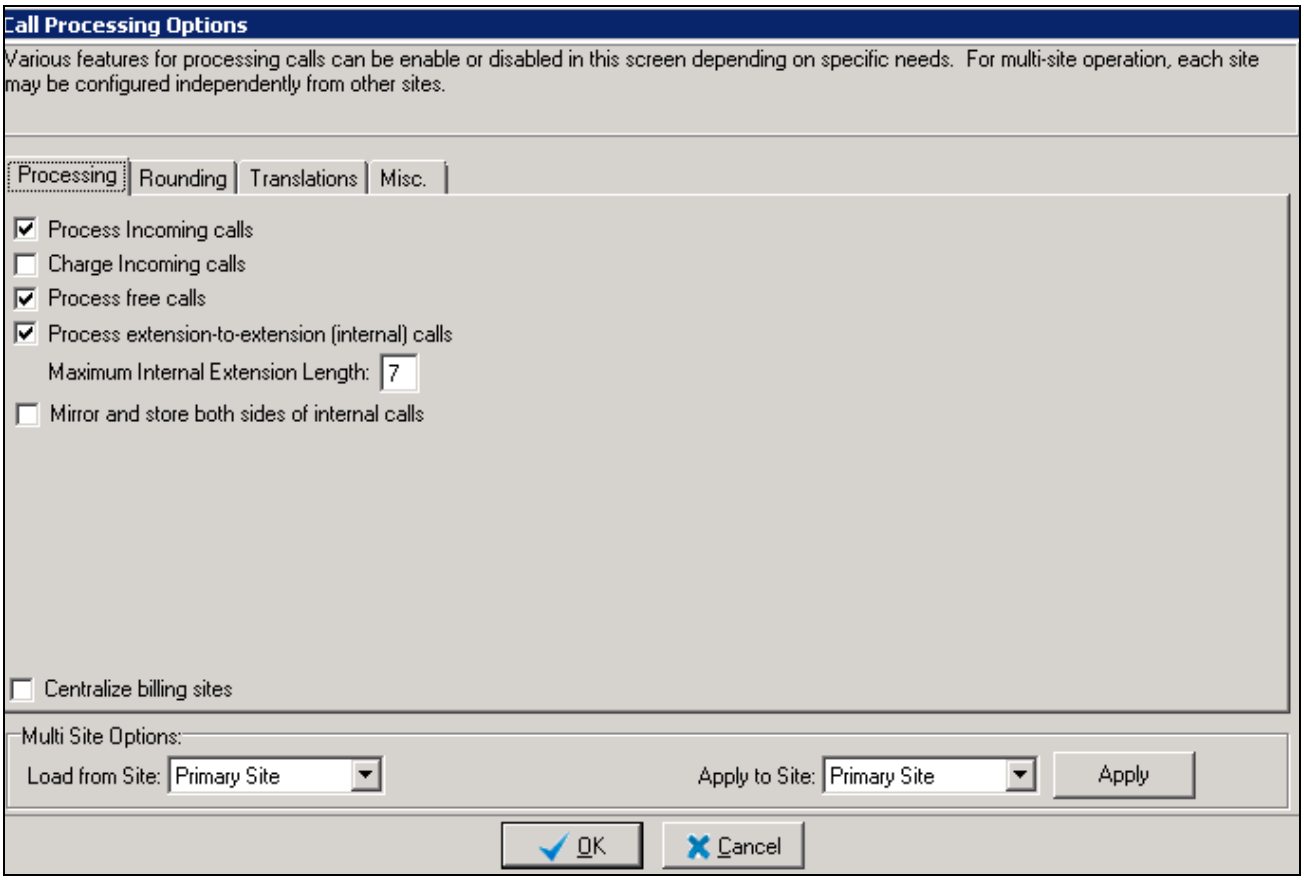
Select the **Incoming** tab. For **Extension Length**, enter the maximum number of digits used for internal extensions on Avaya IP Office. Retain the default values in the remaining fields.



