



## **Avaya Solution & Interoperability Test Lab**

---

# **Application notes for Inova LightLink Middleware v5.11.69 with Avaya Aura® Contact Center's Contact Center Manager Server module Release 6.4 – Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for Inova LightLink Middleware v5.11.69 to interoperate with Avaya Aura® Contact Center's Contact Center Manager Server (CCMS) 6.4, using Real Time Data (RTD). Inova LightLink Middleware collects real time statistics from Contact Center Manager Server 6.4 and publishes this data to clients.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions with Inova. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

## 1. Introduction

The purpose of this document is to explain the configuration steps required for Inova LightLink Middleware v5.11.69 (Herein referred to as LightLink) to interoperate with Avaya Aura® Contact Center's Contact Center Manager Server 6.4. LightLink interfaces with the CCMS and its internal database, collects and sorts the data, and prepares it for display on a variety of media.

## 2. General Test Approach and Test Results

Voice skillset based routing calls were sent to the Contact Center test bed. As calls were progressing, the Real-time Displays on Contact Center Manager Administrator were observed to confirm data seen on the LightLink display were accurate.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

### 2.1. Interoperability Compliance Testing

The interoperability compliance testing focused on verifying LightLink for the following:

- Connection to the CCMS is established and stay connected.
- Publishing all the available real-time statistics based on the CCMS script.
- Making test calls to invoke changes in the values of the published statistics.
- Comparing the values with the CCMS statistics and verify they match with the LightLink published output.

### 2.2. Test Results

The objectives outlined in **Section 2.1** were verified and met. All tests were executed and passed.

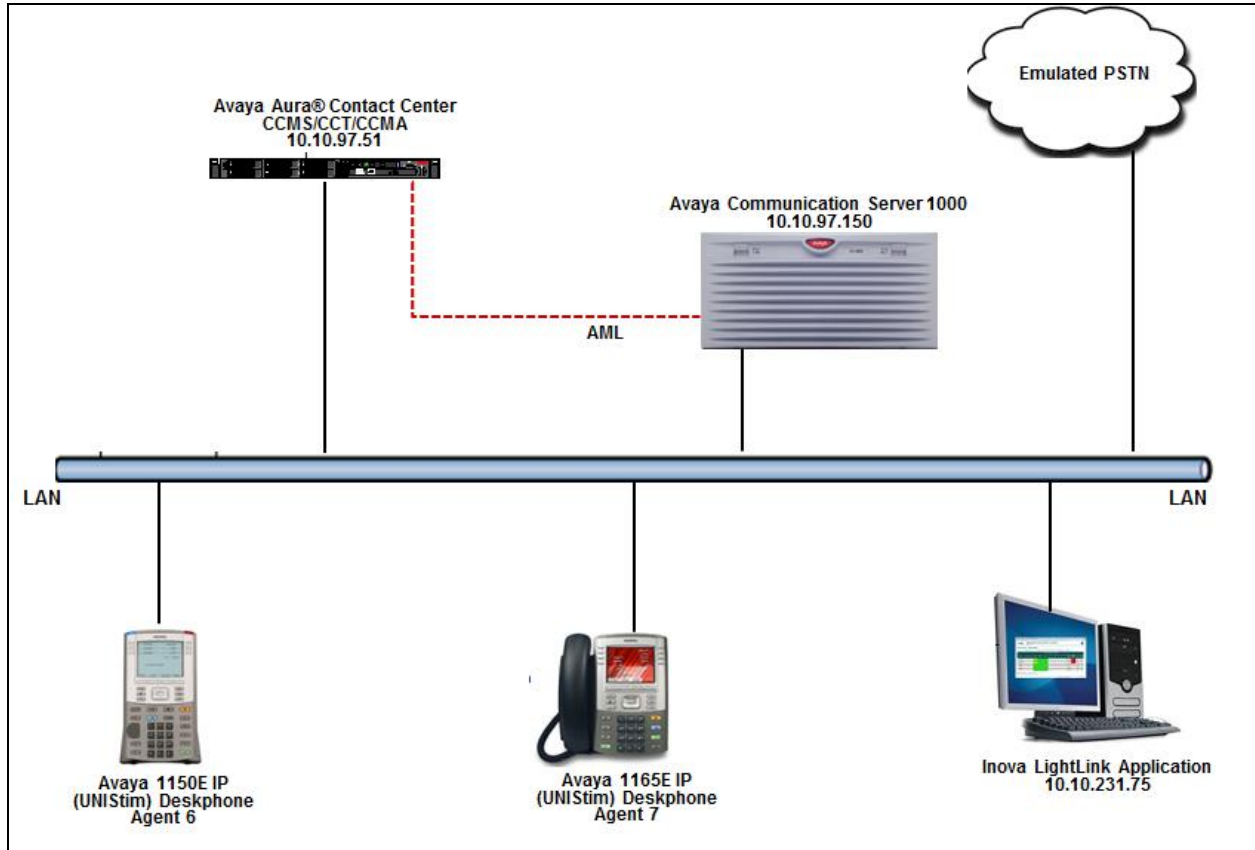
### 2.3. Support

For technical support on LightLink, please contact Inova technical support team:

- **Telephone:** 1.800.637.1077 ext. 2
- **Email:** [support@inovasolutions.com](mailto:support@inovasolutions.com)
- **Web Site:** <http://support.inovasolutions.com> (requires login obtained from your Inova Support Agreement)

### 3. Reference Configuration

**Figure 1** illustrates the test configuration used during the compliance test between Avaya Contact Center Manager Server and Inova LightLink.



**Figure 1: Test Solution Configuration.**

## 4. Equipment and Software Validated

Equipment	Software/Firmware
Avaya Communication Server 1000	7.65
Avaya Contact Center Manager Server OS Avaya Aura® Contact Center Manager Server Avaya Aura® RTD SDK	Win2008 Server R2 Standard SP1 6.4.212.0 6.4
Avaya IP Desk phones as Agents: <ul style="list-style-type: none"><li>○ 1150E (UNISstim)</li><li>○ 1165E (UNISstim)</li></ul>	0x27C8Q 0x25C8Q
Inova LightLink Server OS Inova LightLink Middleware Application	Win2008 Server R2 Standard SP1 5.11.69

## 5. Configuring the Avaya Contact Center Manager Server

This section describes the steps to configure the CCMS, so that the LightLink is able to connect to the CCMS. Assumption is made that the CCMS is installed successfully and all the required scripts are running. Assumption is also made that the CCMS is interfaced and working successfully with the Avaya Communication Server 1000 (Communication Server 1000). For additional information on CCMS and Communication Server 1000 installation and configuration refer to **Section 9**.

