AVAYA

Avaya Solution & Interoperability Test Lab

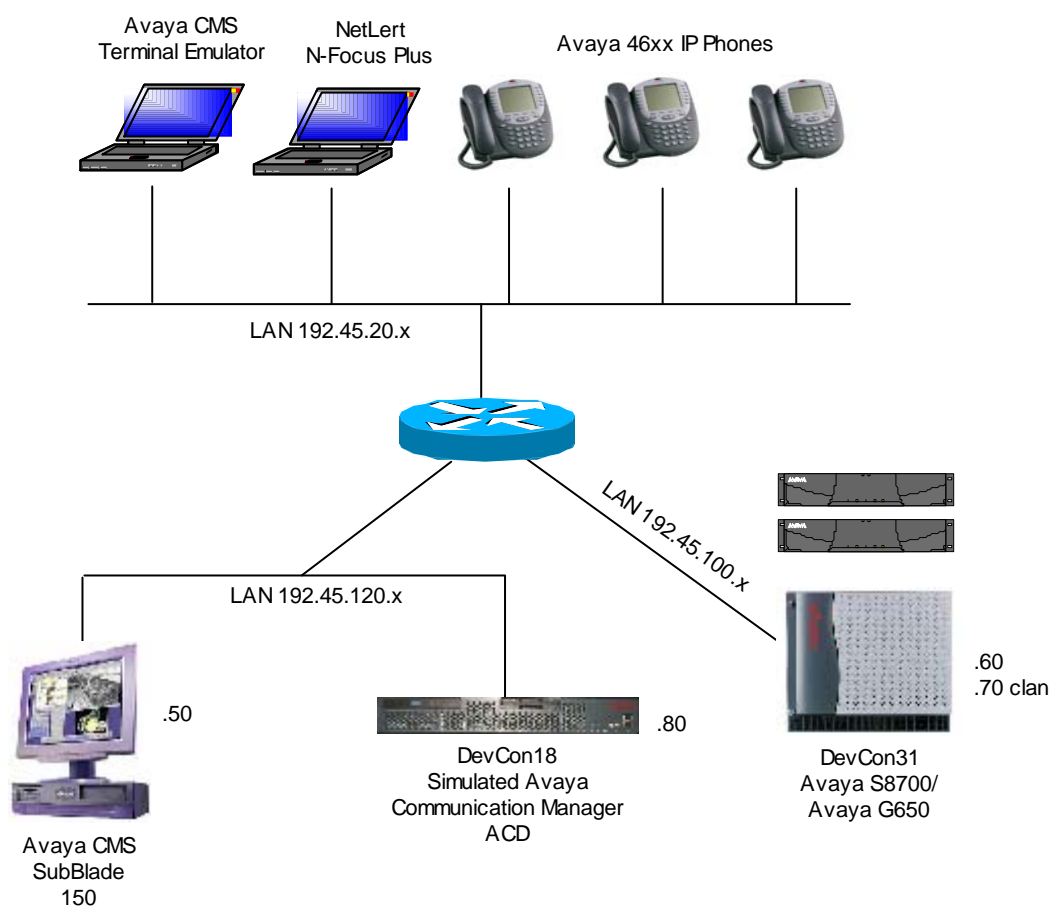# Application Notes for NetLert N-Focus Plus with Avaya Call Management System for Real-time Reporting – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for NetLert N-Focus Plus to interoperate with Avaya Call Management System via Generic RTA and Rt_Socket interfaces. The Generic RTA and Rt_Socket interfaces provide real-time contact data related to agent, skill, and VDN which are provided by Avaya Professional Services organization. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

NetLert N-Focus Plus is a web based reporting application. N-Focus Plus utilizes real-time contact center data from Avaya Call Management System (CMS) for agent, skill, and Vector Directory Number (VDN) to generate reports for effective contact center management. The integration with Avaya CMS is achieved through the Generic RTA and Rt_Socket interfaces which are provided by the Avaya Professional Services organization.

