



Avaya Solution & Interoperability Test Lab

Application Notes for CTI Data Solutions Proteus Enterprise with Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning CTI Data Solutions Proteus Enterprise to interoperate with Avaya IP Office. Proteus Enterprise is a call logging system that records Station Messaging Detail Records (SMDR) outputted by Avaya IP Office to the Avaya IP Office Delta Server over an IP network connection. Proteus Enterprise provides information about telephone usage through a range of reports that can be printed or saved to a number of popular file formats for further analysis.

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 compliance-tested configuration using CTI Data Solutions Proteus Enterprise 6.1 and Avaya IP Office 4.0.

Proteus Enterprise is a telephone call management and reporting application. Proteus Enterprise comprises three principal parts:

- The Switch Interface is used to collect the Avaya IP Office specific call information and translate it into the standard Proteus call record format.
- The Costing Engine processes the data that is passed to it by the Switch Interface and then writes it to the Calls database.
- The Proteus Enterprise Main User Interface displays a user-selectable real-time call summary. It is also used to set up information about the telephone system, company organisation and reports.

The Proteus Enterprise switch interface program connects to Avaya IP Office over the LAN/WAN and downloads the directory information, such as extensions and users, to be stored in the Proteus Enterprise organizational database. Proteus Enterprise switch interface program monitors the directory location entered during the Proteus Enterprise installation for the SMDR log files generated by the Avaya IP Office to the Avaya IP Office Delta Server.

The Costing Engine processes the call records stored in the Call Queue database and writes them to the Proteus Enterprise Calls database. Call processing involves applying the correct tariff rates and costing the calls. Proteus Enterprise provides information about telephone usage through a range of reports that can be printed or saved to a number of popular file formats for further analysis.

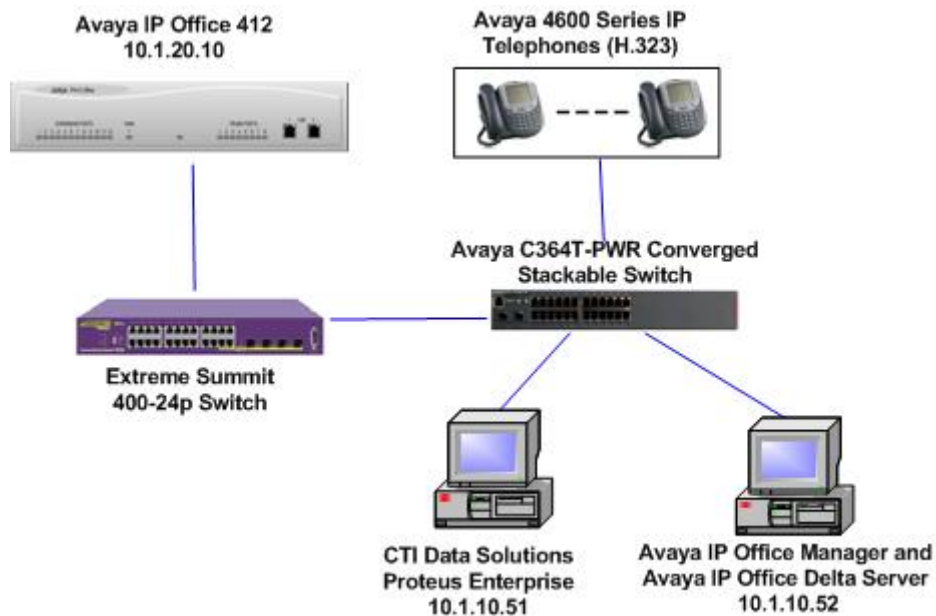


Figure 1: Tested Avaya IP Office 412 with Proteus Enterprise

2. Equipment and Software Validated

Below is a list of the equipment and software versions used within the compliance-tested network.

