Avaya Solution & Interoperability Test Lab

Application Notes for TelStrat Engage Record Version 3.3, PRI trunk Integration with Avaya Business Communication Manger, Release 6.0 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the TelStrat Engage Record version 3.3 to successfully interoperate with Avaya Business Communication Manager Release 6.0 via a PRI trunk interface. TelStrat Engage Record can connect to the Avaya Business Communication Manager to record and playback any conversation that goes through Avaya telephones via PRI (digital) trunk.

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 TelStrat Engage Record 3.3 (hereafter referred to as Engage) can be connected to the Avaya Business Communication Manger release 6.0 (hereafter referred to as BCM) via a PRI (Digital) trunk. The BCM LAN CTE software can be installed on the Engage Server to send call start, call stop, and other messaging and call events to the BCM. The Engage then can be used to record and playback conversations going through a PRI trunk.

2. General Test Approach and Test Results

The compliance test included configuring the Engage Server using the Engage BCM Engine Controller to monitor, to record and to play back the conversations going on the telephones via a PRI trunk.

2.1. Interoperability Compliance Testing

The general test approach was to verify whether the Engage can monitor, record and playback the conversations going through the Avaya BCM PRI (digital) trunk. The following areas were covered:

- Recording all calls.
- Schedule Recording based on Agent, Port Numbers, Date & Time, Days of Week, DN, DNIS, and CLID.
- Recording on Demand using SPRE (Special Prefix) codes defined on the Engage Record Server.

2.2. Test Results

All executed test cases have been passed. Avaya telephone conversations can be monitored, recorded and played back by using the Engage Record Server successfully.

2.3. Support

Technical support for TelStrat can be obtained by contacting TelStrat via email at support@telstrat.com or by calling **+1 972-633-4548**

3. Reference Configuration

Figure 1 illustrates the lab test configuration used during the compliant testing event between the BCM and Engage Server combination.

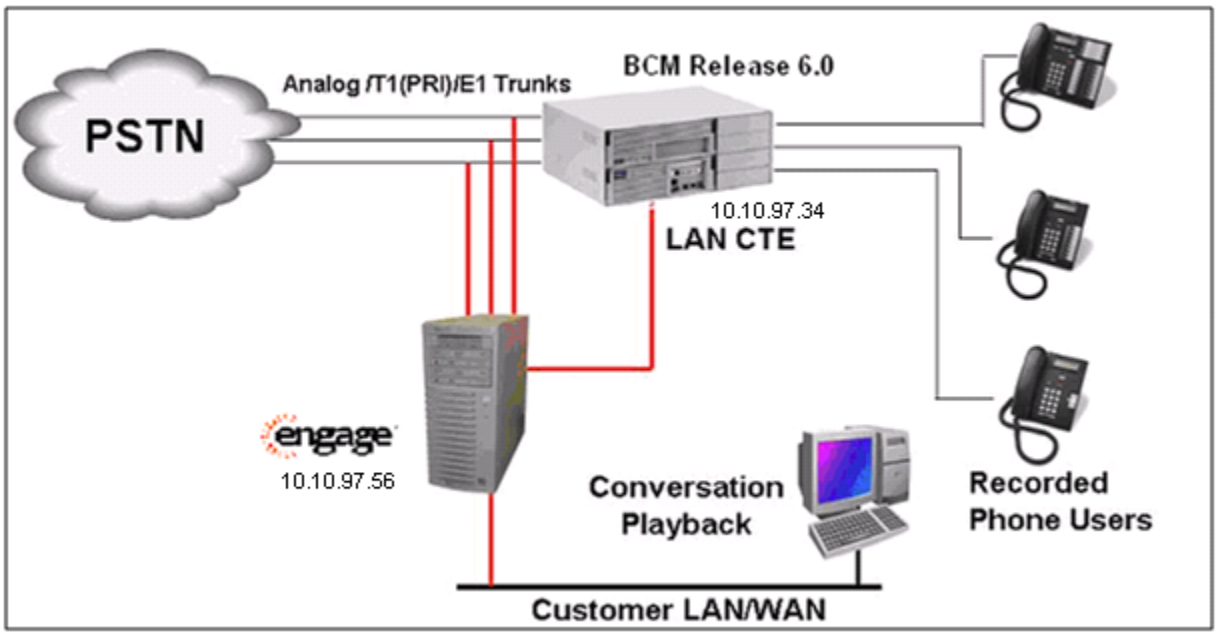

Figure 1: Lab Test Connection Diagram for the BCM, Engage Record Server and Engage Client

4. Equipment and Software Validated

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

Equipment	Software/Firmware
Avaya BCM 450	Release 6.0 PRI, Digital Trunk Interface Module
Avaya BCM 50, emulated PSTN	Release 6.0 PRI, Digital Trunk Interface Module
Avaya Digital (TDM) Telephones:	T7316, M7310
Engage Record Server OS	Windows 2003 Server SP2
Engage Record Server	3.3.0.6
Engage BCM Engine Controller	n/a
Engage Client OS	Windows XP Pro SP3

5. Avaya Business Communication Manager Configuration

These Application Notes assume that the basic configuration has already been administered. For further information on the BCM, please consult references in **Section 9.** The below procedures describe the configuration details of the BCM (BCM 450) with a PRI trunk to a Service Provider (in this example, BCM 450 is configured as Central Office, emulated PSTN) system.

5.1. Configure Local BCM (BCM 450)

This section describes how to configure the BCM system connecting to Engage Record Server to monitor, to record and to play back conversations on the Avaya telephones.

5.1.1. Login to BCM

5.1.1.1 Launching Business Element Manager and BCM Monitor

a) Open web browser and connect to the Web GUI http://<*BCM IP address*> as shown in **Figure 2**. Then log in using the appropriate *Username* and *Password*.

Note: The web browser has to enable Java Runtime Environment to support the BCM Web GUI.

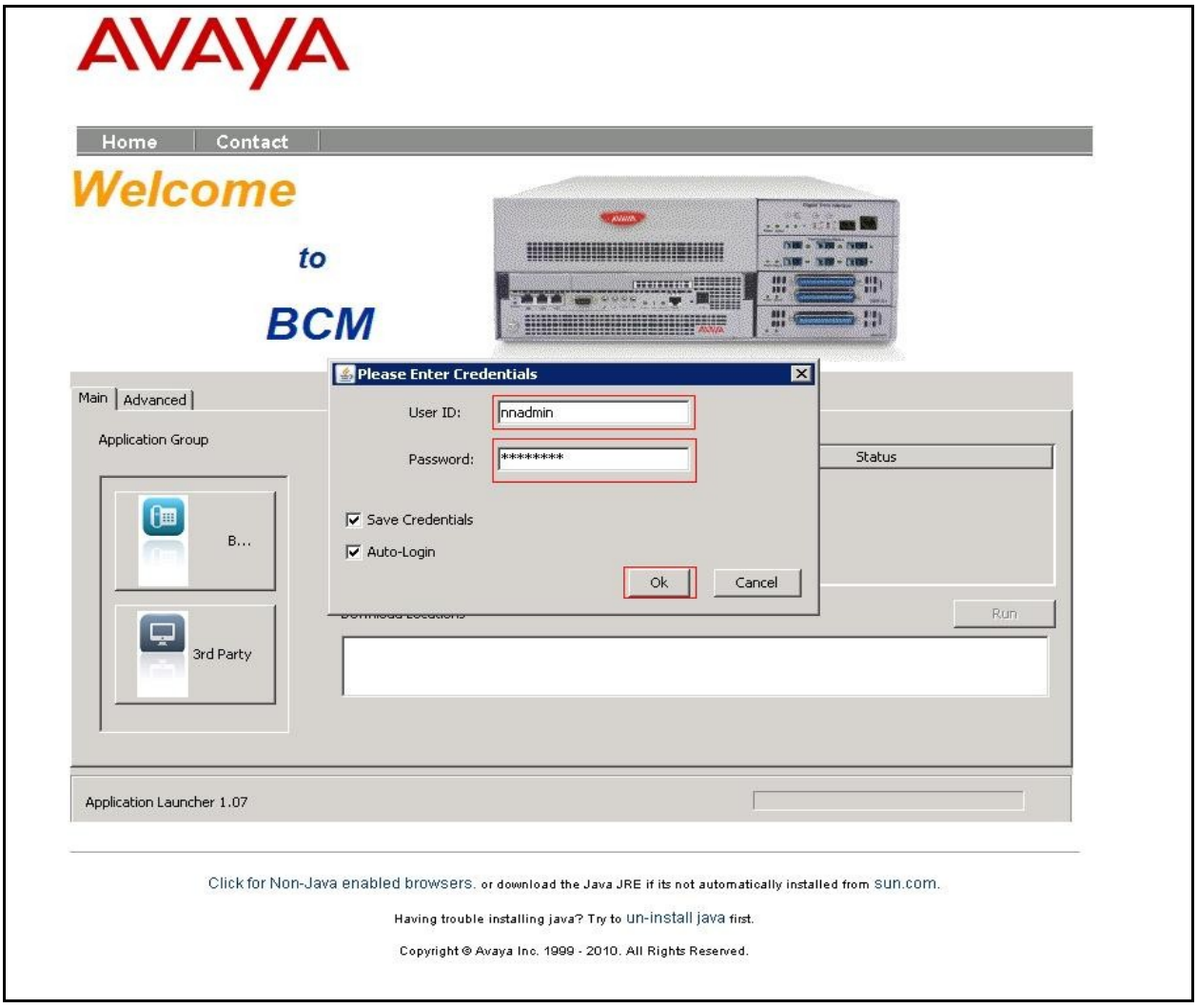

Figure 2 – Login to Business Communication Manager

b) The **Welcome to BCM** page is displayed. Click on the **BCM applications/ web links**, select **Business Element Manager**, and then click **Run** as highlighted in red box as shown in **Figure 3**. This action will install **Business Element Manager** to the local PC. After the installation complete, **Business Element Manager** shortcut will be created on desktop.

