Avaya Solution & Interoperability Test Lab

Application Notes for Infortel Select Version 8.1 with Avaya Communication Server 1000 Release 7.0 using Data Buffering and Access – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the Infortel Select v8.1 to successfully interoperate with Avaya Communication Server 1000 Release 7.0 using the Data Buffer and Access tool kit.

Infortel Select v8.1 is an application that is able to process and cost Call Detail Records generated by the Avaya Communication Server 1000 Release 7.0 and output them in a report format. The Call Detail Records generated by the Avaya Communication Server is collected by the Data Buffer and Access tool kit.

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 the Infortel Select v8.1 application can collect, process and cost Call Detail Records (CDR) that are generated by the Avaya Communication Server 1000 Release 7.0 (CS1000) and generate the output in various reports format. The collection of CDR is being done using the Data Buffering and Access (DBA) tool kit.

1.1. Interoperability Compliance Testing

The focus of the compliance testing was primarily on verifying whether the Infortel Select application can collect the CDR generated by the CS1000 using the DBA tool kit. Once the records have been collected, the application needs to process the data and cost it as required and should be able to provide the output in a report format.

1.2. Support

Technical support for Infortel Select can be obtained by calling 1.800.326.6183 or by opening a service ticket at http://www.isi-info.com/support/support_serviceticket.htm

2. Reference Configuration

Figure 1 illustrates the lab test configuration used during the compliant testing event between the CS1000 and the Infortel Select Application Server using the DBA tool kit.

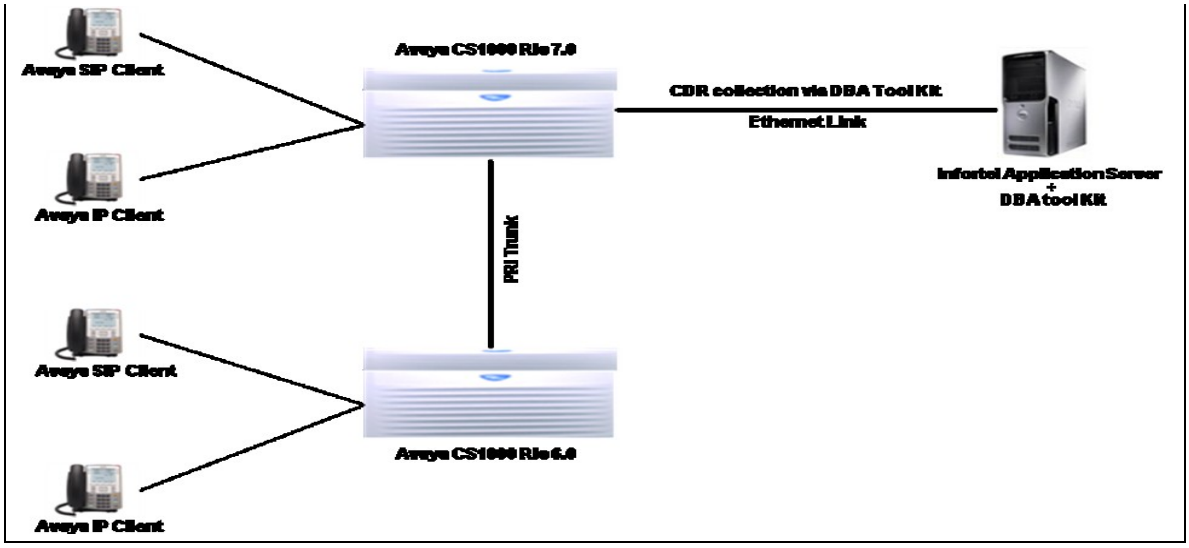

Figure 1: Lab Test Connection Diagram for CS1000 and Infortel Select using the DBA tool kit

3. Equipment and Software Validated

The following equipment and software were used during the lab testing:

Equipment	Software/Firmware
Avaya CS1000	SW Version : 7.00 Q SW Version : 6.00 (used for emulated PSTN)
Avaya Telephones: i2004 (IP) i2007 (IP) 1120E (IP) 1140E (SIP)	 0602B76 0621C7D 0624C7J 02.02.21.00
Infortel Select Application Server	Windows XP Professional SP3
Infortel Select	SW Version 8.1.0
DBA tool kit	SW Version 1.0.4

4. Configuration on CS1000

This section describes the steps to configure the CS1000 so that it can generate the CDR. The section also explains the CDR collection using the DBA tool kit.

4.1. Configuring the CS1000 for generating CDR

This section describes the configuration that needs to be done on the CS1000 using the overlays so that the CS1000 generates the CDR as required.

Overlays **17**, **16** and **11** are used to do the required configuration.

To configure the CS1000 to output CDR records to the serial port, login to the CS1000 and use overlay **LD 17**. In this **LD**, configure the **TTY** port that is found under the **ADAN** gate opener. **Figure 2** below shows the print of the configuration. The responses in red are the required input to be configured in **LD 17**.

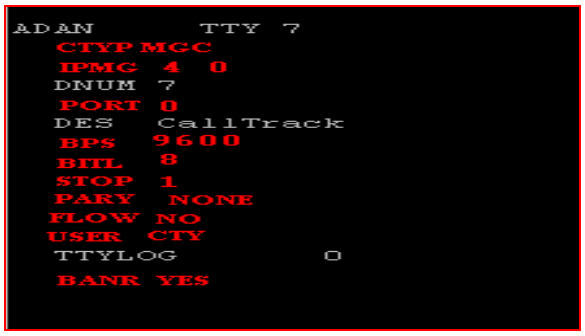

Figure 2: Print of TTY in ADAN showing the Serial port Configuration

Also in **LD 17** under the **PARM** gate opener the *FCDR* type and the *CLID* needs to be configured. **Figure 3** below shows the print of the configuration. The responses in red are the required input to be configured in **LD 17**.

```
ERRM ERR BUG AUD
DTRB 100
ABCD NO
TMRK 128
FCDR NEW
PCDR NO
TPO  NO
TSO  NO
CLID YES
DUR5 NO
MLDN YES
MARP YES
IPIE NO
```

Figure 3: Print of PARM in ADAN showing the FCDR and CLID Configuration

The route in CS1000 need to be configured for CDR and it is configured in **LD 16**. This is the route in CS1000 on which the test calls are made. **Figure 4** below shows the print of the configuration. The responses in red are the required input to be configured in **LD 16**.

```
DRNG NO
CDR  YES
INC  YES
LAST YES
TTA  NO
QREC YES
OAL  YES
AIA  NO
OAN  YES
OPD  NO
```

Figure 4: Print of RDB showing the required Configuration

The telephones on the CS1000 whose CDR needs to be collected need to have their class of service configured to output the CDR information. Telephones (SIP, IP and digital) are configured using **LD 11**. **Figure 5** below shows the print of the configuration. The responses in red are the required input to be configured in **LD 11**. Note that other class of services needs to be configured depending on the required CDR output, however during compliance testing, internal call CDR is required and therefore class of service **ICDA** is configured as shown in **Figure 5**.

```
CAC_MFC 0
CLS  UNR FBA WTA LPR PUA MTD FNA HTA TDD HFD CRPD
     MWD LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
     POD SLKD CCSD SWD LND CNDD
     CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBD
     ICDA CDMD LLCN MCTD CLBD AUTU
     GPUD DPUD DNDD CFXD ARHD CLTD ASCD
     CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD
     UDI RCC HBTD AHD IPND  DDGA NAMA MIND PRSD NRWD NRCD NROD
     DRDD EXRO
     USMD USRD ULAD CCBD RTDD RBDD RBHD PGND FLXD FTTC DNDY DNO3 MCBN
     FDSD NOVD VOLA VOUD CDMR PRED RECD MCDD T87A SBMD KEM3 MSNV FRA  PKCH MUTA
MWTD DVLD CROD CROD
```

Figure 5: Print of a Telephone showing the CLS Configuration

Refer to **Section 9 [1]** for additional information on the CS1000 administration.