6.2. Administer Call Processing Options

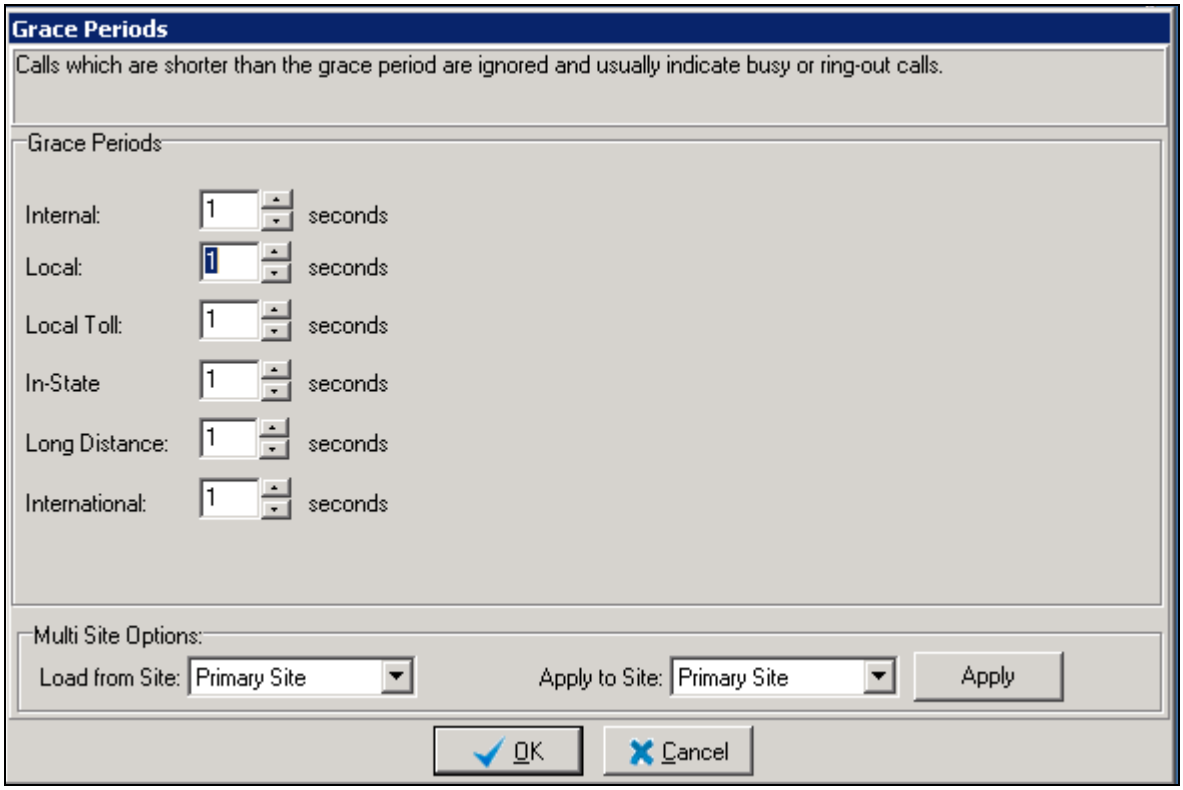
From the **OfficeWatch XT Telemanagement 2015 – AVAYA DEVCONNECT TEST DEMO** screen shown in **Section 6.1** select **Setup → Call Processing Options** (not shown) from the top menu to display the **Call Processing Options** screen.

Check **Process Incoming calls**, **Process free calls** and **Process extension-to-extension (internal) calls,** if desired. Set the appropriate value for **Maximum Internal Extension Length**, and retain the default values in the remaining fields. The screen below shows the settings used for the compliance testing.



6.3. Administer Grace Periods

From the **OfficeWatch XT Telemanagement 2015 – AVAYA DEVCONNECT TEST DEMO** screen shown in **Section 6.1** select **Setup → Grace Periods** (not shown) from the top menu to display the **Grace Periods** screen. Modify the grace period value for each type of call if desired. Note that calls with duration shorter than the grace period will not be logged. The screen below shows the settings used for the compliance testing.