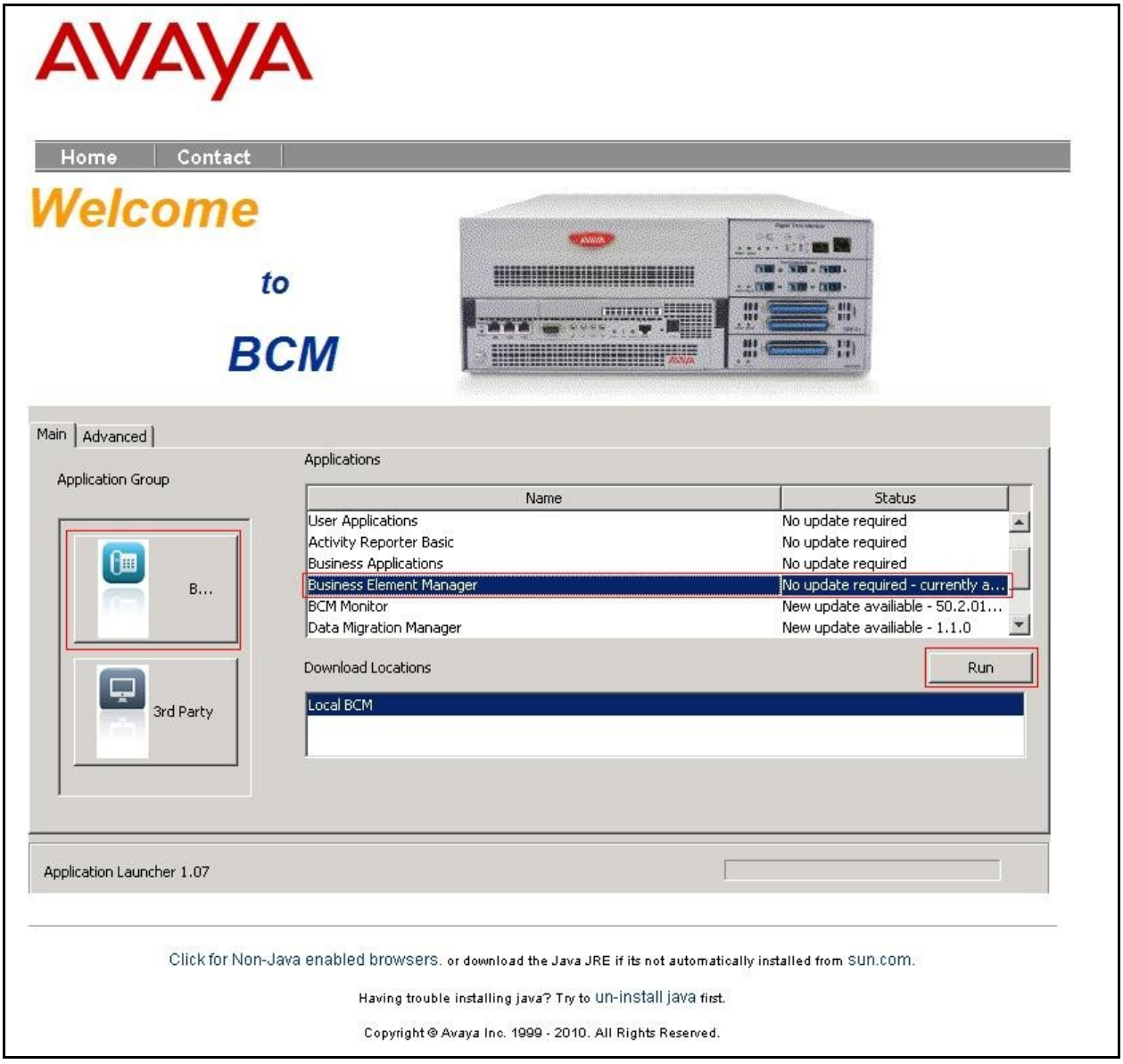

Figure 3 – Business Communication Manager

c) Continue with **Welcome to BCM** page to install **BCM Monitor** as shown in **Figure 4**. After the installation completes, the **BCM Monitor** shortcut will be created on desktop.

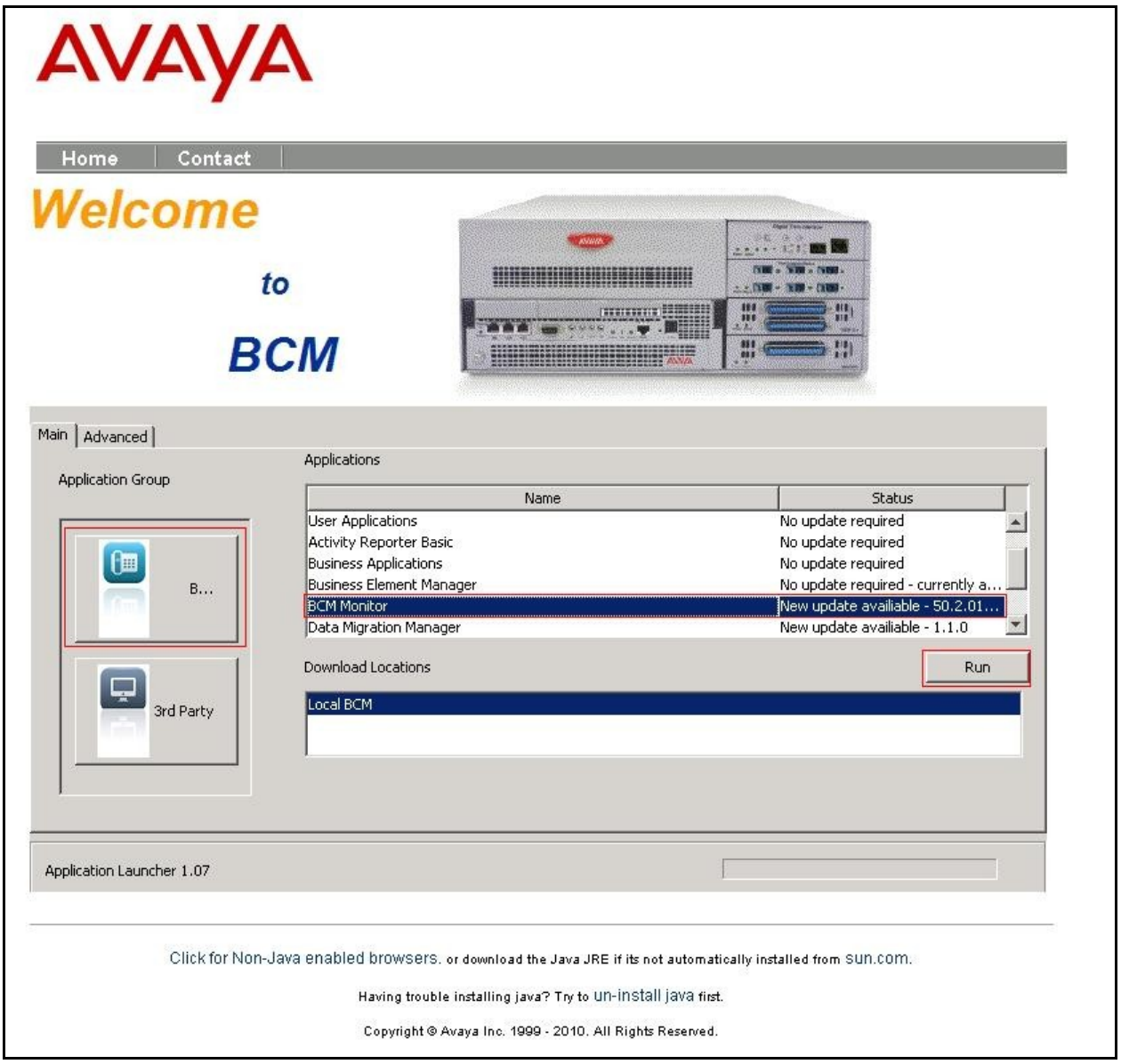

Figure 4 – Element Manager System Overview

5.2. Create a new Network Element Entry for Business Element Manager

a) Double click on the **Business Element Manager** desktop icon; the **Avaya Business Element Manager – Network Elements** will display. Create a new **Network Element** as shown in **Figure 5**.

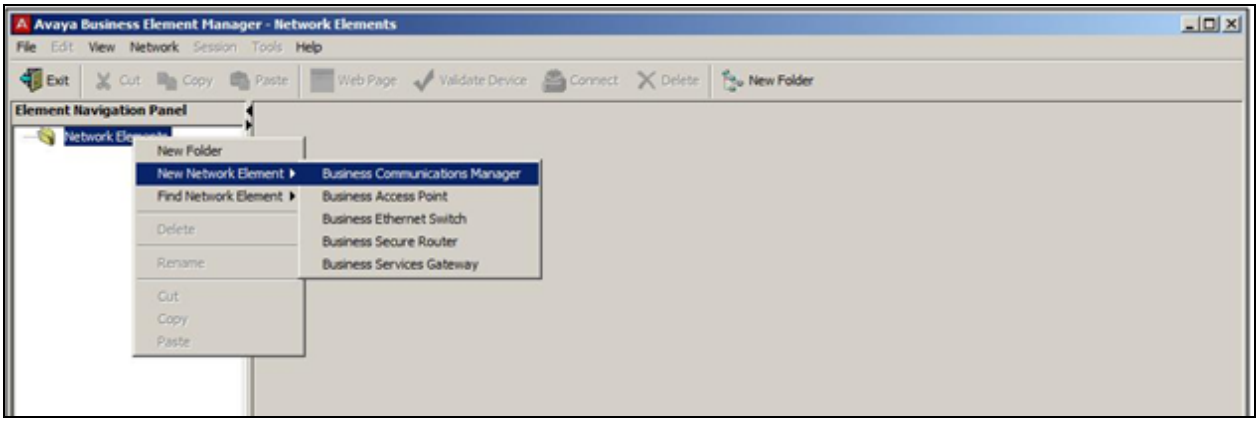

Figure 5: Create a New Network Element

b) Input *IP address of BCM*, username: *nnadmin* and appropriate *password* to the red box as shown in **Figure 6**. Then click **OK**.

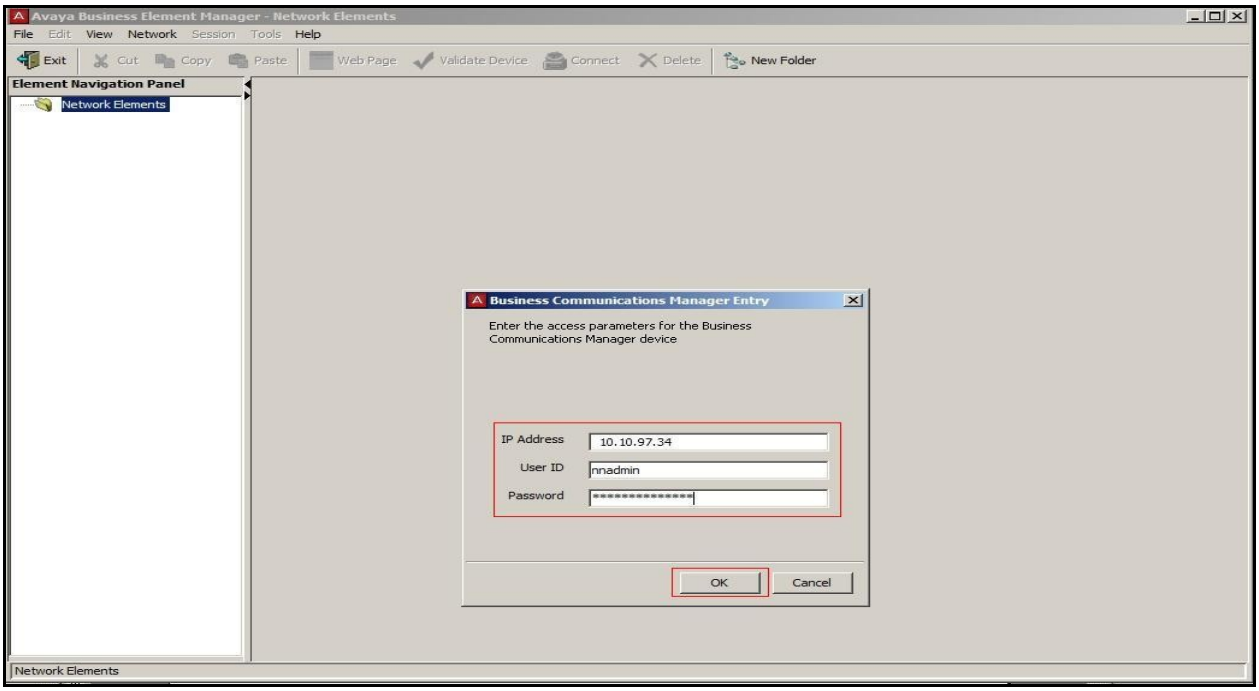

Figure 6: Business Communication Manager Entry

5.2.1. Login to Business Element Manager

a) Double click on the **Business Element Manager** desktop icon; select the **Network Element** then click **Connect** as shown in **Figure 7**.

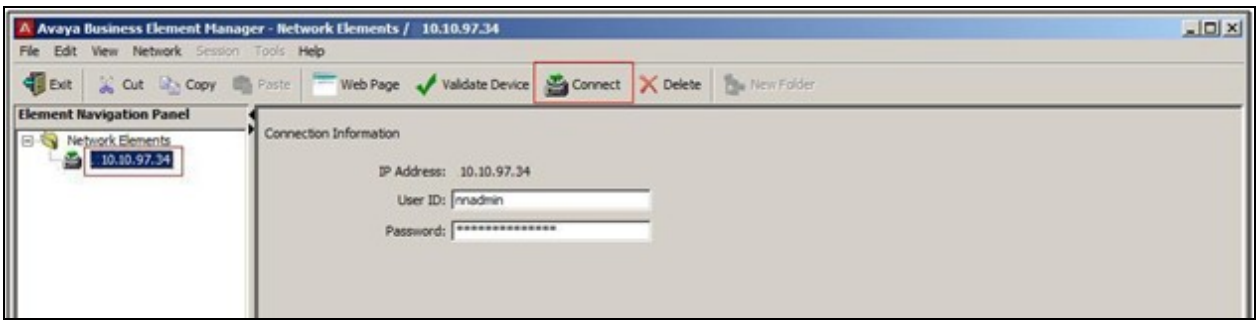

Figure 7: Connect to BCM

b) After the connection has been established, click **OK** in the **Confirm** dialog (not shown). **Figure 8** shows **Business Element Manager** has been successfully logged on.

