



# **Application Notes for Data Track Eclipse Call Management System and Avaya Aura™ Communication Manager – Issue 1.0**

## **Abstract**

These application notes describe the configuration steps required for Data Track Eclipse Call Management System to successfully interoperate with Avaya Aura™ Communication Manager. Eclipse Call Management System collects call detail records (CDR) from the Avaya Aura™ Communication Manager and processes them to allow users to analyse and report on incoming, outgoing, internal and automatic call distribution (ACD) traffic. Real-time Transport Control Protocol (RTCP) data is also collected and processed by Eclipse Call Management System to provide voice quality reports including a calculated mean opinion score (MOS) for voice over IP (VoIP) environments.

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 used to validate Data Track Eclipse Call Management System with Avaya Aura™ Communication Manager. Data Track Eclipse Call Management System receives Call Detail Recording (CDR) and Real-Time Transport Control Protocol (RTCP) data and processes this data to provide a complete overview of a voice network's operation and performance. A comprehensive reporting suite allows the user to produce a range of reports including:

- Quality of Service Reports
- Cost Allocation Reports
- Response Reporting
- Traffic Analysis Reports
- Fraud Analysis Reports

For the compliance test a customized CDR format was supplied by Data Track for use with Eclipse Call Management System.

## 1.1. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing. The feature testing verified the ability of Data Track Eclipse Call Management System to collect and process CDR records for various types of calls including intra-switch, PSTN, outgoing and incoming calls. The source, destination and duration of each call were verified on the Eclipse Call Management System (Eclipse CMS). For call quality reporting, a number of calls were made using VoIP handsets and the receipt of the RTCP data and subsequent MOS calculations were done.

The serviceability testing introduced failure scenarios to see if Eclipse Call Management System can resume CDR and RTCP data collection after a failure.

## 1.2. Support

For technical support on Data Track products please contact Data Track support team at:

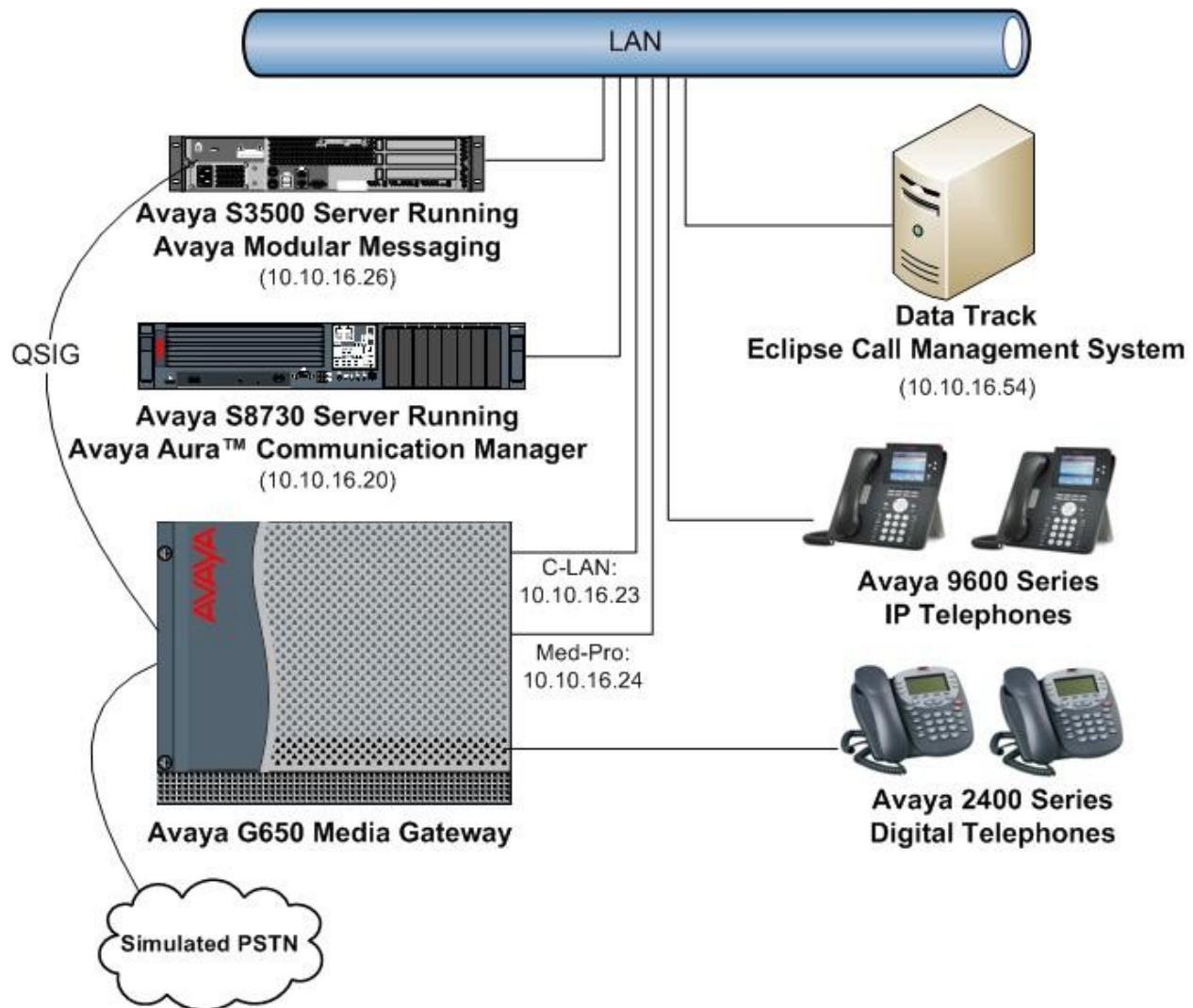
Web: [www.dtrack.com](http://www.dtrack.com)

Email: [support@dtrack.com](mailto:support@dtrack.com)

Phone: +44 (0) 1425282020

## 2. Reference Configuration

The test configuration in **Figure 1** was used to compliance test the interoperability of Data Track Eclipse Call Management System and Communication Manager. Data Track Eclipse Call Management System connects to the Communication Manager over the LAN to collect CDR and RTCP information. The Communication Manager services connection to Avaya 9600 series IP telephones and Avaya 2400 series digital telephones were used to generate call traffic. In addition calls were made to and from the simulated PSTN connection and to a voicemail. Voicemail was provided by Modular Messaging.



**Figure 1: Eclipse Lab Topology**

### 3. Equipment and Software Validated

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

Equipment	Software
Avaya S8730 Media Server	Avaya Aura™ Communication Manager 5.2.1 Service Pack 3
Avaya G650 Media Gateway CLAN -TN799DP MEDPRO- TN2602AP	HW 01 FW 038 HW 08 FW 057
Avaya Modular Messaging S3500 Servers	Avaya Modular Messaging 5.2
Avaya 9600 Series telephones	H.323 Firmware 3.1.1
Avaya 2400 Series telephones	N/A
Data Track Eclipse Server	Eclipse Call Management System Software 1.30.3

### 4. Configure Avaya Aura™ Communication Manager

This section describes the procedure for configuring CDR and RTCP data feeds in Communication Manager. These steps are performed through the System Access Terminal (SAT).

#### 4.1. Configure Avaya Call Detail Recording

The following steps describe the configuration required on the Communication Manager to administer Call Detail Recording and its connection to Eclipse Call Management System. It is assumed that the Communication Management Software and all the G650 Media Gateway Hardware including C-LAN and Medpro cards are installed and available for use with the Eclipse Call Management System. The installation and configuration of the Communication Manager Software and related hardware including C-LAN card is out of scope for these Application Notes.