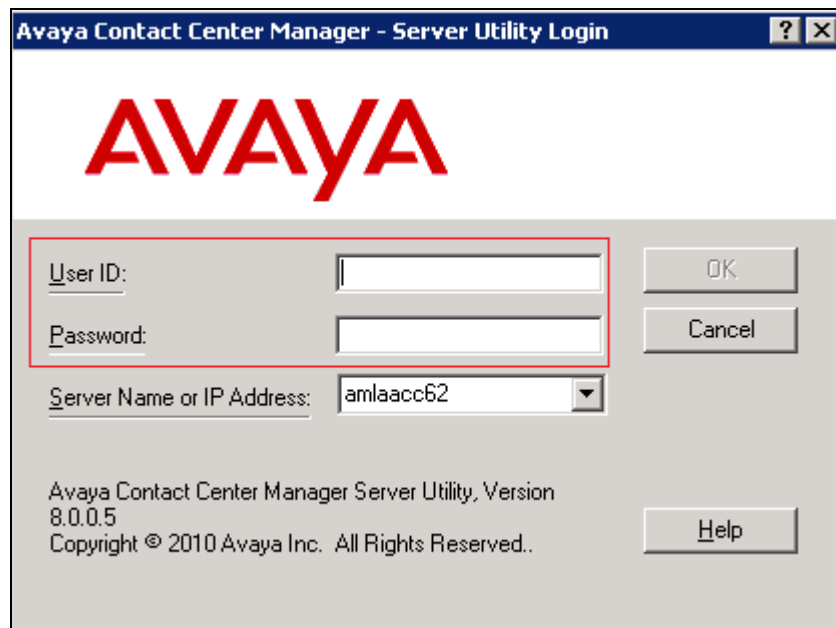
Here is a summary of CCMS Configuration:

- Creating new user to interface with LightLink.

### 5.1. Configuring a New User

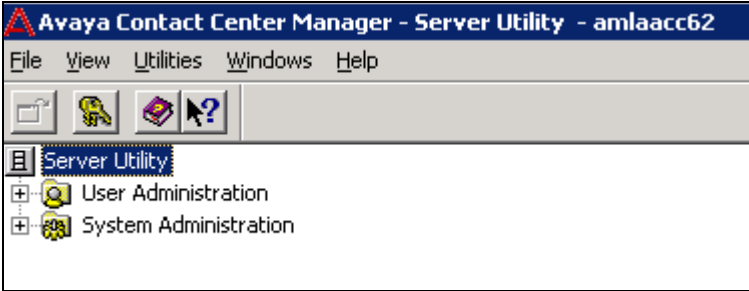
This section explains the steps to add a new user that is required to interface and connect to the LightLink system. To add a new user, navigate through **Start → All Programs → Avaya → Server Utility** on the server the CCMS is installed on (not shown).

Screen below shows the **Server Utility Login** screen. Enter the administrator **User ID** and **Password**. Click on **OK** to continue.

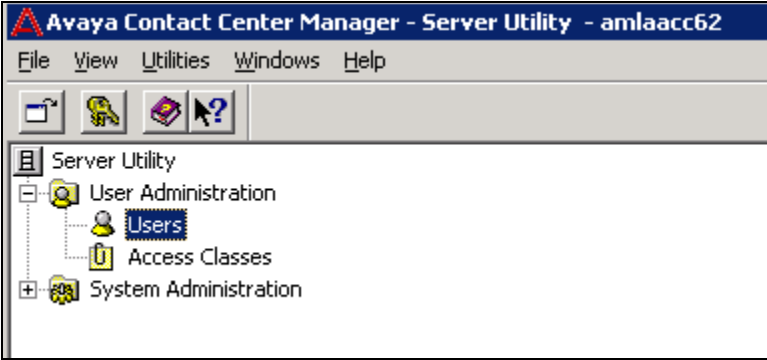


The screenshot shows a Windows-style dialog box titled "Avaya Contact Center Manager - Server Utility Login". The dialog features the Avaya logo in red at the top. Below the logo, there are three input fields: "User ID:" (with a red box around it), "Password:" (with a red box around it), and "Server Name or IP Address:" (a dropdown menu showing "amlaacc62"). To the right of these fields are "OK" and "Cancel" buttons. At the bottom left, there is text: "Avaya Contact Center Manager Server Utility, Version 8.0.0.5" and "Copyright © 2010 Avaya Inc. All Rights Reserved.". A "Help" button is located at the bottom right.

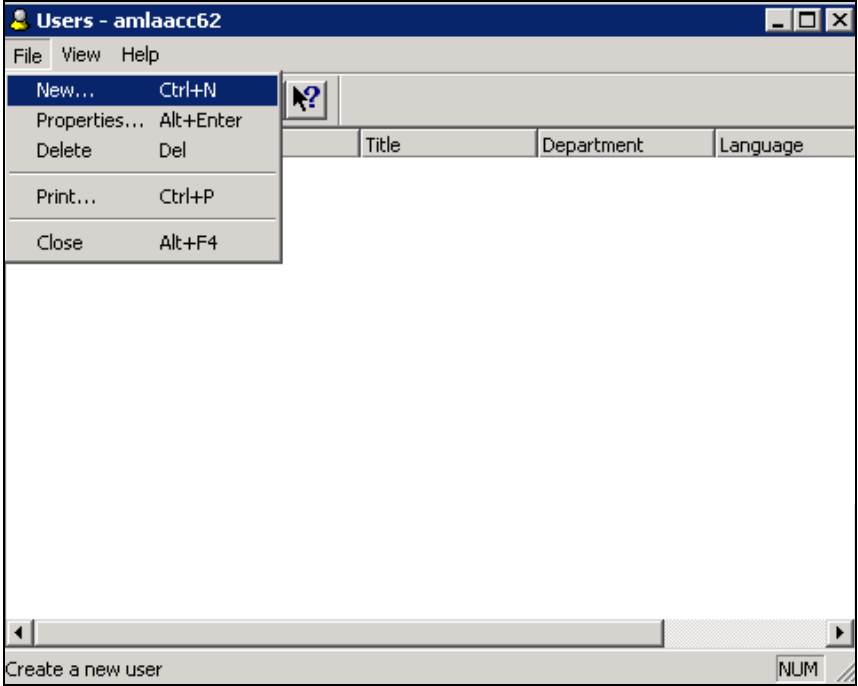
Screen below shows the **Server Utility** main screen.



To add a new user, expand the **User Administration** tree and double-click on **Users** as shown in the screen below.



Screen below shows the **Users** screen. Click on File and select New.