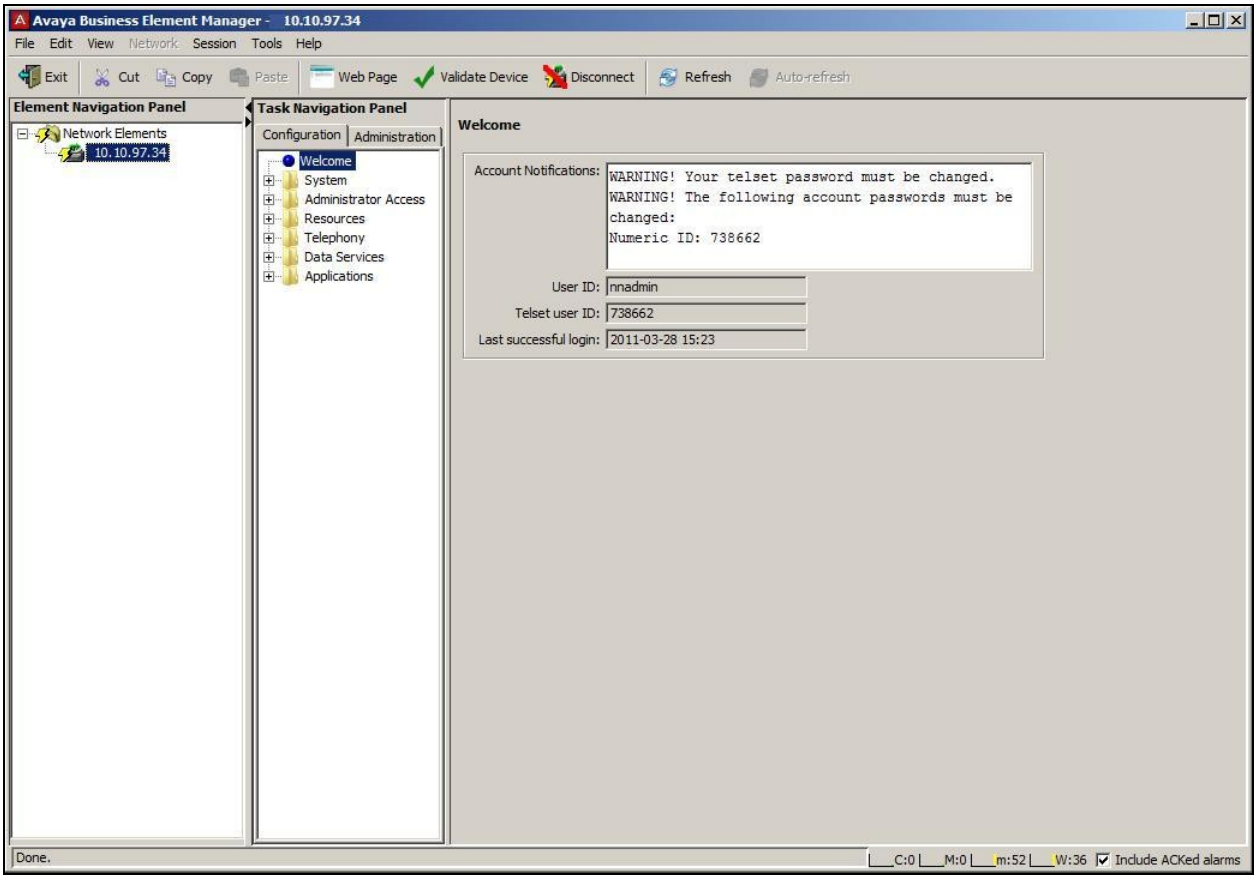

Figure 8: Avaya Business Element Manager

5.2.2. Login to BCM Monitor

a) Double click the **BCM Monitor** icon on the desktop. Then input *IP address of BCM*, username: *nnadmin* and appropriate *password* as shown in **Figure 9**.

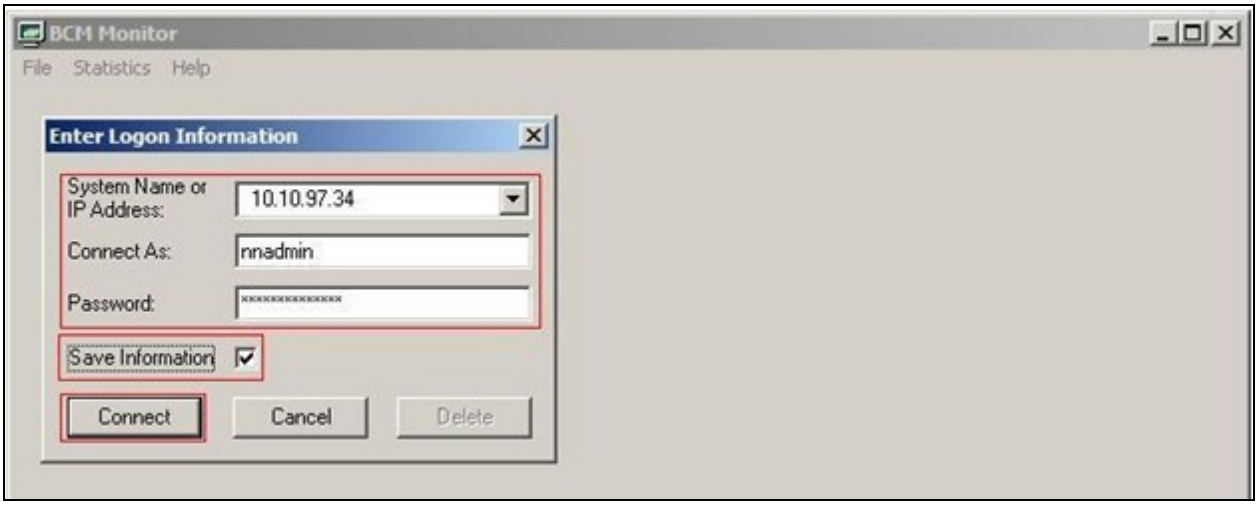

Figure 9: Enter Logon Information for BCM Monitor

b) Click **Connect**. The **BCM Monitor** GUI displays as shown in **Figure 10**.

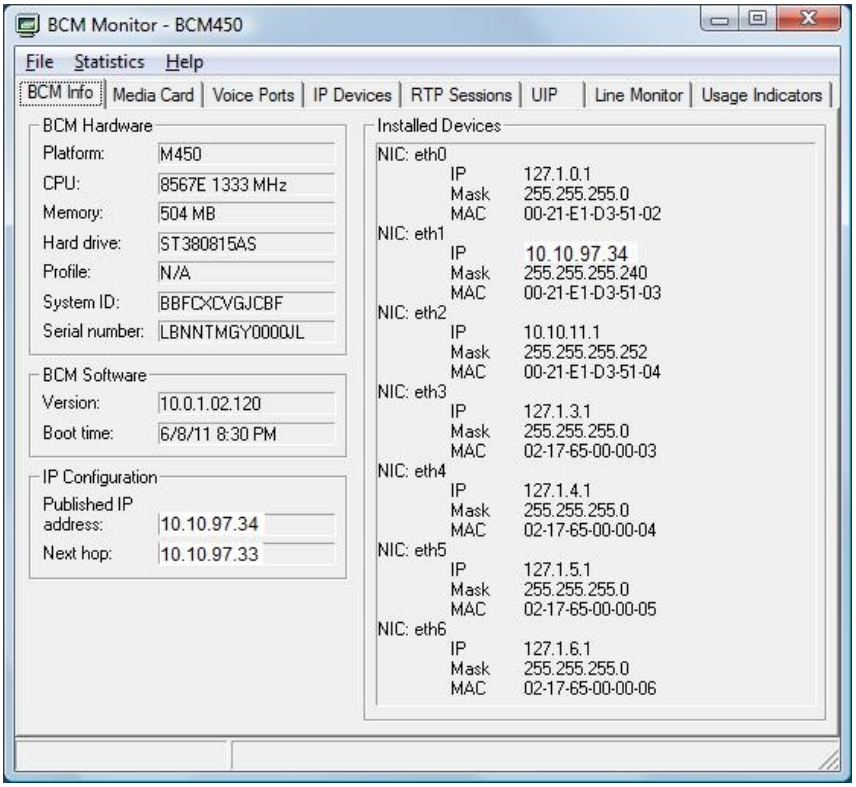

Figure 10: BCM Monitor GUI

5.2.3. Administer Resources

This section describes how to configure a PRI Trunk on BCM to Service Provider system.

5.2.3.1 Administer Application Resource for PRI Trunks

These Application Notes assume that the basic configuration has already been administered. This section describes steps for configuring **Application Resource** for **PRI Trunks** on BCM to work with Service Provider system. For further information on Avaya Business Communication Manager 450, please consult references in **Section 9**.

Select **Configuration** tab **> Resources > Telephony Resources.** Under **Configured Device**, select **DTM + PRI** and then click **Enable** button if it is not already enable as show in **Figure 11.** Choose the parameters that are highlighted in red box. Others are left as default.

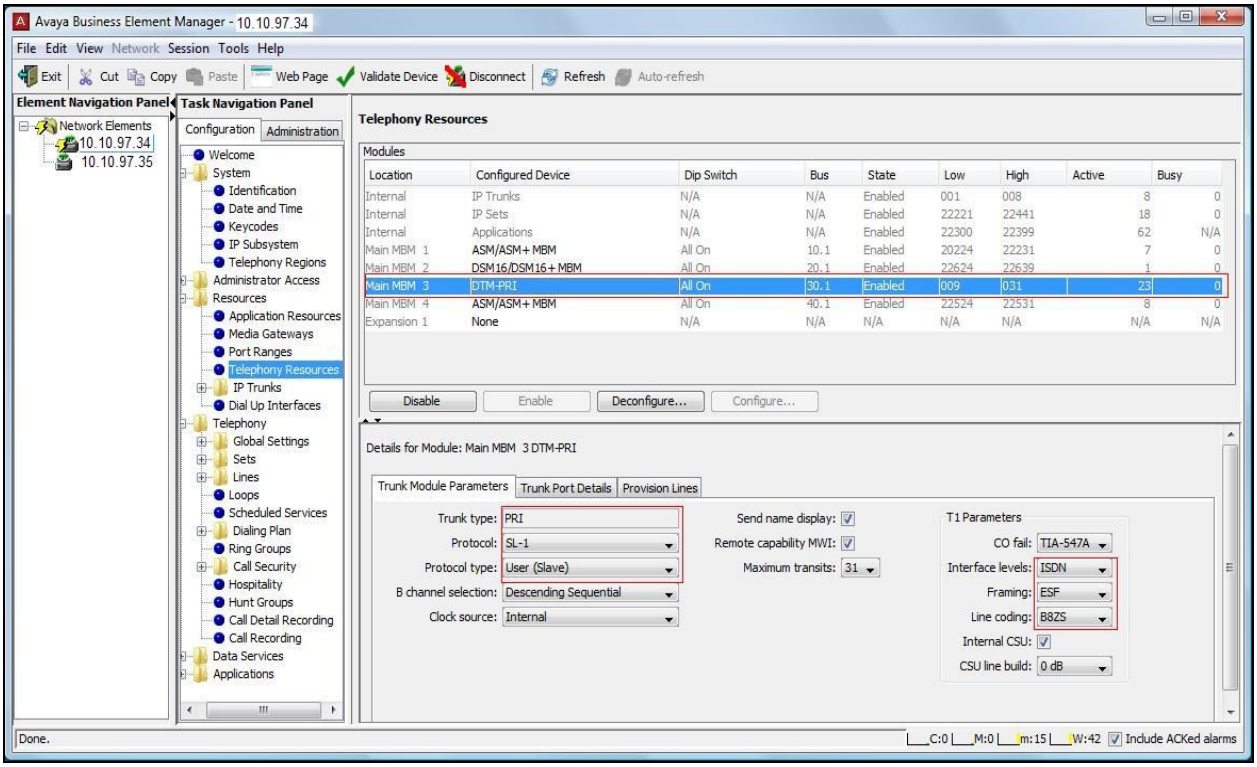

Figure 11 – Configuring Telephony Resources for PRI Trunks

Note: Protocol type parameter should be set to **User (Slave)** for this solution, since it is being deployed to be recorded from.