For the real-time reports to work, N-Focus Plus also accesses the ODBC interface of the Avaya CMS to retrieve the dictionary names of agents, skills, and VDNs as well as the service level objectives for skills and VDNs. The dictionary names are subsequently used for administration and reporting purpose. Figure 1 below shows the compliance testing configuration.

Figure 1: NetLert N-Focus Plus with Avaya Call Management System

On Avaya Communication Manager, relevant VDN/split/skill/agent objects are configured to be "measured" by Avaya CMS. When a call travels through a "measured" object on Avaya Communication Manager, the ACD related data are sent to the Avaya CMS. The Avaya CMS periodically updates the N-Focus Plus application with real-time data for agents, skills, and

VDNs. The frequency of the update is user configurable. During the compliance testing an Avaya Call Management System (CMS) Terminal Emulator client was utilized for report verification. The reports provided by N-Focus Plus were compared to the following real-time reports generated from the Avaya CMS Terminal Emulator:

- Agent Report
- Skill Report
- Skill Call Profile Report
- Queue/Agent Status Report
- VDN Report
- Custom Reports by Avaya Professional Services that map to the Rt_Socket interfaces (netlert_skill and netlert_vdn)

2. Equipment and Software Validated

The following equipment and software were used for the test configuration:

Equipment	Software
Avaya S8700 Server	Avaya Communication Manager 4.0, (R014x.00.0.730.5)
Avaya G650 Media Gateway • TN799DP C-LAN Circuit Pack	HW01 FW024
Avaya Call Management System server with Generic RTA and rt_socket provided by the Avaya Professional Services organization	r14aa.h
NetLert N-Focus Plus running on Gateway M325x PC Notebook	1.4 Windows XP Professional

3. Configure Avaya Communication Manager

The detailed administration of contact center objects and connectivity between Avaya Communication Manager and Avaya CMS are not the focus of these Application Notes and will not be described. For administration of contact center objects and connectivity to Avaya CMS, refer to the appropriate documentation listed in **Section 10**.

In order for the data of a skill or a VDN to be collected and forwarded to CMS, the "measured" field on the corresponding skill and VDN form must be set to "external". For administration of the "measured" field for a skill and a VDN, refer to the appropriate documentation listed in **Section 10**.

4. Configure Avaya Call Management System

The configuration of the Avaya CMS Terminal Emulator is assumed to be in place and will not be described. In addition, these Application Notes assume a user name of "cmssite1" has been created with all the relevant permissions, and the intra-hour interval already administered.

This section provides the additional configuration as required for N-Focus Plus, which includes the following areas:

- Administer ACD dictionary names
- Administer VDN dictionary names
- Administer splits/skills dictionary names
- Administer agent dictionary names
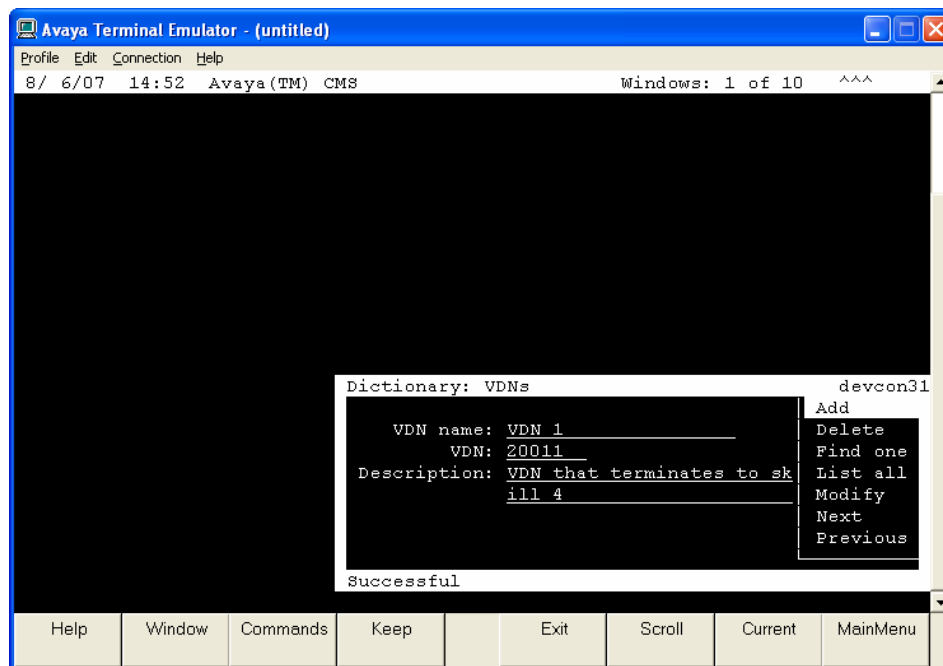- Activate Generic RTA and RT_Socket interfaces