##### 4.1.1. Configure IP Node Names

Use the **change node-names ip** command to create a new node name for the Eclipse Call Management System. In the example below the node name **Eclipse** is used. This node name is associated with the IP Address of the PC running the Eclipse Call Management System. Take note of the node name for the CLAN that will be used for the CDR connection. In this example **CLAN1** is used.

change node-names ip		IP NODE NAMES
Name	IP Address	
<b>CLAN1</b>	<b>10.10.16.23</b>	
CLAN2	10.10.16.27	
<b>Eclipse</b>	<b>10.10.16.54</b>	
Gateway	10.10.16.1	
MedPro1	10.10.16.24	
default	0.0.0.0	
procr	10.10.16.20	

### 4.1.2. Configure CDR Link

Use the **change ip-services** command to define a CDR link. On **Page 1** the following fields should be administered:

- Set the **Service Type** field to **CDR1** (a secondary link can be defined by setting the service type field to CDR2).
- Set the **Local Node** field to **CLAN1**, the node-name of the C-LAN board that will provide the CDR connection.
- Set the **Remote Node** field to **Eclipse**, the node-name of Eclipse Call Management System configured in the previous section.
- Because the Communication Manager initiates the CDR connection the **Local Port** is fixed at **0**.
- The **Remote Port** should be set to a value mutually agreed with Data Track. The port configured here must match the port configured on the Eclipse Call Management System.

change ip-services					Page	1	of	4
IP SERVICES								
Service	Enabled	Local	Local	Remote	Remote			
Type		Node	Port	Node	Port			
CDR1		CLAN1	0	Eclipse	5101			

On **Page 3** of the ip-services form, disable the Reliable Session Protocol (RSP) for the CDR link by setting the **Reliable Protocol** field to **n**.

change ip-services					Page	3 of	4
SESSION LAYER TIMERS							
Service Type	Reliable Protocol	Packet Resp Timer	Session Connect Message Cntr	SPDU Cntr	Connectivity Timer		
CDR1	n	30	3	3	60		

### 4.1.3. Configure CDR Parameters

Enter the **change system-parameters cdr** command from SAT to set the parameters for the format of the CDR data. The parameters set in this screen define the type of calls that will be recorded and what data will be included in the record. The parameters discussed here are the parameters that were set for the compliance test. See reference [2] for a full explanation of each field.

- The **CDR Date Format** field was set to **month/day** to match the Eclipse CMS configuration. Eclipse CMS will also accept a **day/month** format if required.
- During the compliance test Data Track provided a customized CDR format so the **Primary Output Format** was set to **customized**.
- The **Primary Output Endpoint** was set to **CDR1** to match the configuration in **Section 4.1.2**.
- The **Use Legacy CDR Formats** field enables or disables the use of Communication Manager 3.1 and earlier legacy Call Detail Recording formats for CDR records. This was disabled for the compliance test by setting the field to **n**. The default is **y**.
- Set **Intra-switch CDR** to **y** to allow internal Communication Manager calls to be recorded; only the stations defined in the **intra-switch-cdr** screen (**Section 4.1.4**) will produce CDR entries.
- Set **Outg Trk Call Splitting** and **Inc Trk Call Splitting** to **y** to allow a separate call record for any portion of an outgoing or incoming trunk call that is transferred or conferenced.
- Set **Suppress CDR for Ineffective Call Attempts** to **n** so that ineffective calls are recorded within the CDR. An ineffective call attempt is any call that is blocked because the user did not have sufficient calling privileges or because all outgoing trunks were busy.
- If **Record Called Vector Directory Number Instead of Group or Member** is set to **y** the called VDN number will be recorded in the CDR instead of the group or member information (e.g. the receiving station extension number) that would normally appear in the dialed number field. In the example screen below this has been set to **n**.
- If **Record Agent ID on Incoming** is set to **y** the CDR will record the agent ID number for calls received by users logged into a station extension with an agent ID. If this field is set to **n** then the station extension number will be recorded in the CDR, regardless of any agent IDs that may be logged on to that station extension when the call is received.
- Set **Record Agent ID on Outgoing** to **y** so that the CDR will record the agent ID number for calls made by users logged into a station extension with an agent ID. If this field is set to **n** then the station extension number will be recorded in the CDR, regardless of any agent IDs that may be logged on to that station extension when the call is made.

**Note:** The **Record Called Vector Directory Number Instead of Group or Member** and the **Record Agent ID on Incoming** options cannot be used at the same time. Only one of these fields should be set to y. Both options were successfully tested with Eclipse Call Management System.

change system-parameters cdr		Page 1 of 2
CDR SYSTEM PARAMETERS		
Node Number (Local PBX ID): 1	CDR Date Format: month/day	
Primary Output Format: customized	Primary Output Endpoint: CDR1	
Secondary Output Format:		
Use ISDN Layouts? n	Enable CDR Storage on Disk? n	
Use Enhanced Formats? n	Condition Code 'T' For Redirected Calls? n	
Use Legacy CDR Formats? n	Remove # From Called Number? n	
Modified Circuit ID Display? n	Intra-switch CDR? y	
Record Outgoing Calls Only? n	Outg Trk Call Splitting? y	
Suppress CDR for Ineffective Call Attempts? n	Outg Attd Call Record? n	
Disconnect Information in Place of FRL? n	Interworking Feat-flag? n	
Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n	Calls to Hunt Group - Record: member-ext	
Record Called Vector Directory Number Instead of Group or Member? n		
Record Agent ID on Incoming? y	Record Agent ID on Outgoing? y	
Inc Trk Call Splitting? y	Inc Attd Call Record? n	
Record Non-Call-Assoc TSC? n	Call Record Handling Option: warning	
Record Call-Assoc TSC? n	Digits to Record for Outgoing Calls: dialed	
Privacy - Digits to Hide: 0	CDR Account Code Length: 15	

During the compliance test, Data Track provided a customized CDR format. The following screen shows the customized CDR data format that was defined on **Page 2** of the **change system-parameters cdr** screen for the testing associated with these Application Notes.

change system-parameters cdr		Page 2 of 2
CDR SYSTEM PARAMETERS		
Data Item - Length	Data Item - Length	Data Item - Length
1: date - 6	17: in-trk-code - 4	33: feat-flag - 1
2: space - 1	18: space - 1	34: frl - 1
3: time - 4	19: auth-code - 7	35: node-num - 2
4: space - 1	20: space - 1	36: vdn - 5
5: sec-dur - 5	21: in-crt-id - 3	37: country-from - 3
6: space - 1	22: space - 1	38: country-to - 3
7: cond-code - 1	23: out-crt-id - 3	39: location-from - 3
8: space - 1	24: space - 1	40: location-to - 3
9: code-dial - 4	25: isdn-cc - 11	41: return - 1
10: space - 1	26: space - 1	42: line-feed - 1
11: code-used - 4	27: ppm - 5	43: -
12: space - 1	28: space - 1	44: -
13: dialed-num - 18	29: acct-code - 15	45: -
14: space - 1	30: space - 1	46: -
15: calling-num - 15	31: attd-console - 4	47: -
16: space - 1	32: bandwidth - 2	48: -
Record length = 149		

#### 4.1.4. Define Intra-Switch CDR members

If the Intra-switch CDR field is set to **y** on **Page 1** of the **system-parameters cdr** form in the previous section, then use the **change intra-switch-cdr** command to define the extensions that will be subject to call detail records. Enter the specific extensions whose usage will be tracked.

change intra-switch-cdr		Page 1 of 3	
INTRA-SWITCH CDR			
Assigned Members:		5	of 5000 administered
Extension	Extension	Extension	Extension
6610			
6620			
6621			
6622			
8899			
Use 'list intra-switch-cdr' to see all members, 'add intra-switch-cdr' to add new members and 'change intra-switch-cdr <ext>' to change/remove other members			

Although not used during the testing, to simplify the process of adding multiple extensions in the Assigned Members field, the **Intra-switch CDR by COS** feature may be utilized by activating Special Application SA8202. This feature will override the intra-switch CDR table and allow intra-switch CDRs to be activated by COS. See reference [3] for further information on this feature.

display system-parameters special-applications		Page 3 of 9	
SPECIAL APPLICATIONS			
(SA8141) - LDN Attendant Queue Priority? n			
(SA8143) - Omit Designated Extensions From Displays? n			
(SA8146) - Display Update for Redirected Calls? n			
(SA8156) - Attendant Priority Queuing by COR? n			
(SA8157) - Toll Free Vectoring until Answer? n			
(SA8201) - Start Time and 4-Digit Year CDR Custom Fields? n			
<b>(SA8202) - Intra-switch CDR by COS? n</b>			
(SA8211) - Prime Appearance Preference? n			
(SA8240) - Station User Admin of FBI? n			
(SA8312) - Meet-Me Paging? n			
(SA8323) - Idle Call Preference Display? n			
(SA8339) - PHS X-Station Mobility? n			
(SA8348) - Map NCID to Universal Call ID? n			
(SA8428) - Station User Button Ring Control? n			
(SA8434) - Delay PSTN Connect on Agent Answer? n			
(SA8439) - Forward Held-Call CPN? n			
(SA8440) - Unmodified QSIG Reroute Number? n			
(SA8475) - SOSM? n			



#### 4.1.5. Enable Trunk Group CDR Reporting

For each trunk group for which CDR records are desired, use the **change trunk-group *n*** command, where *n* is the trunk group number. Set the **CDR Reports** field to **r**. In addition to recording inbound and outbound calls this setting will create a record for the ringing interval of calls, including unsuccessful calls. Each ringing interval record is given a condition code to indicate the outcome of the call; the condition codes are as follows:

- Abandoned calls will result in a condition code of H, indicating the time until the call was abandoned.
- Answered calls will result in a condition code of G, indicating the interval from start of ring to answer.
- Calls to busy stations will result in a condition code of I, indicating a recorded interval of 0.