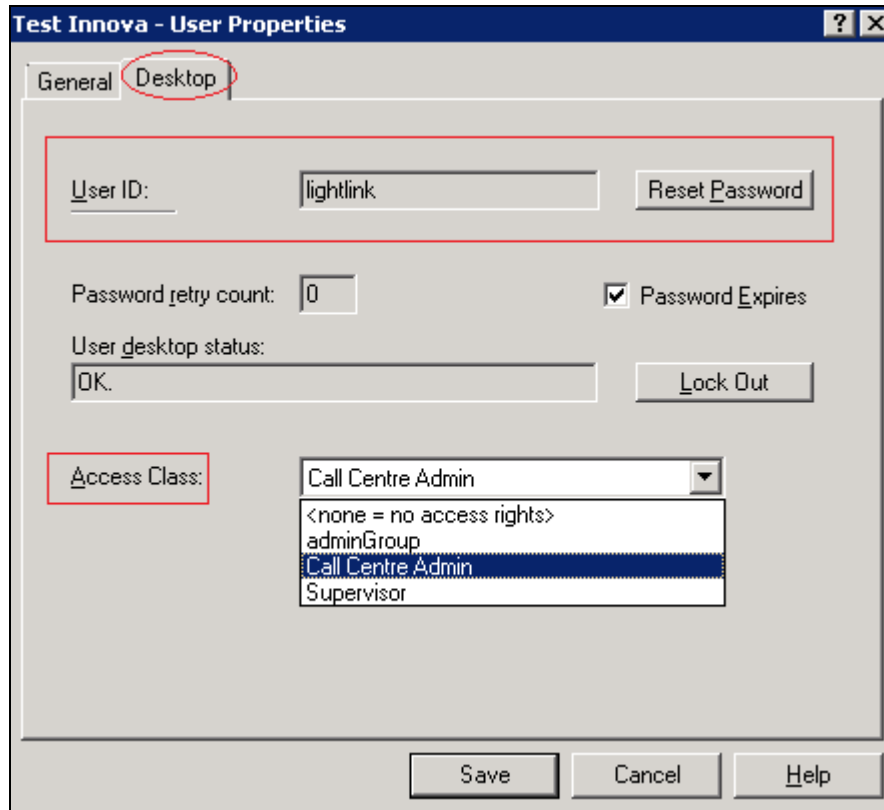


Screen below shows the New User being configured. Populate the **First name** and **Last name** fields that is seen under the **General** tab.

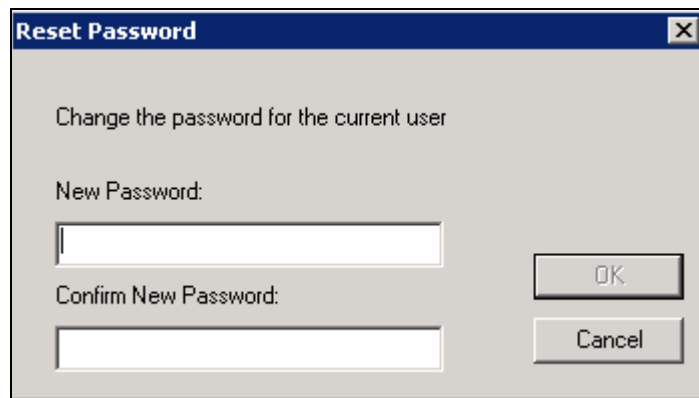
The screenshot shows a window titled "Test Innova - User Properties" with a "General" tab selected. The "First name" field contains "Test" and the "Last name" field contains "Innova". The "Comments" field is empty. The "Title" field is empty. The "Department" field is empty. The "Language" dropdown menu is set to "English". The "Save", "Cancel", and "Help" buttons are visible at the bottom.



From the **Desktop** tab populate the **User ID** field and select **Call Centre Admin** under **Access Class** field as shown in the screen below. Click on **Reset Password** to continue.

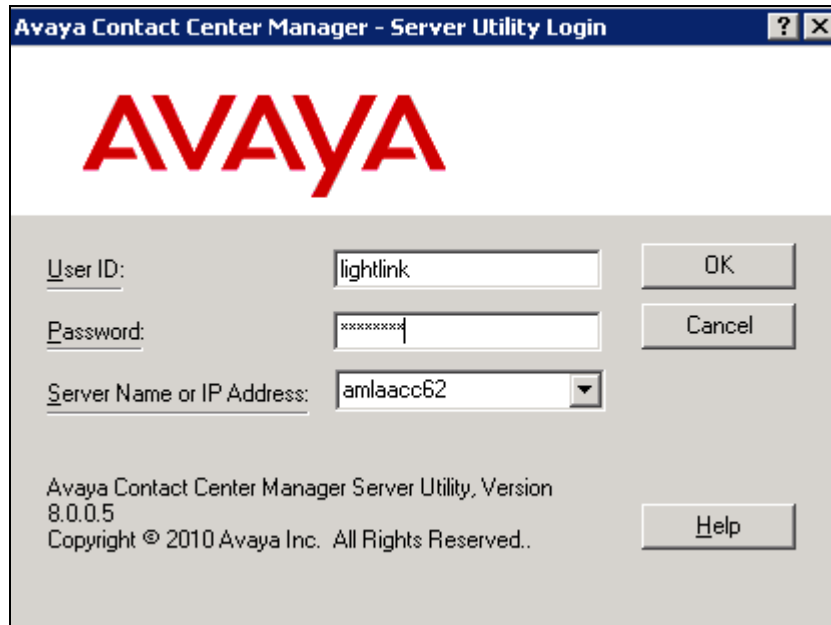


Configure the password and click on **OK** to continue as shown below. Click on the **Save** button that is seen in the screen above to complete the configuration of the New User.

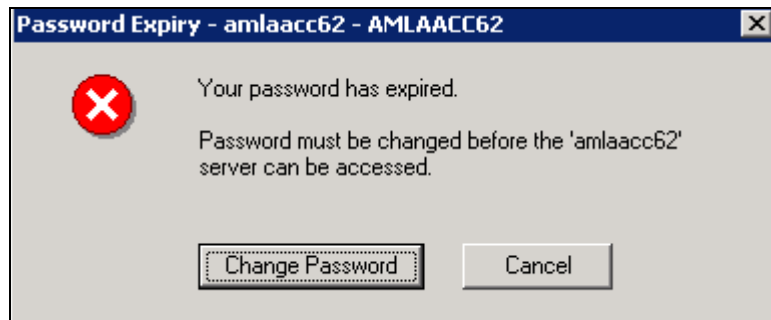


To confirm the configuration of the New User created, exit from the Server Utility application and navigate back to it as explained in **Section 5.1**.