4.2. Configuring DBA Tool Kit

Refer to **Section 9 [2]** that provide a link to download all components of the DBA tool kit. The link will provide the tool kit exe, installation, configuration and document details. User needs to be a registered member of DevConnect to access this link.

During our compliance testing, the DBA tool kit was installed and configured on the same server that was running the Infortel Select application.

5. Configuration for Infortel Select

This section describes the steps on how to configure the Infortel Select Server to collect the CDR collected using DBA tool kit, process the data and generate the reports.

5.1. Configuring the Infortel Select Server to collect CDR

This section describes how to configure the Infortel Select Server so that it can collect the CDR from the DBA tool kit. The assumption is made here that the Infortel Select application is installed correctly along with the DBA tool kit application. For additional information on Infortel Select installation, refer to **Section 9 [3].**

The DBA tool kit, when installed and configured correctly, will write the CDR records into a file called *detail1.img.*

To configure the Infortel Select Server to collect the CDR data from the DBA tool kit, navigate to **Start > Programs > Infortel Select > Control Center** from the server it is installed on (not shown). **Figure 6** shows the main screen of the Control Center.

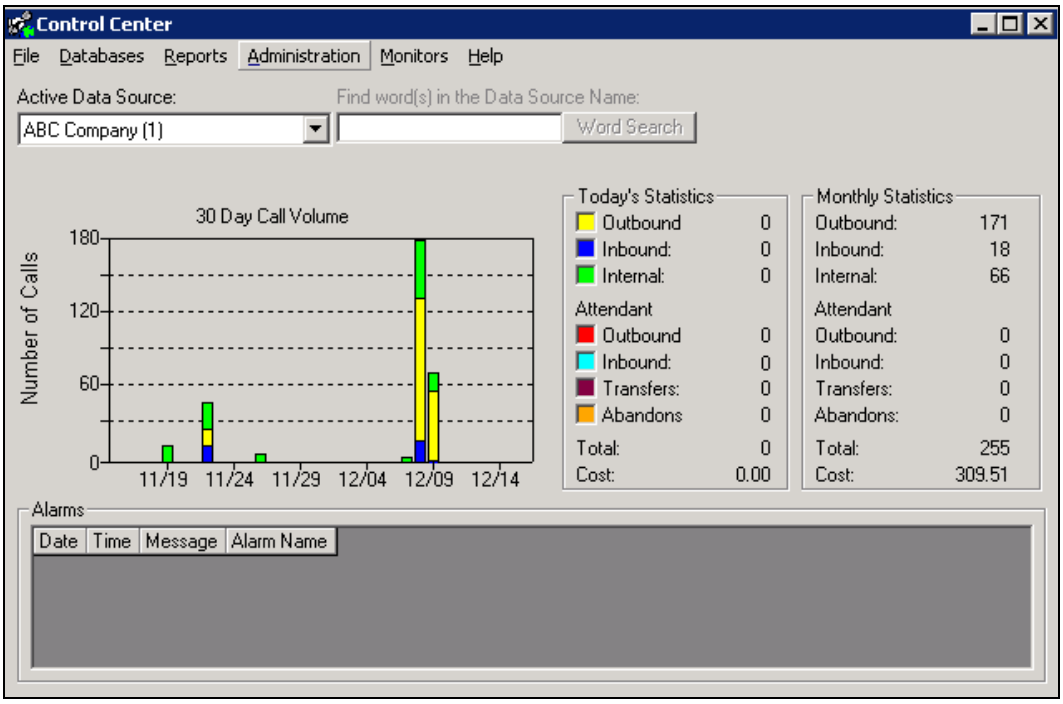

Figure 6: Control Center Main Screen

From the Control Center Main Screen navigate to **Administration > System Configuration options** as shown in **Figure 7** below.

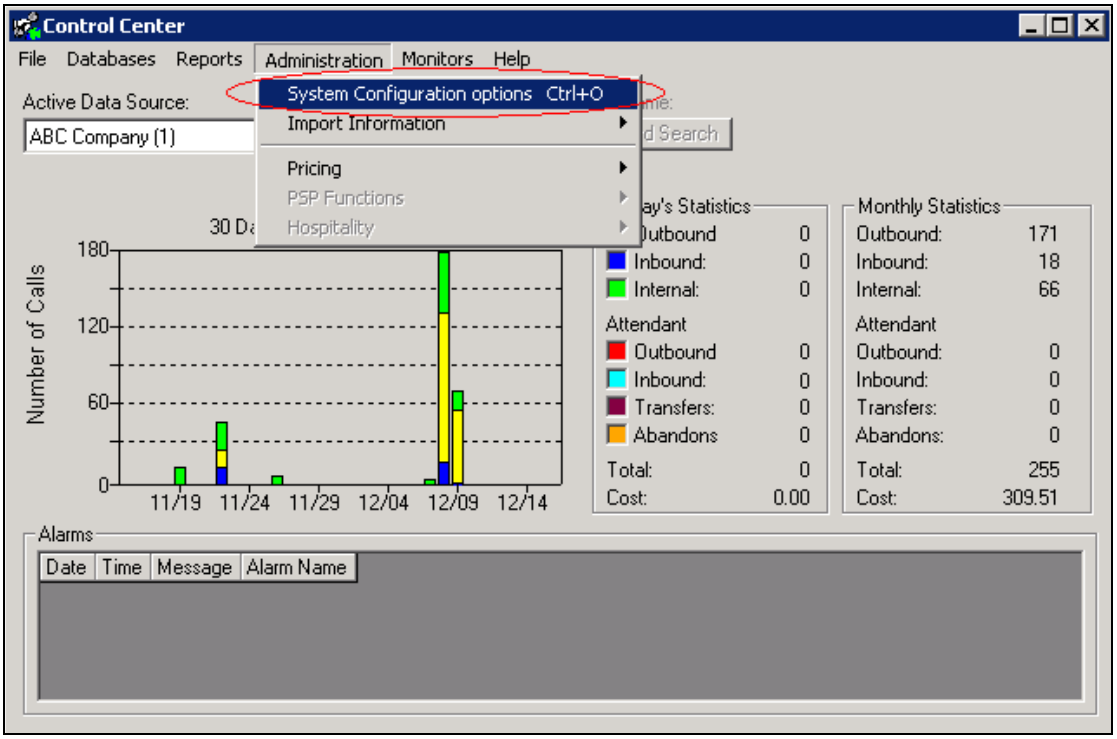

Figure 7: Administration Screen

From the System Configuration screen, select **Data Source (*)** and click on the **Run** button as shown in **Figure 8**.

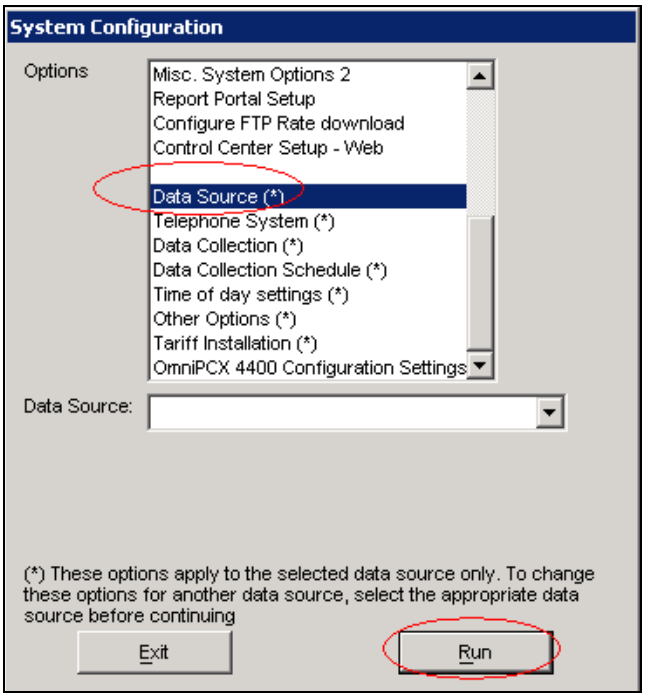

Figure 8: Data Source Configuration

From the Data Source screen as shown in **Figure 9**, enter the relevant information for the fields *Data Source Name, Home Area Code (NPA)* and *Exchange (NXX)*. Click on the **OK** button.