4.1. Administer ACD Dictionary Names

Use the CMS Terminal Emulator to connect to the Avaya CMS server, and log in with the proper credentials. Enter "cms" at the command prompt. The **MainMenu** screen is displayed. Select **Dictionary > ACDs** to display the **Dictionary: ACDs** dialog box as shown below. Enter a descriptive name for **ACD name**, and a desired description for Avaya Communication Manager. For the **ACD number** field, enter an available ACD number, in this case "3". Tab over to **Add** and press **Enter**.
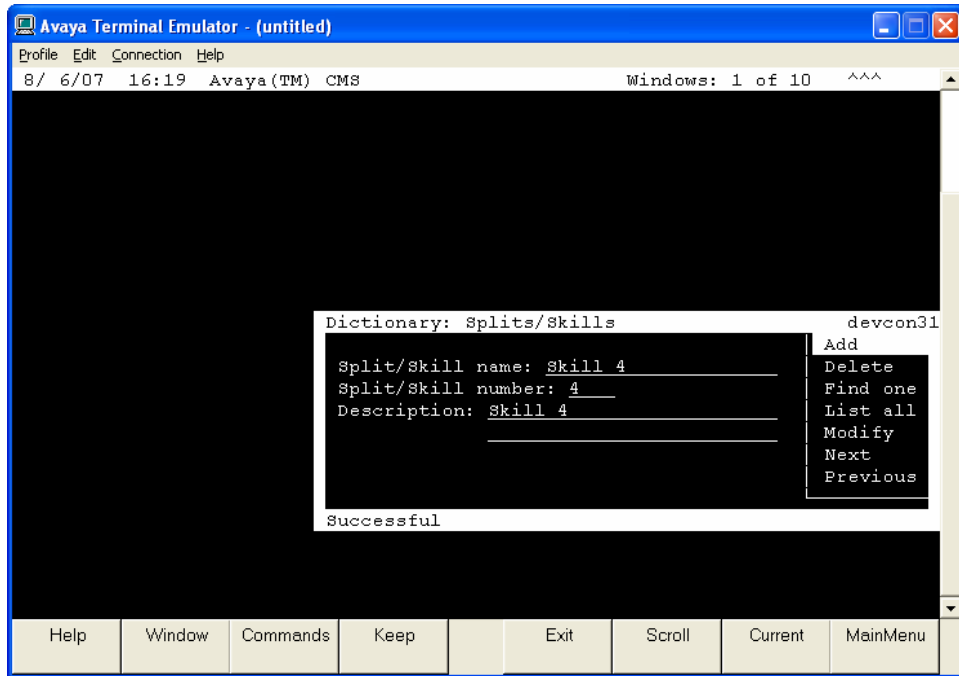
```
                    Dictionary: ACDs                         All ACDs
                                                           | Add
            ACD name: devcon31_____                | Delete
          ACD number: 3_                                    | Find one
          Description: S8700 and G650_____              | List all
                       _____            | Modify
                                                           | Next
                                                           | Previous

          Successful
```

4.2. Administer VDN Dictionary Names

From the **MainMenu** screen, select **Dictionary > VDNs**. The **Dictionary: VDNs** dialog box is displayed as shown below. Enter a descriptive name in the **VDN name** field, a VDN extension in the **VDN** field, and a desired description. The VDN extension must match one of the VDNs that have been configured in Avaya Communication Manager for the compliance testing. Tab over to **Add** and press **Enter**. Repeat the procedure for all the VDN's to be used in the compliance test.