Screen below shows the **Server Utility Login** screen. Populate the **User ID** and **Password** fields with the values that were configured above. Click on **OK** to continue.



While logging in for the first time using the new user, the system forces the password to be changed. Click on **Change Password** as shown in the screen below.



Configure the required fields and click on **OK** to complete the changing of the password as shown in the screen below.

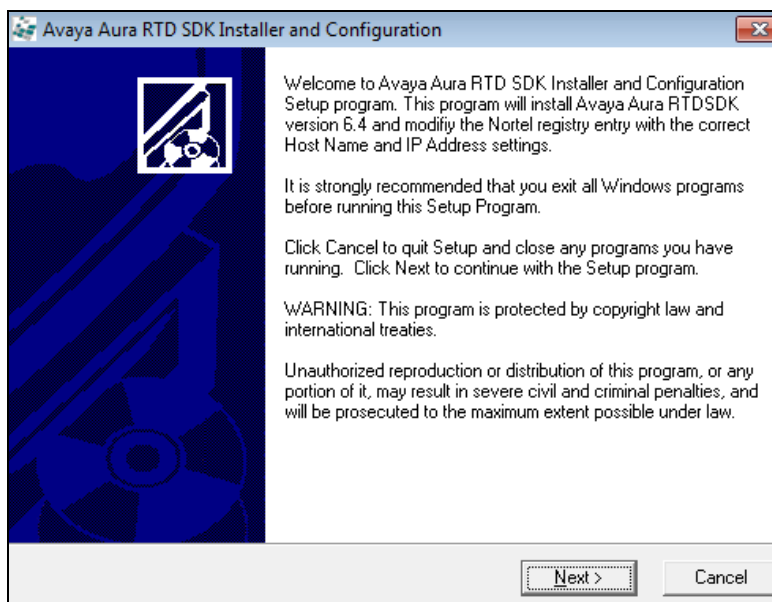


## 6. Configuring the Toolkit for LightLink

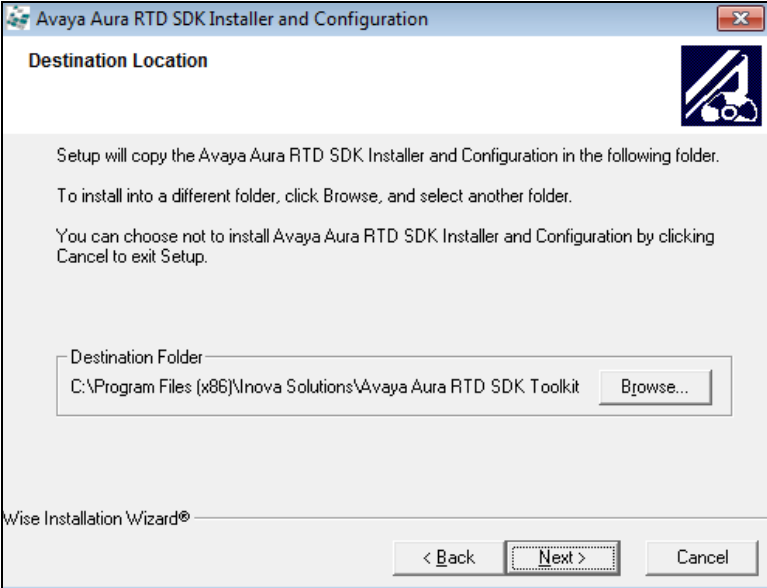
This section explains the steps required to install and configure the Avaya Aura® RTD SDK Toolkit that is used by the LightLink Middleware to interface with CCMS. Assumption is made that LightLink Middleware has been successfully installed and configured. The section also explains the LightLink configuration using the LightLink Administrator. For complete information on LightLink installation and configuration refer to **Section 9**.

### 6.1. Installing and Configuring the Avaya Aura® RTD SDK Toolkit

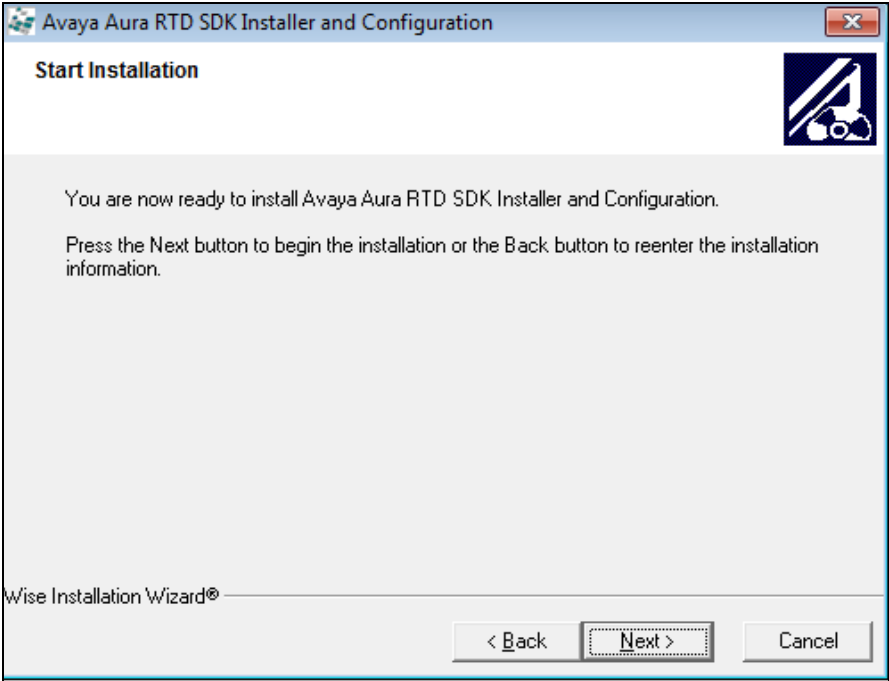
Start the installation of the Toolkit by running the Avaya Aura RTD Toolkit Install & Configuration.exe file. Screen below shows the first stage of the installation screen. Click on **Next** to proceed.