Equipment	Software
Avaya IP Office 412	4.0(10)
Avaya IP Office Delta Server	5.2.16
Extreme Summit 400-24p Switch	Extremeware 7.5e.2.8
Avaya C363T-PWR Converged Stackable Switch	4.3.12
Avaya 4600 Series IP Telephones	2.3 (H.323)
CTI Data Solutions Proteus Enterprise	6.1.01 Windows XP Professional, Service Pack 1

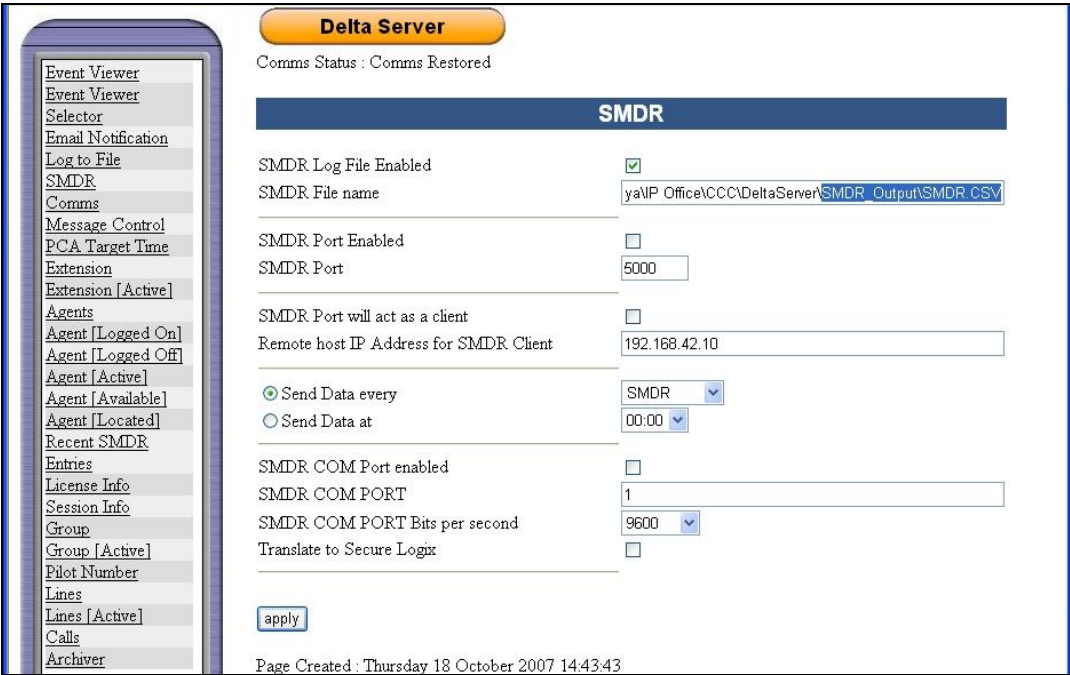
3. Configure Avaya IP Office

No additional configuration was needed on the Avaya IP Office Manager to support the test configuration. Please note that it is expected that the installer is familiar with configuring stations, trunks, etc., on Avaya IP Office. For all other provisioning information, such as software installation, basic configuration of Avaya IP Office, etc., refer to Section 10.

4. Configure Avaya IP Office Delta Server

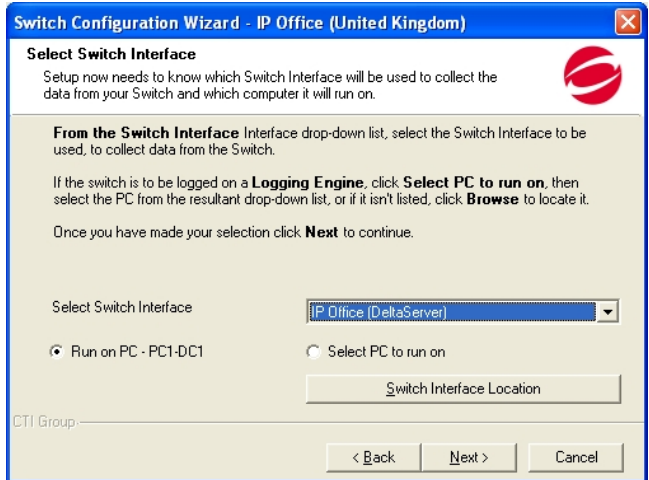
This section describes the steps for configuring the Avaya IP Office Delta Server for the SMDR output.