4.3. Administer Split/Skill Dictionary Names

From the **MainMenu** screen, select **Dictionary > Splits/Skills**. The **Dictionary: Splits/Skills** dialog box is displayed, as shown below. Enter a descriptive name for the **Split/Skill name** field, a split/skill number in the **Split/Skill number** field, and a desired description. The split/skill number must match one of the split/skill numbers that have been configured in the Avaya Communication Manager for the compliance testing. Tab over to **Add** and press **Enter**. Repeat the procedure for all the split/skill's to be used in the compliance test.

4.4. Administer Agent Dictionary Names

From the **MainMenu** screen, select **Dictionary > Login Identifications**. The **Dictionary: Login Identification** dialog box is displayed, as shown below. Enter a descriptive name for **Agent Name** and a Login ID in **Login ID** field. The Login ID must match one of the Login IDs that have been configured in the Avaya Communication Manager for the compliance testing. Tab over to **Add** and press **Enter**. Repeat the procedure for all the agents to be used in the compliance test.

4.5. Activate Generic RTA and RT_Socket Interfaces

After an ACD is configured in N-Focus Plus (See Section 5), the user must start the corresponding Generic RTA and RT_Socket interfaces on CMS as follows:

Generic RTA interfaces: From the **MainMenu** screen, select the **Generic-RTA** menu item. Enter **2** then **all** to stop all the sessions. Once all the sessions are stopped, enter **1** then **all** to start all the sessions. The screen capture below shows that all the sessions have been started.

RT-Socket interfaces: From the **MainMenu** screen, select the **RT_Socket** menu item. Enter **2** then **all** to stop all the sessions. Once all the sessions are stopped, enter **1** then **all** to start all the sessions. The screen capture below shows that all the sessions have been started.
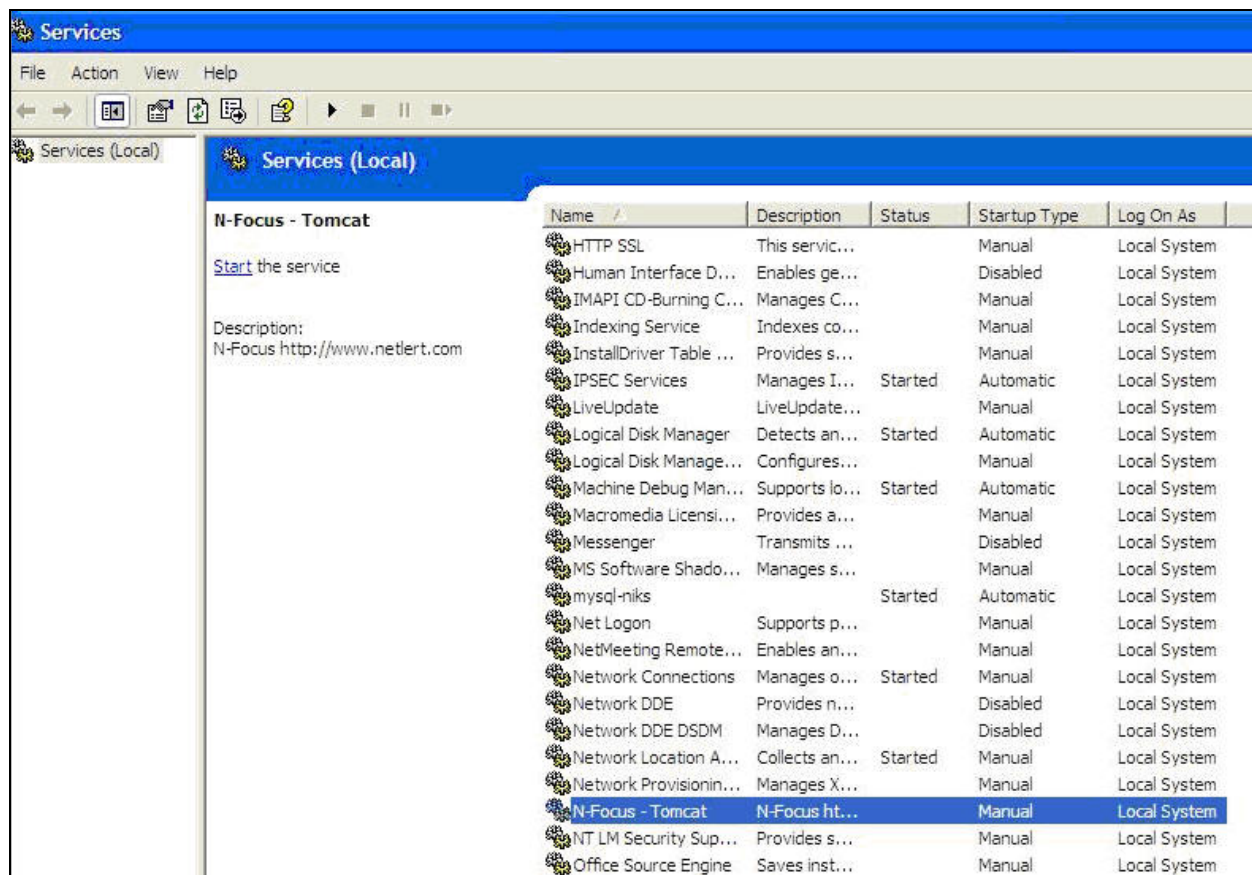
5. Configure NetLert N-Focus Plus

