Avaya Solution & Interoperability Test Lab

Application Notes for NICE Perform with Avaya Proactive Contact Using Trunk Tap – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for NICE Perform to interoperate with Avaya Proactive Contact using trunk tap. NICE Perform is a call recording solution for contact centers. In the compliance testing, NICE Perform used the Event Services interface from Avaya Proactive Contact to obtain information on agent states and calls, and used the trunk tap method to capture the media associated with the calls for call recording.

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 configuration steps required for NICE Perform to interoperate with Avaya Proactive Contact using trunk tap. NICE Perform is a call recording solution for contact centers. In the compliance testing, NICE Perform used the Event Services interface from Avaya Proactive Contact to obtain information on agent states and calls, and used the trunk tap method to capture the media associated with the calls for call recording.

The Avaya Proactive Contact Event Services interface is used by NICE Perform to monitor the states and calls for the agents. When the agent logs into Avaya Proactive Contact and is acquired by Avaya Proactive Contact to service calls, Avaya Proactive Contact establishes a dedicated audio connection to the agent using the E1/T1 trunk between Avaya Proactive Contact and Avaya Communication Manager. This dedicated audio connection to the agent stays in place until the agent is released or logged out.

When a call is delivered to the agent from Avaya Proactive Contact, NICE Perform is informed of the call via call events from the Avaya Proactive Contact Event Services interface, and therefore starts the call recording using the media from the E1/T1 trunk tap between Avaya Proactive Contact and Avaya Communication Manager. The call events from the Avaya Proactive Contact Event Services interface are also used to determine when to stop the call recording.

This compliance test only covered the recording of calls using the Avaya Proactive Contact Event Services events from the Avaya Proactive Contact with the PG230RM deployment option. The results should be applicable to the Avaya Proactive Contact Standalone deployment option.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on NICE Perform:

- Handling of real-time agent states and call events from Avaya Proactive Contact.
- Proper recording, logging, and playback of calls for Outbound/Managed job with Predictive Agent Blending involving agent drop, customer drop, hold, reconnect, simultaneous, unsupervised and supervised transfer/conference call scenarios.
- Proper recording, logging, and playback of calls for Blend job with Intelligent Agent Blending involving agent drop, customer drop, hold, reconnect, simultaneous, inbound, and unsupervised forward work call scenarios.

The serviceability testing focused on verifying the ability of NICE Perform to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the NICE Perform server hosting the Integration component.

1.2. Support

Technical support on NICE Perform can be obtained through the following:

- **Phone:** (800) NICE-611
- **Email:** support@nice.com

2. Reference Configuration

NICE Perform can be configured on a single server or with components distributed across multiple servers. The compliance test configuration used two servers to host NICE Perform components.

As shown in **Figure 1**, a NICE Multi Coupler for Trunk Tap is used to tap the T1 trunk between Avaya Proactive Contact and Avaya Communication Manager to capture the media.

The detailed administration of basic connectivity between Avaya Proactive Contact and Avaya Communication Manager is not the focus of these Application Notes and will not be described.

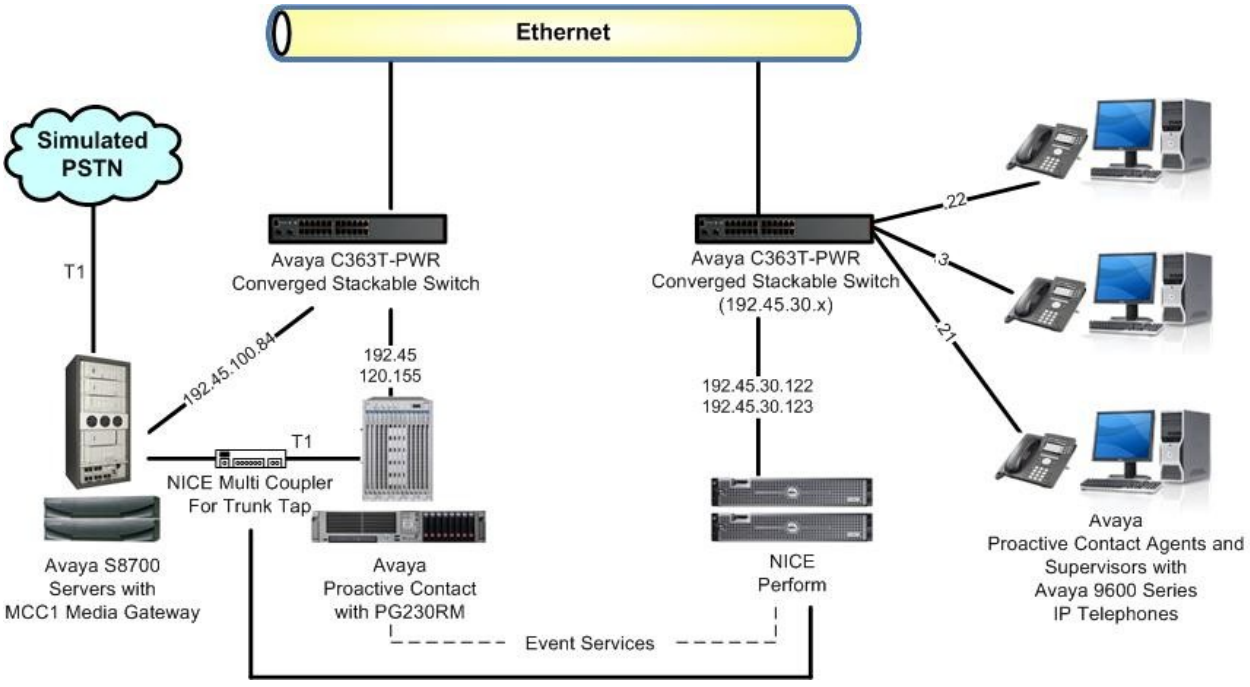


Figure 1: NICE Perform with Avaya Proactive Contact Using Trunk Tap

3. Equipment and Software Validated

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

Equipment	Software
Avaya S8700 Servers	Avaya Communication Manager 5.1.2, R015x.01.2.416.4
Avaya MCC1 Media Gateway • TN799DP C-LAN Circuit Pack • TN2302AP IP Media Processor	 HW01 FW024 HW13 FW116
Avaya Proactive Contact with PG230RM	4.0.1
Avaya 9600 Series IP Telephones (H.323)	3.0
NICE Perform 3.1 • Application • Database • Integration • Interaction Center (CLS) • Logger	3.1 9.10.5.377 SP6 9.10.5.377 9.12.3.8 SP6 9.15.6.14 SP6 9.6.05.38 SP6
NICE Multi Coupler for Trunk Tap	NA

4. Configure Avaya Proactive Contact

This section provides the procedures for configuring Avaya Proactive Contact. The procedures include the following areas:

- Obtain host name
- Obtain trunk information
- Obtain agent information

4.1. Obtain Host Name

Log in to the Linux shell of the Avaya Proactive Contact server. Use the "uname -a" command to obtain the host name, which will be used later for configuring NICE Perform. In the compliance testing, the host name of the Avaya Proactive Contact server is "lzpds4b", as shown below.

```
$ uname -a
Linux lzpds4b 2.6.9-42.0.10.ELsmp #1 SMP Fri Feb 16 17:17:21 EST 2007 i686 athlon i386
GNU/Linux
LZPDS4B(admin)@/opt/avaya/pds [4]
$
```

4.2. Obtain Trunk Information

Use the "go config" command to navigate to the /opt/avaya/pds/config directory. The **dgswitch.cfg** file contains the information on the trunk between Avaya Proactive Contact and Avaya Communication Manager, which is the trunk that NICE Perform is tapping into. In the **Headset Ports** section, note the values of the **timeslot:trunk** and **port** fields circled below. Also note that the incremental value for the timeslots is "1". These values will be used later for configuring NICE Perform.

```
$ go config

/tmp ➔ /opt/avaya/pds/config

LZPDS4B (admin) @/opt/avaya/pds/config [35]

$cat dgswitch.cfg
#Headset Ports
H:1:264:0:1:#H:15:1:1-1-21-1-1
H:2:265:0:1:#H:15:1:1-1-21-1-2
H:3:266:0:1:#H:15:1:1-1-21-1-3
H:4:267:0:1:#H:15:1:1-1-21-1-4
H:5:268:0:1:#H:15:1:1-1-21-1-5
H:6:269:0:1:#H:15:1:1-1-21-1-6
H:7:270:0:1:#H:15:1:1-1-21-1-7
H:8:271:0:1:#H:15:1:1-1-21-1-8
#Outbound Ports
```

4.3. Obtain Agent Information

Display the content of the /etc/passwd file. Scroll down the file and note the values of the agent IDs circled below. These values will be used later for configuring NICE Perform.

```
$cat /etc/passwd
       .
       .

agent1:x:105:102:Test agent1:/home/pds_agent:/bin/rbash
agent2:x:106:102:Test agent2:/home/pds_agent:/bin/rbash

       .
       .
```