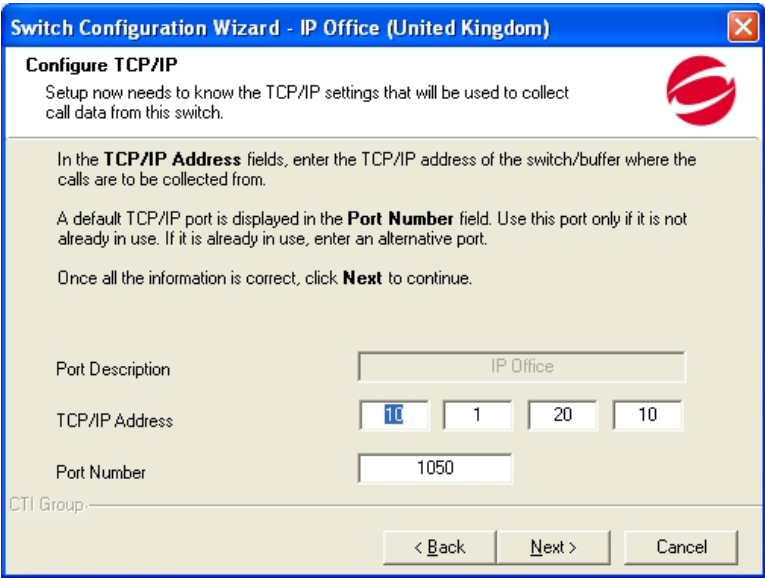
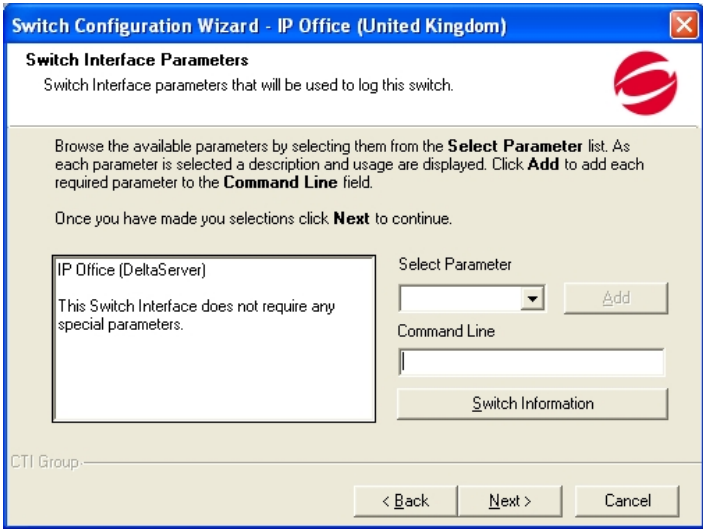
Step	Description
1.	Click Start → Programs → CCC → Delta Server. In the left pane select Comms. Verify that the correct Avaya IP Office is listed under the Connection Information. If the correct one is not listed, search for the correct Avaya IP Office by entering the IP address of the Avaya IP Office in the search field and click the Search button. 

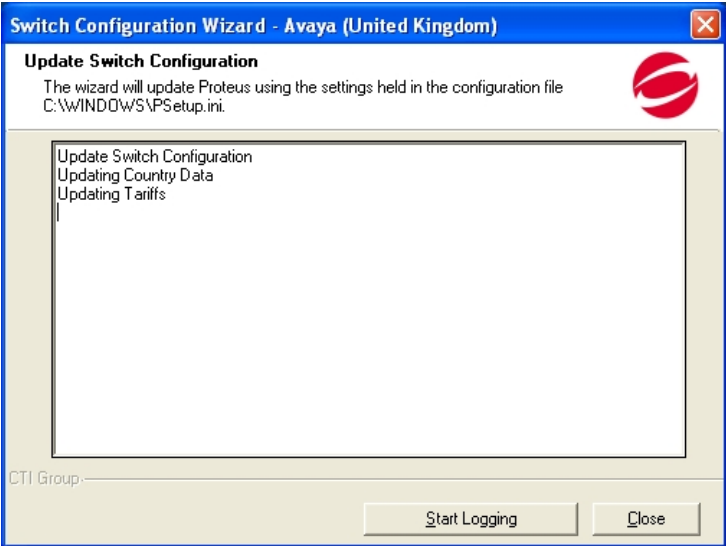
Step	Description
2.	From the left pane click on Event Viewer Selector. Tick the SMDR Message check box and click the apply button. 
3.	Select SMDR from the left pane menu and make a note of the SMDR File name. The SMDR file name “SMDR.CSV” will be entered in the Proteus Enterprise configuration in Section 5, Step 8. 