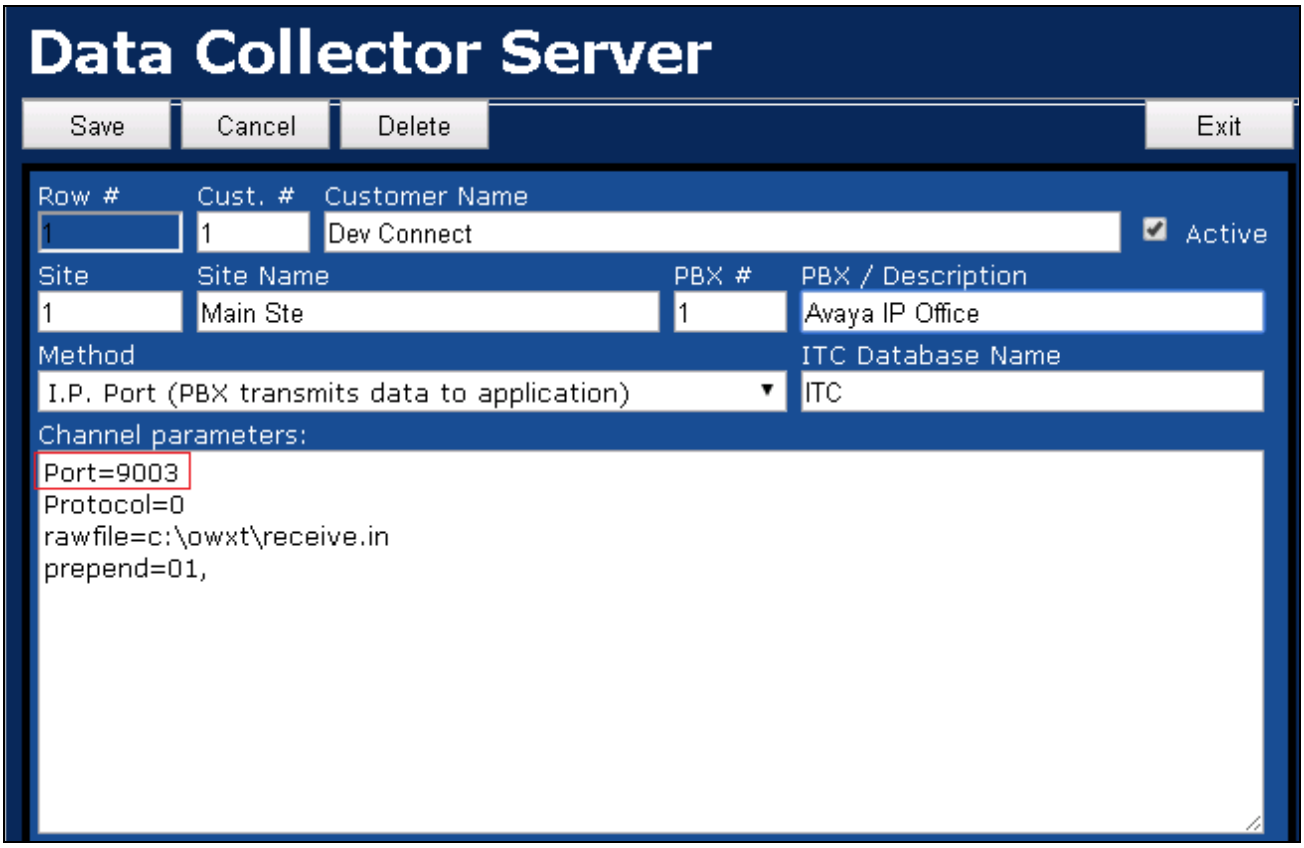


6.4. Administer Data Collector Server

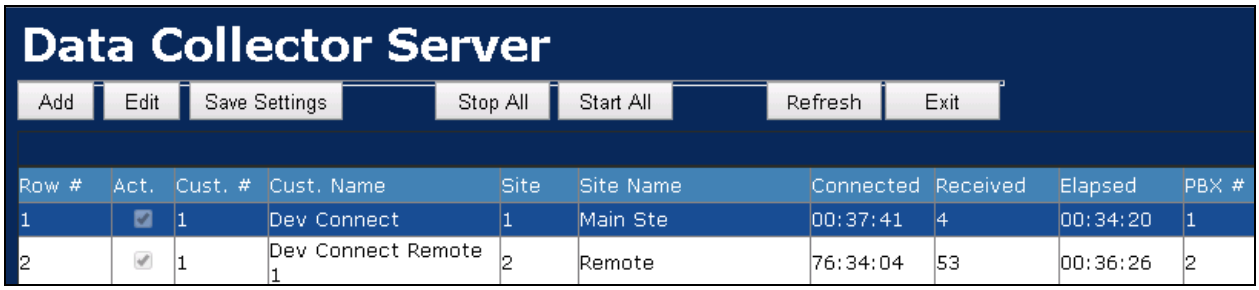
To access the Data Collector Server, open a Web browser and in the URL type the Server IP address and the corresponding port number. The screen below shows the Data Collector Server being accessed via the web browser where the IP address is the "localhost" and the port is "9002".

Since CDR records are being collected at both the Primary and the Expansion IP Office, two data collectors need to be configured. From the above shown screen, click on **Add** to configure a data collector.

Screen below shows the data collector configured for the Primary IP Office. Note that the "Port=9003" is the same port configured in **Section 5**. Similarly configure another data collector for the Expansion IP Office (not shown) however the port in this case will be "Port=9004 as configured in **Section 5**.



Screen below shows the **Data Collector Server** after it is configured as mentioned above. Note that data will be populated in the **Received** column only after calls are made on the IP Office.