5. Configure NICE Perform

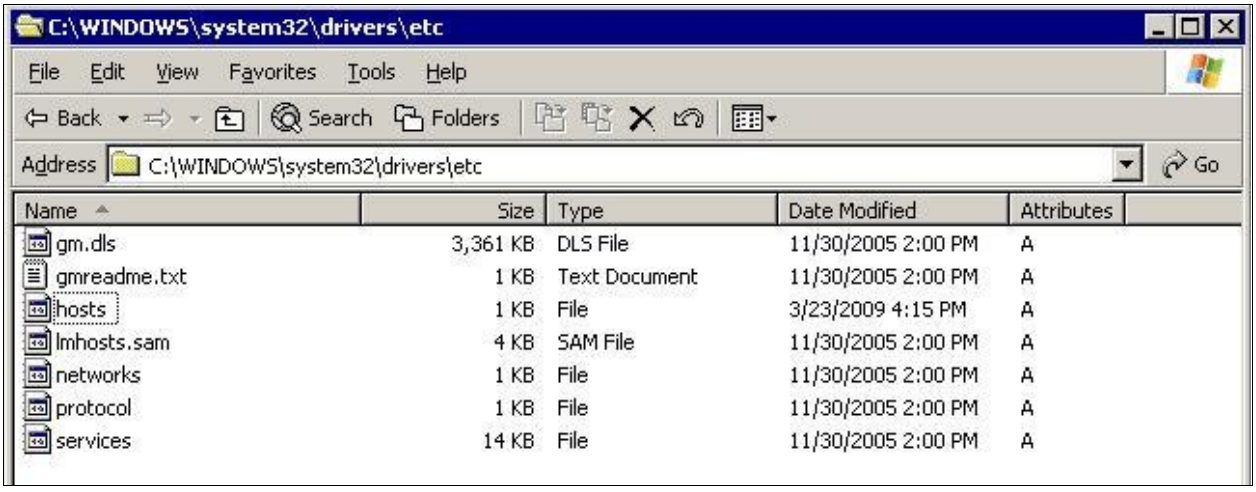
This section provides the procedures for configuring NICE Perform. The procedures include the following areas:

- Administer host file
- Administer technician mode
- Administer business data
- Administer optional ID
- Administer CTI integration
- Administer channels definition
- Administer sources definition
- Administer static mapping
- Administer users

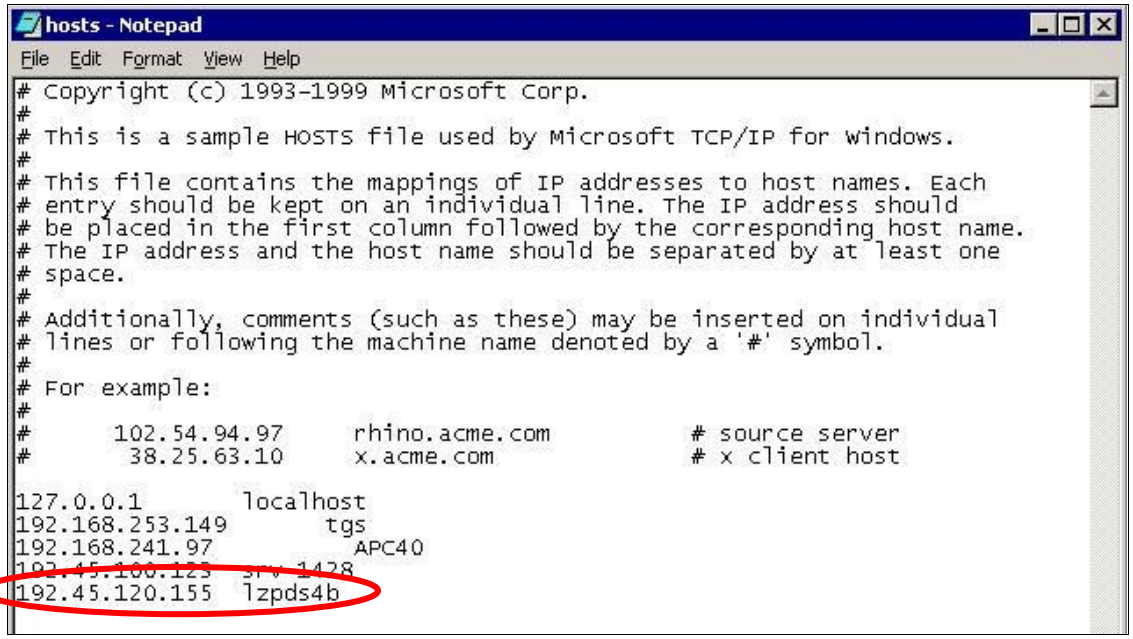
The configuration of NICE Perform is performed by NICE installers. The procedural steps are presented in these Application Notes for informational purposes. The basic connectivity and configuration between the NICE Perform servers and components is assumed to be in place and will not be described.

5.1. Administer Host File

From the NICE Perform server running the Integration component, navigate to the **etc** directory to edit the **hosts** file.

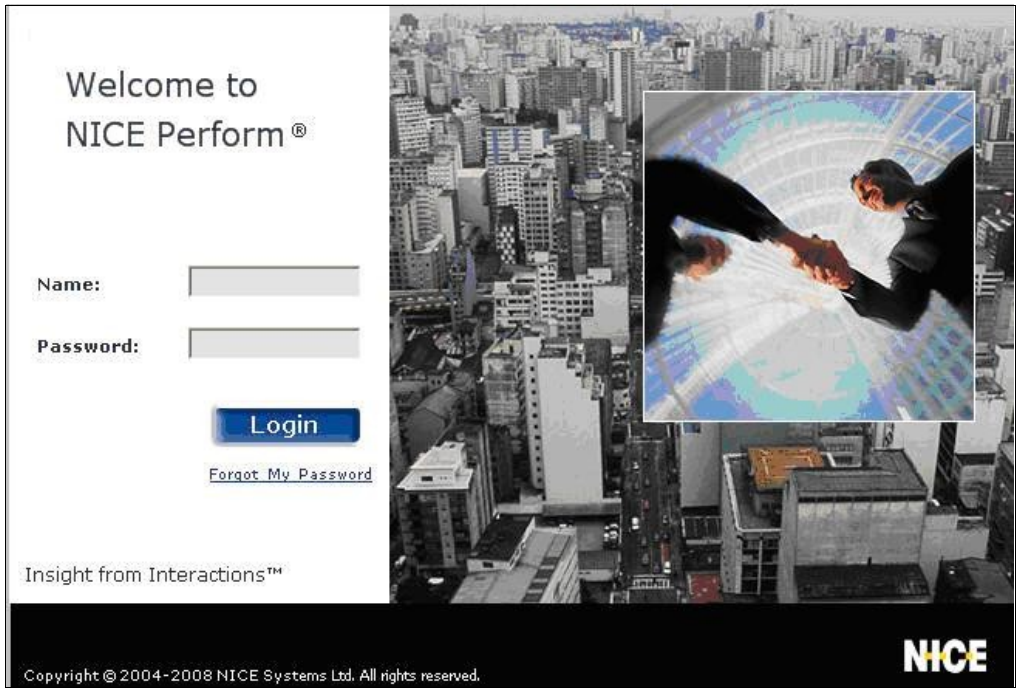


Add a new line to the end of the **hosts** file with the IP address and host name of the Avaya Proactive Contact server, using the host name from **Section 4.1**.

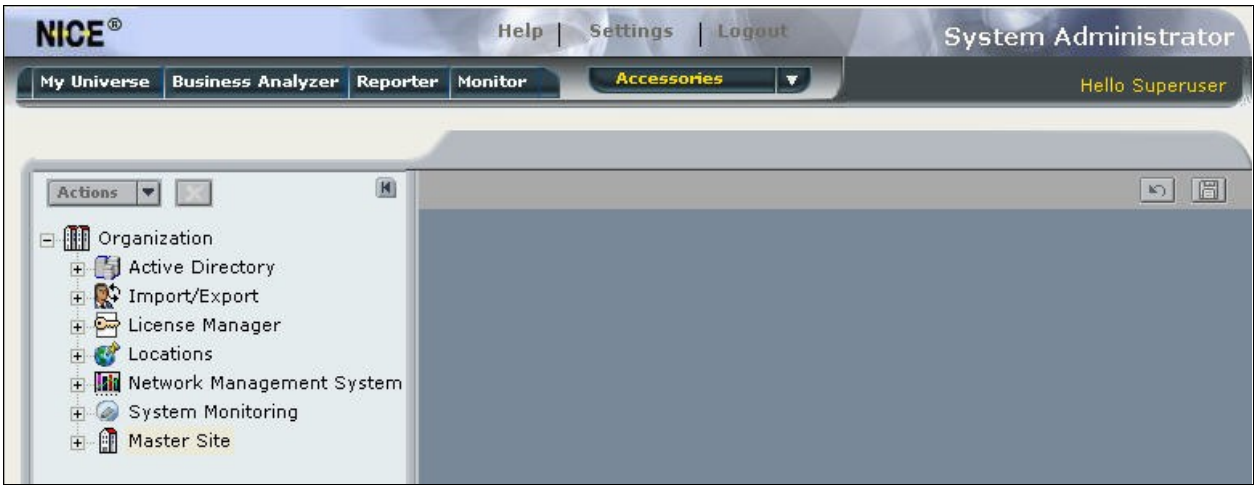


5.2. Administer Technician Mode

Access the NICE Perform web-based interface by using the URL "http://<host-name>/nice" in an Internet browser window, where "host-name" is the host name of the NICE Perform server running the Application component, in this case "srv-1427". The **Welcome to NICE Perform** screen is displayed as shown below. Log in with the appropriate credentials.