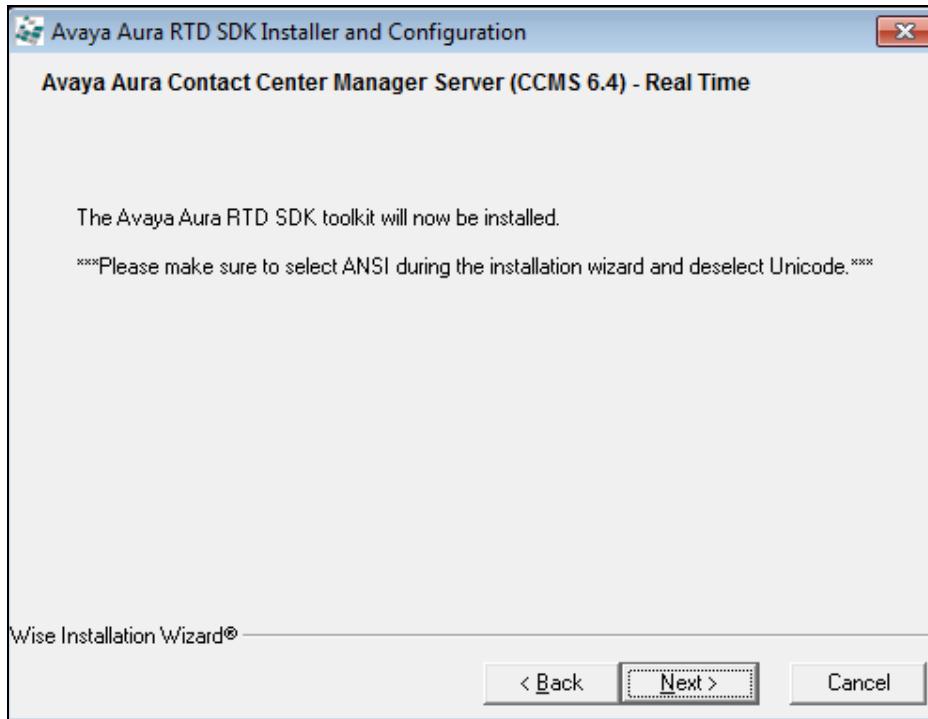
Screen below shows the screen where the user can select the destination folder where the toolkit will be installed. During compliance testing the default path was chosen. Click on **Next** to proceed.



Screen below shows the start of the installation screen. Click on **Next** to proceed.



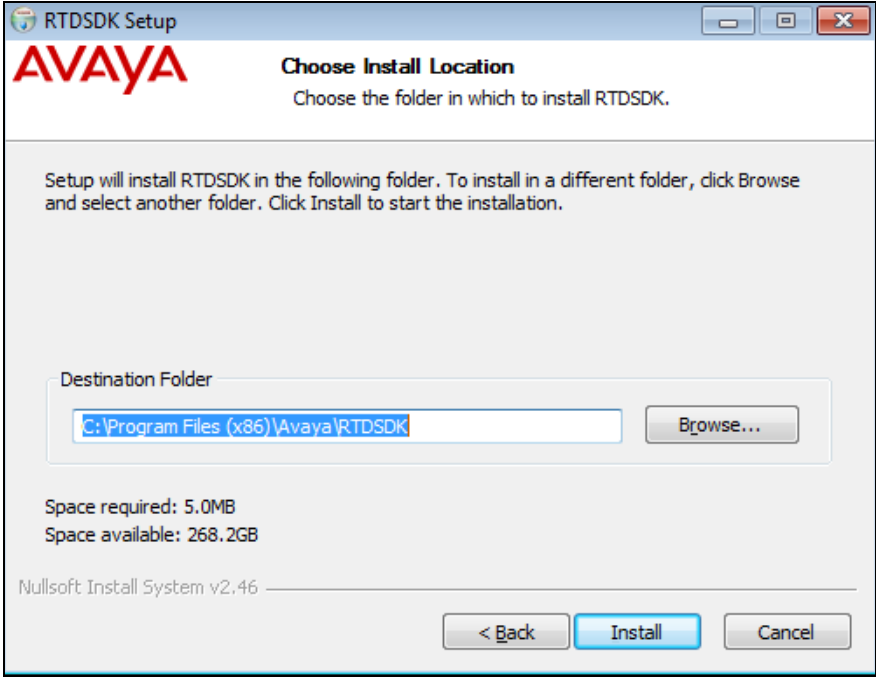
Click on **Next** as shown below to proceed.



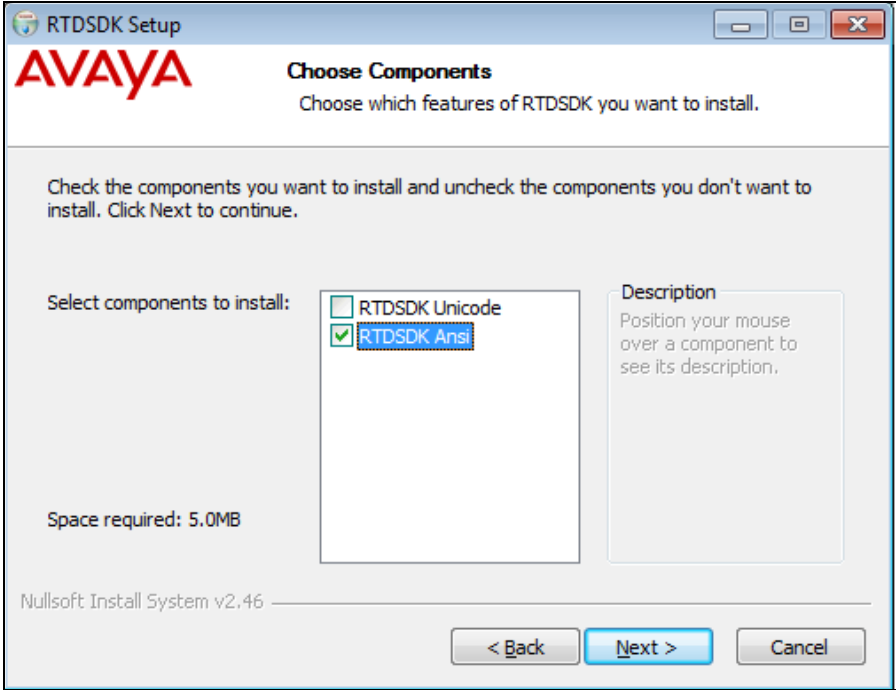
Click on **Next** to proceed.