This section provides the procedures for configuring NetLert N-Focus Plus. The procedures fall into the following areas:

- Start N-Focus Tomcat service
- Administer PBX
- Administer database connections
- Administer real time connections
- Administer reports

5.1. Start N-Focus Tomcat Service

From the N-Focus Plus server, start the N-Focus Tomcat service by selecting **Start > Settings > Control Panel > Administrative Tools > Services**. In the **Services** screen shown below, right click on the **N-Focus Tomcat** service, and select "Start" from the drop down list (not shown below).

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SPOC 8/25/2007

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10 of 23
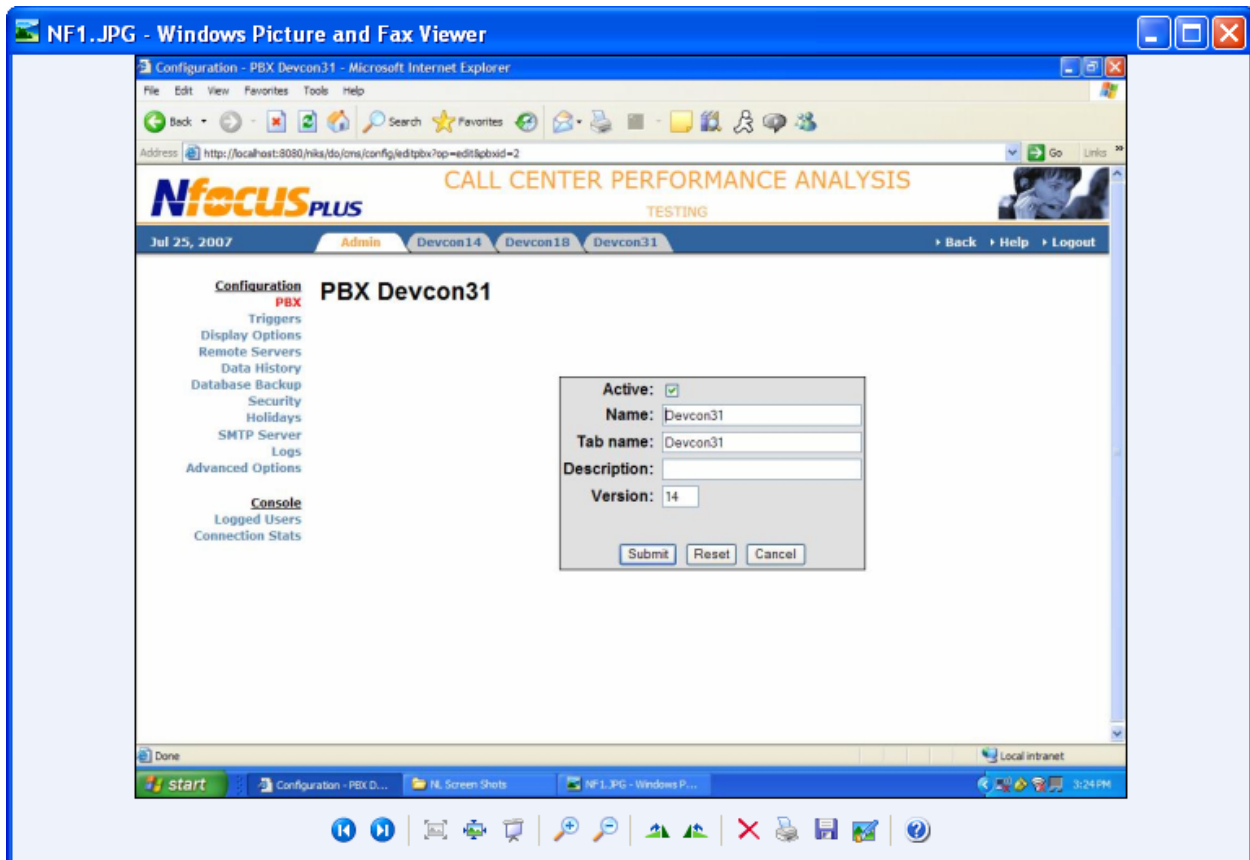NFocus-CMS-rt