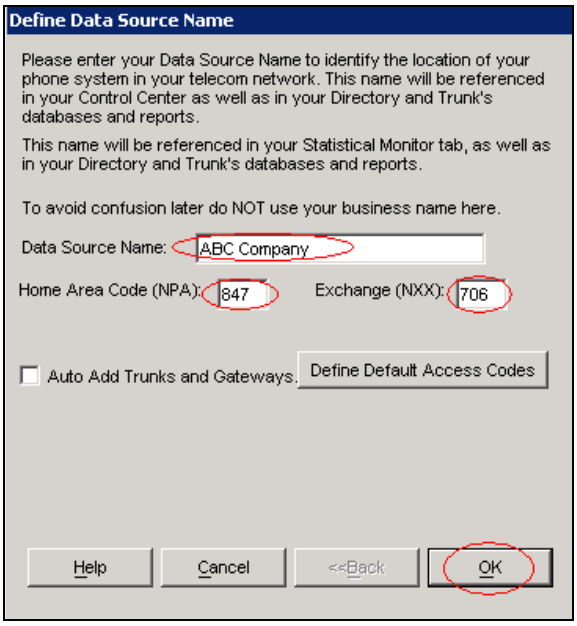

Figure 9: Configuring Data Source Name

To configure the Data Collection, navigate to **Administration > System Configuration options** as shown in **Figure 7** and from the System Configuration screen, select **Data Collection (*)** and click on the **Run** button as shown in **Figure 10**.

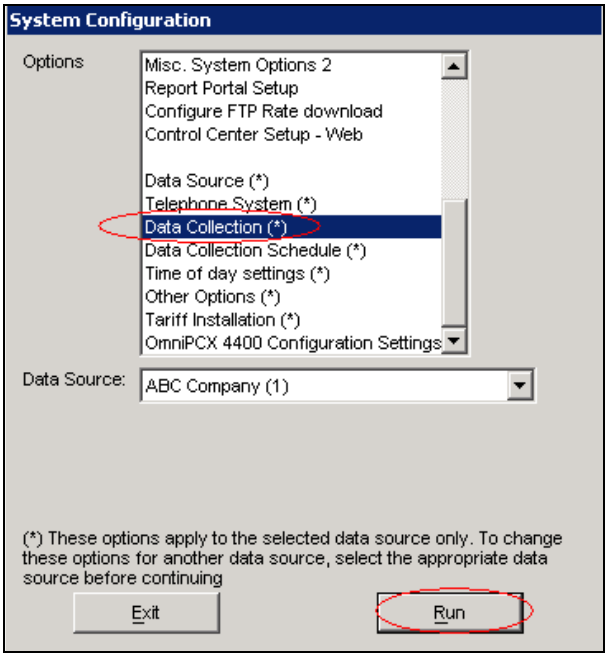

Figure 10: Data Collection Configuration

From the Data Collection Settings screen as shown in **Figure 11**, under *Data Collection Method* select *Network File Collection*. Populate the *Network File Pattern* field with the path where the DBA tool kit writes the *detail1.img* file. Click on the **OK** button to complete this configuration.

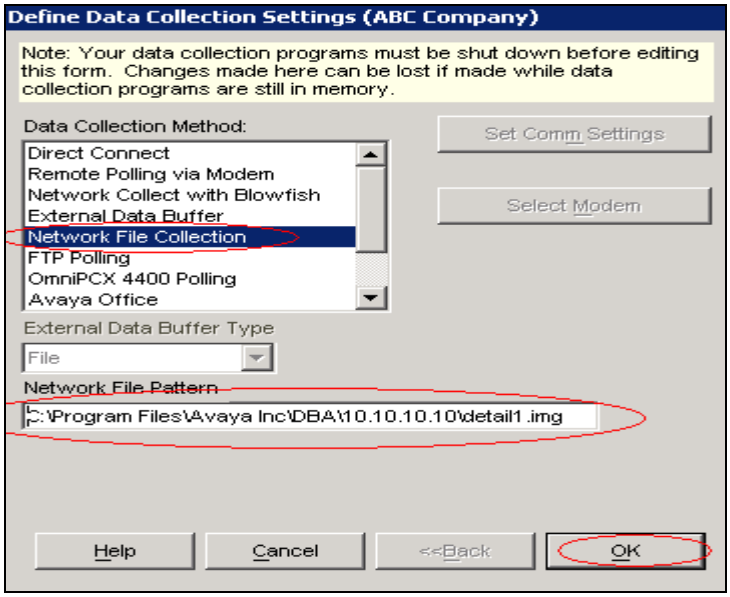

Figure 11: Configuring Data Collection Source

To configure the Data Collection Schedule, navigate to **Administration > System Configuration options** as shown in **Figure 7** and from the System Configuration screen, select **Data Collection Schedule (*)** and click on the **Run** button as shown in **Figure 12**.

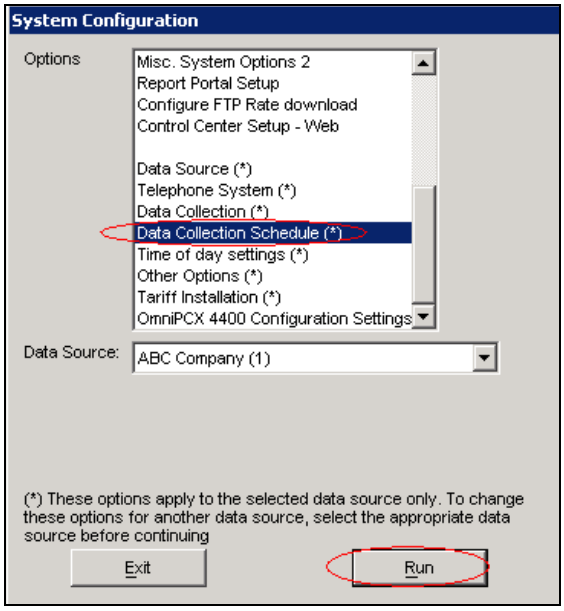

Figure 12: Data Collection Schedule Configuration

From the Data Collection Schedule screen as shown in **Figure 13**, select a *Data Collection Options*. During compliance testing, the selected collection option was in *Interval* and the *Interval Data Collection Time* was set to *1 minute*. Click on the **OK** button to complete this configuration.

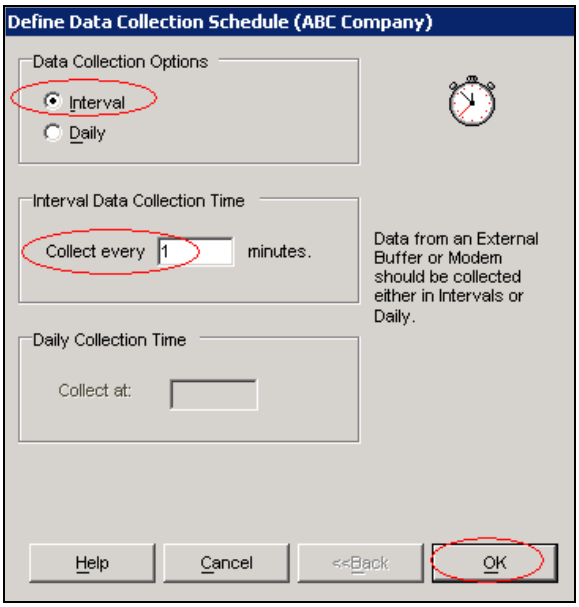

Figure 13: Configuring Data Collection Schedule

To complete the collection configuration, the correct Route/Trunk has to be defined on which the test calls are made. These are the same Route/Trunks that are defined on the CS1000 and configured as in **Section 4.1**.