**Note:** An assumption is made that a trunk group, a signaling group, and a route pattern are already configured correctly. Configuring these is outside the scope of these Application Notes.

change trunk-group 5		Page 1 of 21	
TRUNK GROUP			
Group Number: 5	Group Type: isdn	CDR Reports: r	
Group Name: Simulated PSTN	COR: 1	TN: 1	TAC: 505
Direction: two-way	Outgoing Display? y	Carrier Medium: PRI/BRI	
Dial Access? y	Busy Threshold: 255	Night Service:	
Queue Length: 0			
Service Type: public-ntwrk	Auth Code? n	TestCall ITC: rest	
	Far End Test Line No:		
TestCall BCC: 4			

## 4.2. Configure Avaya RTCP

The following steps describe the configuration required on the Communication Manager to administer RTCP data to be sent to the Eclipse Call Management System. It is assumed that CLAN and Media Processor cards used by IP endpoints reside in IP network region 1. The installation and configuration of the CLAN and Media Processor cards themselves is out of scope for these Application Notes.

### 4.2.1. Configure RTCP Monitor Server

Because Eclipse Call Management System uses RTCP packets to calculate and report the quality of the call stream, Eclipse Call Management System needs to be defined as an RTCP Monitor Server in Communication Manager. Use the **change system-parameters ip-options** command to configure the RTCP Monitor Server. Provide the following information:

- The **Default Server IP Address** field should be set to the IP address of the Eclipse Call Management System configured in **Section 4.1.1**.
- The **Default Server Port** should be set to a value mutually agreed with Data Track. In this example the default of **5005** is used. This port number must match what is configured on Eclipse Call Management System as the RTCP Listening Port (**Section .5.5**)
- **Default RTCP Report Period(secs)** – defines how frequently the Communication Manager forwards RTCP packet to the RTCP Monitor Server, which is the Eclipse Call Management System server. The default value for the Default RTCP Report Period(secs) field is 5

```
change system-parameters ip-options                                     Page 1 of 4
                               IP-OPTIONS SYSTEM PARAMETERS

IP MEDIA PACKET PERFORMANCE THRESHOLDS
  Roundtrip Propagation Delay (ms)      High: 800      Low: 400
  Packet Loss (%)                      High: 40       Low: 15
  Ping Test Interval (sec): 20
  Number of Pings Per Measurement Interval: 10
  Enable Voice/Network Stats? n

RTCP MONITOR SERVER
  Default Server IP Address: 10 .10 .16 .54
  Default Server Port: 5005
  Default RTCP Report Period(secs): 5

AUTOMATIC TRACE ROUTE ON
  Link Failure? y

H.248 MEDIA GATEWAY                      H.323 IP ENDPOINT
  Link Loss Delay Timer (min): 5          Link Loss Delay Timer (min): 5
                                           Primary Search Time (sec): 75
                                           Periodic Registration Timer (min): 20
```

## 4.2.2. Configure IP Network Region

RTCP reporting is enabled on a per IP network region basis. Enter the **change ip-network-region *n*** command, where *n* is IP network region number to be monitored. Set **RTCP Reporting Enabled** to **y**. Set the **Use Default Server Parameters** field to **y** so that the IP network region will use the default server parameters defined in **Section 4.2.1**. Only one RTCP monitor server can be configured per IP network region.

```
change ip-network-region 1                                     Page 1 of 19
                                     IP NETWORK REGION
  Region: 1
Location: 1      Authoritative Domain:
  Name: Default Region
MEDIA PARAMETERS                                     Intra-region IP-IP Direct Audio: yes
  Codec Set: 1                                         Inter-region IP-IP Direct Audio: yes
  UDP Port Min: 2048                                  IP Audio Hairpinning? y
  UDP Port Max: 3329
DIFFSERV/TOS PARAMETERS                                RTCP Reporting Enabled? y
  Call Control PHB Value: 46                         RTCP MONITOR SERVER PARAMETERS
  Audio PHB Value: 46                                Use Default Server Parameters? y
  Video PHB Value: 26
802.1P/Q PARAMETERS
  Call Control 802.1p Priority: 6
  Audio 802.1p Priority: 6
  Video 802.1p Priority: 5
H.323 IP ENDPOINTS                                     AUDIO RESOURCE RESERVATION PARAMETERS
  H.323 Link Bounce Recovery? y                       RSVP Enabled? n
  Idle Traffic Interval (sec): 20
  Keep-Alive Interval (sec): 5
  Keep-Alive Count: 5
```

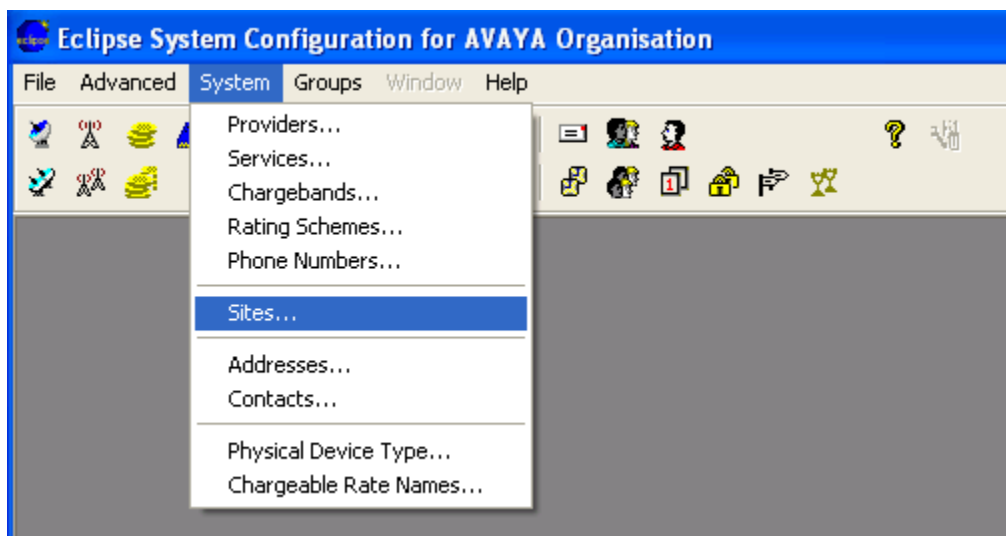
## 5. Configure Eclipse Call Management System

The following sections describe the steps required to configure the base configuration required to enable Eclipse Call Management System to collect and report on the RTCP and CDR records generated by Communication Manager.

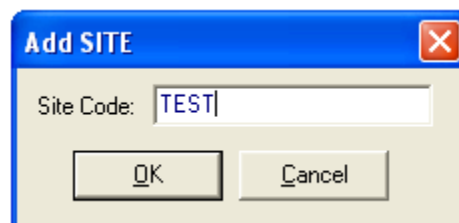
**Note:** The example screens shown in this section were taken after the Eclipse Call Management System had been configured and are intended to illustrate the information that is required.

### 5.1. Configure Site

To configure a site launch the Eclipse System Configuration tool by navigating to **Programs → Eclipse III CMS → Eclipse Configuration [not shown]** and log in with appropriate credentials. From the Eclipse System Configuration window select **System → Sites**.



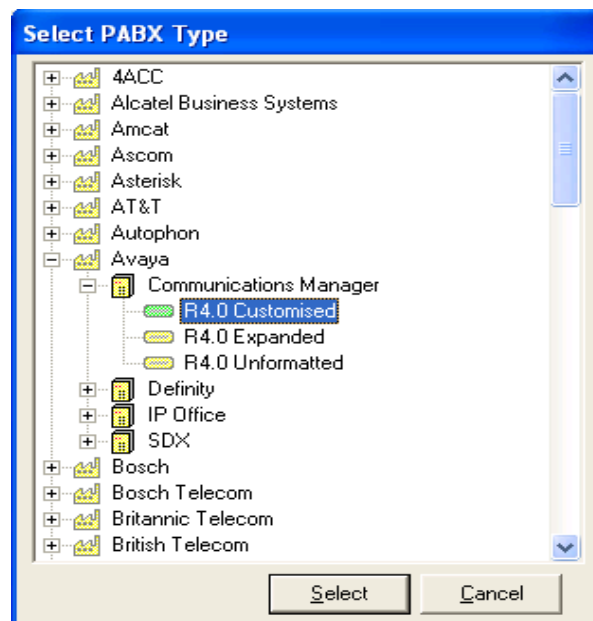
In the resulting window enter a name for the logical site that the CDR records and RTCP data will be associated with. For the compliance test a **Site Code** of **TEST** was used.