5.2.3.2 Administer Telephony Lines

Select **Configuration** tab **> Telephony > Lines > Active Physical Lines.** Double click on a line under the **Line Type**, choose **Pool:BlocB** in this example as shown in **Figure 12**.

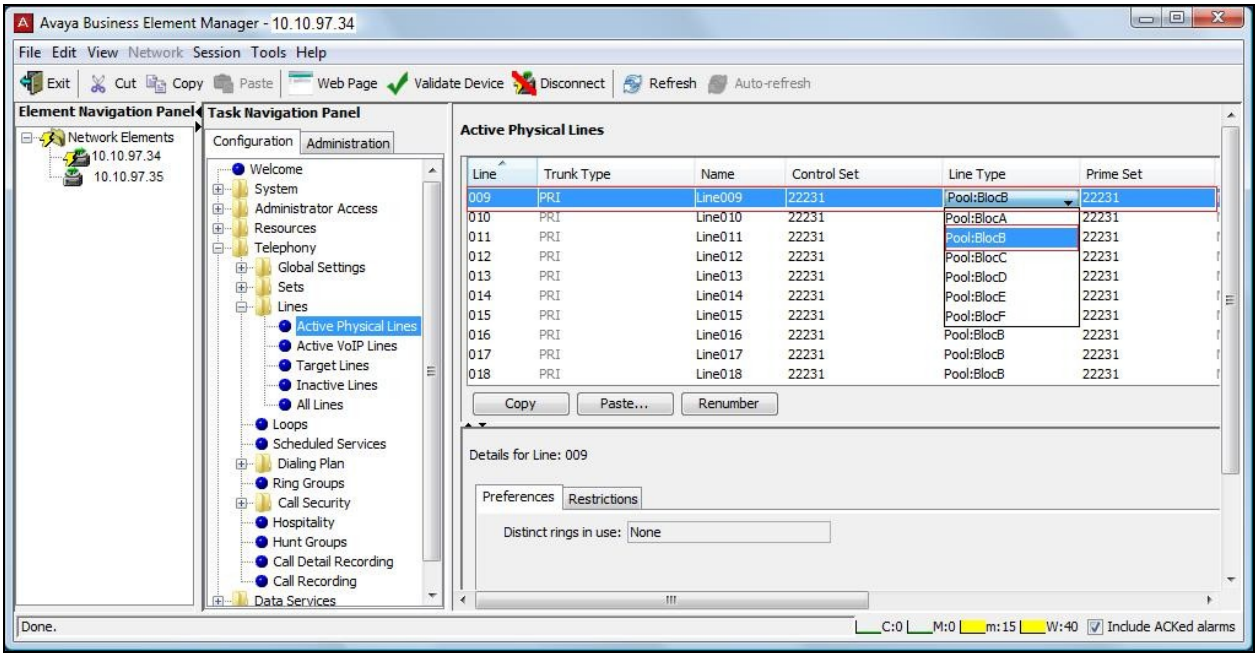

Figure 12 – Assign Active Physical Lines to Pool Block

5.2.3.3 **Administer Telephony Target Lines**

Select **Configuration** tab **> Telephony > Target Lines.** Double click on a line (line 995 in this example) and fill in the DN (show in the red boxes) of the target digital set in use as shown in **Figure 13.**

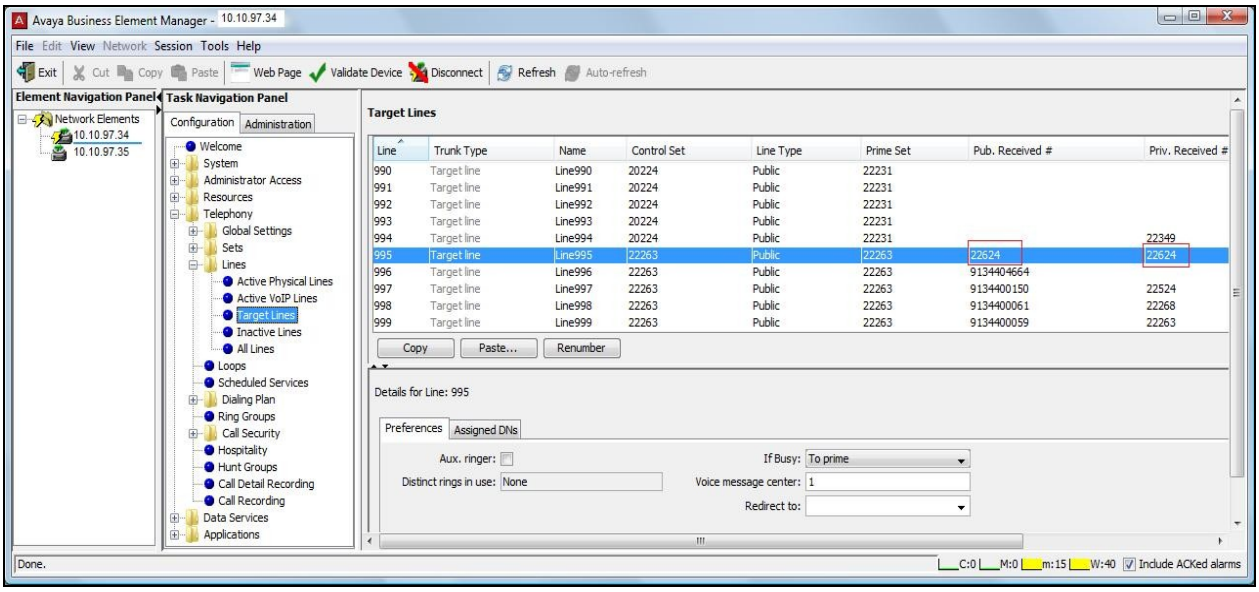

Figure 13 – Assigning Target Lines

5.2.4. Administer Dialing Plan

This section describes how to configure the Dialing Plan for the communication on the PRI Trunk between BCM (BCM450) and Service Provider (emulated PSTN BCM 50) system using the Private Network configuration in this example.

5.2.4.1 Private Network Settings

Select **Configuration** tab **> Dialing Plan > Private Network.** Enter the values highlighted in red box as shown in **Figure 14**.

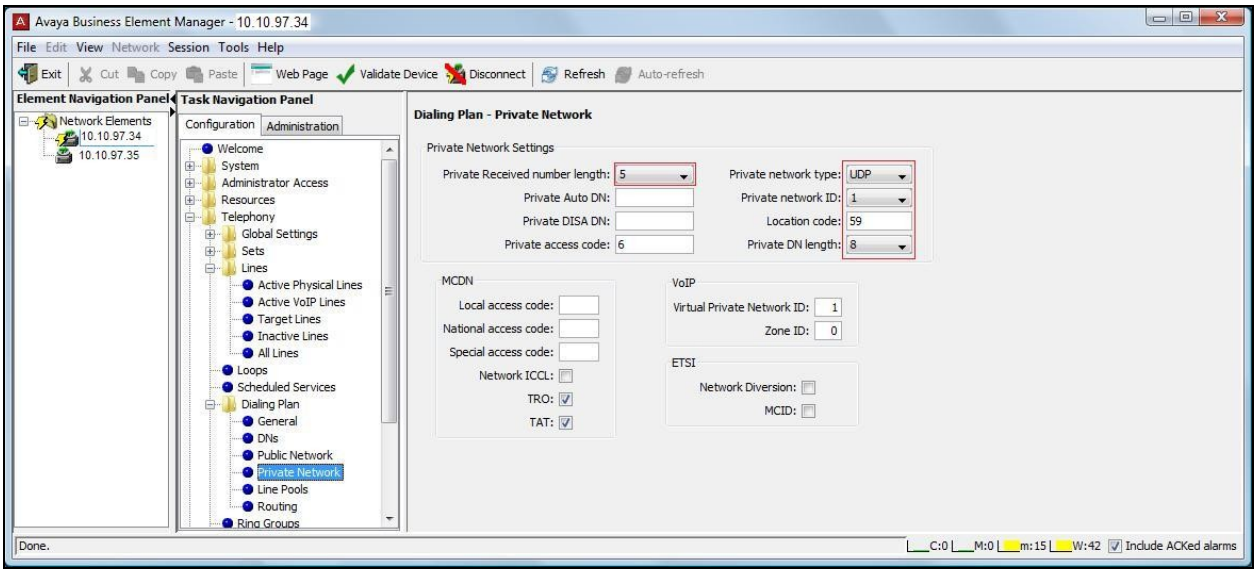

Figure 14 – IP Trunk Settings

5.2.4.2 **Routing Settings**

Select **Configuration** tab **> Telephony > Dialing Plan > Routing.** Select tab **Routes.**
Click on **Add** button to add a route. Enter **Route number** to add (*2* in this example) in the pop up window. Then click **OK** (not shown).
Double click on the Route *2* under the **Use Pool** column. Select, from the pull down list, **BlocB** in this example.
Then double click on the Route *2* under **DN Type** column. Select, from the pull down list, **Private**.

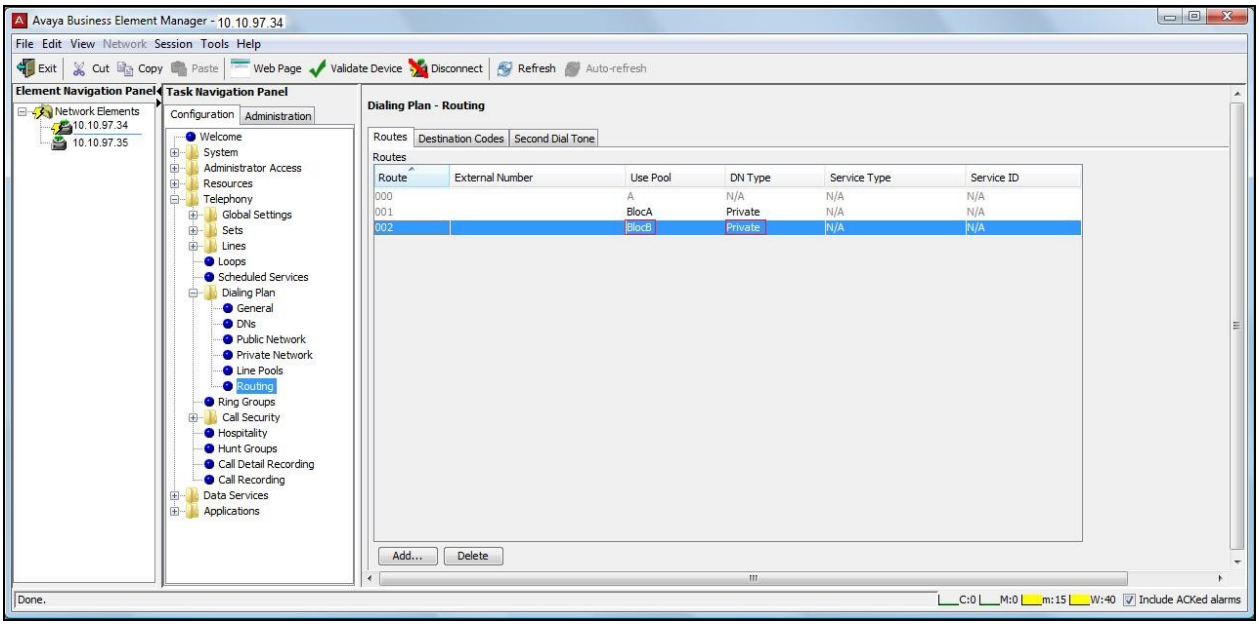

Figure 15 – Route Settings

5.2.4.3 **Destination Settings**

Select tab **Configuration > Telephony > Dialing Plan.** Select tab **Destination Codes** tab**.** Click **Add** to add a **Destination Code** where the call is going to route to, *593* in this example. Click **OK**. Under **Normal Route** column of newly created destination code, enter route number which was created in **Section 5.2.4.2** (route *2*). **Absorbed Length** would be set to *0* for newly created route, *593*, as shown in **Figure 16**.