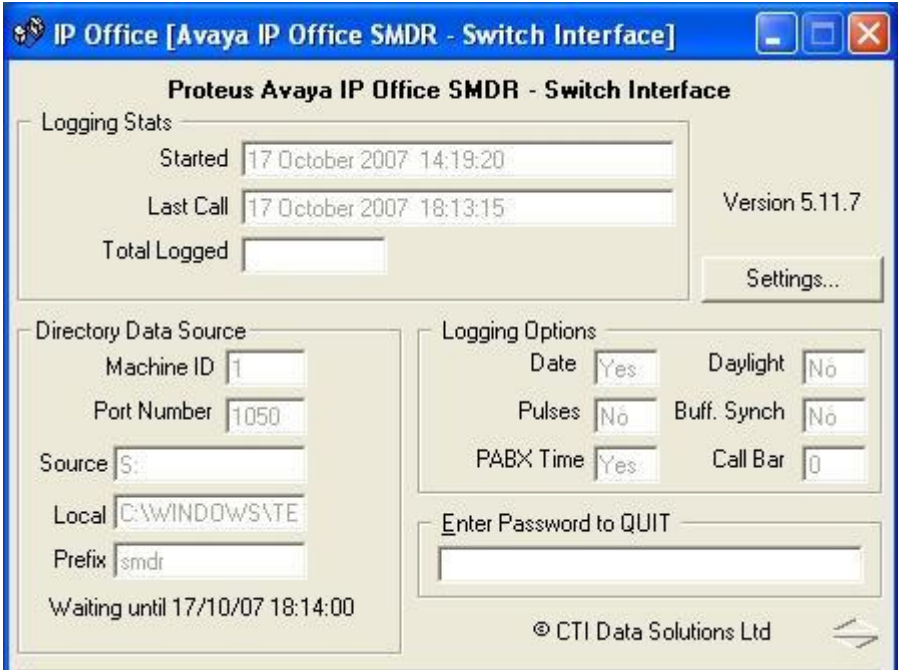
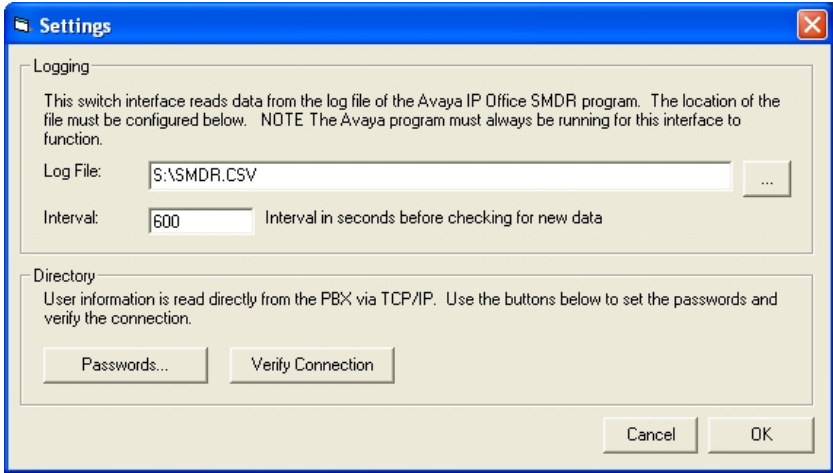
5. Configure Proteus Enterprise

The configuration information provided in this section describes the steps required to set up Proteus Enterprise to collect SMDR records generated by Avaya IP Office to the Avaya IP Office Delta Server. The configuration of the Proteus Enterprise application is done via the Switch Configuration Wizard as part of the Proteus Enterprise installation process. Only the screens relevant for the configuration between Proteus Enterprise and Avaya IP Office are shown in the following steps.