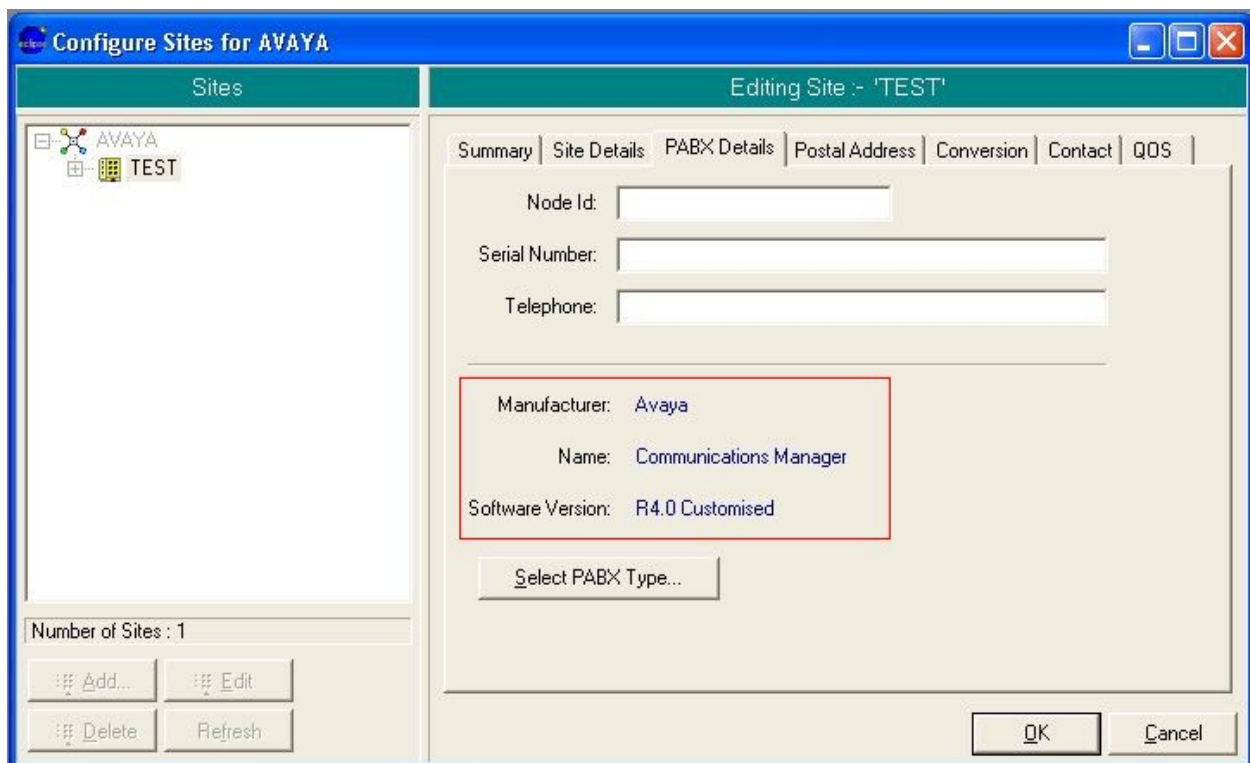
In the resulting window, click on the **Site Details** tab and for the **Rating Scheme** field select an appropriate Rating Scheme from the drop down menu. A Rating Scheme allows calls to be costed based on their origin and destination. By default, Eclipse Call Management System is configured with a call rating scheme for worldwide and UK national calls.

The screenshot shows a software window titled "Configure Sites for AVAYA". The window is divided into two main panes. The left pane, titled "Sites", contains a tree view with a folder icon and the text "AVAYA" and a sub-item "TEST". Below this tree view, it says "Number of Sites : 1" and there are four buttons: "Add...", "Edit", "Delete", and "Refresh". The right pane, titled "Editing Site :- 'TEST'", contains several tabs: "Summary", "Site Details", "PABX Details", "Postal Address", "Conversion", "Contact", and "QOS". The "Site Details" tab is selected. Within this tab, there are several fields: "Site Code" with the value "TEST", "Site Name" with an empty text box, "Site Type" with the value "Physical Site", "Rating Scheme" with a dropdown menu showing "World\United Kingdom" (this field is highlighted with a red rectangle), "AMS Site Code" with an empty text box, and "Disguise Dialed Digits" with radio buttons for "Yes" and "No", where "No" is selected. At the bottom right of the right pane are "OK" and "Cancel" buttons.

Click on the **PBX Details** tab and click the **Select PBX Type** button, in the resulting menu expand the menu tree to **Avaya**→ **Communication Manger** → **R4.0 Customised** and click **Select**



The **PBX Details** tab will then display the PBX type in the bottom half of the right hand pane.



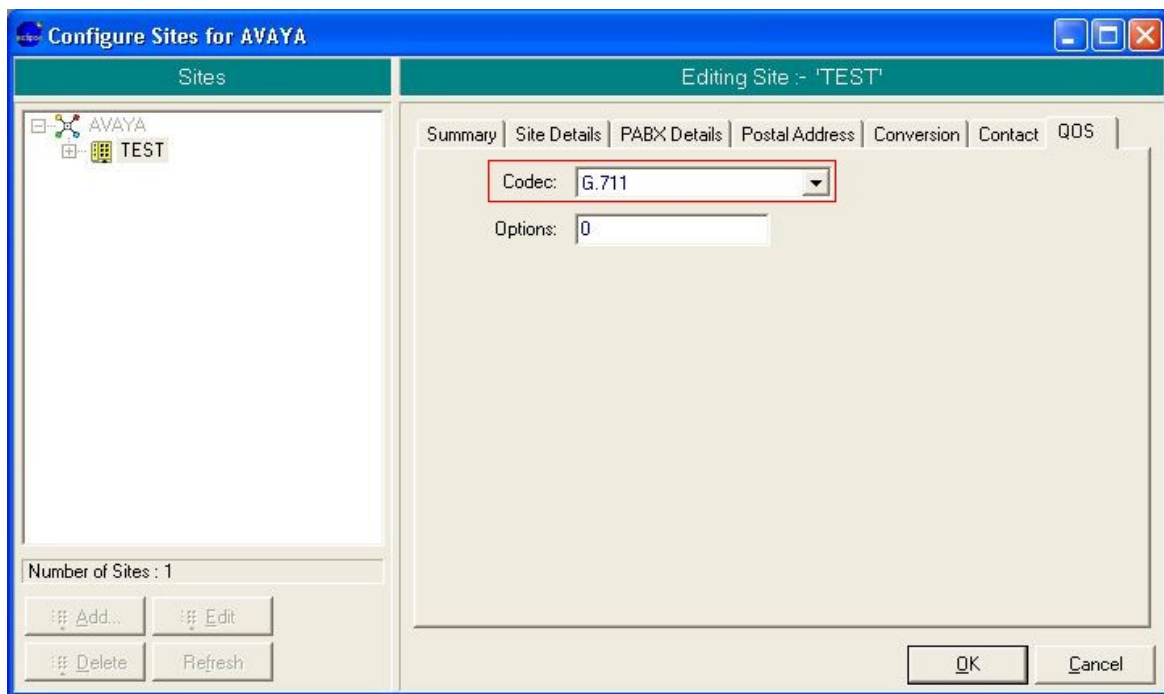
Click on the **Conversion** tab and select the **Yes** radio button for **Log Data** to log information about the conversion. Select the **Live** radio button for **Data Conversion** to ensure that any received data is processed in real time. If the **Batch** radio button is selected then the Eclipse Call Management System can be configured to process received data at set intervals, such as a low traffic period during the day. Eclipse CMS provides a number of options that can alter the behavior of the system, however for the compliance test the **Options** field was set to **2**. By default Eclipse Call Management System uses a UK date format. Option **2** allows the use of an American date format as this was used for the CDR Date Format in **Section 4.1.3**. The remaining fields can be left with their default values.