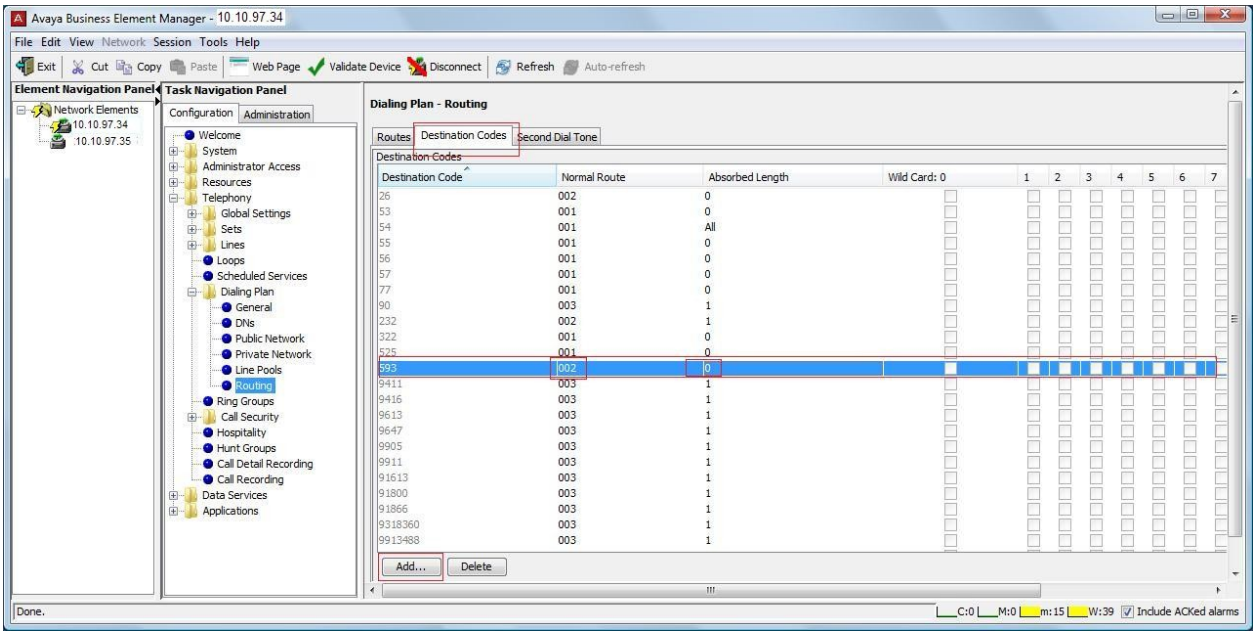

Figure 16 – Destination Code Settings

5.2.4.4 User/Telephone Sets Configuration for Incoming/Outgoing Call

This section show how to configure telephone sets to specific physical line for incoming/outgoing calls to/from a digital set.
Select tab **Configuration > Telephony > Sets > Active Sets.** Select tab **Line Access.** Click on the digital set, under the **Model** column (T7316/M7310), to be used for line assignment under the section **Details for DN**: xxxxx as shown in **Figure 17**.

For Incoming Call:
Click **Add** button to assign an available line the DN (*22624*) associated with the digital set. The line used in this example is *995*, which was selected in **Section 5.2.4.3**. Click **OK** from the **Add Line Assignment** pop up window. Enter and use the parameters values highlighted in red boxes.

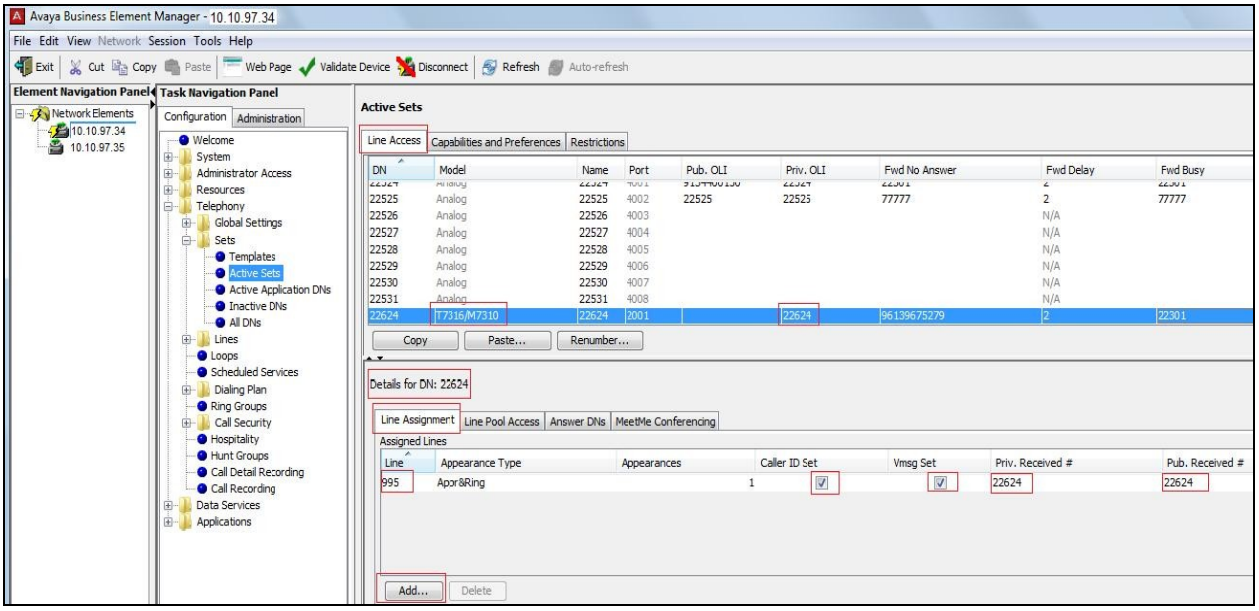

Figure 17 – Line Assignment to DN Associated with Digital Set for Incoming Call

For Outgoing Call:
Select tab **Line Pool Access** under **Details for DN**, click **Add** button to add **BlocB** as used in **Section 5.2.4.2**. Click **OK** from the **Add Line Pool** pop up to complete as shown in **Figure 18**.

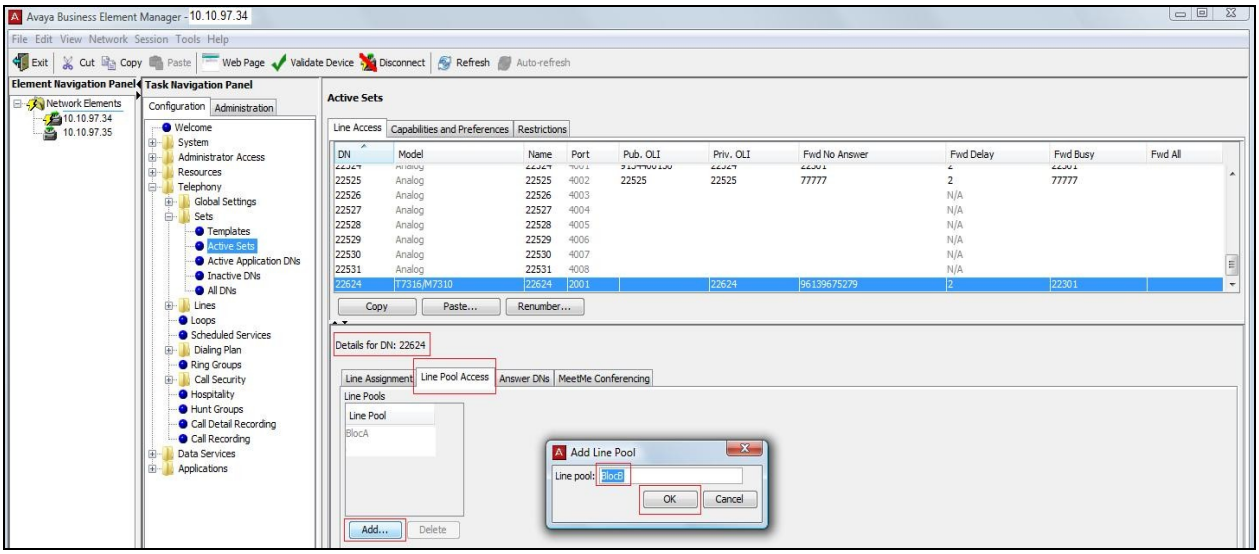

Figure 18 – Line Pool for Outgoing Call to PSTN on PRI trunk

5.2.4.5 Capabilities and Preferences

Under **Active Sets**, select **Capabilities and Preferences** tab. Check the box on the selected line, *22624*, under **Auto Called ID**. This will allow the delivery of the **Calling Name Party Display** (not shown).

Under **Active Sets**, select **Line Access** tab. Double click on line *22624*, under the **Priv. OLI** column, enter the DN (*22624*). This will allow the delivery of the **Calling Line Identification Display** (not shown).

5.3. Emulated PSTN (BCM 50 as Central Office) PRI trunk Configuration

The configuration of BCM 50 platform Central Office (CO) for emulated PSTN via PRI trunk interface is similar to **Section 5.1**. Please refer to the steps in **Section 5.1** to complete the PRI trunk configuration for this example.

Note: In Section 5.2.3.1 (Figure 11), the **Protocol type** parameter should be set to **Master (Slave)** for this CO emulated PSTN.

6. Configuration for Engage

This section describes the steps on how to configure the Engage Recording system including Engage Record Client and Engage Record Server to be able to record the conversations over the digital telephones on the BCM.

Assumptions have been made as such:

- The installation of BCM LAN CTE interface which has been installed on the Engage Server in order for the Engage Server to send call start, call stop, and other messaging and call events.
- Installing of the BCM Recording on the Engage Server has been done.
- Configuring BCM Voice Recording Server Software has been done on the Engage Server.

Refer to the reference [1] in **Section 9**.

6.1. Configure Engage BCM Configuration

Engage Record must be programmed to map station information to an Engage Record port number. The port numbers are a system resource that can be assigned to one or more system users so that recording criteria can be established and call playback can be managed. The port numbers can also be assigned to port number groups that can be assigned to one or more system users to ease administration.

Engage Record must also be programmed with the trunk information on the Engage Record server and how these trunks are referenced on Avaya BCM. If the BCM recording option is installed on the Engage Server, then the Engage BCM Controller icon displays in your system tray.