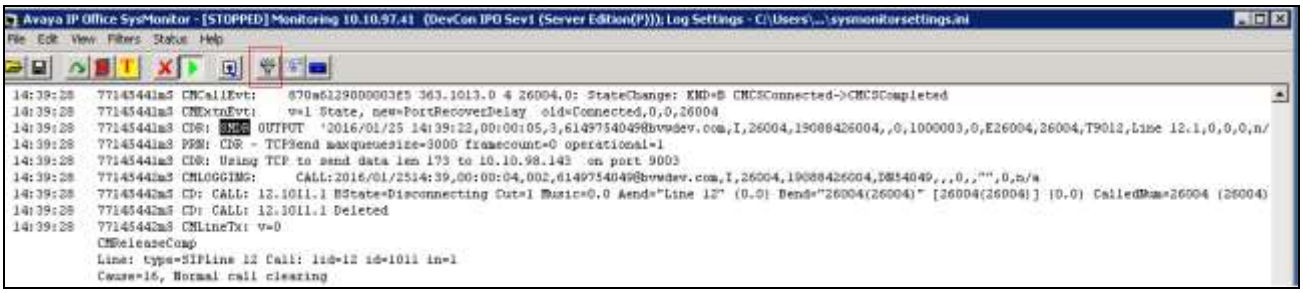


7. Verification Steps

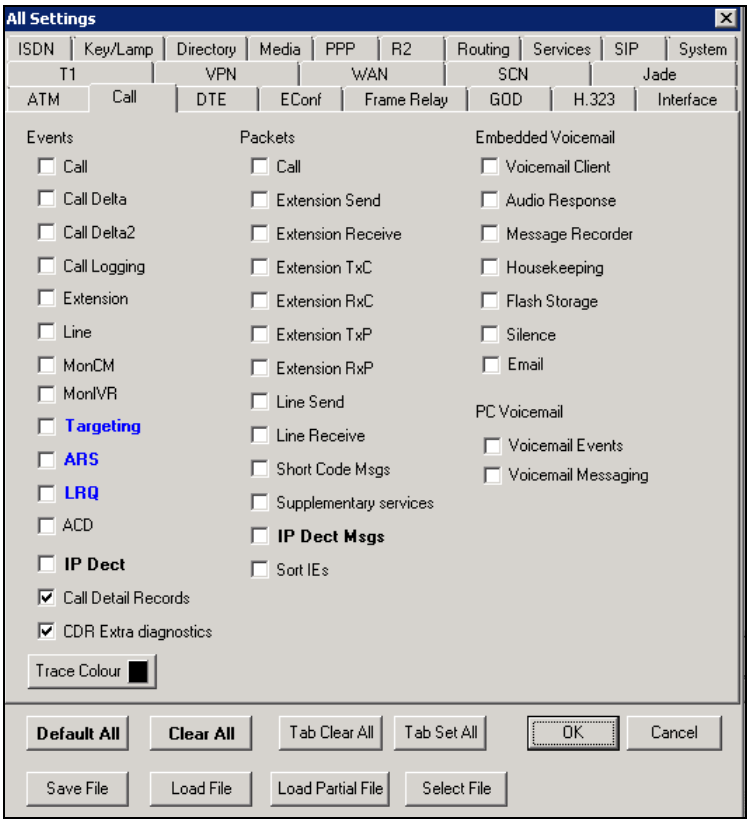
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Metropolis OfficeWatch Call XT Accounting System.

7.1. Verify Avaya IP Office

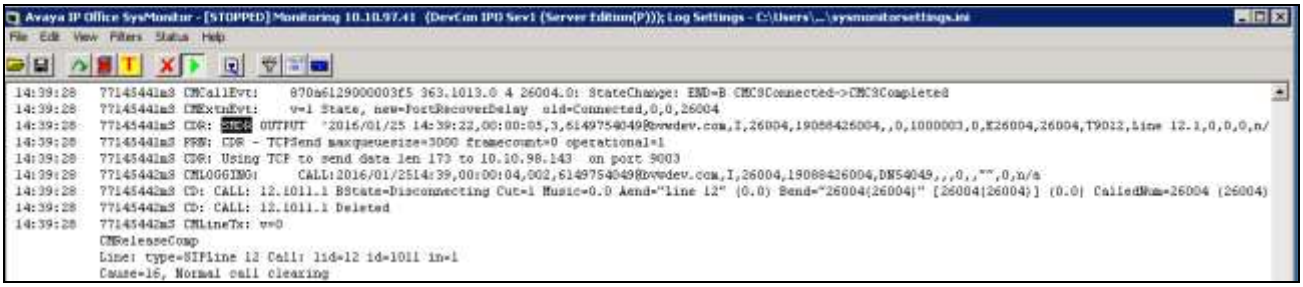
Launch the Avaya IP Office Monitor application to display the **Avaya IP Office SysMonitor** screen as shown below. Click on the **Filter** icon.