The screenshot shows the 'Configure Sites for AVAYA' application window. The left pane shows a tree view with 'AVAYA' and 'TEST' sites. The right pane is titled 'Editing Site - TEST' and contains several tabs: 'Summary', 'Site Details', 'PABX Details', 'Postal Address', 'Conversion', 'Contact', and 'QOS'. The 'Conversion' tab is active. It contains the following fields and controls:

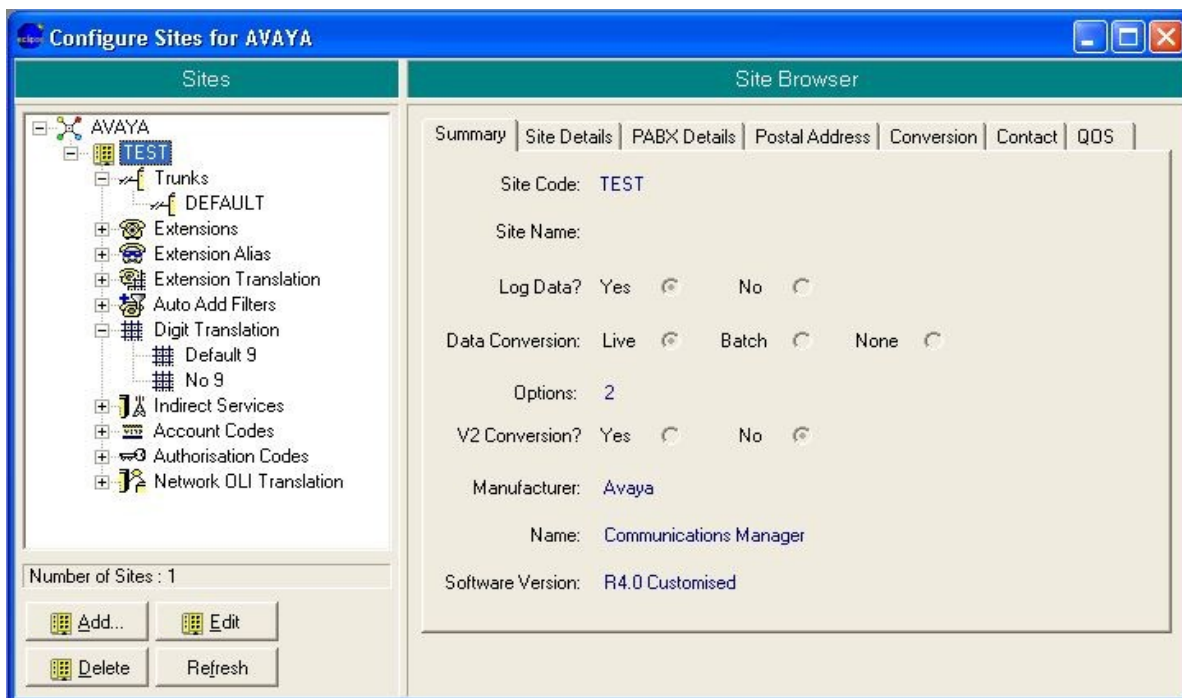
- Log Data?**: Radio buttons for 'Yes' (selected) and 'No'.
- Data Conversion:**: Radio buttons for 'Live' (selected), 'Batch', and 'None'.
- Options:**: A text box containing the value '2'.
- V2 Conversion?**: Radio buttons for 'Yes' and 'No' (selected).
- Exchange:** and **Version:** text boxes (empty).
- Disguise Extension?**: Radio buttons for 'Yes' and 'No' (selected).

At the bottom left, there is a 'Number of Sites : 1' label and four buttons: 'Add...', 'Edit', 'Delete', and 'Refresh'. At the bottom right, there are 'OK' and 'Cancel' buttons.

Click on the **QOS** tab and select the Codec from the drop down menu that will be used to calculate the MOS score for calls made involving the site being configured. When finished click **OK**



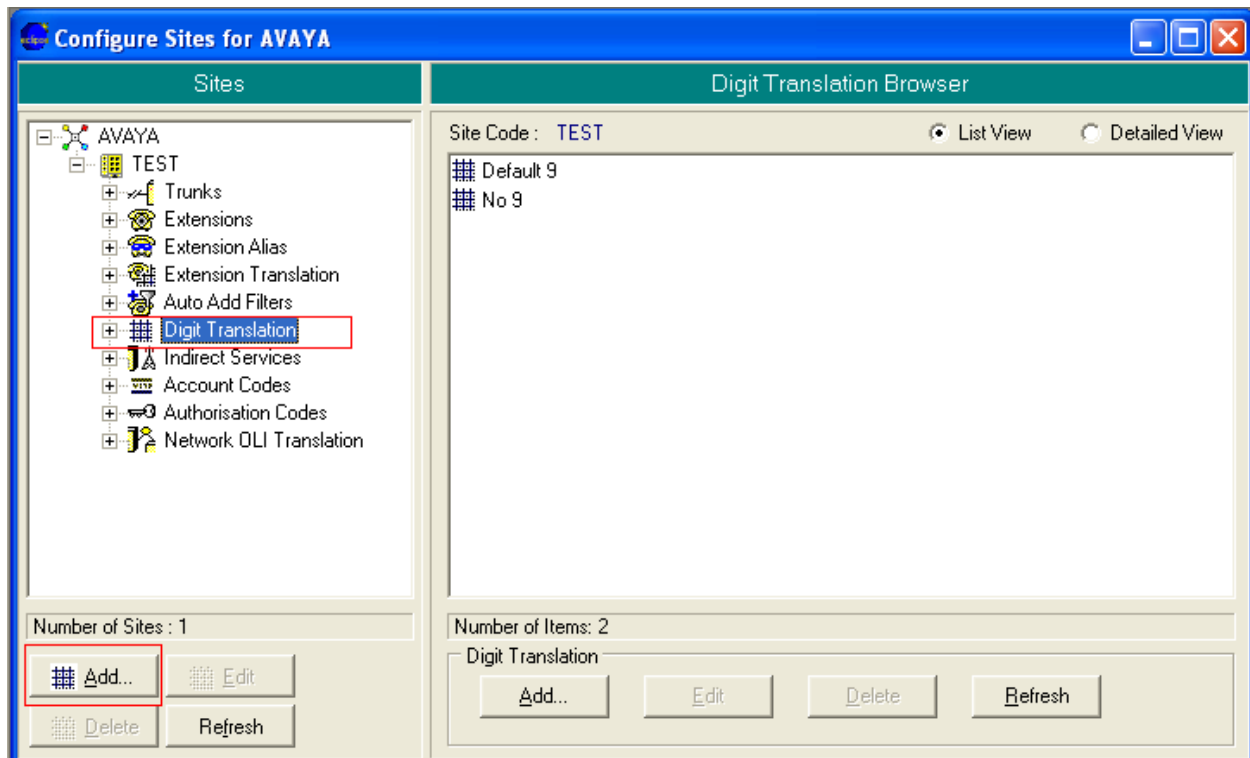
A summary of the site is displayed. Note the left pane now displays further configuration options in the form of a tree menu





## 5.2. Configure Digit Translation

Digit translations are used to identify routing digits and prevent costing errors. For example a call made to a number with the initial digits 1-9 are costed as local rate calls, however in the compliance test, users dialed 9 for an outside line so a digit translation must be entered to make the Eclipse Call Management System aware that 9 is a routing digit and should be ignored for costing purposes. From the **Configure Sites** window, highlight **Digit Translation** in the menu tree and click the **Add** button.

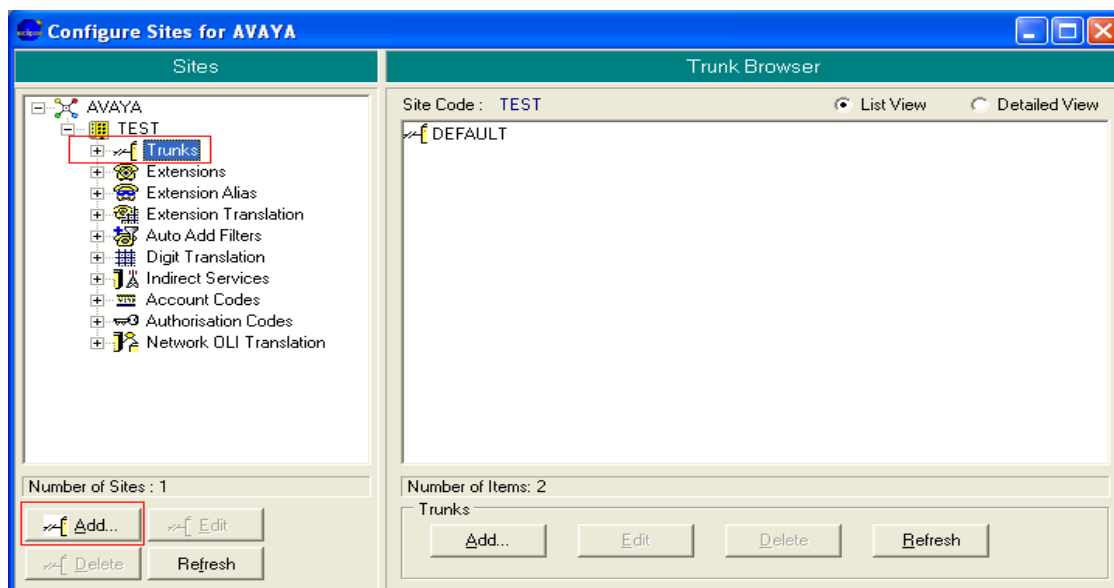


In the resulting window, enter a descriptive name in the **Description** field. Enter the access code (in the case **9**) in the **Access Digits** field and enter a plus (+) in the **Destination Digits** field. A plus symbol indicates an acceptance of any combination and length of digits. All other fields can be left with their default values. Click **OK** to add the Digit Translation.