5.2. Administer PBX

From the N-Focus Plus server, start the administrative web interface by using the URL "http://localhost:8080" in an Internet browser window. Note that the administrative web interface can also be accessed from other machines, by replacing the string "localhost" in the URL with the IP address of the N-Focus Plus server. The web pages will load slowly upon initial access for compilation reasons, and will load quickly on subsequent access.

On the login screen, log in using the administrative user name and password and click **Submit**. The **Welcome to N-Focus** screen is displayed, as shown below. Select **PBX** from the left pane.

The **PBX List** screen is displayed. Click on **Add a PBX**. The **PBX** screen is displayed next, as shown below. Enter the following values for the specified fields, and click on **Submit**.

- **Active:** Retain the check.
- **Name:** A descriptive name to denote the Avaya ACD.
- **Tab name:** A desired tab name to be shown on the report screens, in this case "Devcon31".
- **Description:** A desired description.
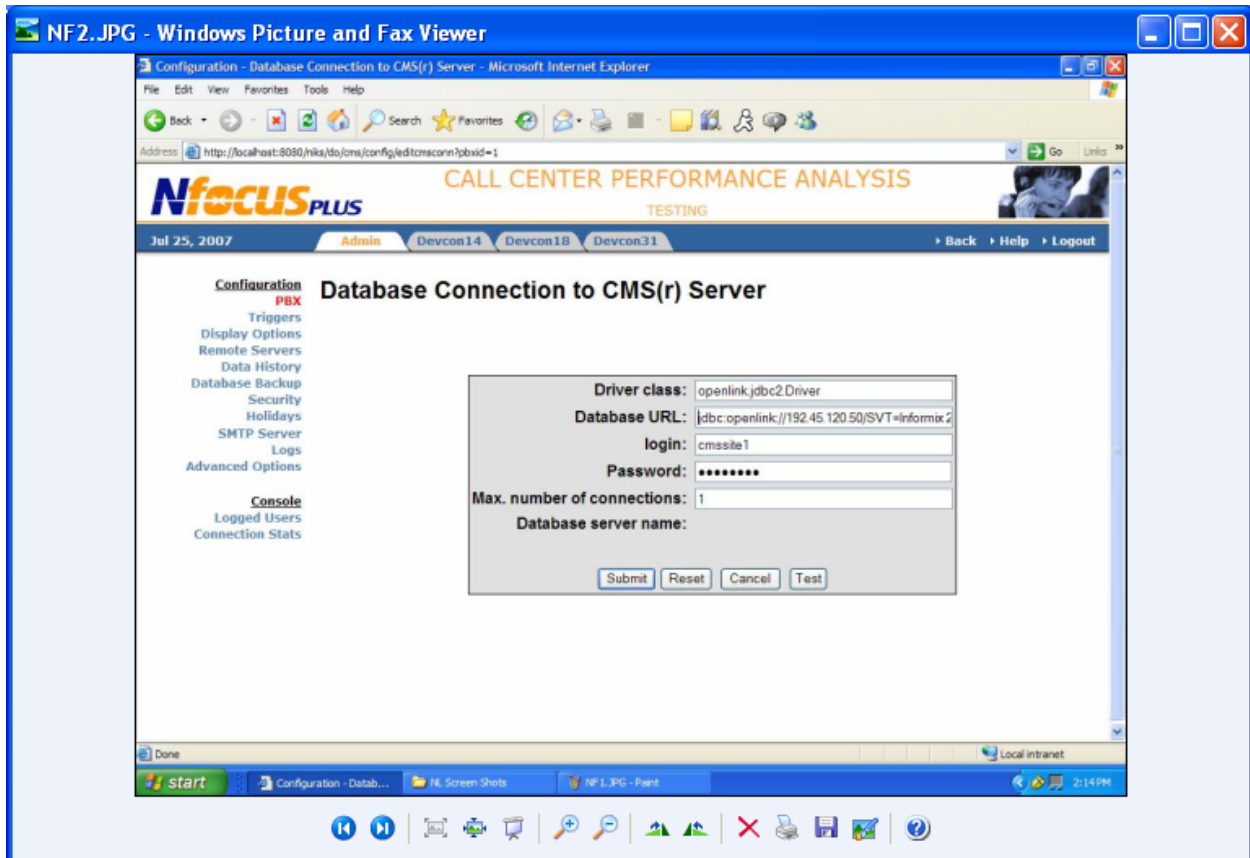- **Version:** The software version of Avaya CMS, in this case "14".

5.3. Administer Database Connection

The **PBX List** screen is displayed again as shown below, which has been updated with the newly added PBX. Click on **DB Connection** in the Devcon31 line to configure connectivity to Avaya CMS database. This connection allows the N-Focus Plus to access the CMS Dictionary information.