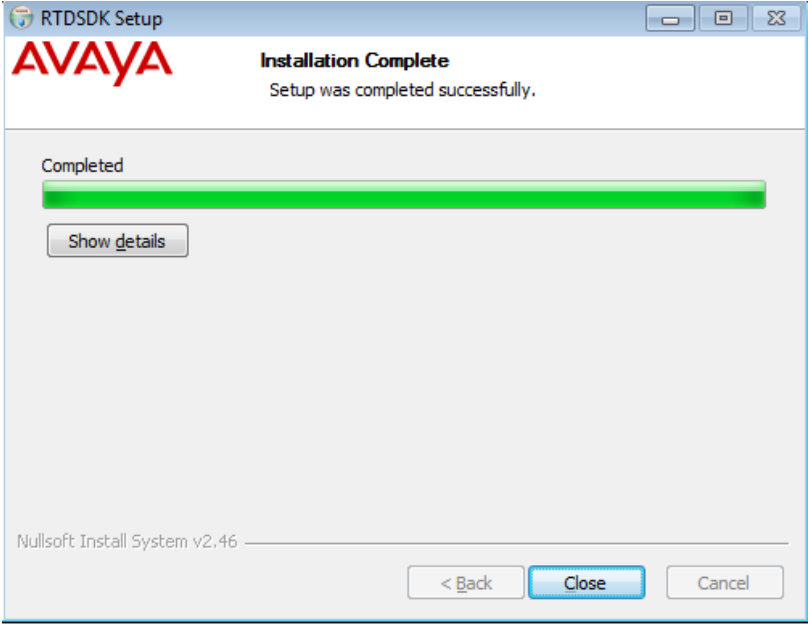
Screen below shows where the user can select the destination folder RTDSDK to be installed. During compliance testing the default path was chosen. Click on **Next** to proceed.



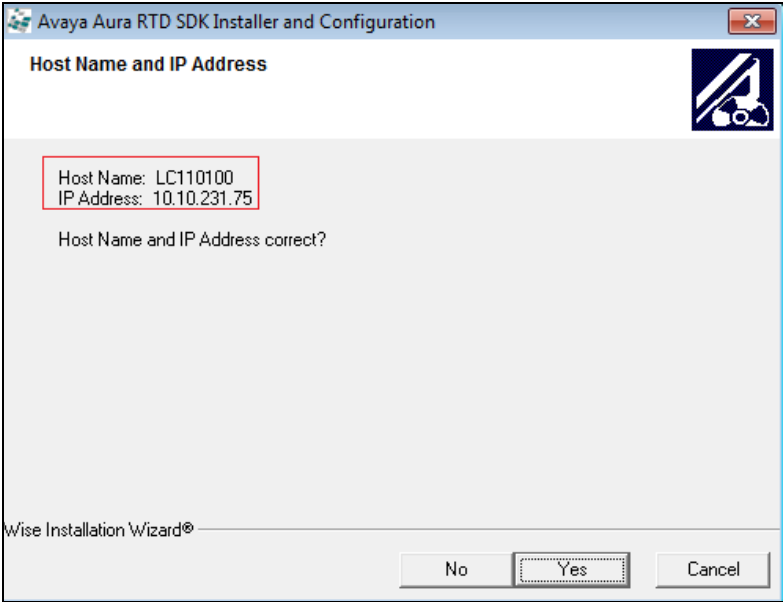
As shown below select **RTDSDK Ansi**, as a type of Setup, and click on **Next** to continue.



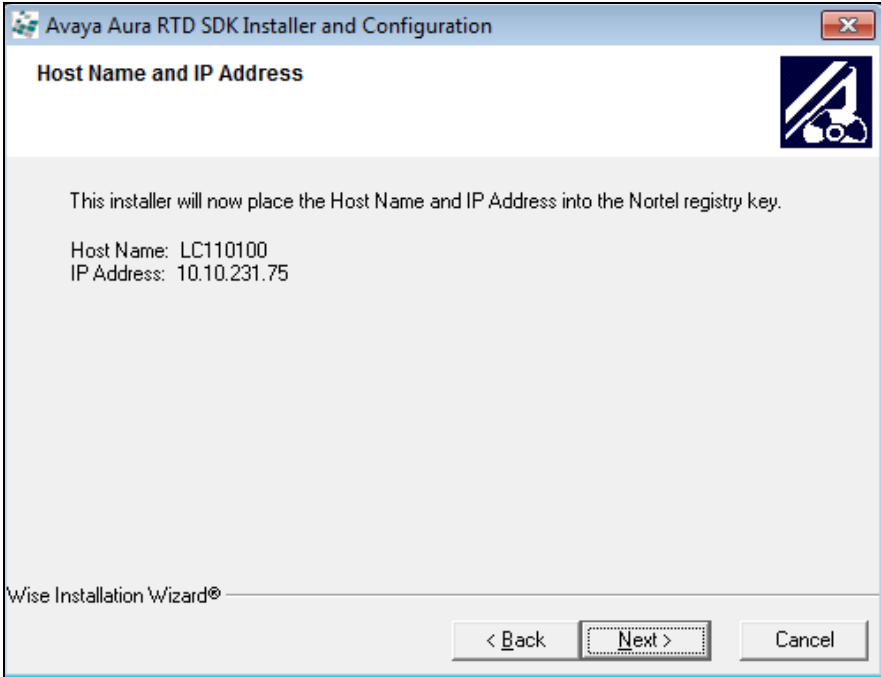
After the installation completes the screen as shown below is seen. Click on **Close** to complete the installation of the RTDSDK.



Screen below provides the user to confirm if the **Host Name** and **IP Address** of the system on which the Toolkit is installed are correct. User needs to click on **Yes** if this information is correct.



Click on **Next** below to proceed.

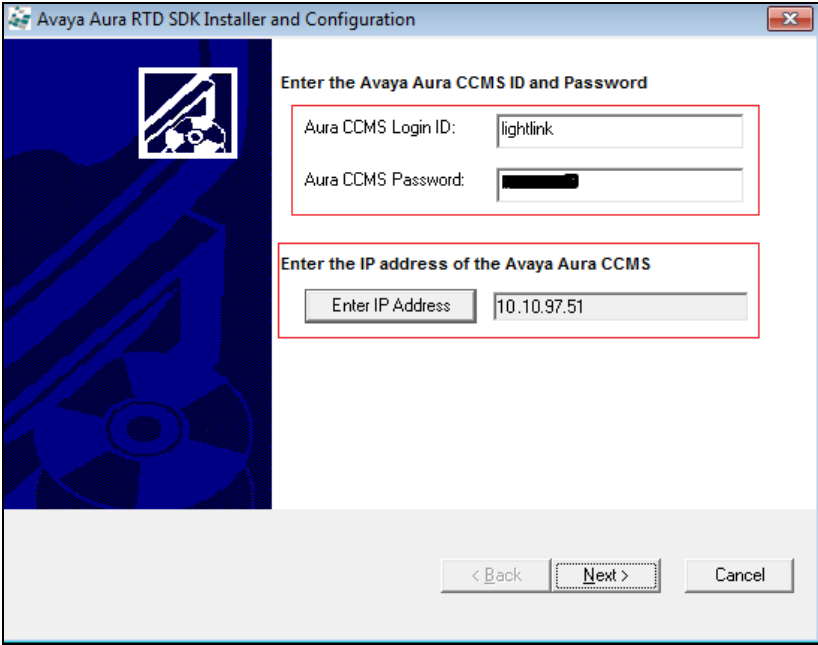


Click on **OK** to proceed.