Step	Description
1.	In the Create/Edit Switch screen, enter a descriptive name in the Switch Name field. From the Country drop down menu select the country and then click the Create button. 
2.	In the Select Switch Interface screen, select “IP Office (DeltaServer)” from the Select Switch Interface drop down menu. Click Next > to continue. 

Step	Description
3.	Enter the Avaya IP Office Delta Server IP address in the TCP/IP Address field. The Port Number field is not used in the communication between Avaya IP Office Delta Server and Proteus Enterprise therefore can be left with its default value or blank. Click Next >. 
4.	The Switch Interface Parameters Screen does not need any special parameters. Click Next >. 

Step	Description
5.	Click Start Logging. The following four programs will be launched, Costing Engine, Switch Interface, Report Scheduler and Real Time Monitor. These programs are shown in Section 7, Steps 2 and 3. The IP Office Password dialog box is also displayed as shown in the next step. 
6.	In the IP Office Password dialog box shown below. Enter the System Password and Monitor Password of Avaya IP Office. Proteus Enterprise downloads the extensions, extension names and hunt groups from Avaya IP Office. 

Step	Description
7.	On the IP Office [Avaya IP Office SMDR – Switch Interface] screen, click the Settings button to set the path where the SMDR files are stored on the Avaya IP Office Delta Server. 
8.	If the Avaya IP Office Delta Server is on a separate server than Proteus Enterprise, a network drive needs to be mapped to where the SMDR files are stored on the Avaya IP Office Delta Server (displayed in Section 4, Step 3). Once the network drive is mapped, enter the path name in the Log File field or use the browse button. Set the interval time in seconds appropriate to the environment on how frequently to check for the SMDR files on the Avaya IP Office Delta Server. Click OK. 

6. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing. The feature testing evaluated the ability of Proteus Enterprise to collect and process SMDR records for various types of calls. The source and destination of each call was verified on the Proteus Enterprise application. The serviceability testing introduced failure scenarios to see if Proteus Enterprise could resume SMDR collection after failure recovery.

6.1. General Test Approach

The general test approach was to verify that Proteus Enterprise collects the SMDR records and properly classifies and reports the attributes regarding the following:

- Intra-switch calls
- Inbound trunk calls
- Outbound trunk calls
- Conference calls
- Transferred calls
- Forwarded calls

For serviceability testing, SMDR events on the Avaya IP Office Delta Server were disabled and re-enabled.