To configure the Trunks on the Infortel Select Server, from the Control Center screen, navigate to **Databases > Trunks** as shown in **Figure 14** below.

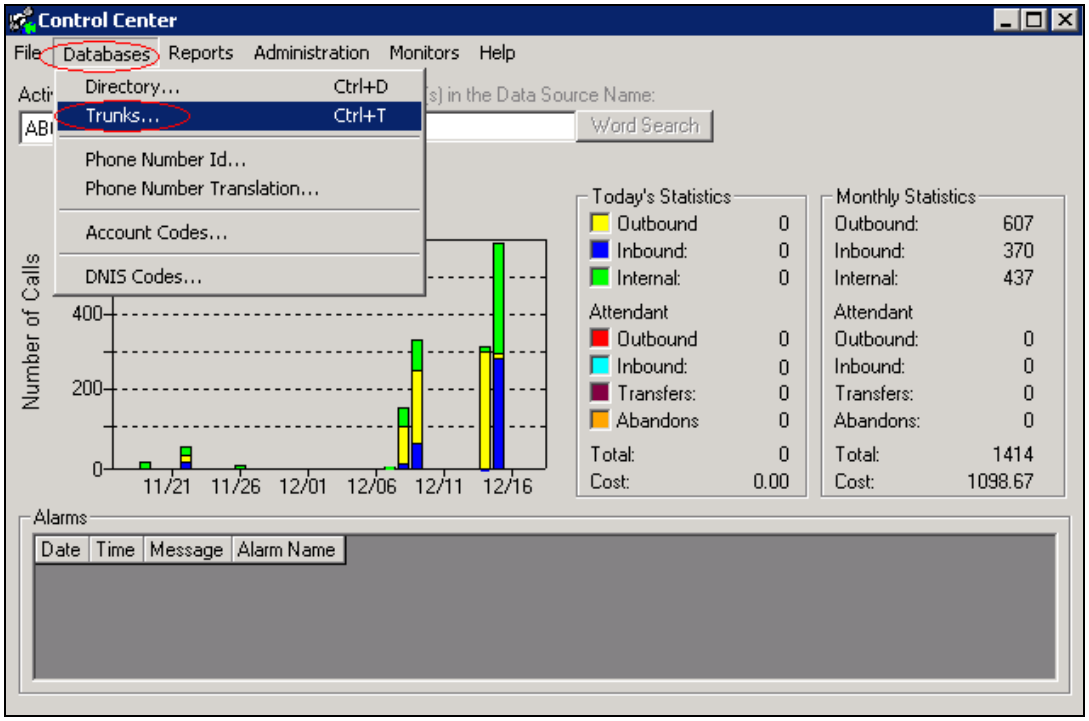

Figure 14: Databases Screen

To collect CDR from both internal and long distance calls, both internal and long distance routes needs to be configured. **Figure 15** below shows an internal route being configured. To add an internal route right click the mouse on **Internal** and then navigate to **Add > Add Route**.

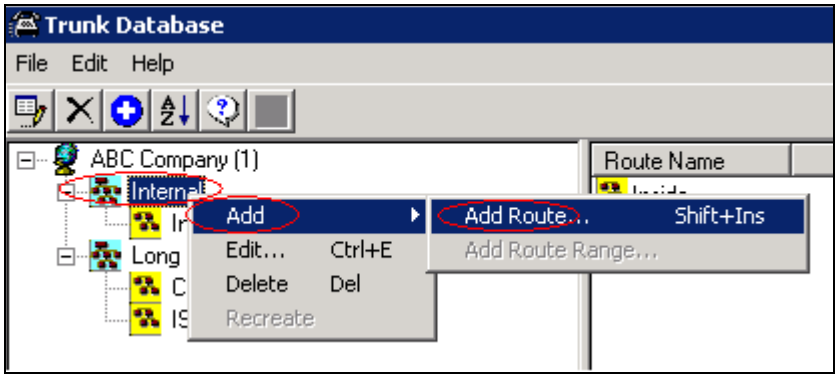

Figure 15: Adding Internal Route

Figure 16 shows the internal route being configured. Fields *Route Name, Route ID* and *Member Range* needs to be populated with relevant information. Click **OK** to complete the configuration.

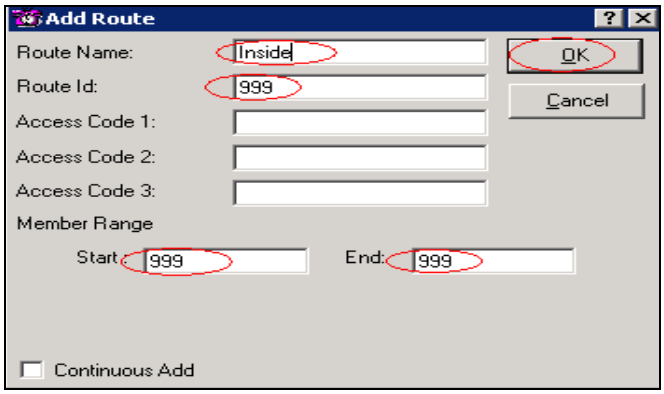

Figure 16: Internal Route Configuration

To configure a long distance route, first a Facility needs to be added and configured. **Figure 17** shows a Facility being added by right clicking the mouse on **ABC Company (1)** and then navigate to **Add > Add Facility**.

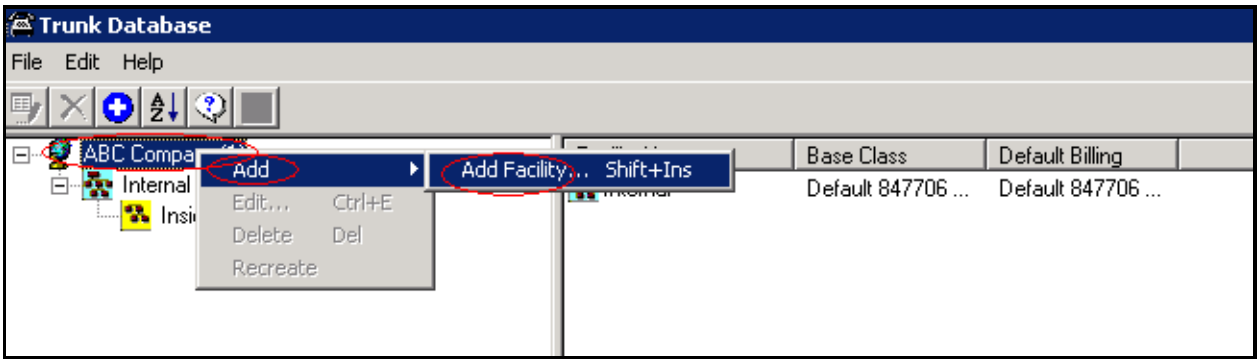

Figure 17: Adding a Facility

To configure the newly added Facility, populate the *Facility Name* field and select the appropriate parameters from the drop down for the *Line ID, Bill Class Name* and *GMT Offset* fields. Also populate the appropriate *Home Area Code* field and click **OK** to complete the configuration. The configuration is shown in **Figure 18** below.