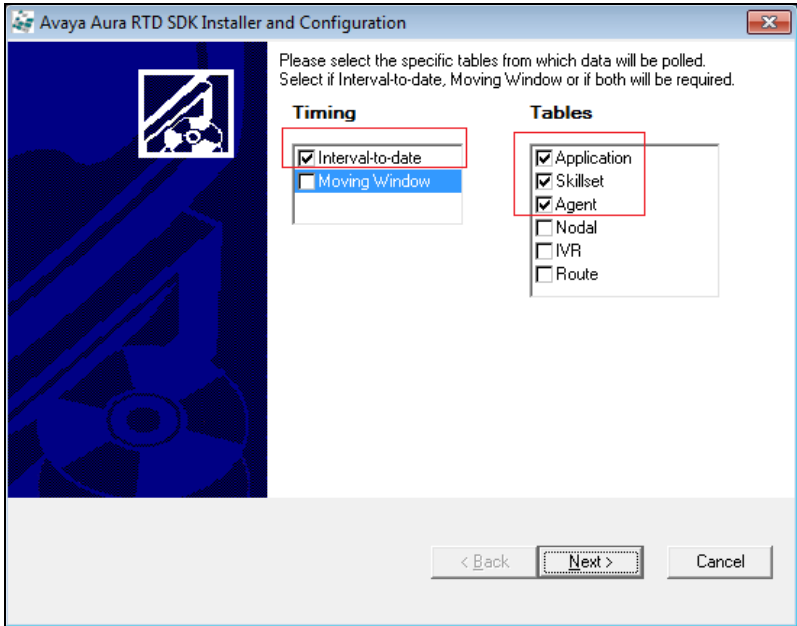




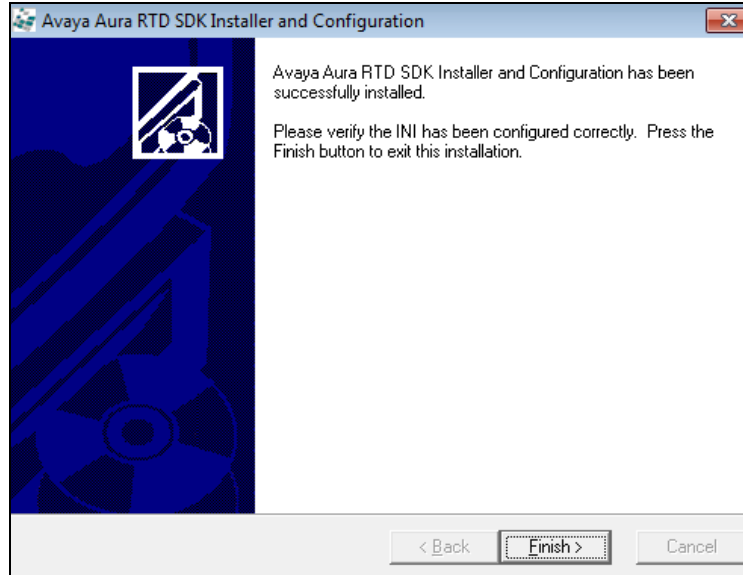
Screen below shows the **Aura CCMS Login ID**, **Aura CCMS Password** and **Enter IP Address** that needs to be populated by the user. Click on **Next** to continue once the required information is entered. This information is configured in **Section 5.1**.



Select the required tables from which the data will be polled. During compliance testing, **Application**, **Skillset** and **Agent** tables were selected as shown below. Click on **Next** to continue.



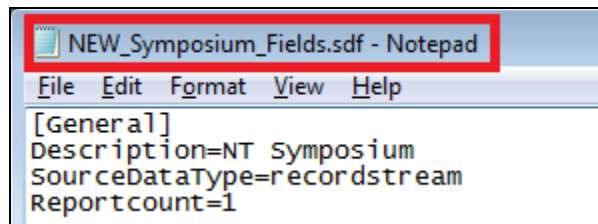
Click on **Finish** to complete the Toolkit installation and configuration as shown below.



For the RTDSDK toolkit to be accessible to LightLink, you will need to add the location of the appropriate binaries to the host machine's PATH. For the default install location, add this to the path:

**C:\Program Files (x86)\Avaya\RTDSDK\Ansi\bin**

Screen below shows the **NEW\_Symposium\_Fields.sdf** and **NEW\_LL\_SYMPOS\_template.ini** files that were successfully created after the installation and configuration of the Toolkit.



```
# -----  
# Configuration file for the LightLink NT Symposium service - Including the Queries  
# -----  
#  
# autoconnect = This indicates if the connections to LightLink and the symposium should be made  
# automatically at application startup and when the symposium is abnormally  
# disconnected. 1 enables autoconnect feature, 0 disables. The default is 1.  
# This can be changed by checking/unchecking the Autoconnect menu item of the File  
# menu.  
# DumpDataStream = when this flag is set to 1, the data stream that is sent to LL is dumped  
# to the service's log file. A 0 (the default) turns off the dump.  
#  
[LL_SYMPOS]  
autoconnect=1  
DumpDataStream=1  
#  
# -----  
# LightLink connection configuration  
# -----  
#
```