Select **Start** > **Programs** > **TelStrat Engage** > **BCMEngine Controller**. The **BCMEngine Controller** icon appears on the bottom right corner of the Window Taskbar as shown in **Figure 19.**

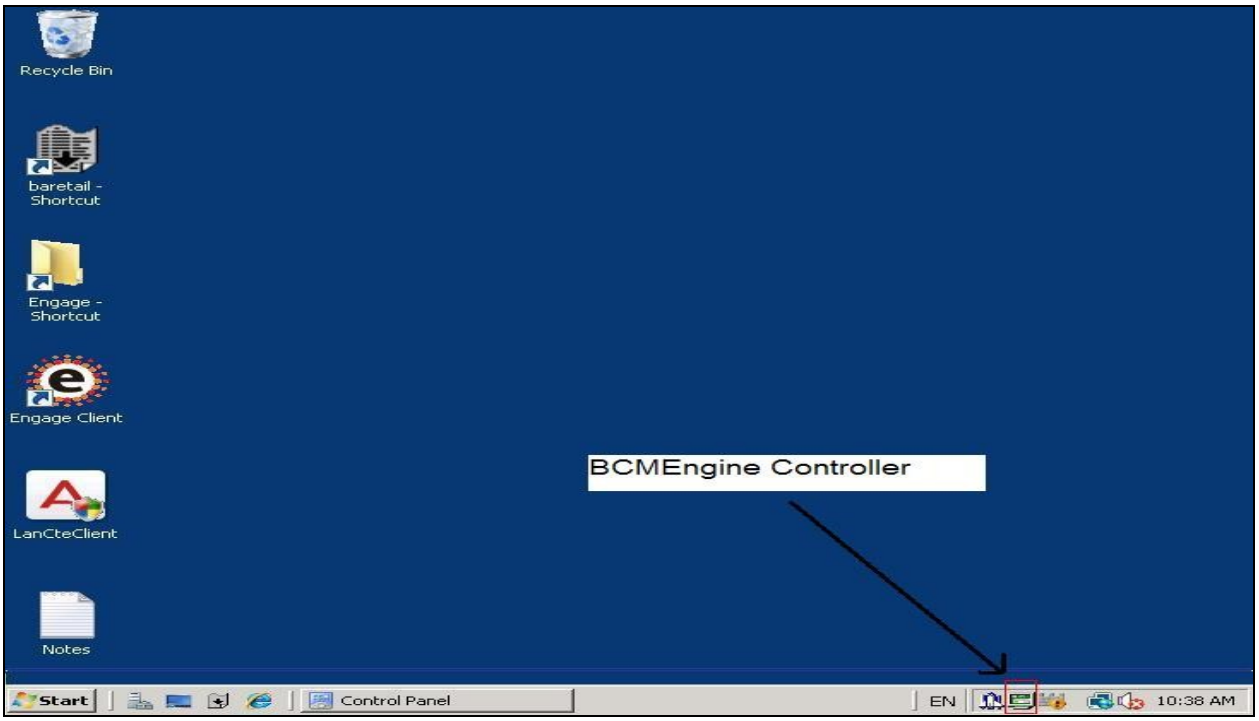

Figure 19: Engage BCM Engine Controller

6.1.1. General Tab configuration

Right Click on the **BCMEngine Controller** icon and select **Configuration**. The Engage BCM Configuration window will appear as shown in **Figure 20.** Enter the *IP address* or *DNS name* of the Engage Voice Recording server in the **Voice Server Address** field. Enter the *published IP address* of the BCM server in the **BCM Server Address** field.

If the **Conversation Save** button feature is used

- In the **Conversation Save SPRE Code** field, enter the SPRE code that each BCM user must press to activate the **Conversation Save** feature.
- Under **Phone Message to display**, enter up to 12 characters that user wants the telephone to display to indicate that the **Conversation Save** feature is on. For example, **Conv Save**.

If the **Record** button feature is used

- Enter the **SPRE code** each BCM user must press to activate recording.
- Enter up to 12 characters that you want the BCM telephone to display to indicate that the **Record** feature is on. For example, **Record**

- Note: If user A (on a BCM telephone set) adds user B (on a BCM telephone set) to a conference call, user B cannot use the Record SPRE Code during the conference call. In this scenario, only user A (the originator of the conference call) can use the Record SPRE Code during the conference call. The Engage system does not support SPRE-based call tagging functionality for non-originator BCM station telephone sets.

If the **Conversation Delete** button feature is used

- Enter the **SPRE code** each BCM user must dial to activate the **Conversation Delete** feature.
- Enter up to 12 characters that you want the telephone to display to indicate that the **Conversation Delete** function is on. For example, **Conv Delete**.

Note: A SPRE code is a Special Prefix code that users dial to access features of the telephone system. BCM SPRE codes start with an * or #. The second character can be 0–9, *, or #. The remaining characters can be 0–9. The entire SPRE code must not exceed four characters in length

Do not check the box for **Enable verbose diagnostics trace** check box unless instructed to do so by TelStrat Customer Service personnel.

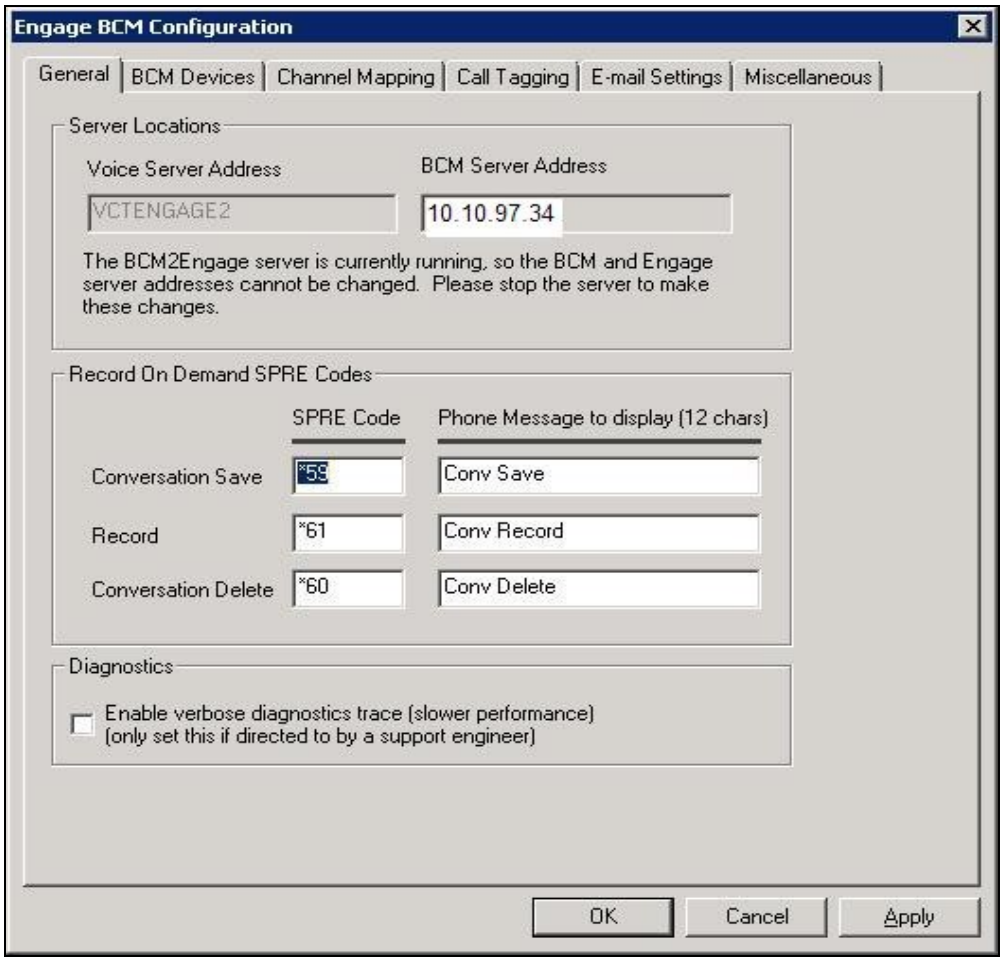

Figure 20: Engage BCM Configuration

6.1.2. BCM Devices Tab

Click on the **BCM Devices** tab to display the following 'BCM Devices' dialog box to configure which ports to record as shown in **Figure 21**.

By default, all BCM endpoints will be monitored by the (*) being displayed in the BCM Devices list. To configure for all BCM endpoints to be monitored, enter (*) in the **DN to Monitor** field and then select the **Add** button. This is a very simple way to manage the recordings of the BCM; however it is not possible to assign specific ports to specific system users and exclude some ports from some system users. This can be accomplished with Agent ID by selecting '**Copy DN to Agent ID field if Agent ID is not present'** on Miscellaneous tab of Engage BCM Configuration [1].

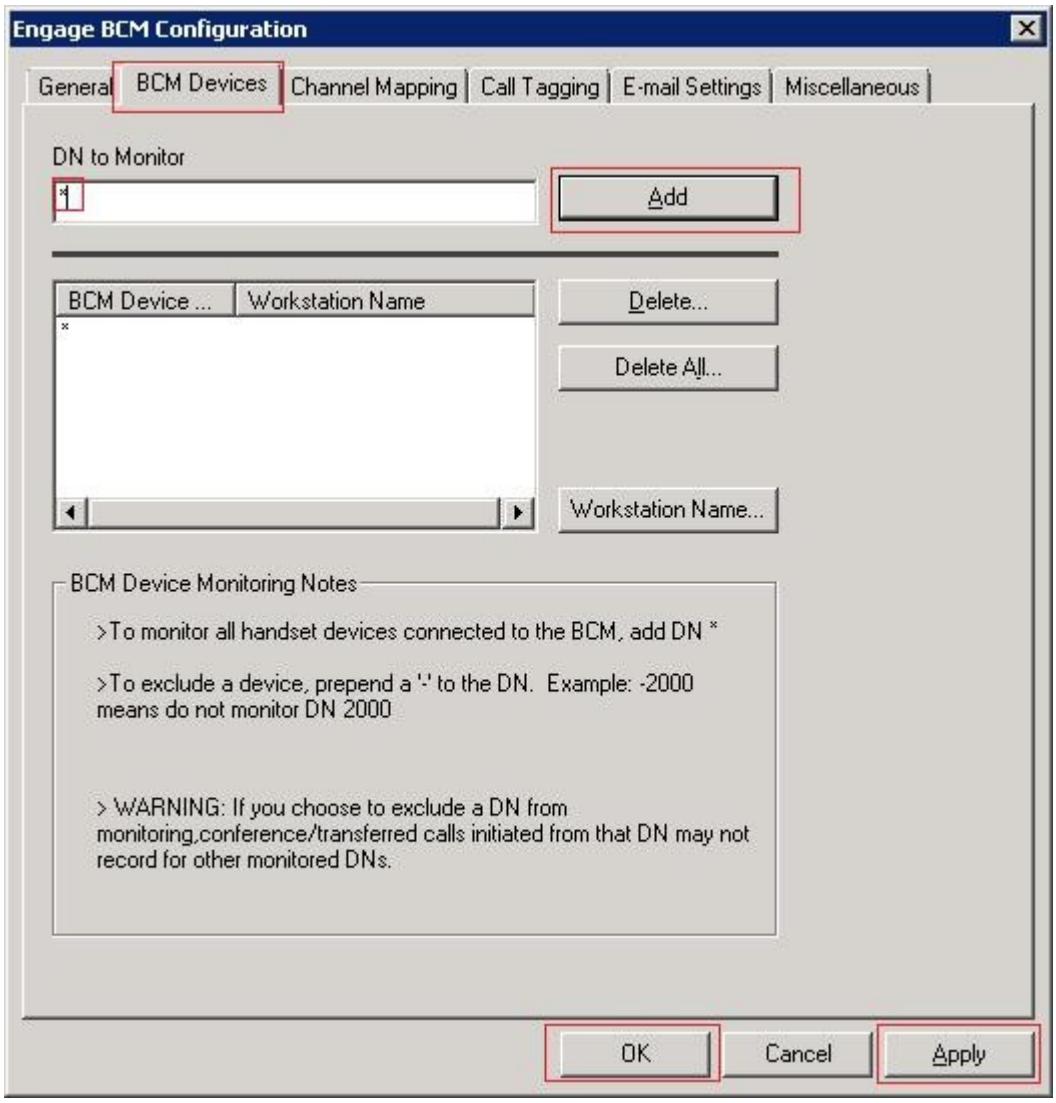

Figure 21: BCM Devices Tab

6.1.3. Channel Mapping Tab

The **Channel Mapping** tab is used to configure the Engage Record server with the BCM trunks to be monitored.

Click on the **Channel Mapping** tab and the Channel Mapping dialog box displays as show in **Figure 22**.

To add a BCM PRI trunk tap channel to your Engage system

- Enter desired tap card port number in the **Tap Hardware Port** field.
- Enter the number of the BCM line that you want the Engage system to map to the tap hardware port in the **BCM External Line/Trunk ID** field.
- Click on the **Add** button and the information displays in the main window.

Note: on the BCM External Line / Trunk ID is ranging from 9 – 31and these will map to Engage Tap Hardware Port ranging from 0 – 22.