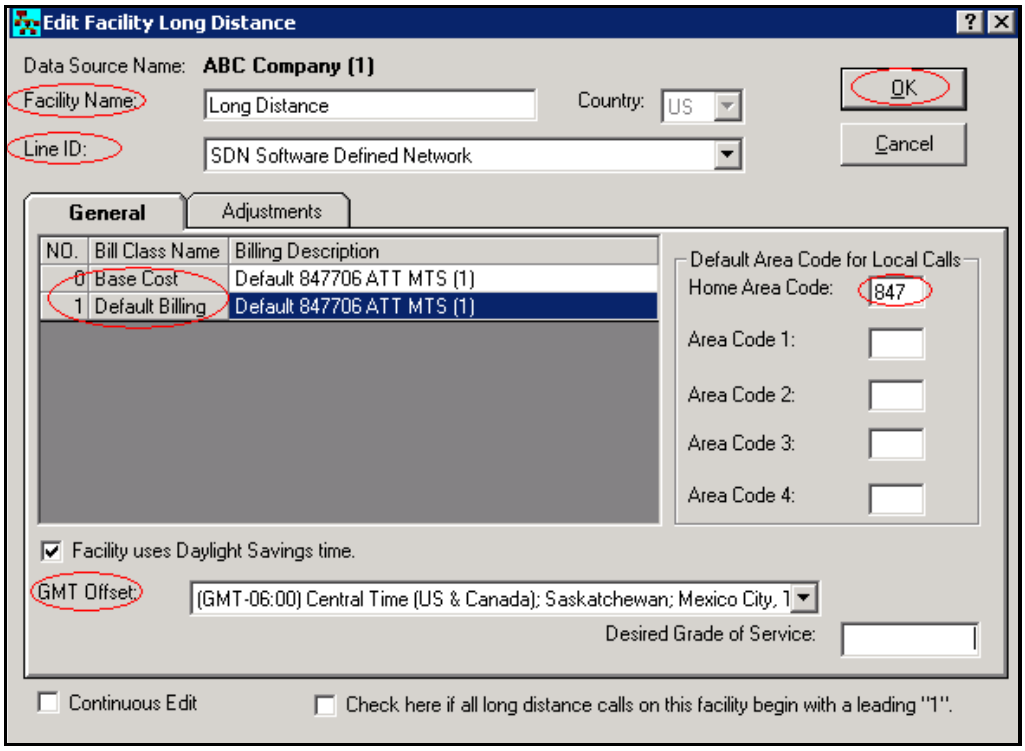

Figure 18: Configuring the newly added Facility

Figure 19 below shows a long distance route being configured on the newly added facility. To add a long distance route right click the mouse on **Long Distance** and then navigate to **Add > Add Route**.

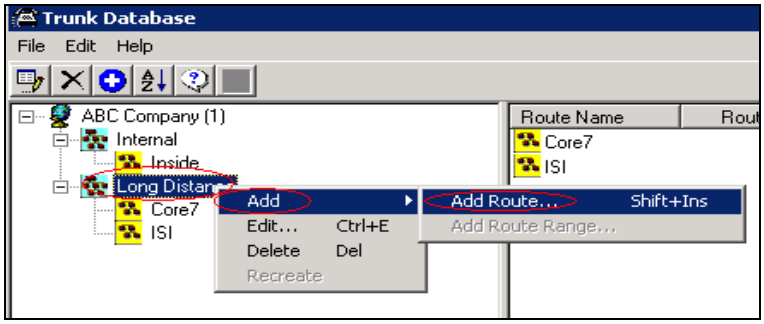

Figure 19: Adding Long Distance Route

Figure 20 shows the long distance route being configured. Fields *Route Name, Route ID, Access Code 1* and *Member Range* needs to be populated with relevant information. Click **OK** to complete the configuration.

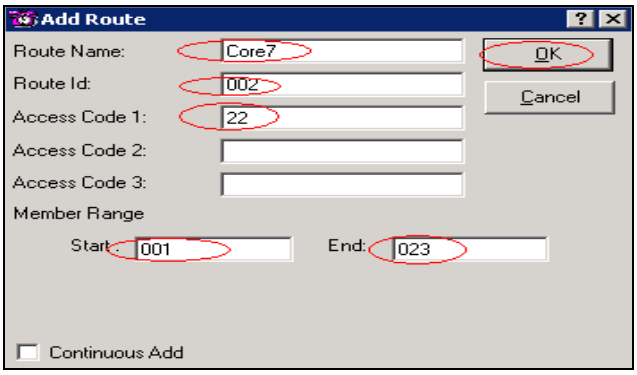

Figure 20: Long Distance Route Configuration

5.2. Collection and Processing of CDR data

CDR data collection configuration is explained in **Section 5.1**. This section explains as how the CDR data is collected and processed by the Infortel Select Server.

Infortel Select Server uses the **isvCollect** and **isvProcess** services to collect and process the CDR data respectively. These services are automatically started when the server running the Infortel Select application is booted up.

To access these services, navigate to **Start > Programs > Infortel Select > Manage Background Services** from the Infortel Select Server. **Figure 21a** below shows the main screen of the Manage Background Services. The figure also shows the **isvCollect** service running and the log message in the bottom part of the window shows that the collection has passed.

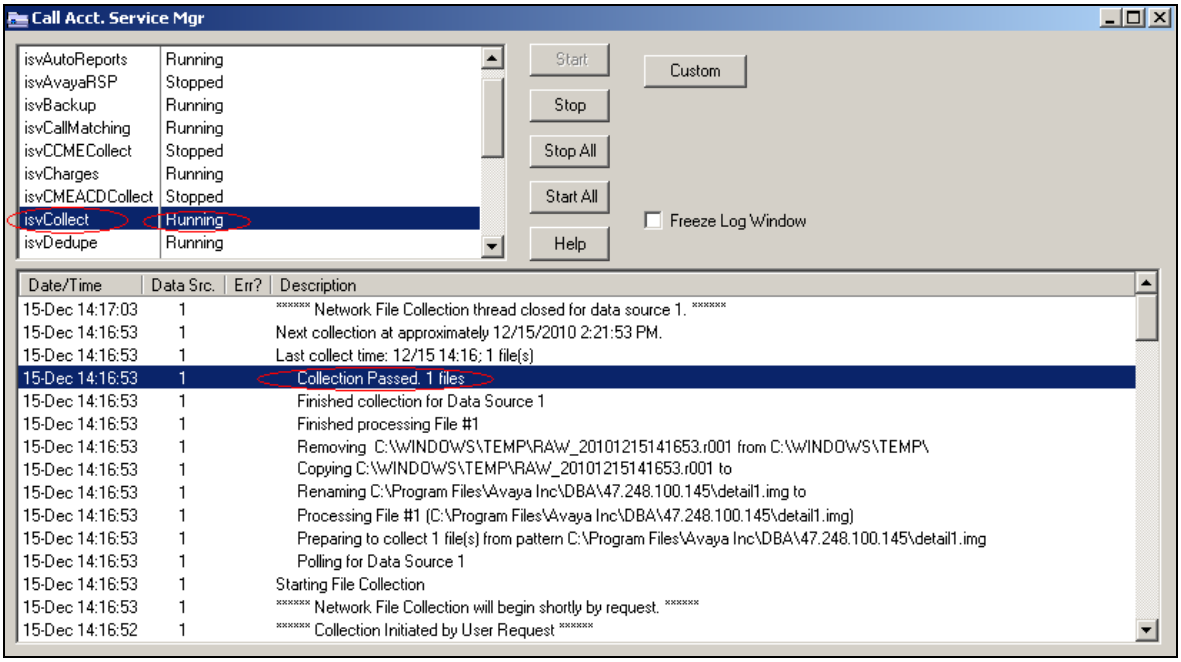

Figure 21a: Manage Background Services showing isvCollect service and logs

Figure 21b below shows the main screen of the Manage Background Services along with the **isvProcess** service running and the log message in the bottom part of the window shows that the records has been processed.