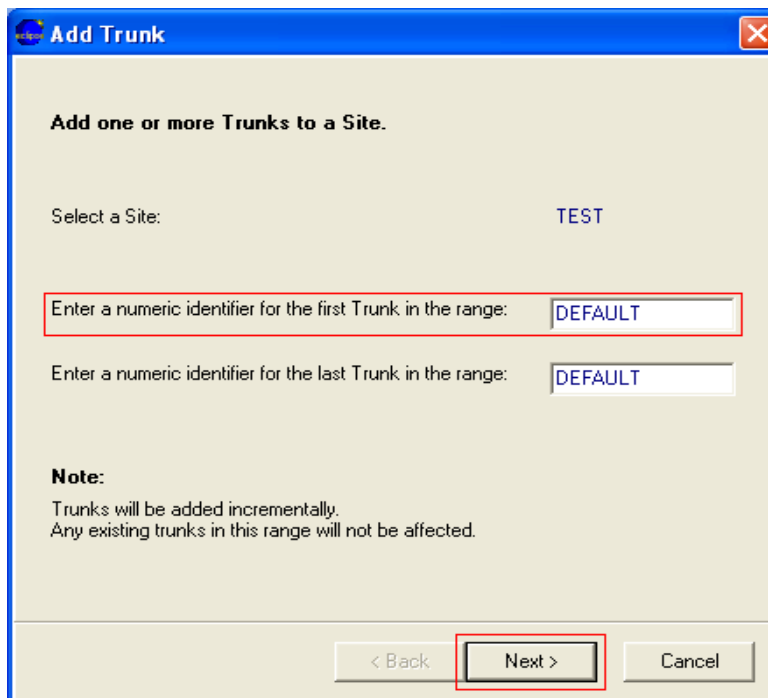
The screenshot shows a dialog box titled "Editing Digit Translation :- 'Default 9'". The "Site Code" is "TEST". The "Description" field contains "Default 9". The "Translate" section has three radio buttons: "Dialled Digits" (selected), "CLI", and "Internal Dialed Digits". The "Access Digits" field contains "9", and the "Supplied Separately" checkbox is unchecked. The "Service Selection Digits" field is empty. The "Destination Digits" field contains "+". Below a horizontal line, the "New Access Digits" field contains "9", and the "As Supplied" checkbox is unchecked. The "New Service Selection Digits" field is empty. The "New Destination Digits" field contains "+". At the bottom, there are two buttons: "OK" and "Cancel". A legend at the bottom indicates that "+" means "1 or More Digits" and "?" means "Any Single Digit".

### 5.3. Configure Default Trunk

Trunks can be individually defined within Eclipse Call Management System to provide individual costing per trunk. A default trunk is used to provide costing for any calls that are carried by unconfigured trunks. It is recommended that a default trunk is configured for each site to ensure that all trunk calls are accounted for. From the **Configure Sites** window, highlight **Trunks** in the menu tree and click the **Add** button.



In the **Add Trunk** window enter **DEFAULT** as the trunk identifier and click **Next**.



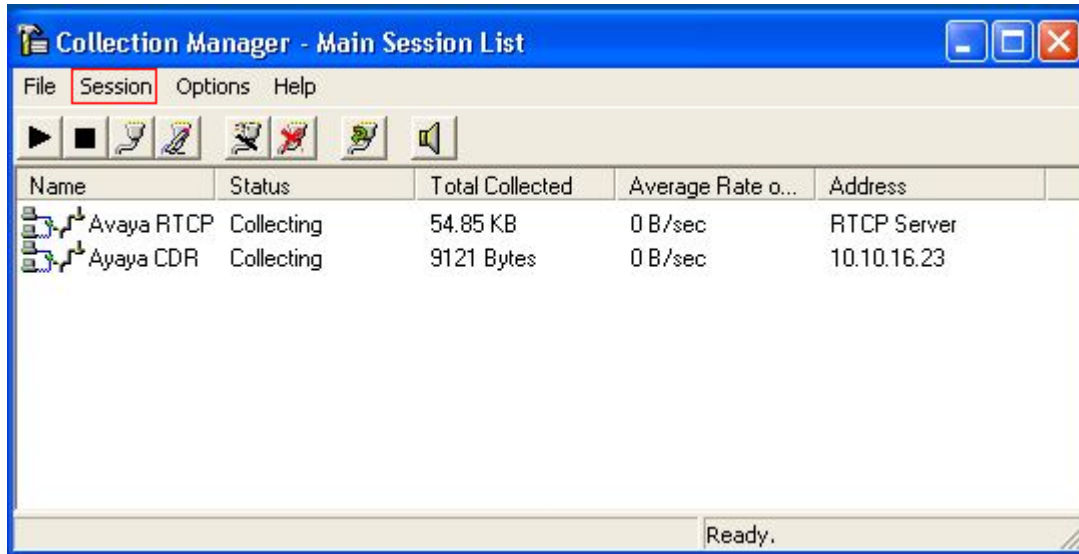
Click on the **Outgoing/Tandem Costing** tab and select the **Cost calls** radio button so that Eclipse Call Management System will apply costings to the calls associate with the default trunk. In the **Default Service** field select a service from the drop down menu that will be used to cost the calls. Under the **Available Costing Methods** heading select the **Actual Call Duration** and **Answer Indication** check boxes. All other fields can be left with their default values. Click **OK** to complete the default trunk configuration

The screenshot shows the 'Edit Trunk' dialog box with the 'Outgoing/Tandem Costing' tab selected. The 'Cost Calls?' radio button is set to 'Yes'. The 'Default Service' dropdown menu is set to 'British Telecom - Business Rate'. Under the 'Available Costing Methods' section, the 'Actual Call Duration' and 'Answer Indication' checkboxes are checked, while 'Supplied Cost', 'Meter Pulses', and 'Algorithmic' are unchecked. The 'OK' and 'Cancel' buttons are at the bottom right.

Field	Value
Cost Calls?	Yes
Default Service	British Telecom - Business Rate
Supplied Cost	<input type="checkbox"/>
Meter Pulses	<input type="checkbox"/>
Actual Call Duration	<input checked="" type="checkbox"/>
Answer Indication	<input checked="" type="checkbox"/>
Algorithmic	<input checked="" type="checkbox"/>

## 5.4. Configure CDR Data Collection

This section describes the steps required to configure a collection session on the Eclipse Call Management System. This session will be used to collect Call Detail Record data from Communication Manager, and will specify a location for the raw data to be stored. To add a new CDR collection session click the Collection Manager icon located on the Eclipse Call Management System desktop and login in with the appropriate permissions (not shown). From the Collection Manager – Main Session List menu bar, navigate to **Session → New Session**.



Enter any name in the **Session Name** field and select **TCP/IP Network Collection** for the **Type** field as shown in the following screen. Click **Next** to continue.

The screenshot shows a Windows-style dialog box titled "Editing Session 'Ayaya CDR' (Session is RUNNING)". The main title bar is blue with standard minimize, maximize, and close buttons. The dialog itself has a white title bar that says "Edit Session". The background is a light beige color. In the center, there is a section titled "Name and Type Selection" in bold. Below this title, a message reads: "The wizard has been loaded with the current settings of the Collection Session. The type of Collection cannot be changed. Add a new session instead". Below the message, there are two input fields. The first is labeled "Session Name:" and contains the text "Ayaya CDR". The second is labeled "Type:" and contains the text "TCP/IP Network Collection". Both fields are enclosed in a red rectangular box. At the bottom of the dialog, there are three buttons: "Cancel" on the left, and "< Prev" and "Next >" on the right.

In the **Site Entry** window, enter the **Site Code** as configured in **Section 5.1**. Click **Next** to continue.

**Note:** The **Site Code** is not case sensitive. The case used in **Section 5.1** may differ from what is used here as long the characters match.