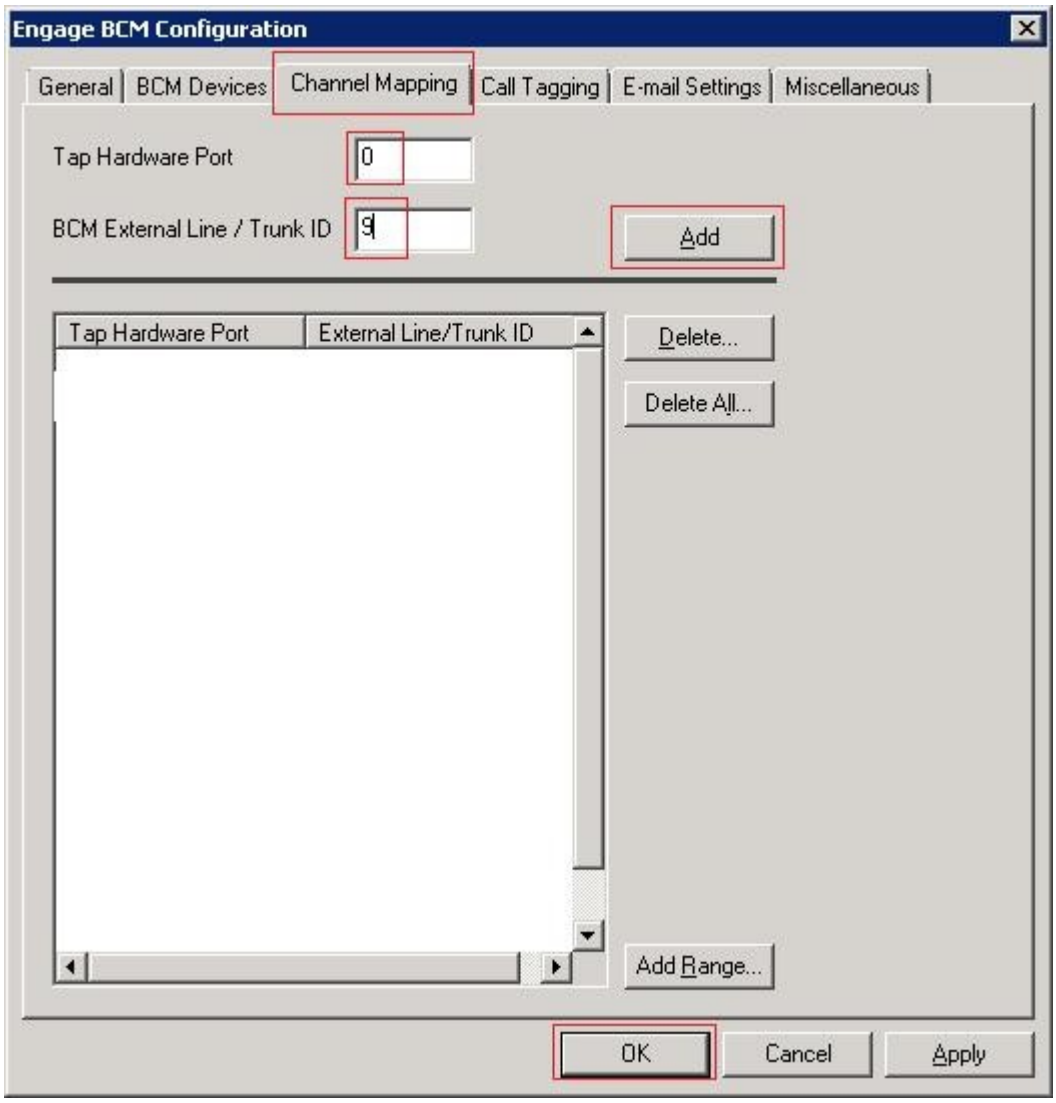

Figure 22: Channel Mapping Tab

6.1.4. Applying the Changes to the Engage Server

After making the above configuration changes on the Engage server, you must stop and then restart the Engage Server.

- Right-click on the **Engage BCM Controller** icon in the system tray, as shown in **Figure 19**, to display a pop-up menu.
- Click on **Status**, and the **BCMEngine Server Status** dialog box displays as shown in **Figure 23**.
- Click on the **Stop** button to stop the server.
- Wait 10 seconds, and then click on the **Start** button to start the server.

Figure 23: BCMEngine Server Status

6.2. Configure Engage BCM Voice Recording Server Software

This section explains the configuration using the Engage Record Client PC to connect to Engage Server to monitor, record and playback the recorded conversations.

It is assumed that the Engage Record Server has been successfully installed and the required recording services are running on it. Assumption is also made that the Engage Record Client has been successfully installed. For additional information on Engage Record suite installation and configuration refer to **Section 9 [2] and [3]**.

To access the Engage Client, navigate to **Start > All Programs > TelStrat Engage > Engage Client** from the equipment it is installed on. During compliance testing the client was installed on a PC.

The TelStrat Engage Record Client login screen is seen as in **Figure 24** below. Enter the **UserID**, **Password** and the **Server Name**. The server name is the IP address or the server name of the Engage Record Server. Press **OK** once the above information has been entered.
Note: **Server Name,** in this example, was the IP address of the Engage Server, which this client is connecting to (10.10.97.56).

Figure 24: Login Screen of Engage Client

6.3. Configure Recording Criteria

This section describes the recording criteria that can be built using the Engage Record Client to record calls going on the digital (TDM) telephones on the BCM. Example criteria discussed in this section are Record All (recorded all calls) and selective recording (record calls as per filters set).

6.3.1. Record All Criteria

To create a recording criteria navigate to **Engage > Record > Schedule Recording**. On the right hand window pane under the column **Schedule Recording Criteria**, right click the mouse button and select the **Create** option provided as seen in **Figure 25** below.

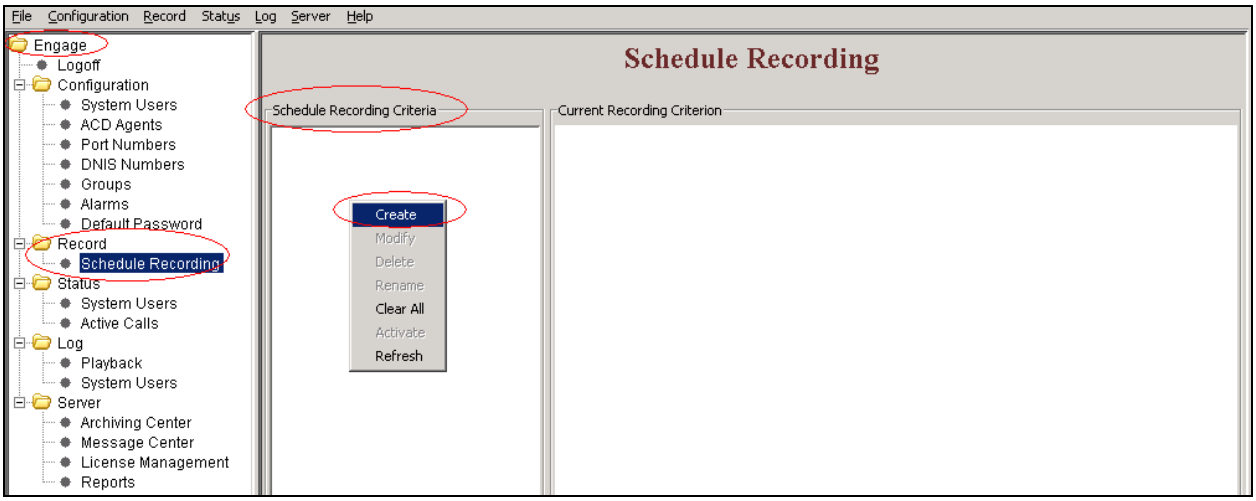

Figure 25: Creating Recording Criteria

In the **New Criteria** window type the **Criteria Name** and press **OK** as shown in **Figure 26** below.

Figure 26: Creating New Criteria

To activate the recording criteria **Record All**, right click on the newly created criteria and select **Activate** as shown in **Figure 27**. Click on **OK** at the **Modification successful** pop up (not shown).

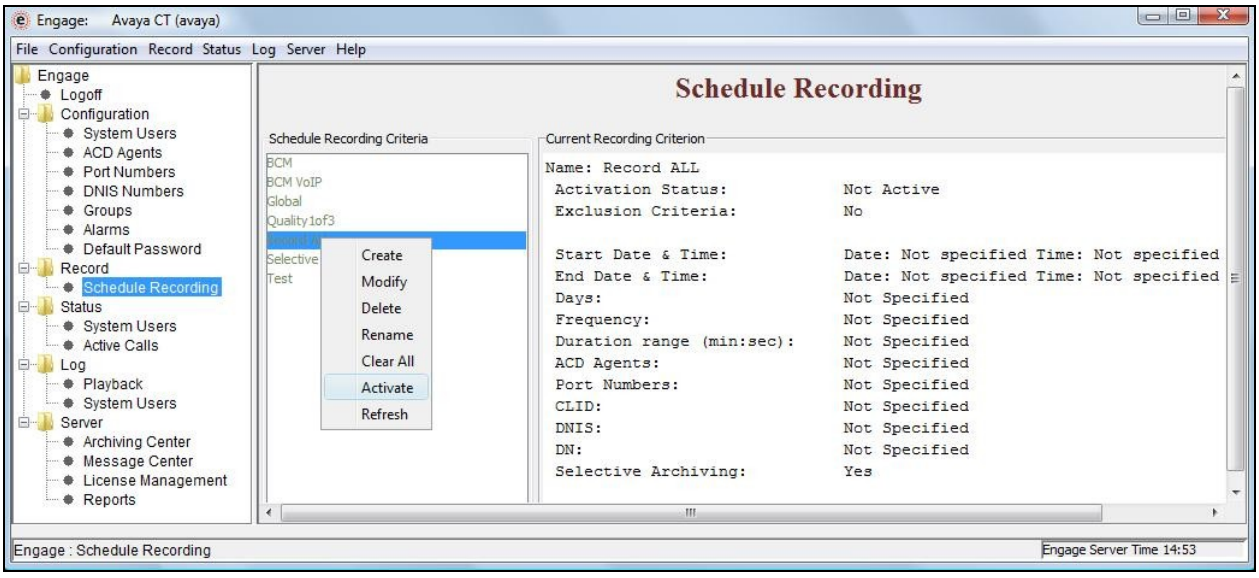

Figure 27: Record All Criteria Summary

After activate, the **Record All** criteria will be highlighted with greenish color to indicate that the filter criteria is currently active (not shown). **Figure 27** shown above also shows the summary of the **Record All** criteria.

6.3.2. Selective Recording Criteria

Selective recording is where incoming/outgoing calls are recorded of selected components of DN. With the selected DN being recorded, additional filter can be used to record the calls based on Date & Time, Days of Week, CLID, DNIS and others.

In this example, it shows only the DN of the BCM TDM telephones being recorded without any filter condition for simplicity.

To create a Selective recording criterion, navigate to **Engage > Record > Schedule Recording**. On the right hand window pane under the column **Schedule Recording Criteria**, right click the mouse button and select the **Create** option provided as seen in **Figure 27**.

In the New Criteria window type the **Criteria Name** as **BCM** and press **OK** (not shown).
To add DN to be recorded, right click on **DN** space, select **Add** and input the DN in the **Engage: DN Input** as shown in **Figure 28**.
Click **OK** to input the DN then **Close** to turn off the **DN Input** pop up.