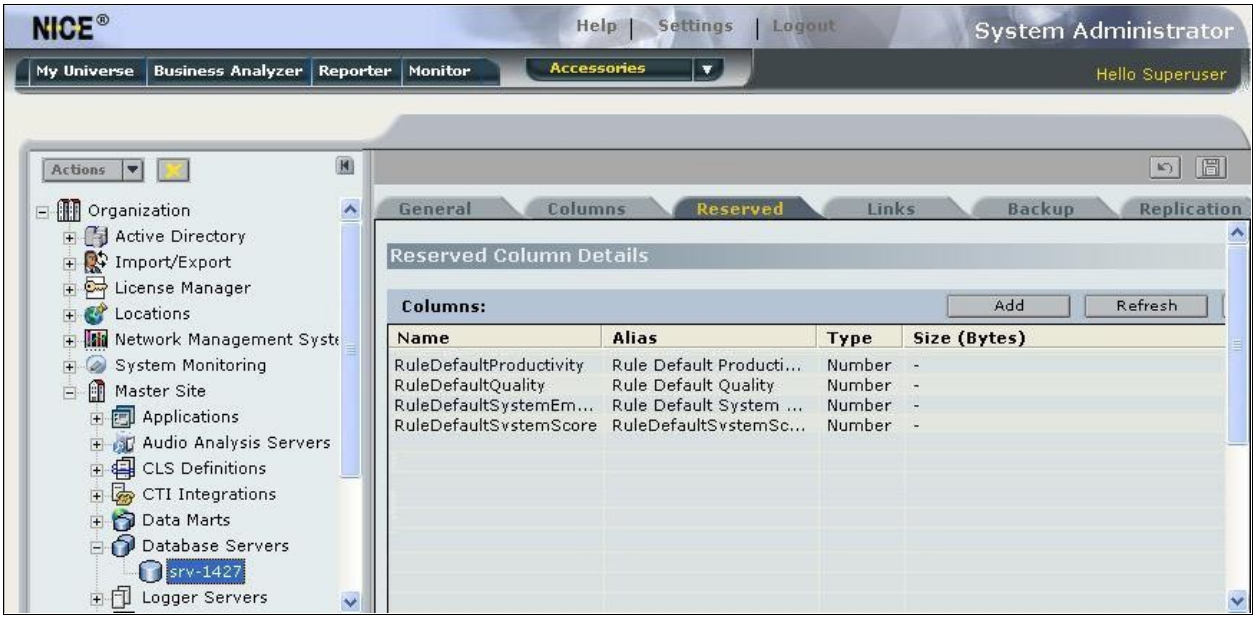


The screen below is displayed. Select **Accessories > Technician Mode** from the top menu.

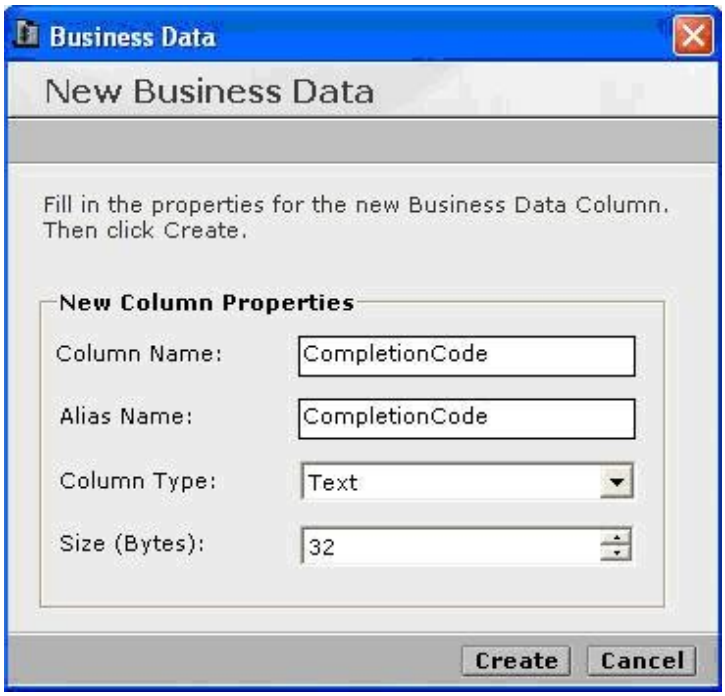


5.3. Administer Business Data

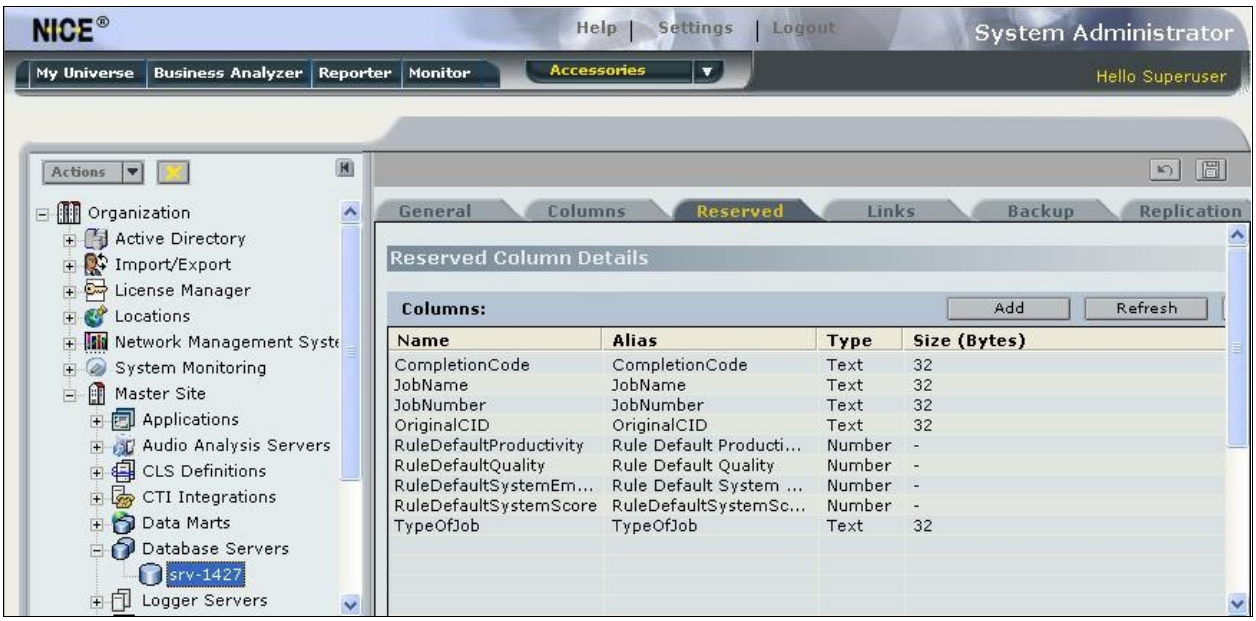
Select **Organization > Master Site > Database Servers > srv-1427** from the left pane, where **srv-1427** is the preconfigured name for the Database component. Select the **Reserved** tab from the right pane, to display the **Reserved Column Details** screen. Click **Add**.



The **Business Data** screen is displayed. For **Column Name**, enter "CompletionCode". For **Alias Name**, enter any desired string. Retain the default values in the remaining fields, and click **Create**.

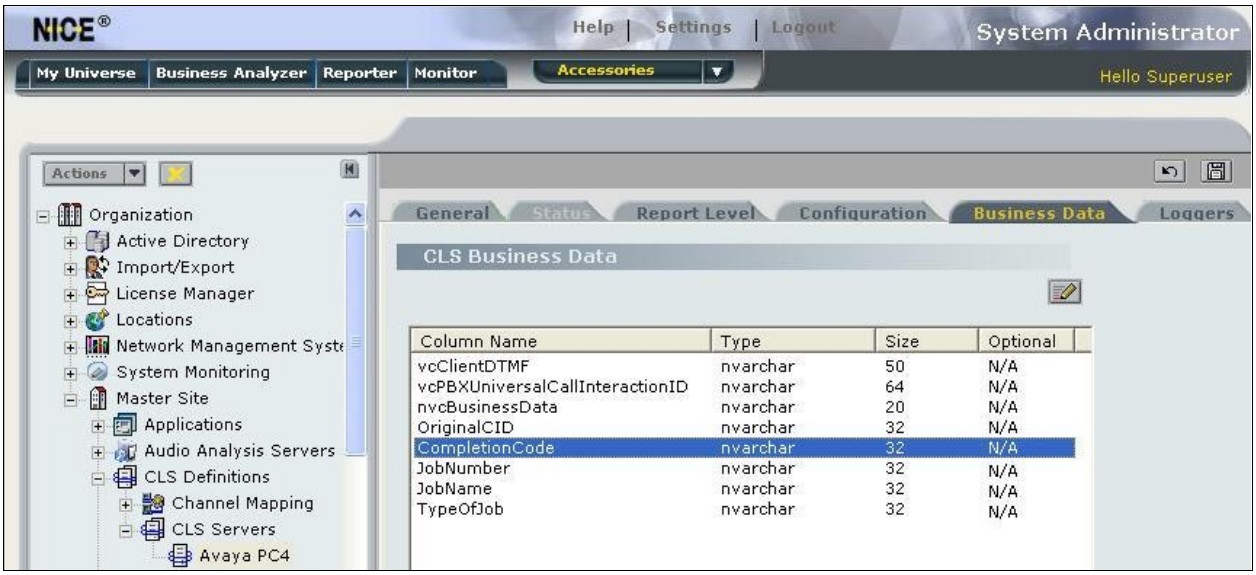


Repeat this section to create all remaining business data desired from Avaya Proactive Contact. In the compliance testing, the following business data were created: **CompletionCode**, **JobName**, **JobNumber**, **OriginalCID**, and **TypeOfJob**, as shown below.