The screenshot shows the same "Editing Session 'Ayaya CDR' (Session is RUNNING)" dialog box, but now the "Site Entry" step is active. The title bar and "Edit Session" header are the same. The main area has a section titled "Site Entry" in bold. Below it, a message reads: "Enter the Eclipse Call Management site code for this collection session". Below the message, there is a single input field labeled "Site Code:" which contains the text "Test". This field is enclosed in a red rectangular box. At the bottom, the buttons are "Cancel", "< Prev", and "Next >".

In the **TCPIP Network Collection Options** window, for the **Network Address** field specify the IP address of the CLAN card (**Section 4.1.1**) that will provide the CDR connection. In the **Network Port** field enter the mutually agreed port value. This port must match the value assigned as the remote port in **Section 4.1.2**. Select the **Server Mode** check box and click **Next** to continue.

Editing Session 'Ayaya CDR' (Session is RUNNING)

**Edit Session**

**TCPIP Network Collection Options**

Enter the Network Port of the TCPIP Switch

Network Address: 10.10.16.23

Network Port: 5101

SOCKS Enabled: ☐

Server Mode: ☒

Cancel < Prev Next >

In the **Raw File Options** screen specify a path where the raw CDR files will be stored and processed by the Eclipse Call Management System. The path that should be used is dependant on the installation, if in doubt which path to use, please contact Data Track using the details in **Section 1.2**. Click **Next** to continue.

Editing Session 'Ayaya CDR' (Session is RUNNING)

**Edit Session**

**Raw File Options**

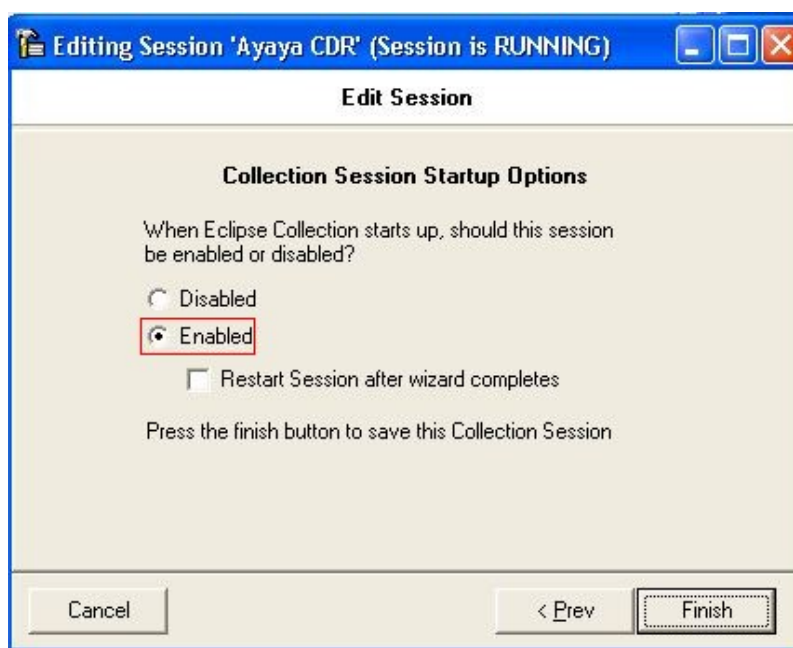
Enter the output folder for Eclipse V3 raw files, where the call management system will process them.  
You should not use UNC paths or mapped network drives.

Raw File Folder: rogram Files\FDS\Eclipse\org\AVAYA\Site\Test

Warning:  
This Path is relative to the Eclipse Collection Server

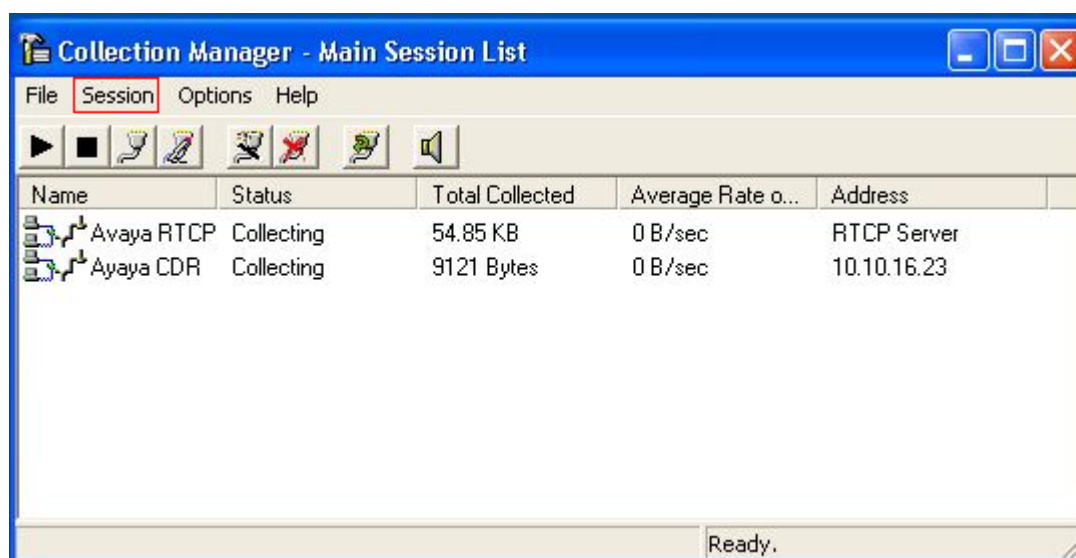
Cancel < Prev Next >

In the **Collection Session Startup Options** window select the **Enabled** radio button so that the collection session automatically starts when Eclipse Call Management System starts. Click finish to complete the configuration of the CDR collection session.



## 5.5. Configure RTCP Data Collection

This section describes the steps required to configure a second collection session on the Eclipse Call Management System. This session will be used to collect RTCP data from Communication Manager, and will specify a location for the raw data to be stored. To add a new RTCP collection session, from the Collection Manager – Main Session List menu bar, navigate to **Session → New Session**.





In the **Name and Type Selection** window specify a **Session Name** and select **RTCP Collection** for the **Type** field, as shown in the following screen. Click **Next** to continue.

Editing Session 'Avaya RTCP' (Session is RUNNING)

**Edit Session**

**Name and Type Selection**

The wizard has been loaded with the current settings of the Collection Session. The type of Collection cannot be changed. Add a new session instead

Session Name: Avaya RTCP

Type: RTCP Collection

Cancel < Prev Next >

In the **Site Entry** window confirm the correct **Site Code**, the site code will be defined by Data Track as part of the system installation. Please use the details in **Section 1.2** to contact Data Track for further information. Click **Next** to continue.

Editing Session 'Avaya RTCP' (Session is RUNNING)

**Edit Session**

**Site Entry**

Enter the Eclipse Call Management site code for this collection session

Site Code: Test

Cancel < Prev Next >

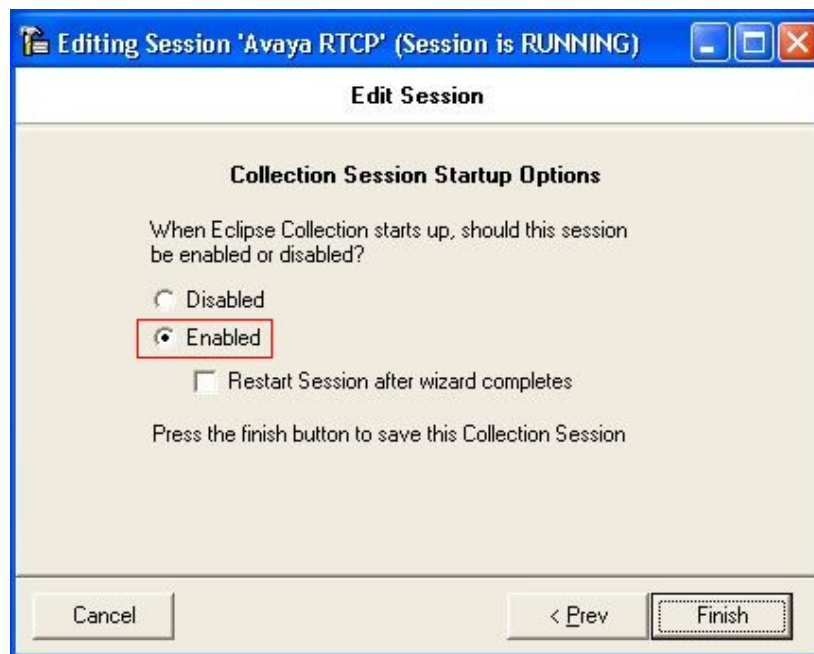
In the **RTCP Collection Options** window, in the **Network Port** field enter the mutually agreed port value. This port must match the value assigned as the default server port in **Section 4.2.1**. Click **Next** to continue.