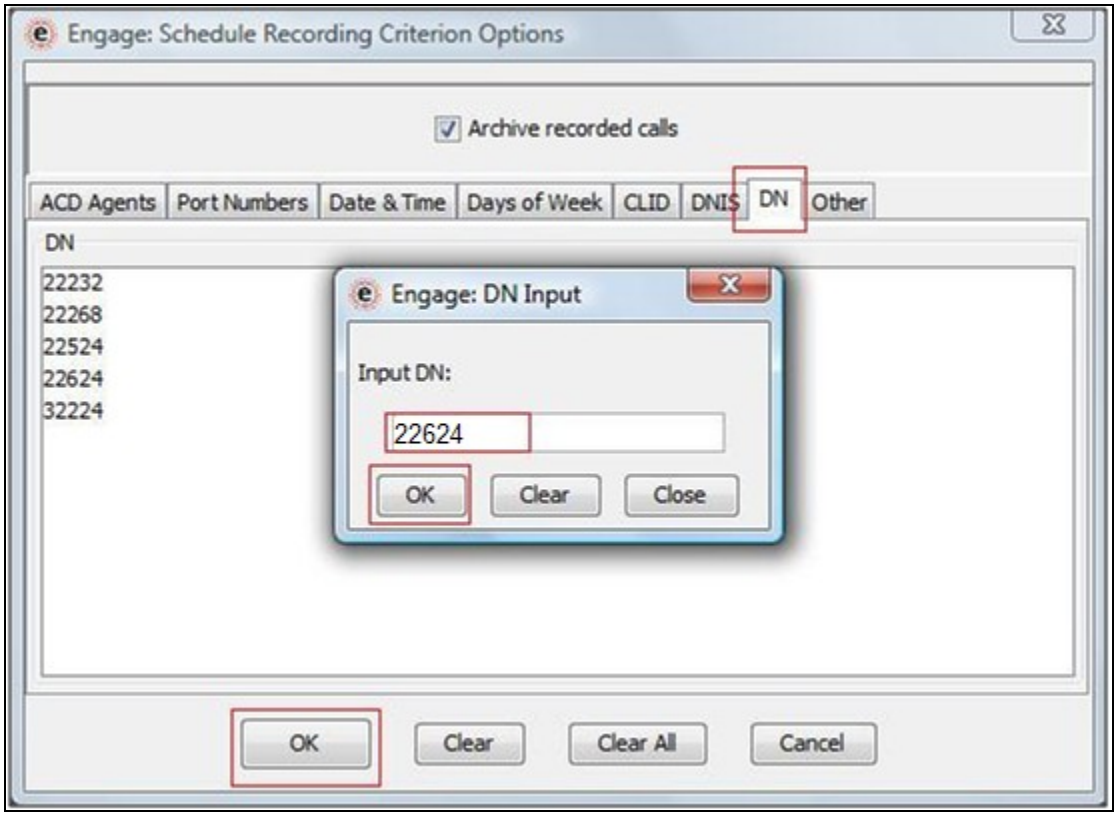

Figure 28: Selective Recording on DN

Now the required DN is selected as shown in **Figure 29** and included into the **BCM** criteria.
Press **OK** to complete configuring the newly created criteria.

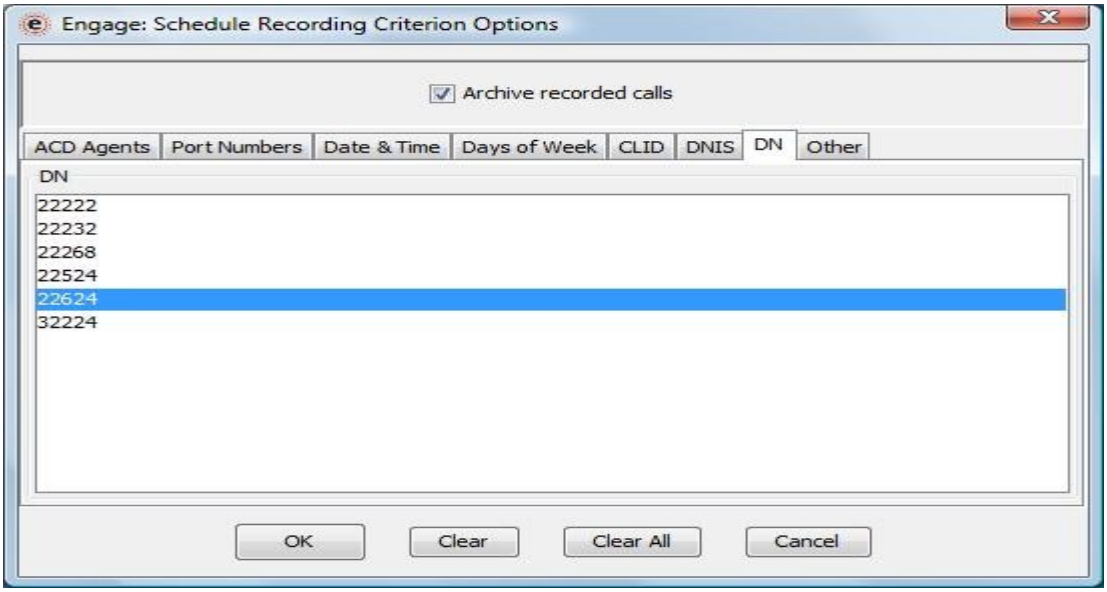

Figure 29: Selected DN being added to the BCM Criterion

To activate the recording criteria **BCM criterion**, right click on the newly created criteria and select **Activate** (not shown). Click on **OK** at the **Modification successful** pop up (not shown). After activate, the **BCM** criteria will be highlighted with greenish color to indicate that the filter criteria is currently active (not shown).

7. Verification Steps

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

- Making inbound call from BCM 50 emulated PSTN (DN: 322323) phone to one TDM phone (with DN 22624).
- At the Engage Record Client PC, select **Engage > Status > Active Calls**. This will show that the call is being active on the BCM over the PRI trunk as shown in **Figure 30**.

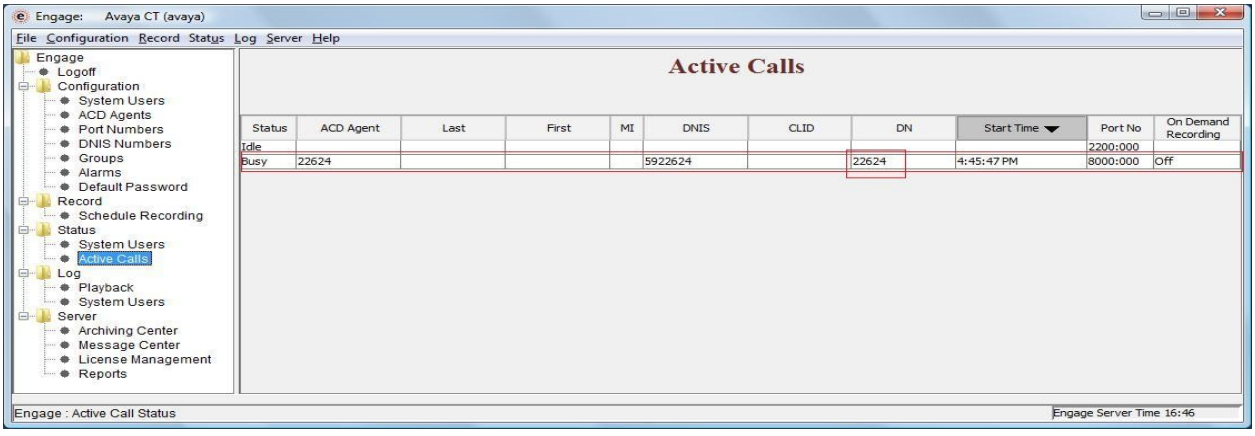

Figure 30: Active Calls

- On the **BCM Monitor** as shown in **Figure 10**, click on the **Line Monitor** tab. During the call, the BCM monitor should show the physical incoming line being used as shown in **Figure 31**.

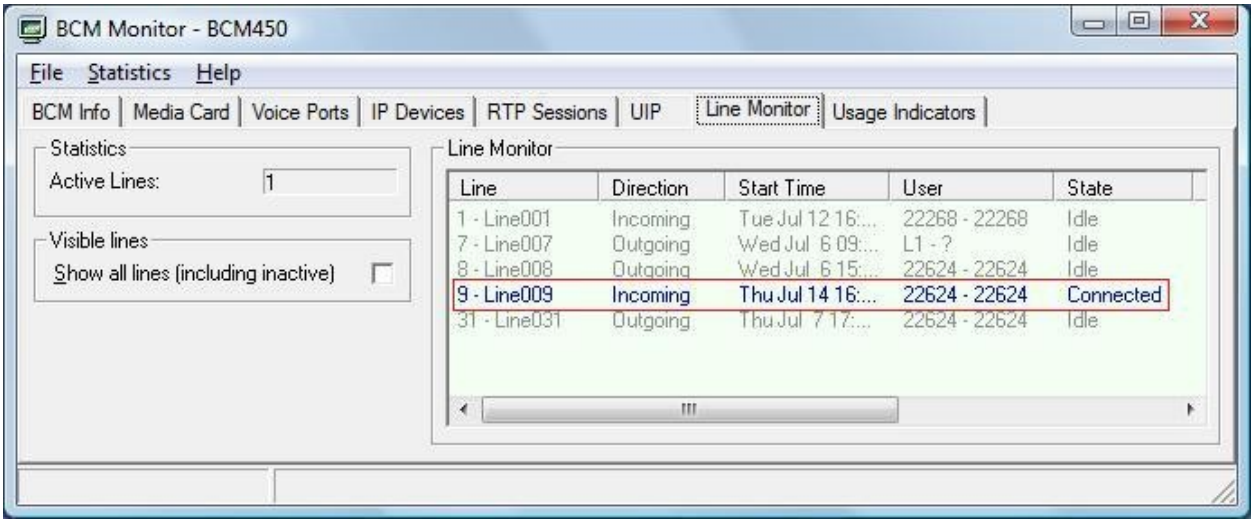

Figure 31: BCM Line Monitor

- On the Engage Record Client PC, select **Engage > Log > Playback**. The Playback log should show one incoming call being recorded, as shown in **Figure 32**, and can be played back by Windows Media Player.

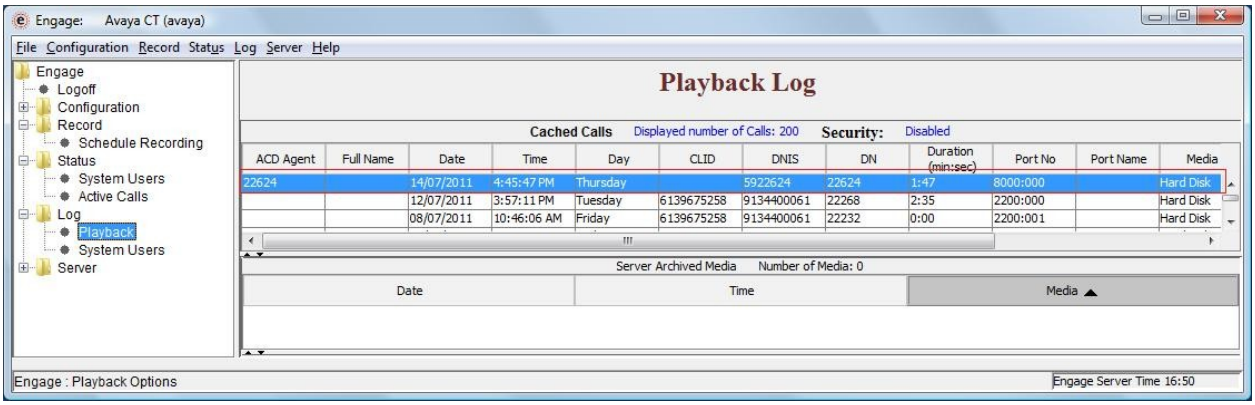

Figure 32: Playback Log

8. Conclusion

All of the executed test cases have passed and met the objectives outlined in **Section 2**. The Engage Record Server version 3.3 PRI trunk interface is considered compliant with Avaya Business Communication Manager Release 6.0.

9. Additional References

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

Product documentation for Telstrat may be found at:
http://www.telstrat.com/content/view/276/310/

[1] Engage System Integration Notes, Engage Contact Center Suite BCM Trunk Recording, Product Release 3.3, Standard 1.1, April 2011.

[2] Engage Contact Center Suite Installation Guide

[3] Engage Contact Center Suite System Administration Guide

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.