The **Database Connection to CMS(r) Server** screen is displayed next, as shown below, with the initial default values. Retain the default values for the **Driver class** and **Max. number of connections** fields. In the **Database URL** field, replace the string "CmsServerIpAddressHere" with the IP address of the Avaya CMS server, in this case "192.45.120.50". In the **login** and **Password** fields, enter the "cmssite1" login and corresponding password already created on Avaya CMS. Click on **Submit** to save the configuration changes.

After saving the configuration changes, the N-Focus server will automatically connect with Avaya CMS database, and issue queries to obtain dictionary table information such as administered switch, VDN, split/skill, and agent data.

5.4. Administer Real-time Connections

N-Focus Plus receives real-time data from CMS via one Generic-RTA and two RT_Socket interfaces. The three interfaces have to be installed on the CMS server by Avaya Professional Services organization prior to the DevConnect compliance testing. As part of the installation, the Avaya Professional Service organization will assign TCP ports for the N-Focus Plus to listen to.

On the **PBX List** screen, click on **Real-time Connections** in the Devcon31 line to configure connectivity to the real time interfaces on the Avaya CMS. The **Real-time Connections to CMS Server** screen is displayed as shown below. Enter the corresponding TCP ports assigned by Avaya Professional Services to the **Agent(Generic RTA)**, **Split (rt socket)**, and **VDN (rt socket)** fields. Click on **Submit** to save the configuration changes.

After this step, activate the Generic RTA and RT_Socket interfaces on the CMS (procedure described in Section 4.5).