The screenshot shows a Windows-style dialog box titled "Editing Session 'Avaya RTCP' (Session is RUNNING)". Inside, the "Edit Session" section has a sub-header "RTCP Collection Options". Below this, it says "Enter the number of the port which has been configured to receive RTCP data". There is a text input field labeled "Network Port:" with the value "5005" entered. At the bottom, there are three buttons: "Cancel", "< Prev", and "Next >".

In the **Raw File Options** screen specify a path where the raw RTCP files will be stored and processed by the Eclipse Call Management System. The path that should be used is dependant on the installation, if in doubt which path to use, please contact Data Track using the details in **Section 1.2**. Click **Next** to continue.

The screenshot shows the same "Editing Session 'Avaya RTCP' (Session is RUNNING)" dialog box, but now on the "Raw File Options" tab. It says "Enter the output folder for Eclipse V3 raw files, where the call management system will process them. You should not use UNC paths or mapped network drives." Below this is a text input field labeled "Raw File Folder:" containing the path "rogram Files\FDS\Eclipse\org\AVAYA\Site\Test". A warning message below the field states: "Warning: This Path is relative to the Eclipse Collection Server". At the bottom, there are three buttons: "Cancel", "< Prev", and "Next >".

In the **Collection Session Startup Options** window select the **Enabled** radio button so that the collection session automatically starts when Eclipse Call Management System starts. Click finish to complete the configuration of the RTCP collection session.



## 6. General Test Approach and Test Results

To verify interoperability of Data Track Eclipse Call Management System with Avaya Aura<sup>TM</sup> Communication Manager, calls were made between Avaya stations and to external endpoints via a simulated PSTN. Various call scenarios were tested and common PBX features such as transfer and conference were exercised. ACD functionality was also verified by making calls to VDNs and routing to skilled agents. The CDR reports produced by Data Track Eclipse Call Management System were checked to ensure that they matched the calls that were made. To verify call quality monitoring, calls were placed between various Avaya IP endpoints, and Data Track Eclipse Call Management System was used to display the MOS score calculated from the RTCP information collected. The serviceability testing introduced failure scenarios by busying out the CDR link and disconnecting network cables to see if Eclipse Call Management System could resume CDR and RTCP collection following the failures. Data Track Eclipse Call Management System passed compliance testing.

## 7. Verification Steps

This section includes steps that can be used to verify that the configuration has been done correctly.

### 7.1. Verify CDR link is up

From the SAT of Communication Manager, enter the **status cdr-link** command and verify that the CDR link state is up.

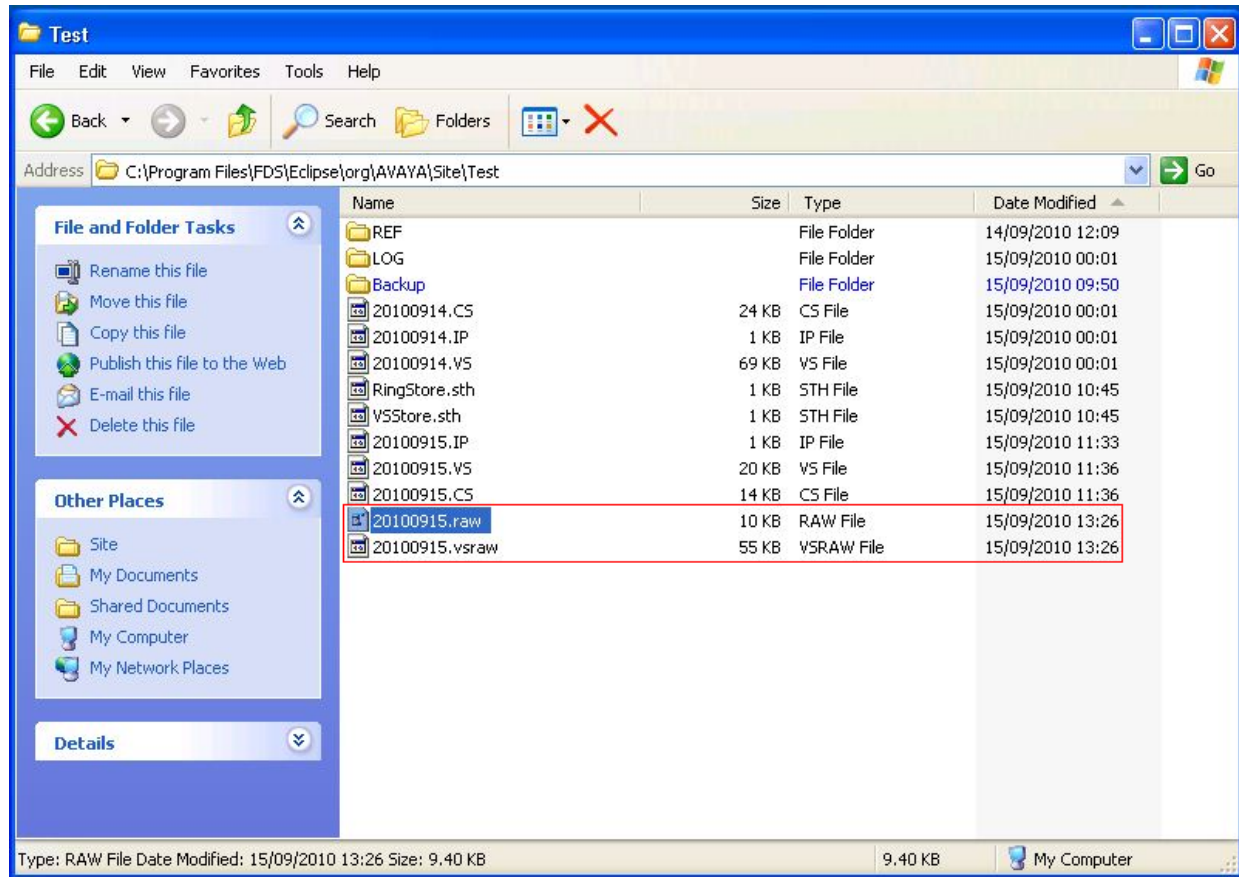
status cdr-link		CDR LINK STATUS	
	Primary	Secondary	
Link State:	up	CDR not administered	
Number of Retries:			
Date & Time:	2010/09/16 10:31:34	0	/0 /0 0 :0 :0
Forward Seq. No:	134	0	
Backward Seq. No:	325	0	
CDR Buffer % Full:	0.00	0.00	
Reason Code:	OK		

### 7.2. Verify Collection processes are running

To check if Eclipse Collection is running on the Eclipse Call Management System navigate to **Settings → Control Panel → Administrative Tools → Services**. Check that the status of a service called **Eclipse Collection** is started.

### 7.3. Verify Data is being received

To check CDR and RTCP data is being received browse to the installation directory specified for the **Raw File Options** screens in **Section 5.4** and **Section 5.5**. Locate the RAW and VSRAW files and confirm that they are increasing in size when calls are made. The RAW file relates to the CDR data being received and the VSRAW file relates to the RTCP data being received.



## 8. Conclusion

These Application Notes describe the procedures for configuring Data Track Eclipse Call Management System to interoperate with Avaya Aura™ Communication Manager. In the configuration described in these Application Notes, the Data Track Eclipse Call Management System collected and processed CDR information from Avaya Aura™ Communication Manager. Data Track Eclipse Call Management System also processed the RTCP information to monitor the quality of IP calls. During compliance testing, all test cases were completed successfully.

## 9. Additional References

This section references the Avaya and Data Track product documentation that is relevant to these Application Notes.

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

- [1] *Administering Avaya Aura™ Communication Manager*; 09-Aug-2010, Doc ID: 03-30509
- [2] *Avaya Aura™ Communication Manager Screen Reference*; 09-Aug-2010, Doc ID: 03-602878
- [3] *Avaya Aura™ Communication Manager Special Application Features*; 10-Nov-2010

The following Data Track product documentation can be found on the Eclipse Call Management System installation disk or requested from Data Track by using the contact details listed in

### Section 1.2

- [4] *Eclipse CMS v1.30 Installation & Upgrade Guide*; 26-Feb-2010
- [5] *Eclipse CMS 1.30 Overview*; 13-Jan-2010
- [6] *Eclipse CMS 1.30 Configuration Guide*; 14-Jan-2010
- [7] *Eclipse CMS 1.30.1 Reporting Guide*; 26-April-2010

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