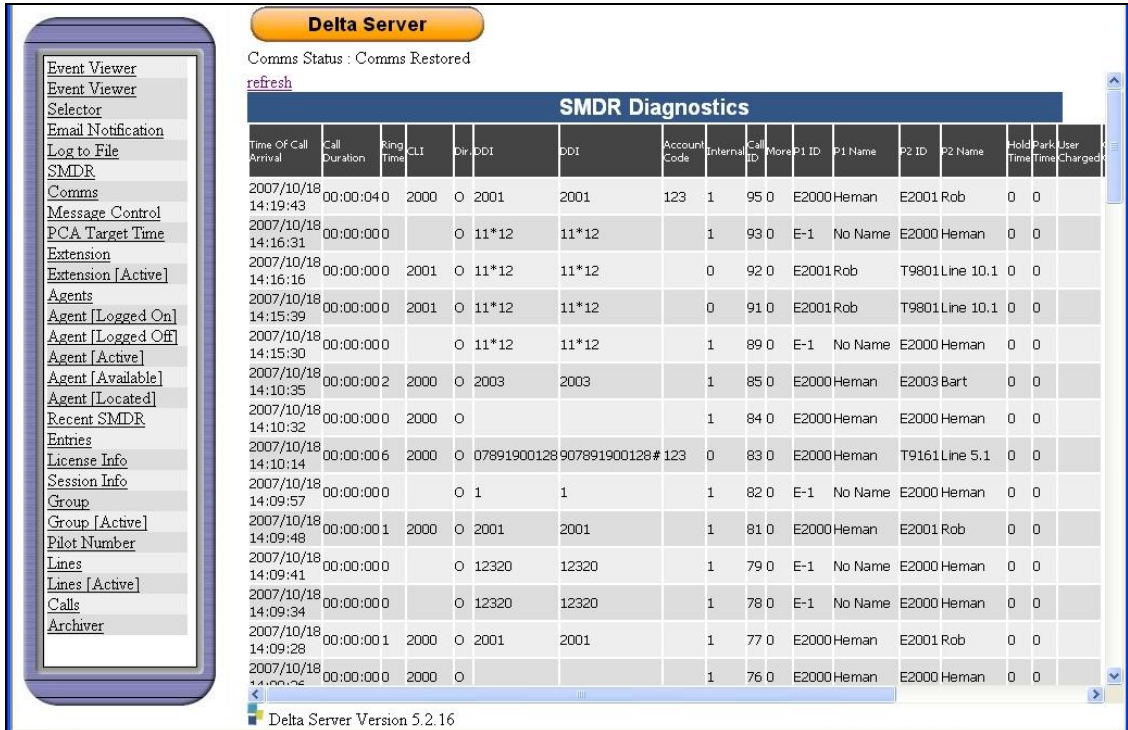
6.2. Test Results

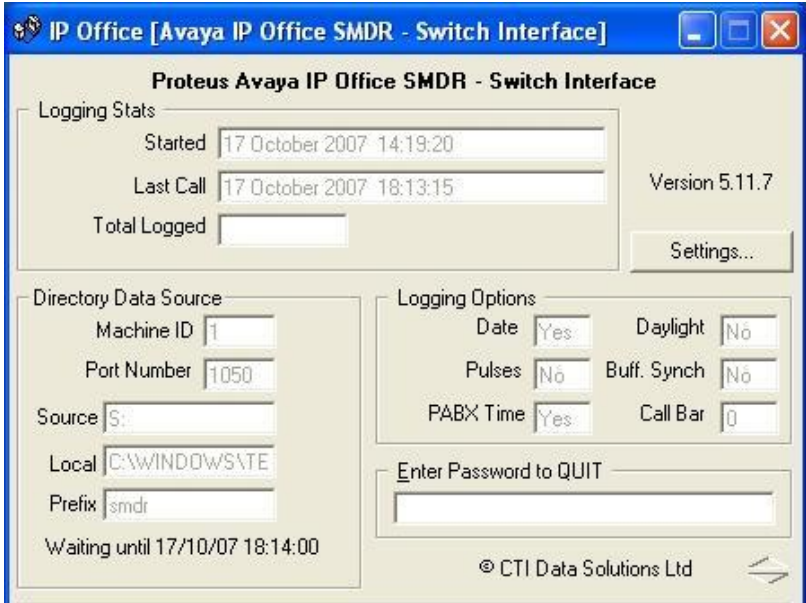
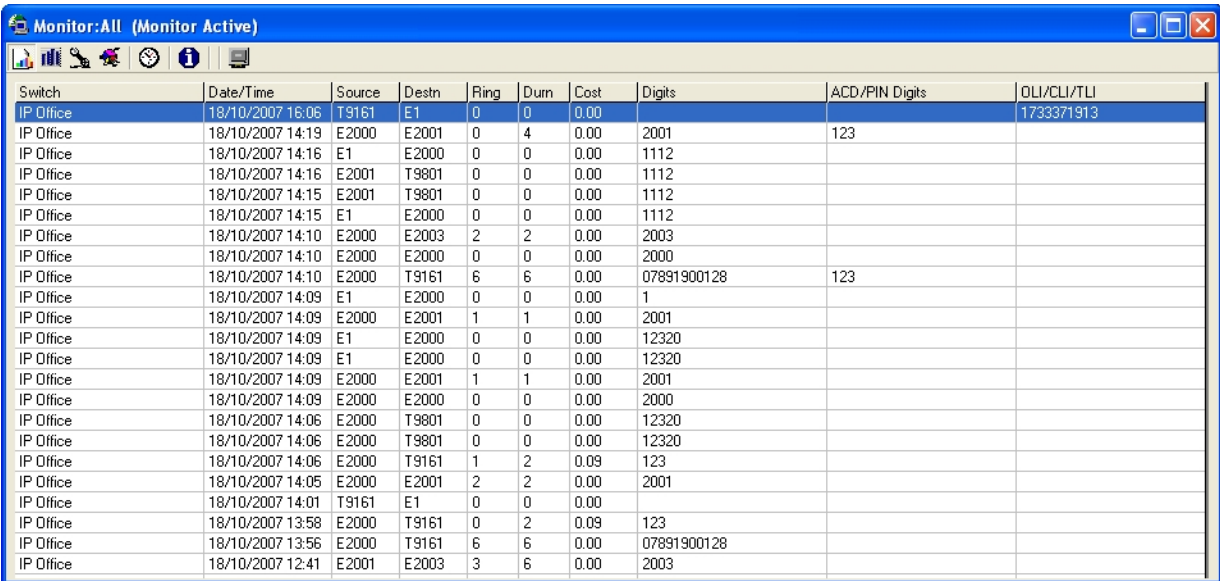
All feature and performance tests passed. Proteus Enterprise successfully captured and processed call records from Avaya IP Office. Proteus Enterprise also successfully processed the SMDR data, performed call costing, and produced call accounting reports.