5.5. Administer Reports

The **PBX List** screen is displayed again, as shown below. Click on **Reports** to configure the reports. The **Reports for PBX Avaya CMS** screen is displayed. In the **ACD** drop down list, select the ACD name from **Section 4.1**, in this case "devcon31". Check the desired real-time reports. For the compliance testing, all reports were checked. Click **Submit**.

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SPOC 8/25/2007

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15 of 23
NFocus-CMS-rt

6. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying NetLert N-Focus Plus processing and displaying of VDN, split/skill, and agent data from Avaya CMS.

The serviceability testing focused on verifying the ability of NetLert N-Focus Plus to recover from adverse conditions, such as disconnecting the Ethernet cables to N-Focus Plus and to Avaya CMS.

6.1. General Test Approach

The feature test cases were performed manually. Incoming calls were made to the measured VDNs, split/skills, and agents to generate measurement data to Avaya CMS. Manual call controls and work mode changes from the agent telephones were exercised as necessary to populate specific fields in the reports.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cable to NetLert N-Focus Plus and to Avaya CMS.

The verification of all tests included checking of proper display of data at the N-Focus Plus server, and of comparing the displayed data with the real-time reports from the Avaya CMS Terminal Emulator.

In addition to the manual call-by-call steps, N-Focus Plus reports were also run with a simulated Avaya Communication Manager ACD to verify the ability of N-Focus Plus to show a large quantity of calls and to deal with multiple ACD's.

6.2. Test Results

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 Call Management System and NetLert N-Focus Plus.

7.1. Verify Avaya Call Management System

Follow the procedures in **Section 4.1** to display the **MainMenu**. Verify the status of the connection to Avaya Communication Manager by selecting **Maintenance > Connection Status**, as shown below. In the **Maintenance: Connection Status** dialog box, enter the corresponding **ACD(s)** number from **Section 4.1**. For the compliance testing, the corresponding switch connection is ACD system "3". Tab over to **Find one** and press **Enter**. The **Maintenance: Connection Status** dialog box is updated with status information. Verify that the **Session** status is "data transfer" and "normal", and that the **Connection** status is "operational", as shown below.

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SPOC 8/25/2007
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18 of 23
NFocus-CMS-rt

7.2. Verify NetLert N-Focus Plus

In order to verify N-Focus Plus, make the necessary calls to the measured objects on Avaya Communication Manager, to enable measurement data to be sent and populated on Avaya CMS.

7.2.1. Verify System Status Report

Select the **ACD tab** from the top (Devcon18 in this case). Select **Real Time Stats > System** from the left pane, verify that the **System Status** report displays correct data, as shown below.

7.2.2. Verify Split Status Report

Select the **ACD tab** from the top (Devcon18 in this case). Select **Real Time Stats > Split** from the left pane, verify that the **Split Status** report displays correct data, as shown below.

7.2.3. Verify VDN Status Report

Select the **ACD tab** from the top (**Devcon18** in this case**).** Select **Real Time Stats > VDN** from the left pane, verify that the **VDN Status** report displays correct data, as shown below.

8. Support

Technical support on NetLert can be obtained through the following:

- **Phone:** 1-866-NETLERT
- **Email:** tech@netlert.com

9. Conclusion

These Application Notes describe the configuration steps required for NetLert N-Focus Plus 1.4 to interoperate with Avaya Call Management System R14 via the Generic RTA and RT_Socket interfaces. All feature and serviceability test cases were completed successfully.

10. Additional References

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

- *Administrator Guide for Avaya Communication Manager*, Document 03-300509, Issue 3.1, Feb 2007, available at http://support.avaya.com

- *Avaya Call Management System Switch Connections, Administration, and Troubleshooting*, Document ID 07-601582, February 2006, available at http://support.avaya.com.

- *Avaya Call Management System Release 14 Software Installation, Maintenance, and Troubleshooting Guide*, Document ID 07-601578, February 2007, available at http://support.avaya.com.

- *N-Focus Plus Install Guide,* available at upon email request to tech@netlert.com.

- *N-Focus Plus User Guide*, Issue 1.4.8, March 2007, available as part of the N-Focus Plus software download.

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