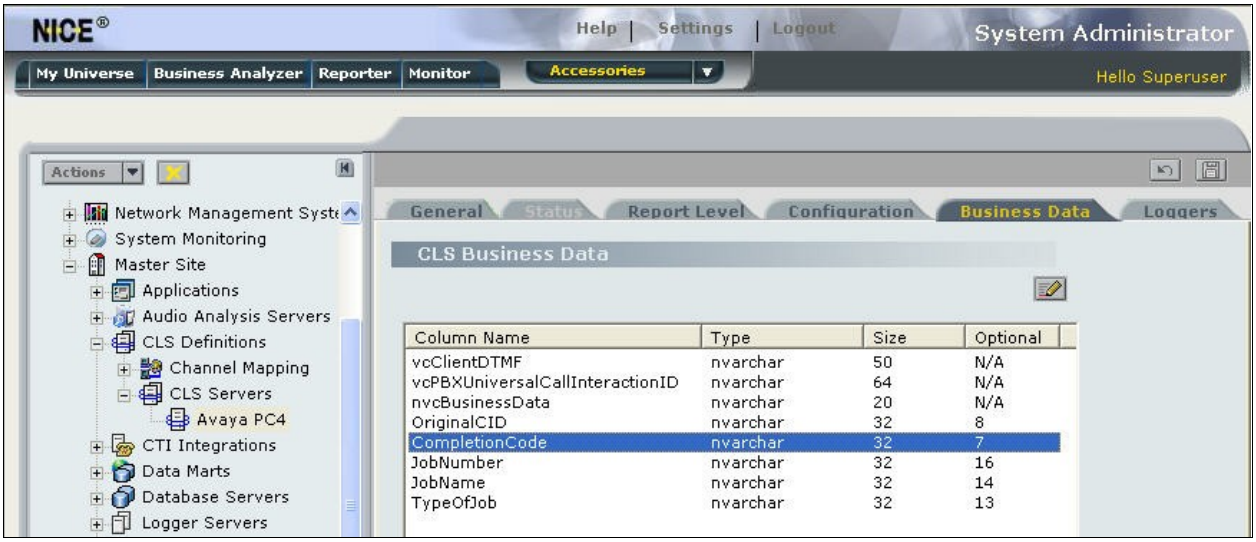
5.4. Administer Optional ID

Select **Organization > Master Site > CLS Definitions > CLS Servers > Avaya PC4** from the left pane, where **Avaya PC4** is the preconfigured name for the CLS component. Select the **Business Data** tab from the right pane, to display the **CLS Business Data** screen. Double click on the **CompletionCode** entry.



The **Map optional** screen is displayed. For **New Optional ID**, select an available ID, in this case "7". Click **OK**.

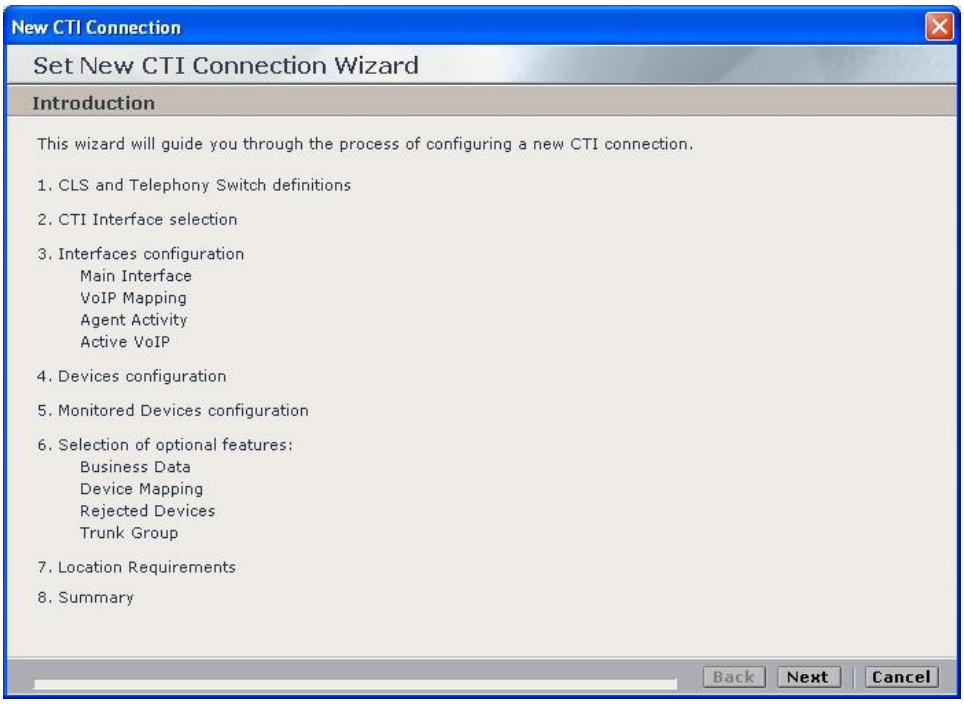
Repeat this section to assign an optional ID to each business data created from **Section 5.3**, as shown below.



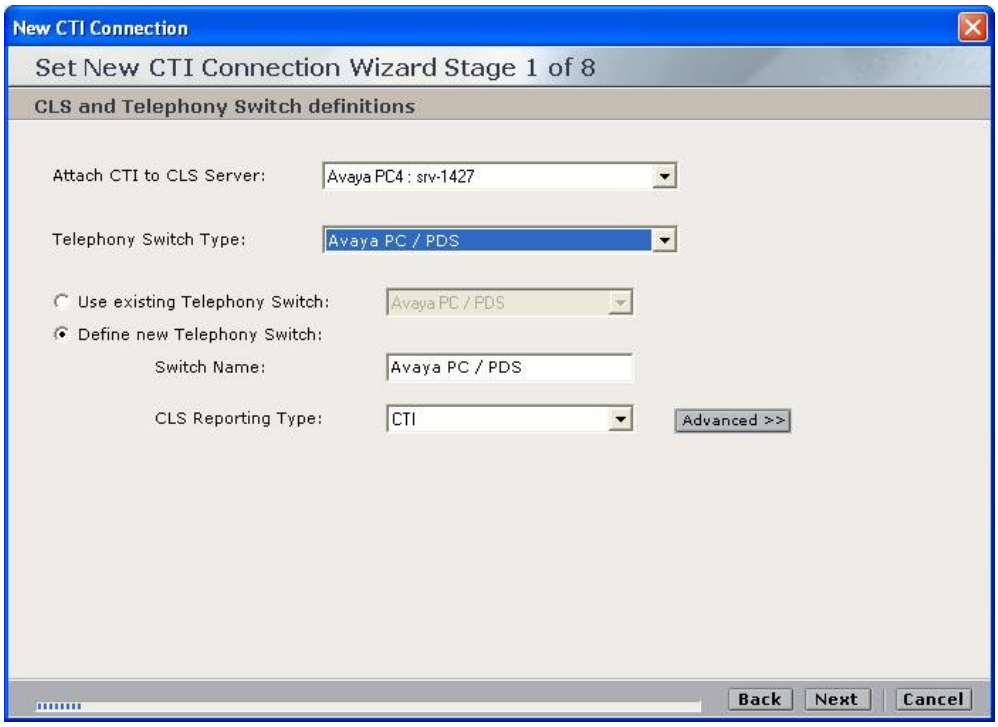
5.5. Administer CTI Integration

Select **Organization > Master Site > CTI Integrations** from the left pane. Click the **Add** icon circled below to create a new CTI connection.

The **Set New CTI Connection Wizard** screen is displayed. Click **Next**.



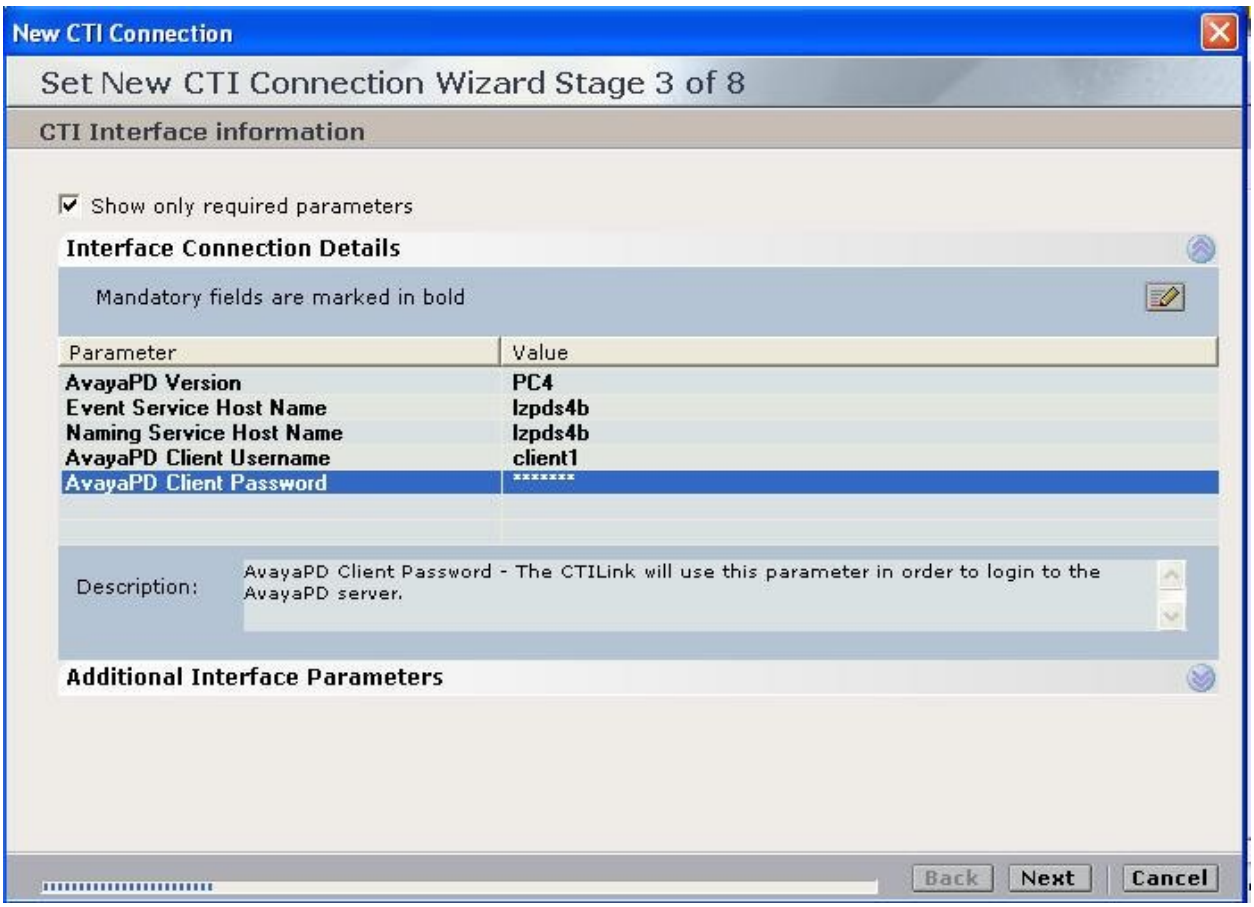
The **Set New CTI Connection Wizard Stage 1 of 8** screen is displayed next. For **Telephony Switch Type**, select "Avaya PC / PDS". Retain the default values in the remaining fields and click **Next**.