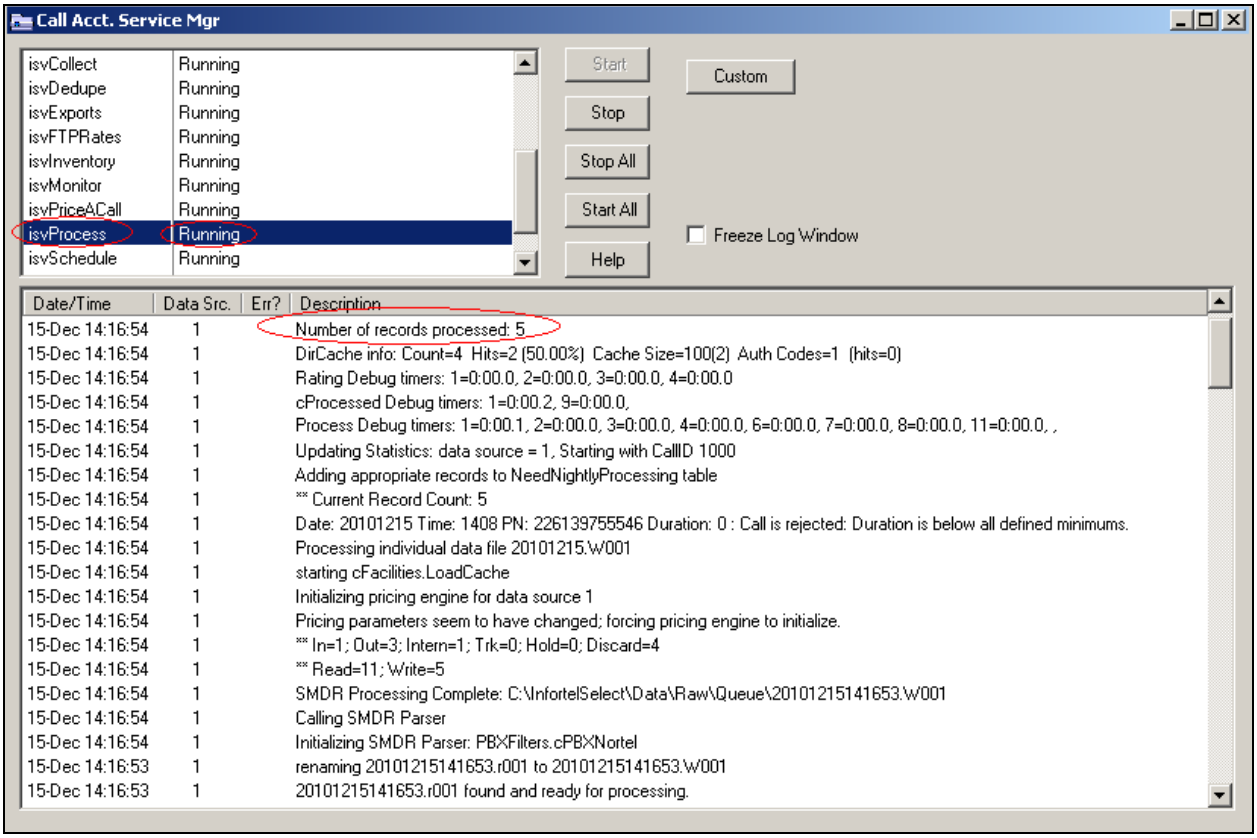

Figure 21b: Manage Background Services showing isvProcess service and logs

The collection process collects the *detail1.img* file generated by the DBA tool kit and renames it into an *xxx.rxxx* file. Once this process is completed, the Infortel Select Server then processes the *xxx.rxxx* file by renaming it into an *xxx.Wxxx* file.

5.3. Configuring Reports

Once the CDR records has been collected and processed, the Infortel Select Sever is now ready to output the results in reporting format. This section explains a few samples of these various reports that are generated by the Infortel Select Server. The assumption is made here that prior to generating the reports; relevant Pricing Tables have been uploaded and configured into the Infortel Select Server. For further information as how to configure the Pricing, refer to **Section 9 [3]**.

To access the Reports application of the Infortel Select Server, navigate to, **Reports > Call Accounting Reports** from the main screen of the Control Center as shown in **Figure 22** below.

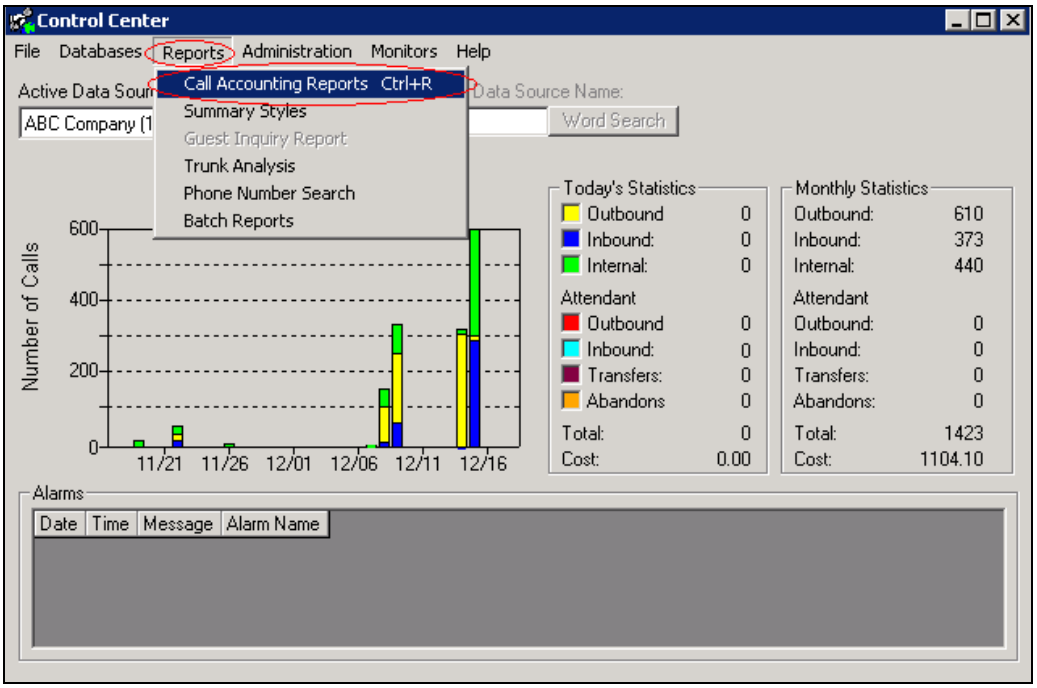

Figure 22: Accessing Reports Application

Figure 23 shows the main Select Report screen. From here various reports can be selected, for example, *Detail by Extension, Detail by Authorization Codes, Detail by Trunks, Detail by Account code* etc. Once a required report has been selected, click on the **Continue** button.

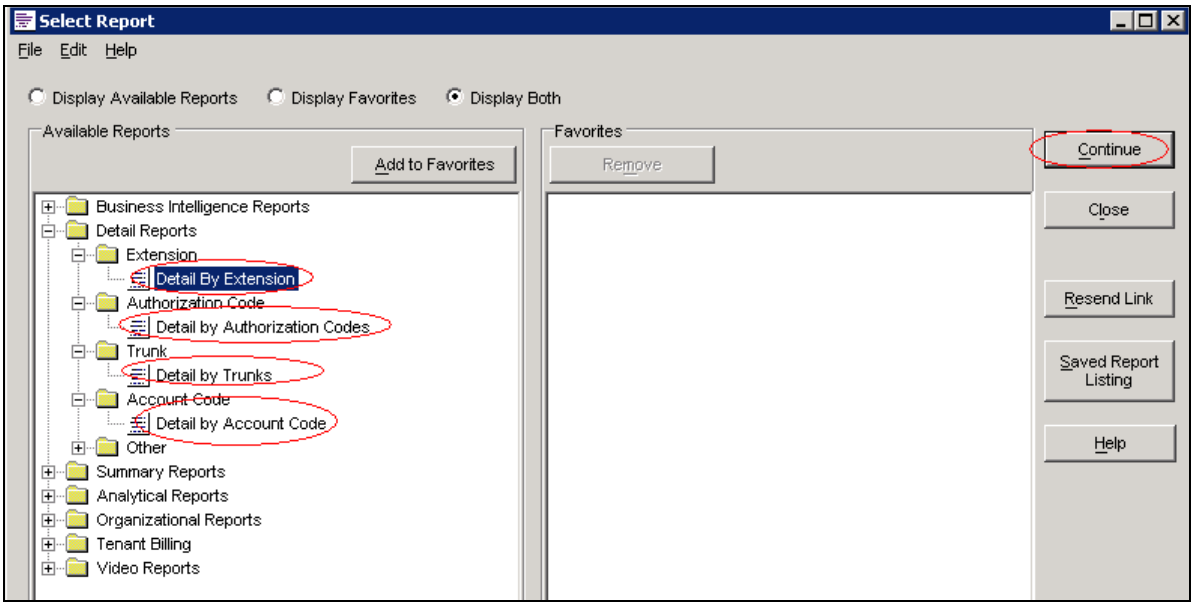

Figure 23: Select Report Main Screen

In the Reports Parameters screen as shown in **Figure 24** below, various parameters can be set as per the requirement of the report. In the example below, a **Date Range** parameter was chosen. Click on **Run Now** button once the required parameters have been configured.