Proteus Enterprise successfully collected the SMDR records from Avaya IP Office for call types including intra-switch calls, inbound/outbound PSTN trunk calls, inbound/outbound private IP trunk calls, transferred calls, and conference calls. For serviceability testing, Proteus Enterprise was able to resume collecting SMDR records after failure.

7. Verification Steps

The following steps may be used to verify the configuration.

Step	Description
1.	As shown in Section 4, Step 1, click Start → Programs → CCC → Delta Server. In the left pane select Recent SMDR Entries. Place calls between Avaya IP Office phones and verify the SMDR events are being logged by the Avaya IP Office Delta Server as shown below.  The screenshot shows the Delta Server interface. On the left is a navigation pane with a tree view containing the following items: Event Viewer, Event Viewer, Selector, Email Notification, Log to File, SMDR, Comms, Message Control, PCA Target Time, Extension, Extension [Active], Agents, Agent [Logged On], Agent [Logged Off], Agent [Active], Agent [Available], Agent [Located], Recent SMDR Entries (highlighted), License Info, Session Info, Group, Group [Active], Pilot Number, Lines, Lines [Active], Calls, and Archiver. The main area is titled 'Delta Server' and shows 'Comms Status : Comms Restored' and a 'refresh' button. Below this is a table titled 'SMDR Diagnostics' with the following columns: Time Of Call, Call Duration, Ring Time, CLI, Dir, DDI, DDI, Account Code, Internal, Call ID, More P1 ID, P1 Name, P2 ID, P2 Name, Hold Time, Park Time, User, and Charged. The table contains 15 rows of data, all from 2007/10/18. The status bar at the bottom indicates 'Delta Server Version 5.2.16'.

Step	Description
2.	Place a call and verify that Proteus Enterprise received the SMDR record for the call and then processed the call. The following switch interface screen will be displayed once the Proteus Enterprise is connected, monitoring and logging the SMDRs from the Avaya IP Office Delta Server. 
3.	The following Proteus Enterprise Real Time Monitor screen launched after Section 5, Step 5 allows you to verify the processed calls retrieved from Avaya IP Office Delta Server. 

8. Support

If technical support is required for CTI Data Solutions Proteus Enterprise, contact the Technical Support Department.

WWW: <http://support.ctidata.co.uk>.

Email: support@ctidata.co.uk

Phone: +44 (0) 84 5123 2761

9. Conclusion

These Application Notes describe the configuration steps for Proteus Enterprise to collect call detail records from Avaya IP Office. Proteus Enterprise 6.1 was successfully compliance tested with Avaya IP Office 4.0.

10. Additional References

This section references the product documentation that are relevant to these Application Notes.

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

- *IP Office 4.0 Installation Manual*, Document ID 15-601042, Issue 15e, January 2007.

The following documentation is available on request from CTI Data Solutions Ltd.

Proteus Enterprise:

- Proteus Enterprise v6 Installation Guide.doc
- Getting Started with Proteus Enterprise 6

More information is available for Proteus Enterprise at
<http://www.ctidata.co.uk/Solutions/ProteusEnterprise.aspx>

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