Click **Next** again in the subsequent screen to display the **Set New CTI Connection Wizard Stage 3 of 8** screen. Double click on each field under the **Parameter** column to enter the appropriate value as follows:

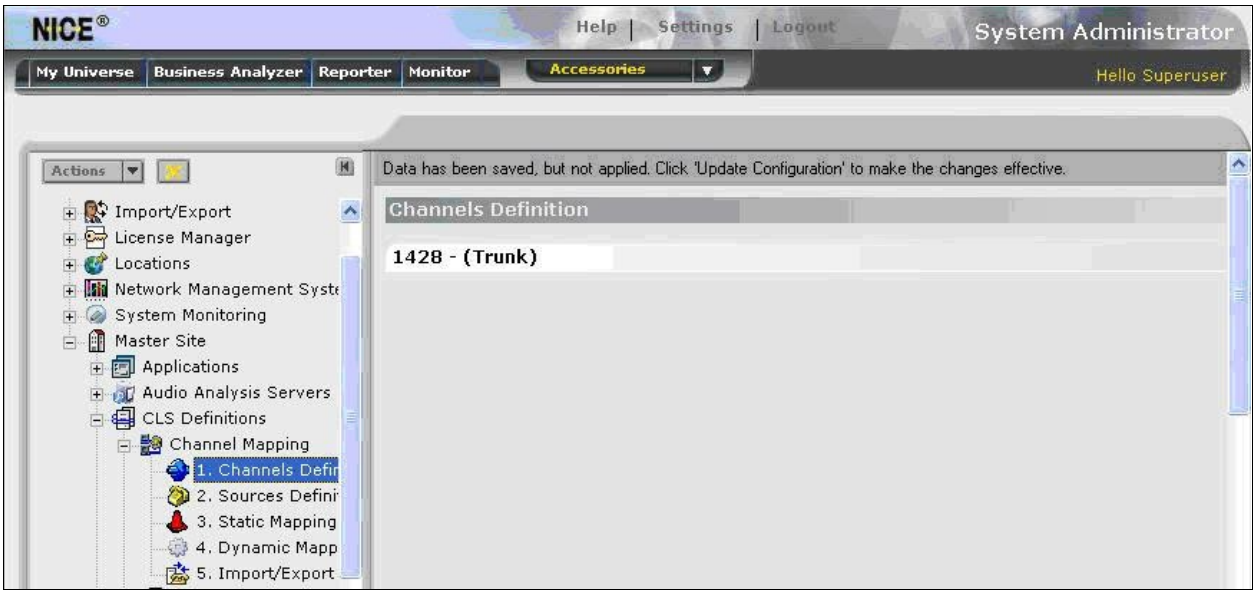
- **AvayaPD Version:** "PC4"
- **Event Service Host Name:** Host name of Avaya Proactive Contact from **Section 4.1**.
- **Naming Service Host Name:** Host name of Avaya Proactive Contact from **Section 4.1**.
- **AvayaPD Client Username:** Name of Avaya Proactive Contact Event Service client.
- **AvayaPD Client Password:** Password of Avaya Proactive Contact Event Service client.

Click **Next** in the next set of screens, followed by **Finish** in the last screen to complete the wizard.

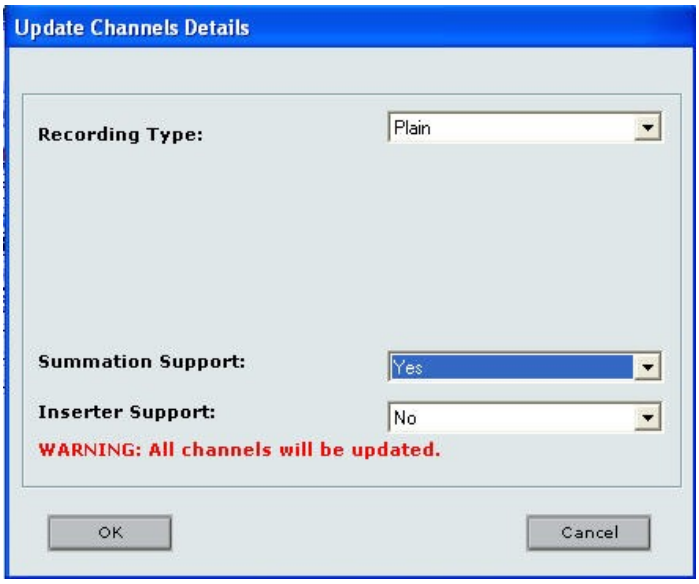


5.6. Administer Channels Definition

Select **Organization > Master Site > CLS Definitions > Channel Mapping > Channels Definition** from the left pane, to display the **Channels Definition** screen. Click the preconfigured trunk, in this case **1428- (Trunk).**

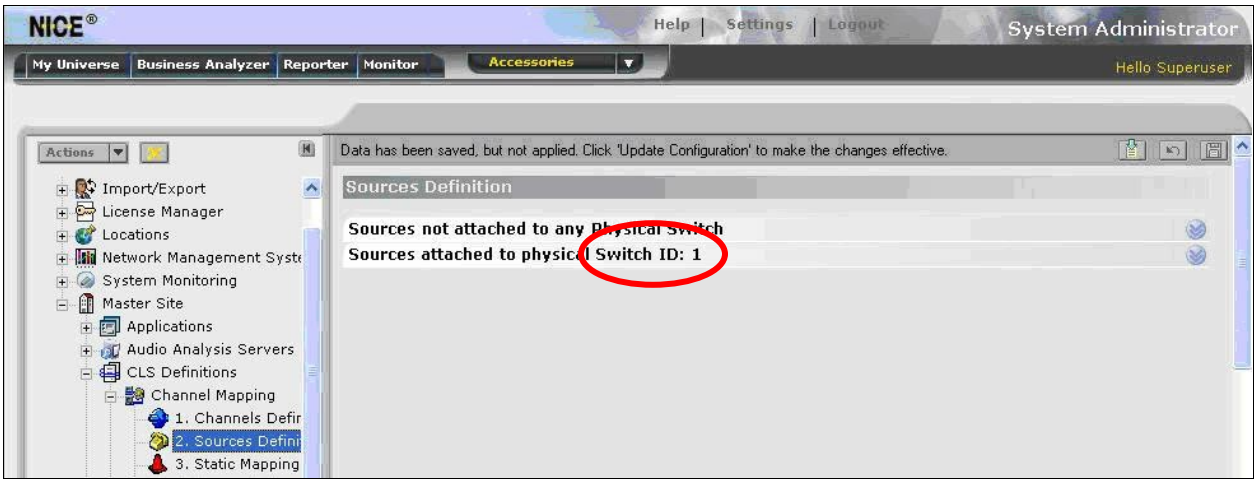


The **Update Channels Detail** screen is displayed. For **Recording Type**, select "Plain". For **Summation Support**, select "Yes". Retain the default value in the remaining field, and click OK.

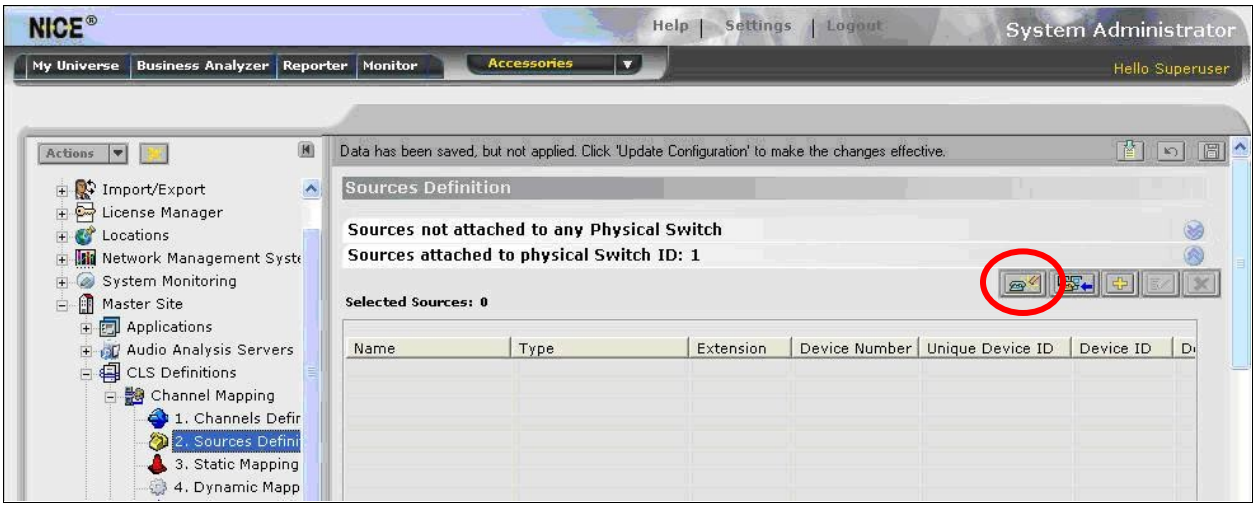


5.7. Administer Sources Definition

Select **Organization > Master Site > CLS Definitions > Channel Mapping > Sources Definition** from the left pane, to display the **Sources Definition** screen. Click on **Switch ID**, as shown below.