The **All Settings** screen is displayed. Check **Call Detail Records** and **CDR Extra diagnostics** as shown below.

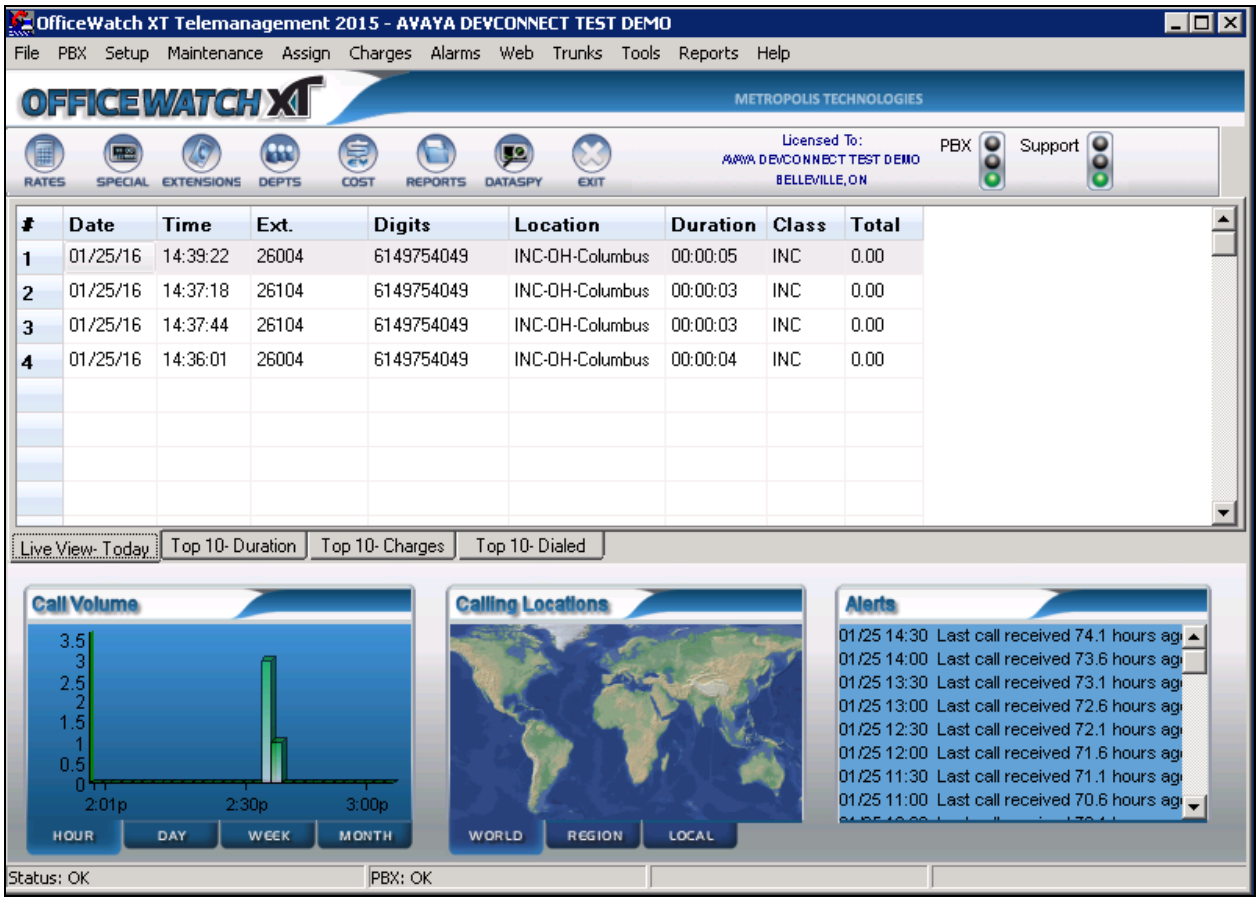


Make and complete a few phone calls, including internal, inbound from the PSTN, and outbound to the PSTN. Verify that raw SMDR data is displayed on the **Avaya IP Office SysMonitor** screen as shown below.