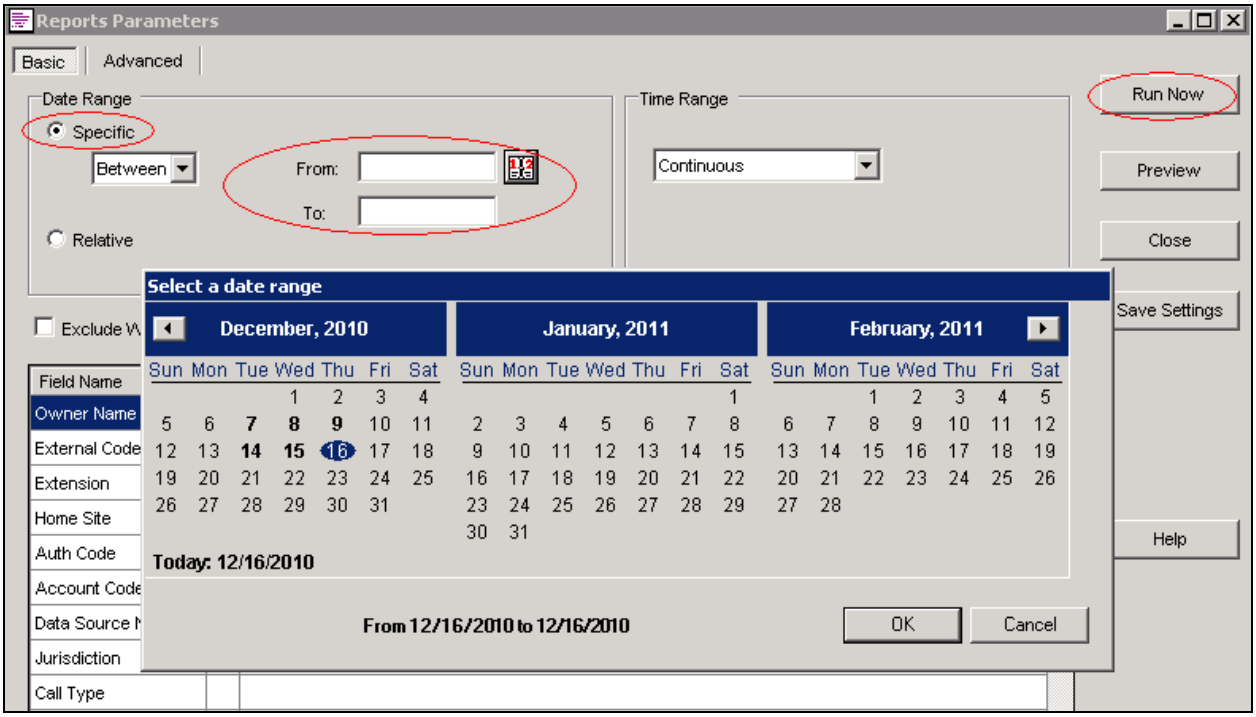

Figure 24: Reports Parameters Screen

Figures 25a through **25d** show examples of various reports with the Date Range parameter configured.