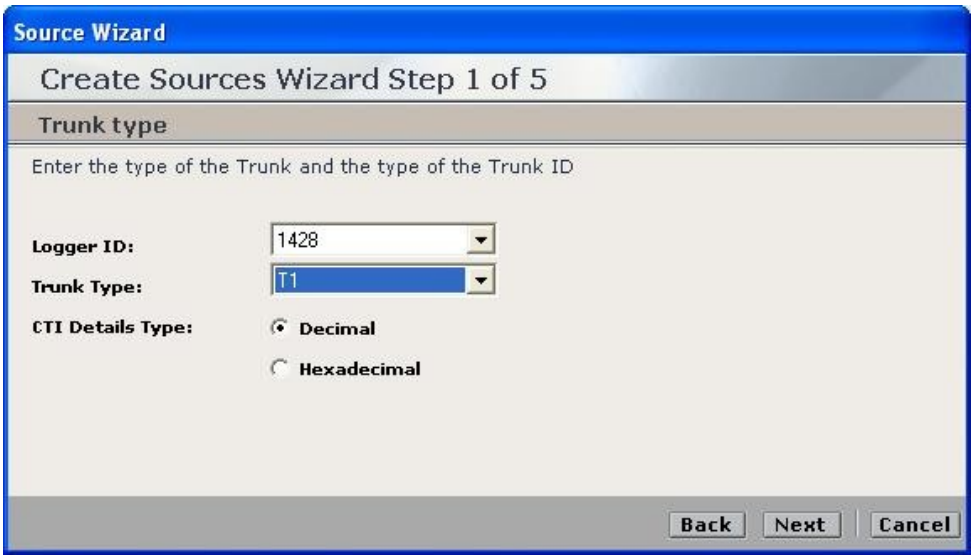
The screen is updated with additional fields. Click the **Add sources by wizard** icon circled below.



The **Create Sources Wizard** screen is displayed. Click **Next**.

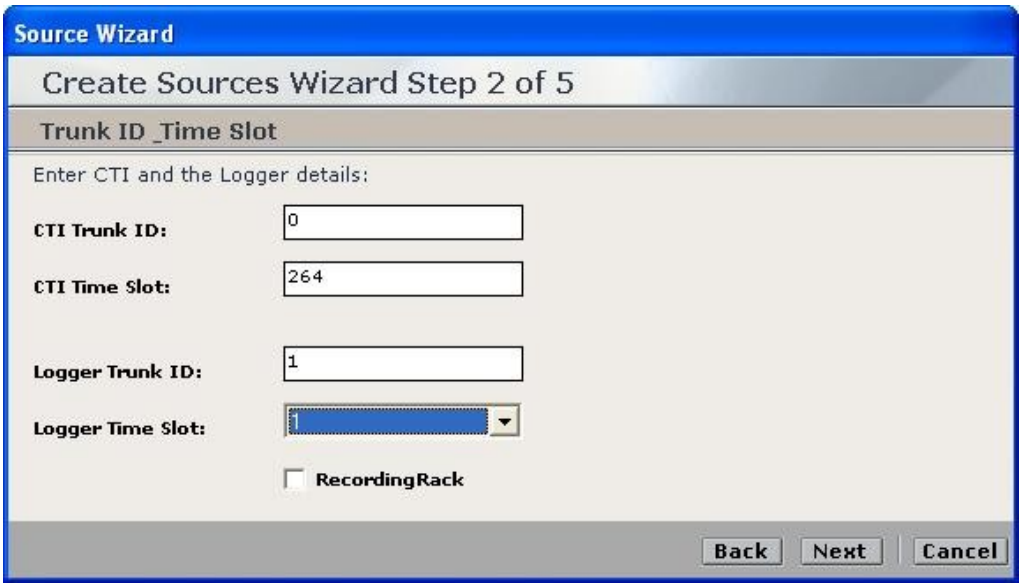
In the subsequent screen, check the radio button for **Trunk**, and click **Next**.

The **Create Sources Wizard Step 1 of 5** screen is displayed. For **Logger ID**, select the appropriate trunk from **Section 5.6**, in this case "1428". For **Trunk Type**, select the appropriate type of trunk used between Avaya Proactive Contact and Avaya Communication Manager, in this case "T1". Retain the default value in the remaining field, and click **Next**.



The **Create Sources Wizard Step 2 of 5** screen is displayed next. Enter the following values for the specified fields, and retain the default values for the remaining fields. Click **Next**.

- **CTI Trunk ID:** The trunk number from **Section 4.2**.
- **CTI Time Slot:** The starting timeslot number from **Section 4.2**.
- **Logger Trunk ID:** The number of physical trunks that are being tapped, in this case "1".
- **Logger Time Slot:** The timeslot incremental value from **Section 4.2**, in this case "1".



The **Create Sources Wizard Step 3 of 5** screen is displayed. For **Source Side**, select "Rx". Retain the default values in the remaining fields and click **Next**.

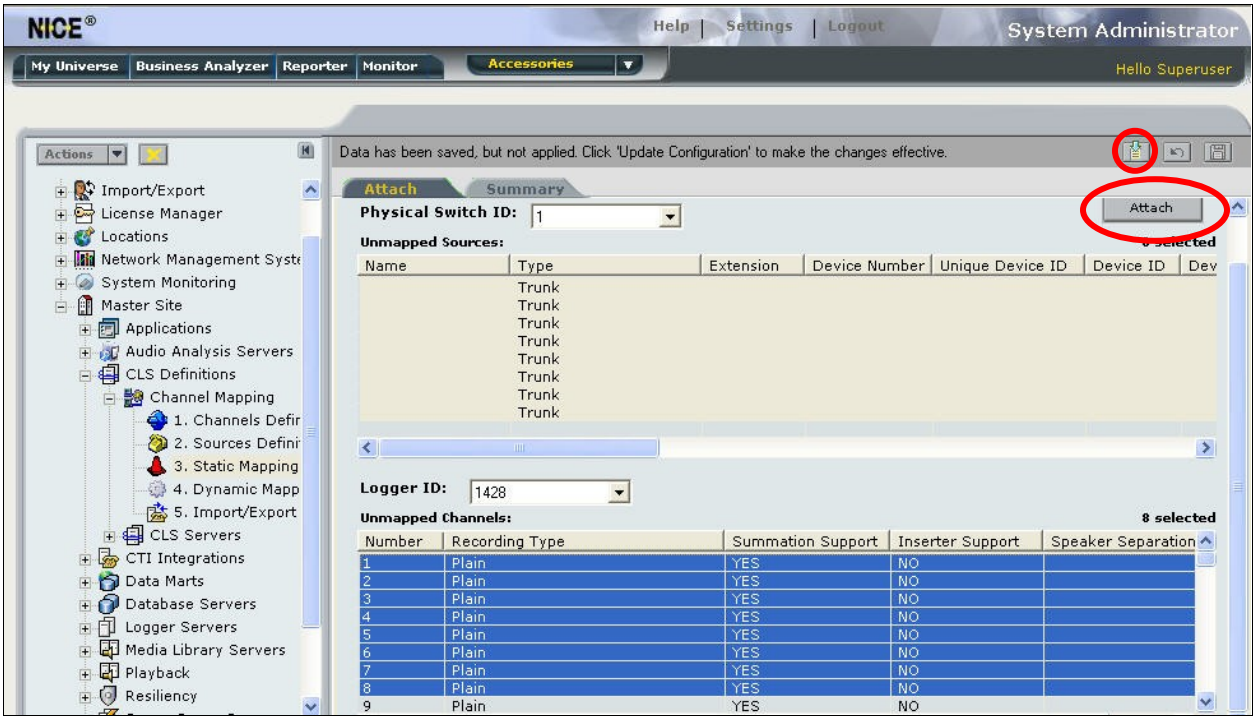
The **Create Sources Wizard Step 4 of 5** screen is displayed next. For **Number of sources**, enter the total number of headset ports from **Section 4.2**, in this case "8". For **Step**, enter the timeslot incremental value from **Section 4.2**, in this case "1". Click **Next**, followed by **Finish** in the subsequent screen (not shown) to complete the wizard.

5.8. Administer Static Mapping

Select **Organization > Master Site > CLS Definitions > Channel Mapping > Static Mapping** from the left pane. Select the **Attach** tab in the right pane.

For **Physical Switch ID**, select the number corresponding to the switch ID value from **Section 5.7**, followed by selecting all **Trunk** entries. For **Logger ID**, select the number corresponding to the logger ID value from **Section 5.7**, followed by selecting the same number of **Plain** entries as the number of sources from **Section 5.7**. Click **Attach**. This will attach all selected **Trunk** and **Plain** entries.