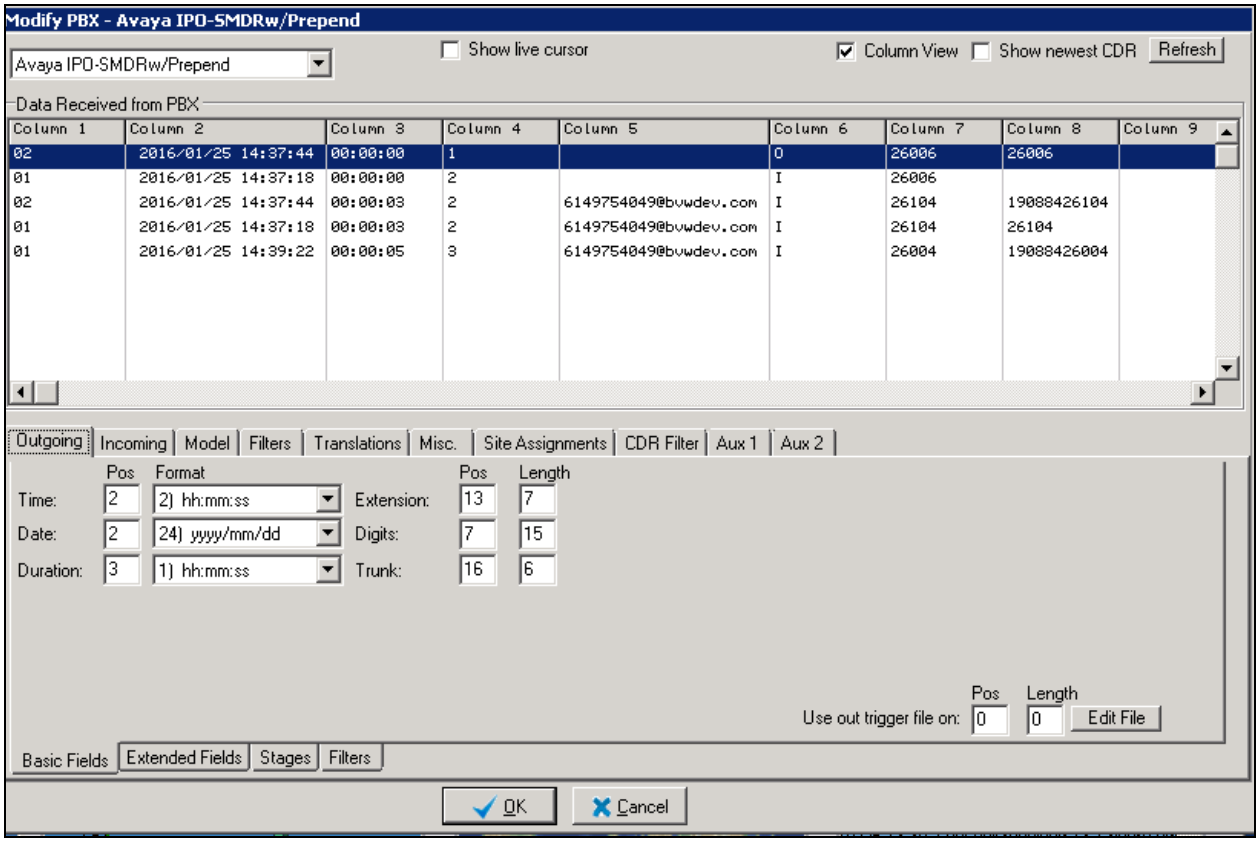


7.2. Verify Metropolis OfficeWatch Call Accounting System

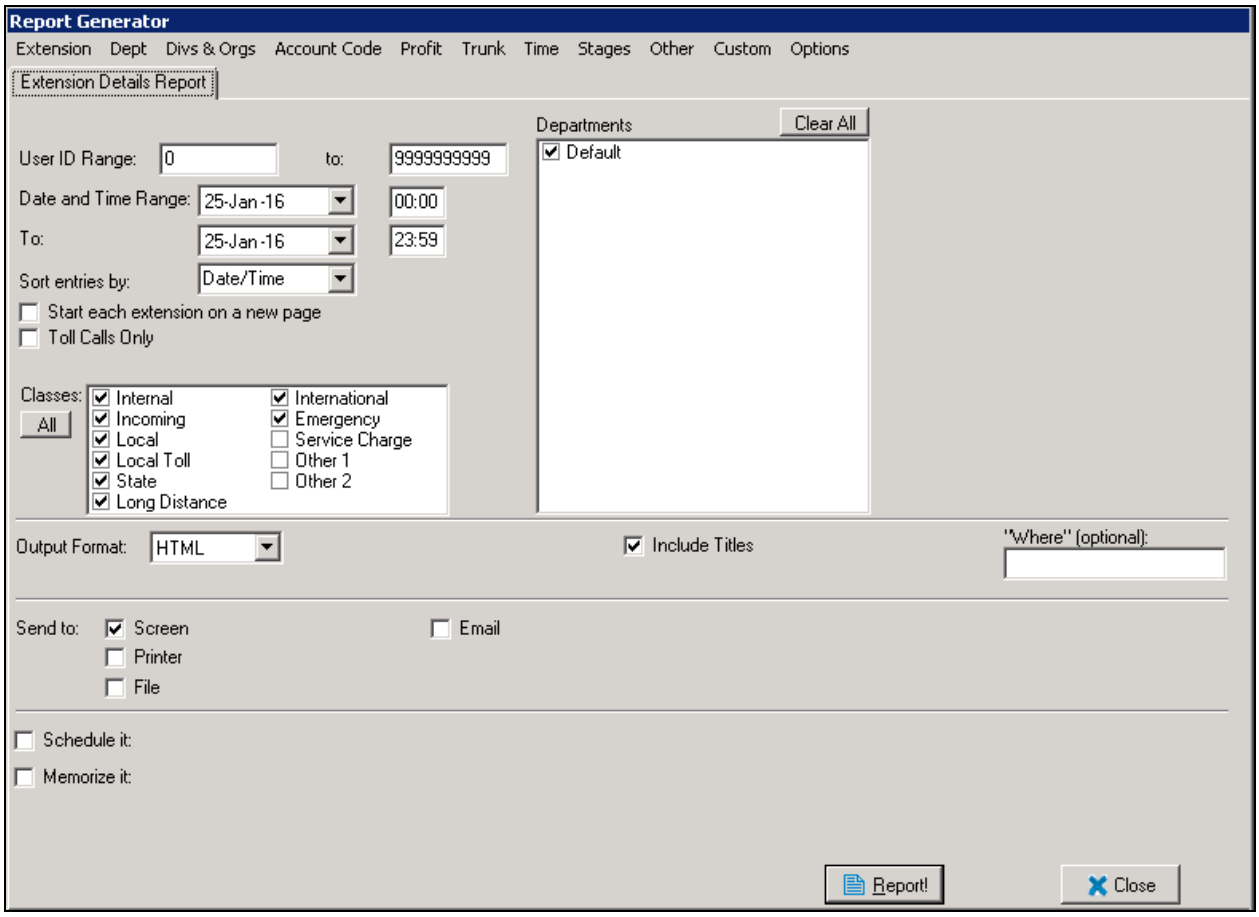
From the Metropolis OfficeWatch server, follow the navigation in **Section 6.1** to display the **OfficeWatch XT Telemanagement 2015 – AVAYA DEVCONNECT TEST DEMO** screen. Verify that an entry is displayed for each SMDR record output from **Section 7.1**. Note that the **Total** data shown below is estimated by OfficeWatch based on call destination and duration.