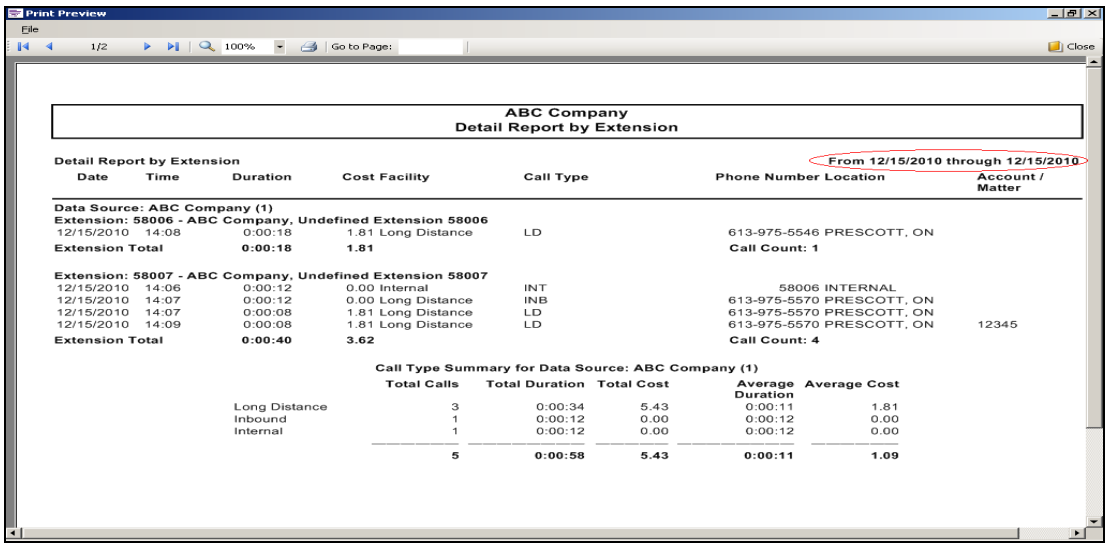

Figure 25a: Detail Report by Extension

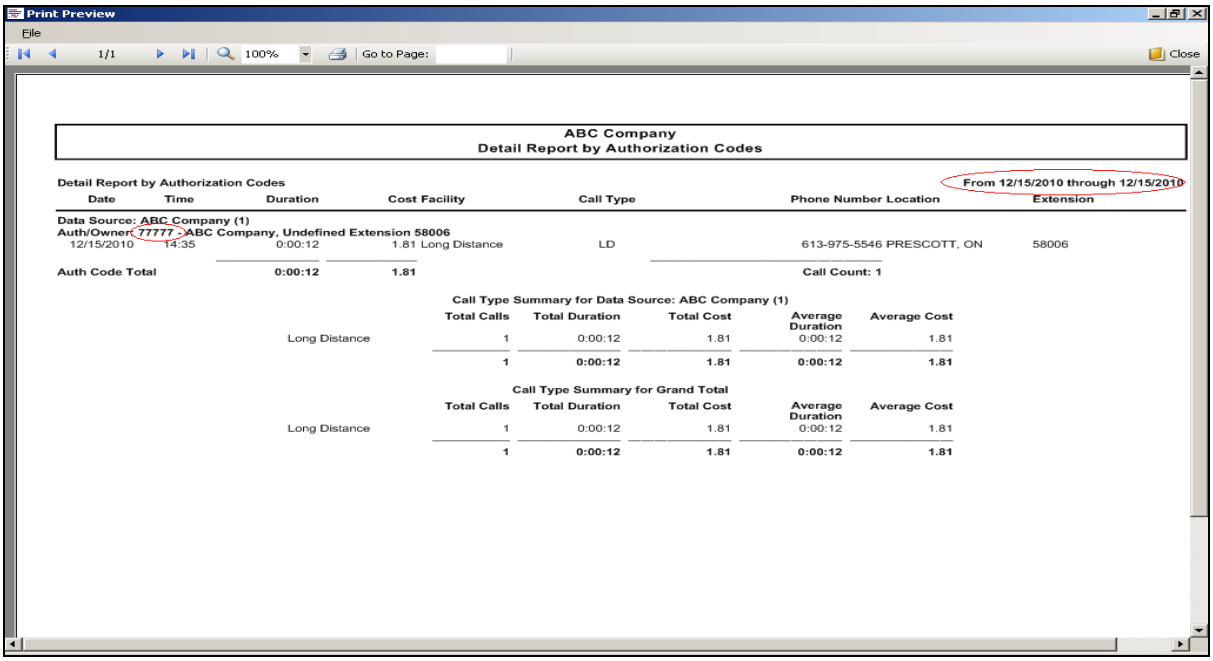

Figure 25b: Detail Report by Authorization Codes

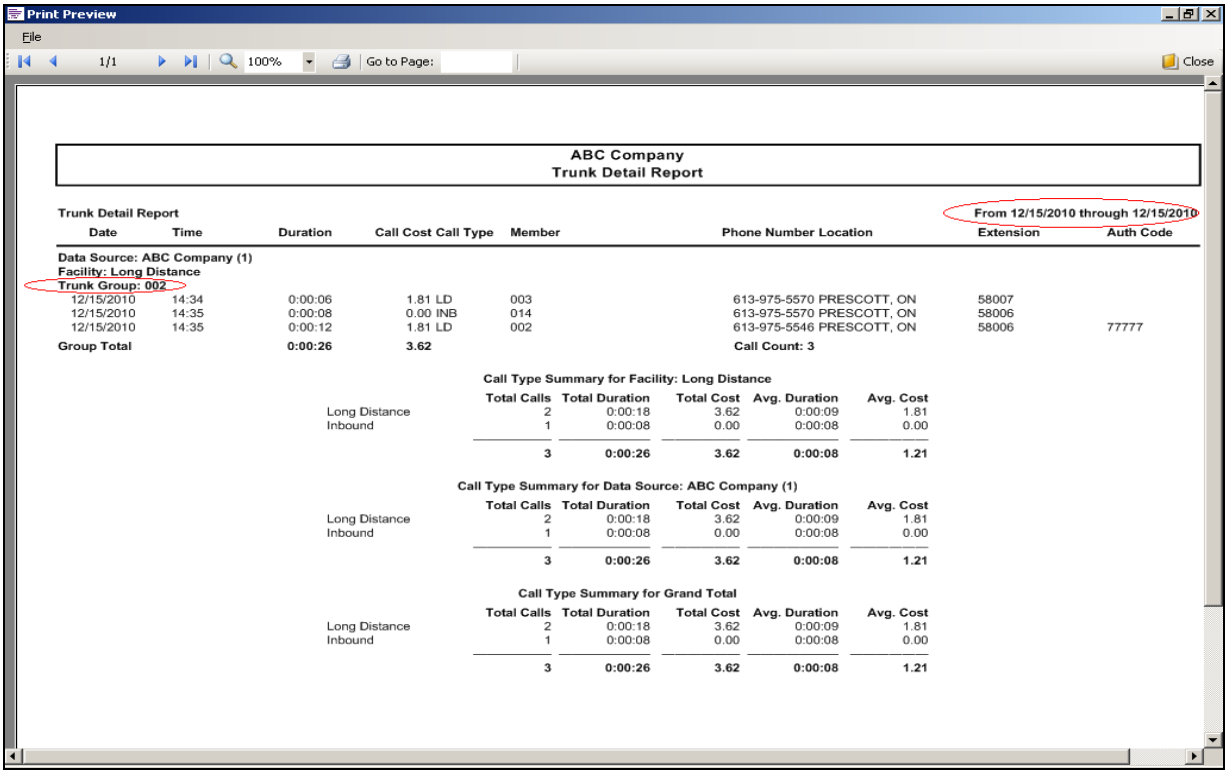

Figure 25c: Trunk Detail Report

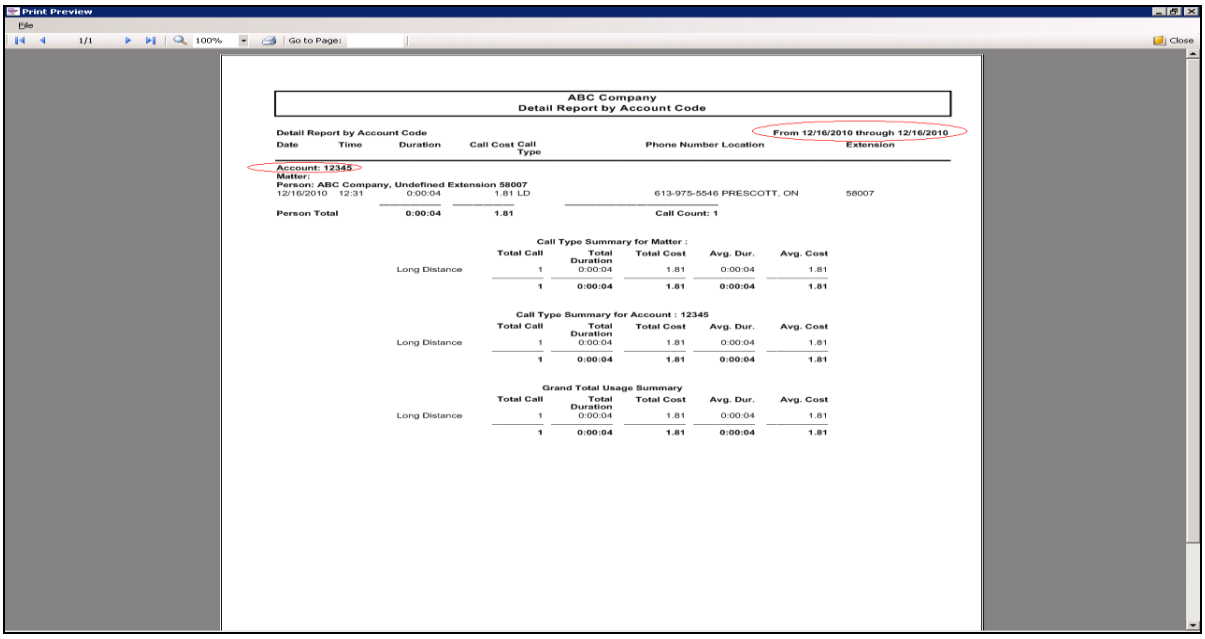

Figure 25d: Detail Report by Account Code

6. General Test Approach and Test Results

The compliance test included configuring the Infortel Select Server to collect CDR records from DBA tool kit, process them and be able to output them in reporting format with data in the report matching that of the raw CDR data.

6.1. General test approach

The general test approach is to verify whether the Infortel Select Server can be configured to collect CDR via the DBA tool kit. Once the data has been collected, Infortel Select Server needs to process this data and produce them in a reporting format. Contents of the reports produced by the Infortel Select Server should match with the raw CDR data generated by the CS1000.

6.2. Test Results

All executed test cases passed its objectives.

7. Verification Steps

This section includes some steps that can be followed to verify that the solution is working.

- Configure the Infortel Select Server to collect the CDR data that has been generated by the DBA tool kit.
- Verify if *isvCollect* and *isvProcess* services are running on the Infortel Select Server.
- Run various reports and compare the data of the report with the original raw CDR data for reliability.
- Disconnect connectivity between the DBA tool kit and CS1000 either by a server restart, shut down or Ethernet cable disconnect. Verify if Infortel Select Server is able to start back the collection and process data once the connection between DBA tool kit and CS1000 has been re-established.

8. Conclusion

All of the executed test cases have passed and met the objectives outlined in **Section 6**. The Infortel Select Server version 8.1 is considered compliant with Avaya Communication Server 1000 Release 7.0.

9. Additional References

[1] Product documentation for Avaya products may be found at:
https://support.avaya.com/css/Products/

[2] DBA tool kit download, installation, configuration and documentation may be found at:
https://devconnect.avaya.com/public/dyn/d_dyn.jsp?fn=702

[3] Product documentation for Infortel Select may be found at:
http://www.isi-info.com/support/support_customer_quick.htm

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.