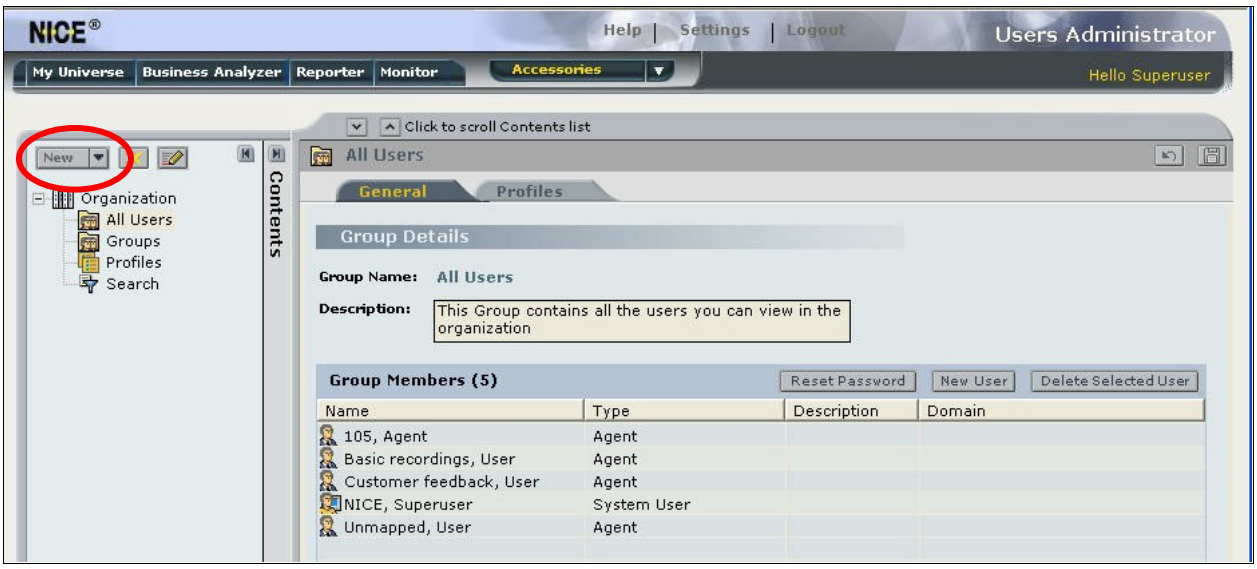
Click the **Update configuration** icon circled below.



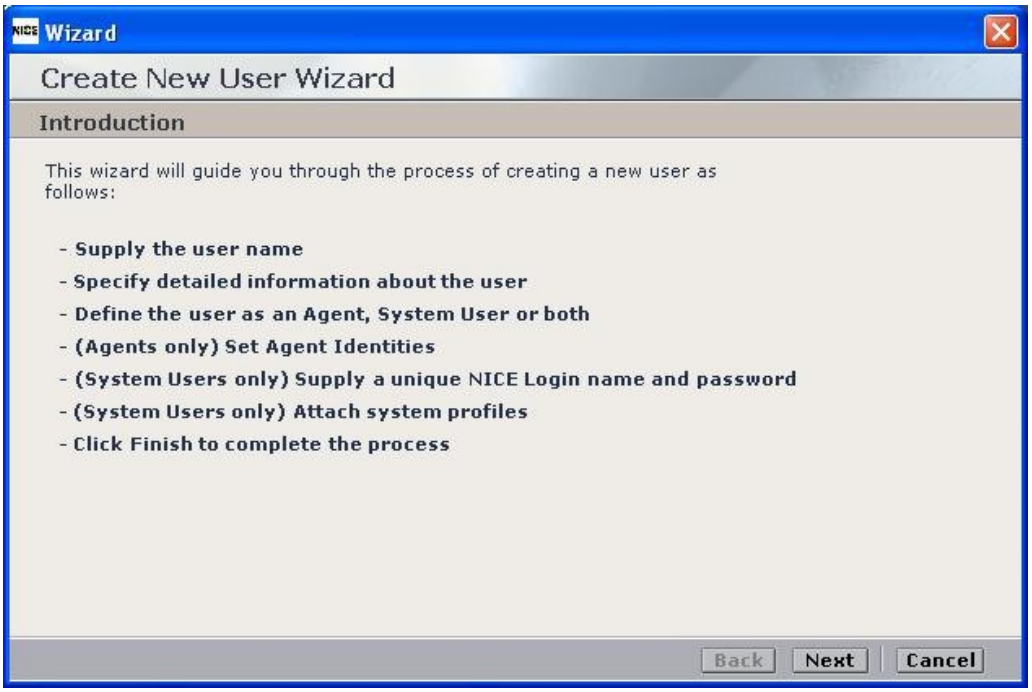
5.9. Administer Users

Select **Accessories > Users Administrator** from the top menu.

In the subsequent screen, select **New > New User** from the left pane.



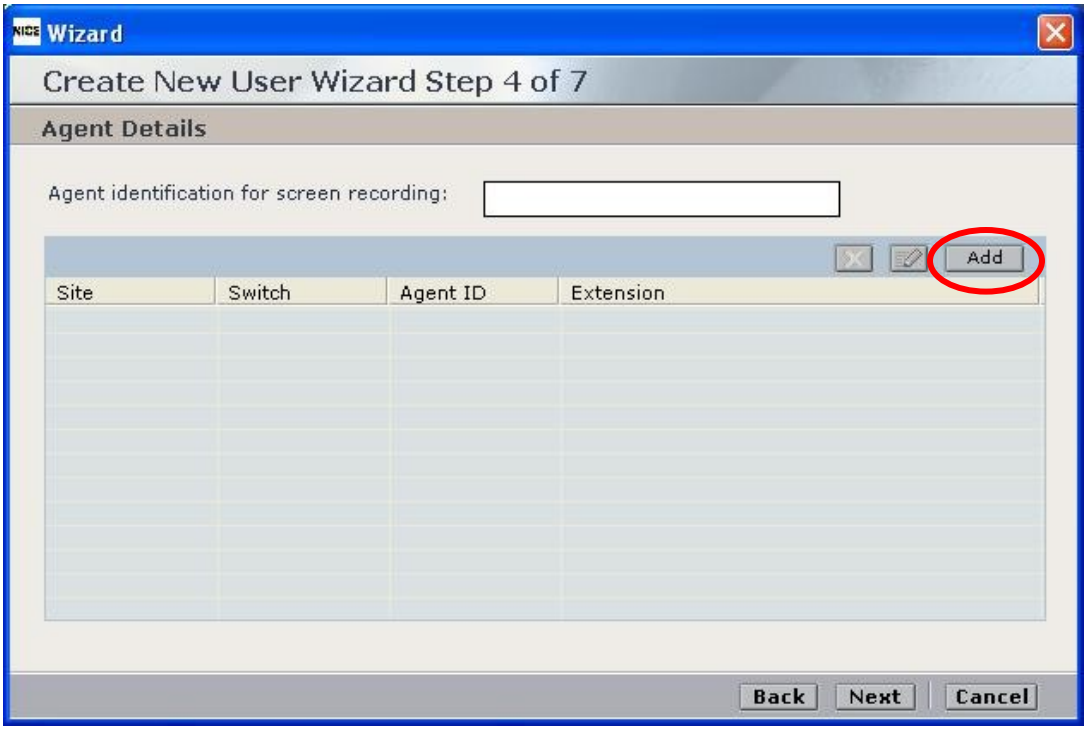
The **Create New User Wizard** screen is displayed. Click **Next**.



The **Create New User Wizard Step 1 of 7** screen is displayed next. Enter desired values for **First Name**, **Last Name**, and **Windows User Name**. Retain the default values in the remaining fields, and click **Next**.

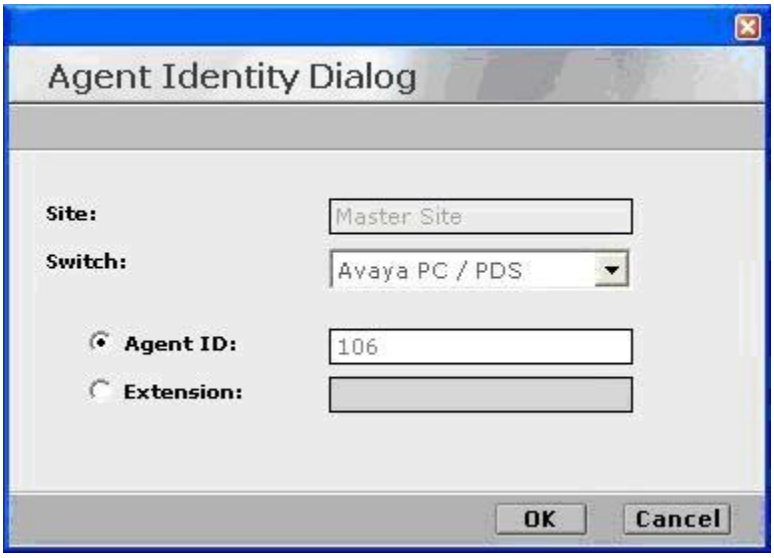
In the subsequent screen (not shown), click **Next** to display the **Create New User Wizard Step 3 of 7** screen. Check the **Agent** checkbox, and click **Next**.

The **Create New User Wizard Step 4 of 7** screen is displayed next. Click **Add**.



The **Agent Identity Dialog** screen is displayed. For **Switch**, select the appropriate switch, in this case "Avaya PC / PDS". For **Agent ID**, enter an agent ID from **Section 4.3**. Click **OK**.

Click **Next** in the subsequent screens, and **Finish** in the last screen to complete the wizard.



Repeat this section to create a user for each Avaya Proactive Contact agent ID desired to be recorded from **Section 4.3**. In the compliance testing, two users were created, as shown below.

6. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the NICE Perform application, the application automatically obtains the current status on Avaya Proactive Contact using Event Services.

For the manual part of the testing, each outbound call was handled manually on the agent with generation of unique audio content for the recordings. Necessary agent actions such as hold and reconnect were performed from the agent desktop to test the different call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cable to the NICE Perform server running the Integration component.

The verification of tests included using the NICE Perform logs for proper message exchanges, and using the NICE Perform web interface for proper logging and playback of the calls.

All test cases were executed and passed.

7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Proactive Contact and NICE Perform.