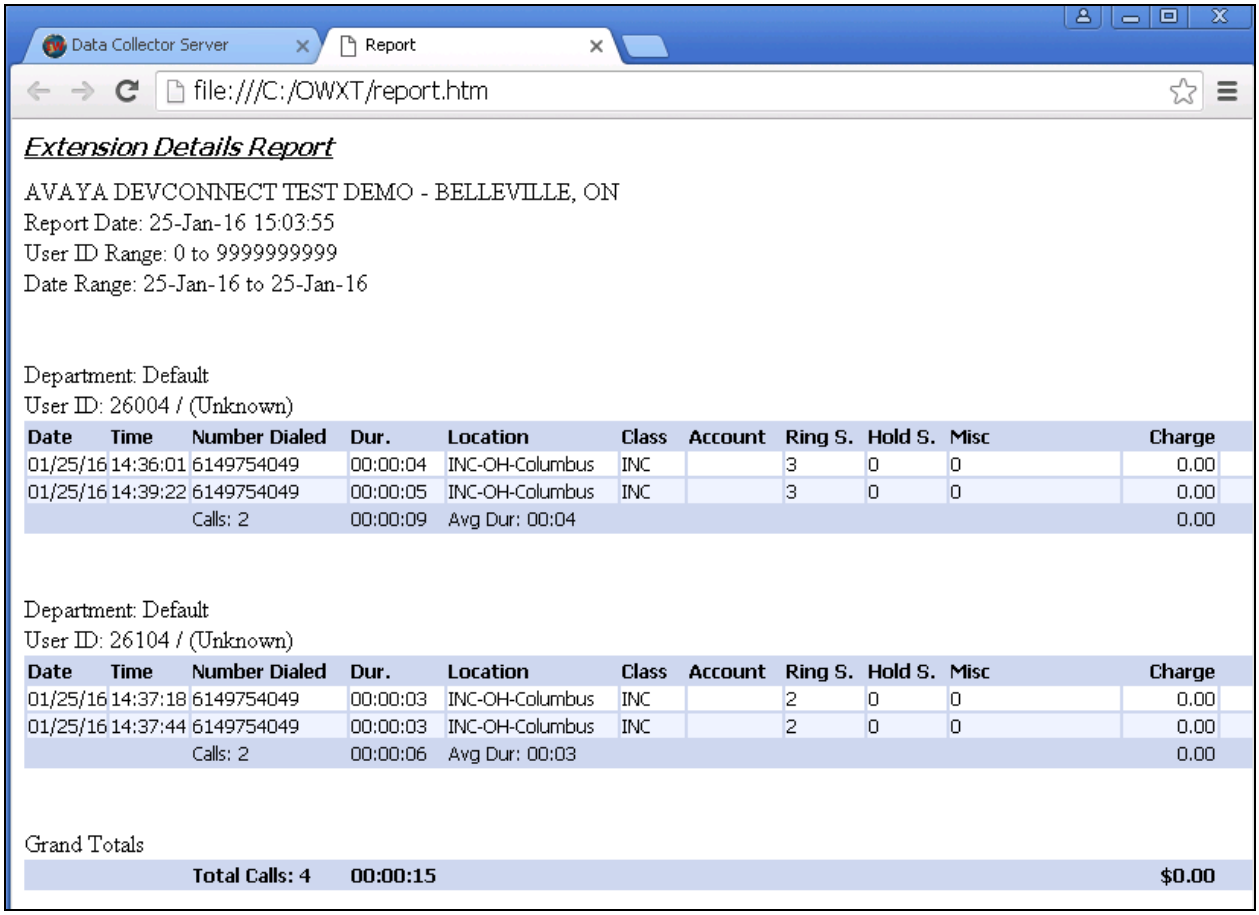
Follow the navigation in **Section 6.1** to display the **Modify PBX Settings** screen. In the top portion of the screen, verify that an entry is displayed for each SMDR record output from **Section 7.1** with matching values.



From the Metropolis OfficeWatch server, follow the navigation in **Section 6.1** to display the **OfficeWatch XT Telemanagement 2015 – AVAYA DEVCONNECT TEST DEMO** screen. Select **Reports → Report Generator** (not shown) from the top menu. The **Reports Generator** screen is displayed. Select **Extension → Extension Details Report** from the top menu, and click **Report**.



The **Extension Details Report** automatically pops up in a browser window. Verify that the report entries match to the entries on the **OfficeWatch XT Telemanagement 2015 – AVAYA DEVCONNECT TEST DEMO** screen.



Extension Details Report

AVAYA DEVCONNECT TEST DEMO - BELLEVILLE, ON
Report Date: 25-Jan-16 15:03:55
User ID Range: 0 to 9999999999
Date Range: 25-Jan-16 to 25-Jan-16

Department: Default
User ID: 26004 / (Unknown)

Date	Time	Number Dialed	Dur.	Location	Class	Account	Ring S.	Hold S.	Misc	Charge
01/25/16	14:36:01	6149754049	00:00:04	INC-OH-Columbus	INC		3	0	0	0.00
01/25/16	14:39:22	6149754049	00:00:05	INC-OH-Columbus	INC		3	0	0	0.00
		Calls: 2	00:00:09	Avg Dur: 00:04						0.00

Department: Default
User ID: 26104 / (Unknown)

Date	Time	Number Dialed	Dur.	Location	Class	Account	Ring S.	Hold S.	Misc	Charge
01/25/16	14:37:18	6149754049	00:00:03	INC-OH-Columbus	INC		2	0	0	0.00
01/25/16	14:37:44	6149754049	00:00:03	INC-OH-Columbus	INC		2	0	0	0.00
		Calls: 2	00:00:06	Avg Dur: 00:03						0.00

Grand Totals

		Total Calls: 4	**00:00:15**							**$0.00**

8. Conclusion

These Application Notes describe the steps required to configure Metropolis OfficeWatch XT Call Accounting System to interoperate with Avaya IP Office Server Edition 9.1. All feature and serviceability tests were completed successfully with observations noted in **Section** Error! Reference source not found..

9. Additional References

This section references the Avaya documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com.

[1] Deploying IP Office ™ Platform Server Edition Solution, Release 9.1.2
[2] Administering Avaya IP Office™ Platform with Manager, Release 9.1
[3] Deploying Avaya IP Office™ Platform IP500 V2, 15-601042 Issue 30za

Metropolis OfficeWatch Call Accounting User Guide, available at http://www.metropolis.com.

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.