7.1. Verify Avaya Proactive Contact

Log in to the Linux shell of the Avaya Proactive Contact server, and issue the "netstat | grep enserver" command. Verify that there is an entry showing an **ESTABLISHED** connection between the Avaya Proactive Contact Event Server and the NICE Perform server hosting the Integration component, as shown below.

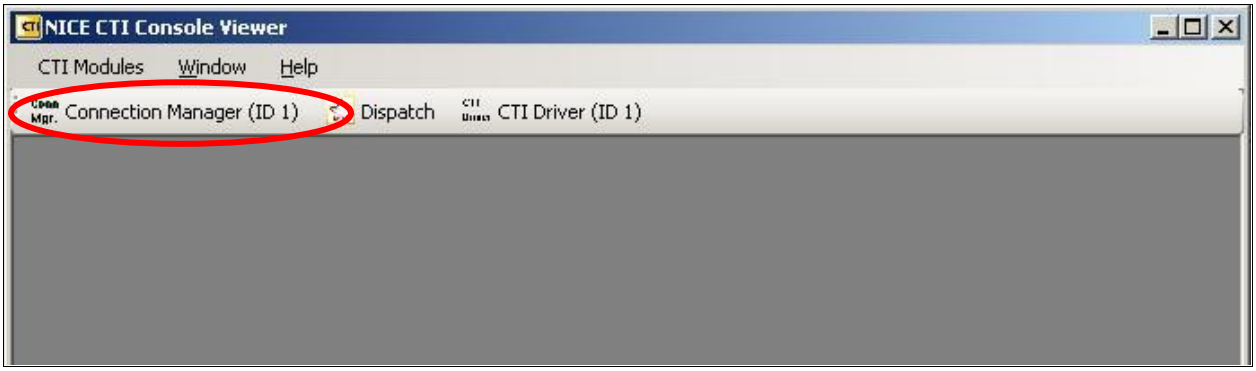
```
tcp        0      0 lzpds4b:enserver_ssl        192.45.30.123:3120          ESTABLISHED
tcp        0      0 lzpds4b:enserver_ssl        lzpds4b:41781               ESTABLISHED
```

7.2. Verify NICE Perform

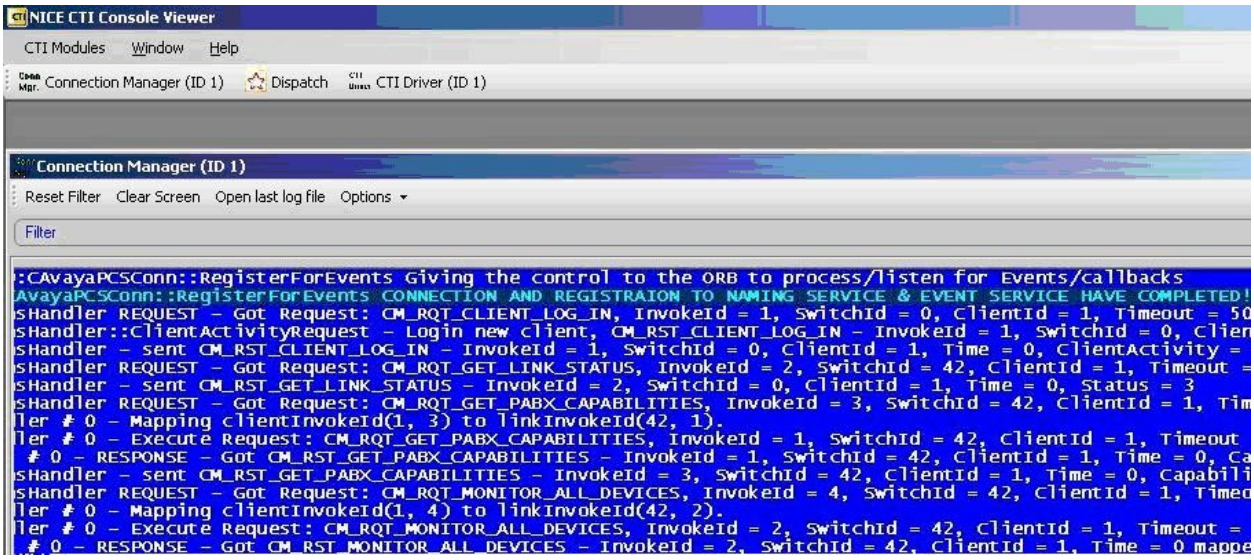
7.2.1. Verify CTI Connection

From the NICE Perform server running the Integration component, launch the NICE CTI Console Viewer by clicking on the CTI icon circled below from the system tray.

The **NICE CTI Console Viewer** screen is displayed. Click **Connection Manager (ID 1)**.

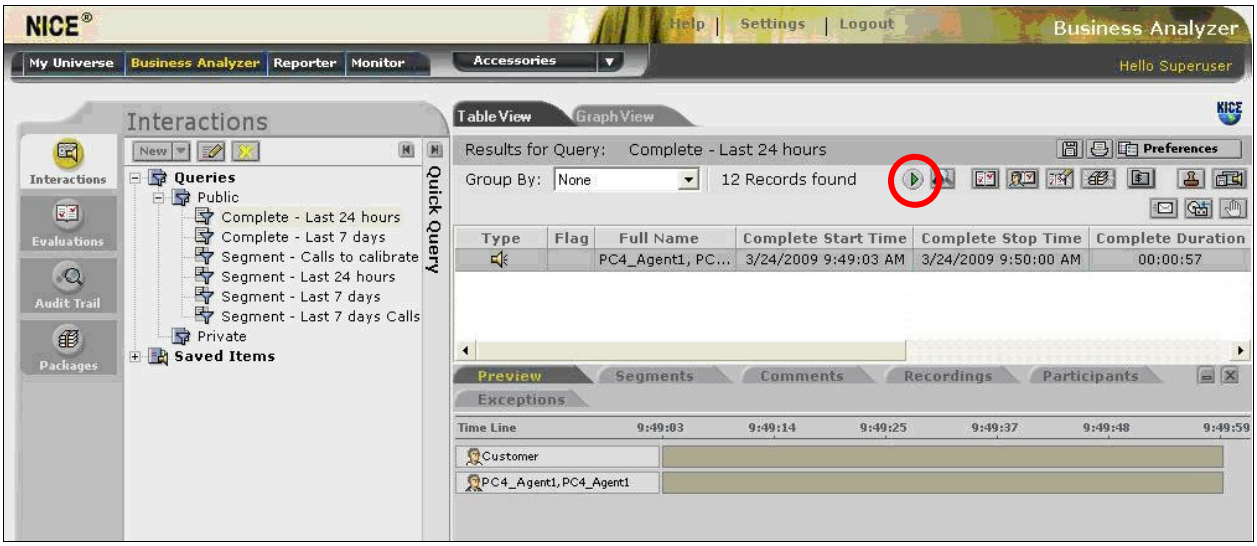


The screen is updated with the **Connection Manager (ID 1)** pane. Scroll the pane as necessary and verify that there is a line showing the successful connection with Avaya Proactive Contact, as highlighted below.

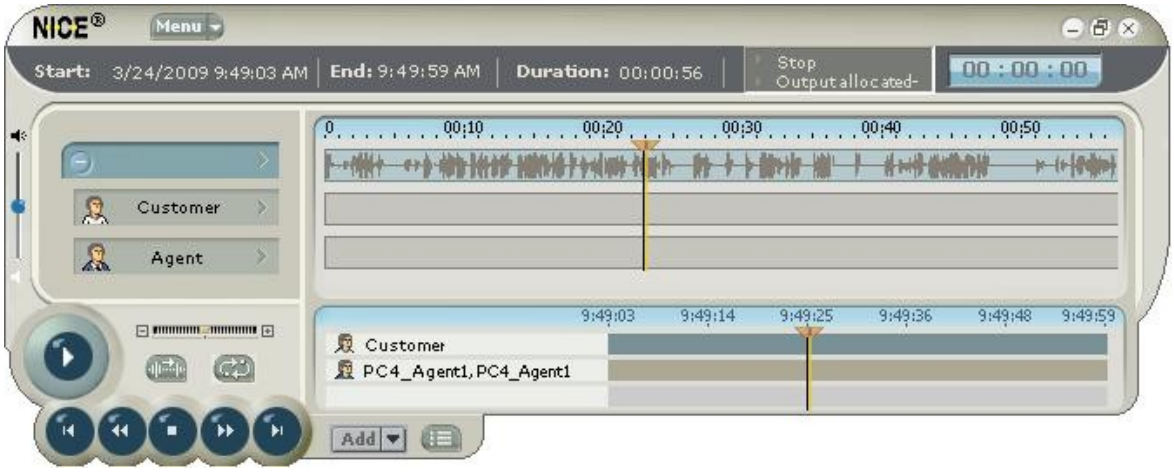


7.2.2. Verify Call Recording

Start a job on Avaya Proactive Contact, and log an agent in to handle and complete the call. From the NICE Perform web-based interface, select **Business Analyzer** from the top menu. Select **Queries > Public > Complete – Last 24 hours** from the left pane. Verify that there is an entry in the right pane that reflects the last call with proper values. Select the entry and click on the play icon circled below.



Verify that the screen below pops up and that the recorded audio is played back.



8. Conclusion

These Application Notes describe the configuration steps required for NICE Perform to successfully interoperate with Avaya Proactive Contact using the trunk tap method. All feature and serviceability test cases were completed.

9. Additional References

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

1. *Administrator Guide for Avaya Communication Manager*, Document 03-300509, Issue 4.0, Release 5.0, January 2008, available at http://support.avaya.com.

2. *Avaya Proactive Contact Release 4.0 Administering Avaya Proactive Contact*, January 2008, available at http://support.avaya.com.

3. *Integration with Avaya Proactive Contact (PC) / Predictive Dialer System (PDS)*, August 2008, available upon request to NICE technical support.

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.