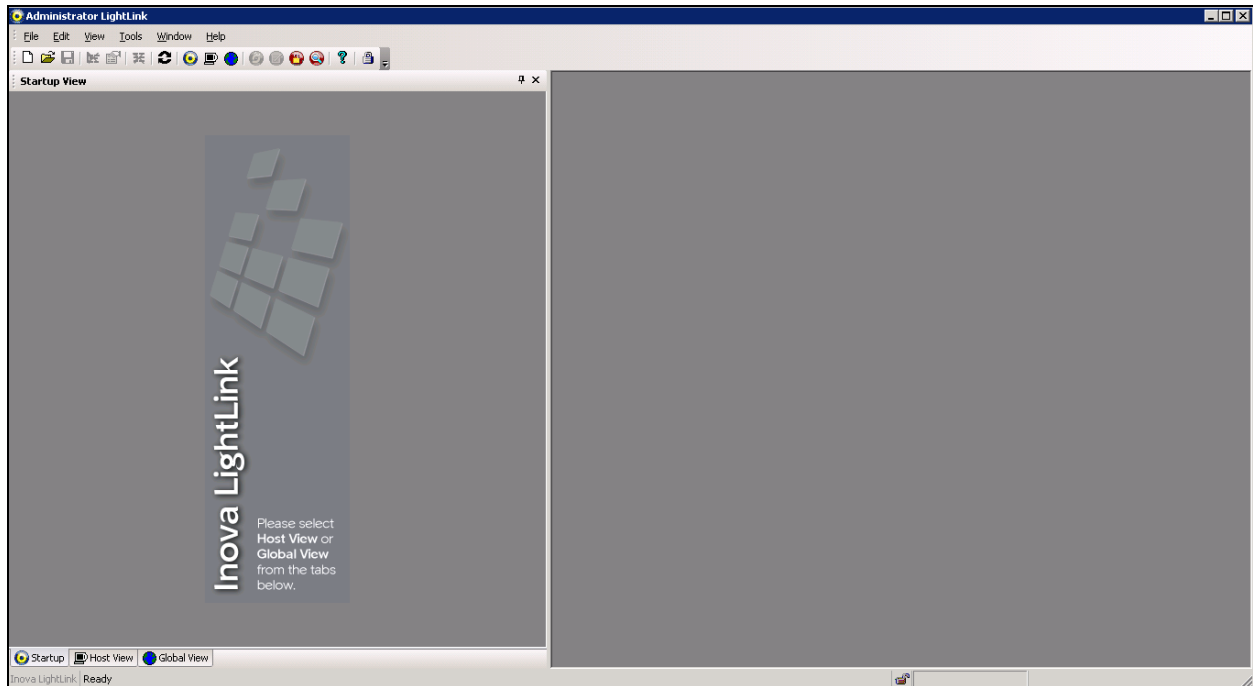
**Note:** During compliance testing, a slightly modified version of the SDF file to expand the available agent data for LightLink was used. Modifications included:

- Explicit naming of Keys in the RTD data stream
- Renaming of some SKLSET data fields to be more up-to-date; e.g. “Agent on Network ICCM Call” was renamed to “Agent on Network Skill Call”
- Inclusion of Moving Window reports; the default SDF only includes Interval-to-date reports

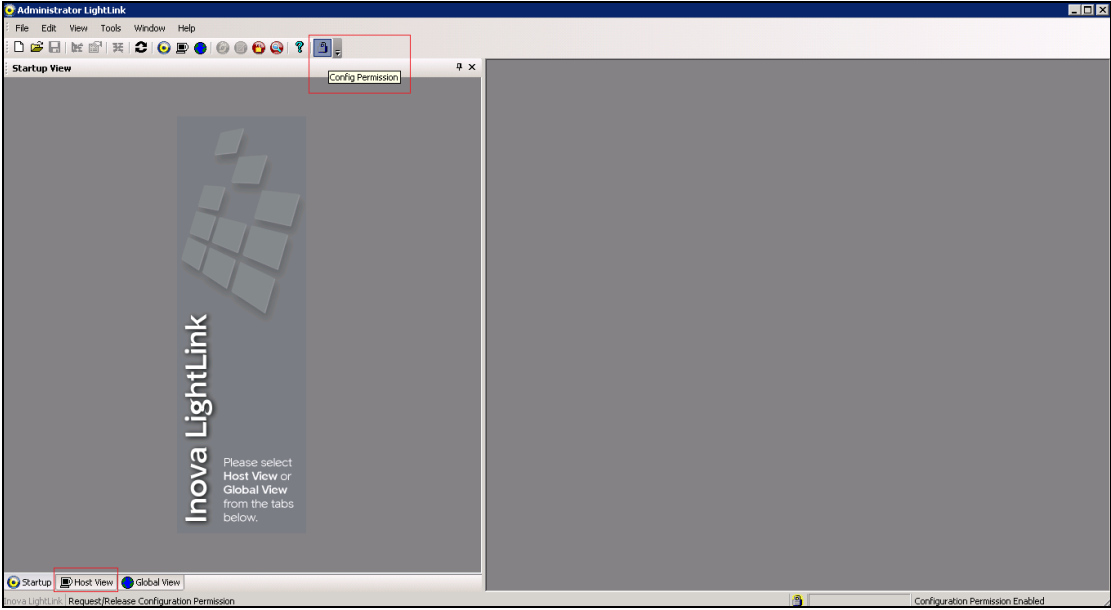
None of these modifications are necessary for functional reporting of Interval-to-date Application, Skill, or Agent data.

## 6.2. Configuring the LightLink using the Administrator

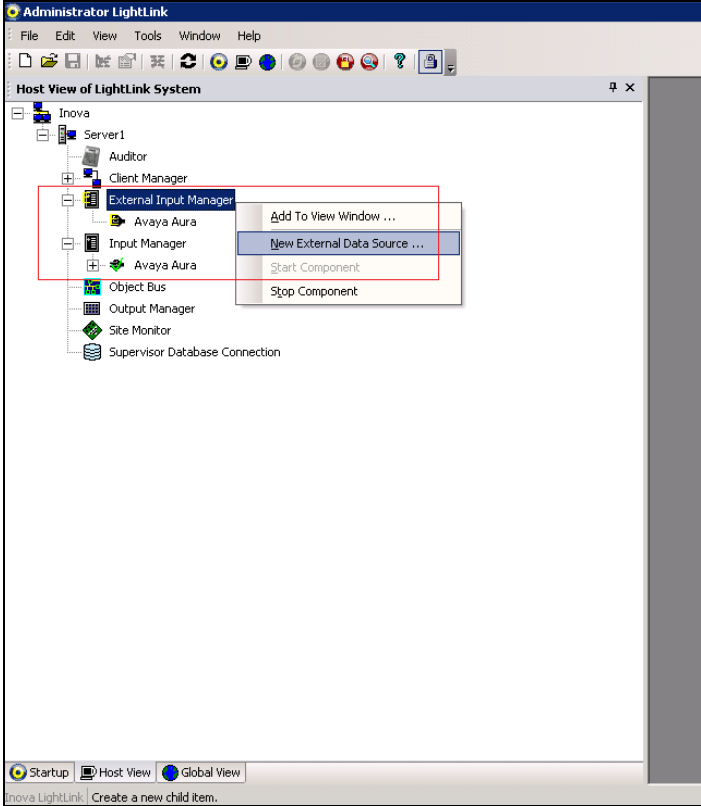
To access the LightLink Administrator application on the system it is installed, navigate through **All Programs → Inova Solutions → LightLink Middleware → Administrator**. The **LightLink Administrator** window is seen as shown below.



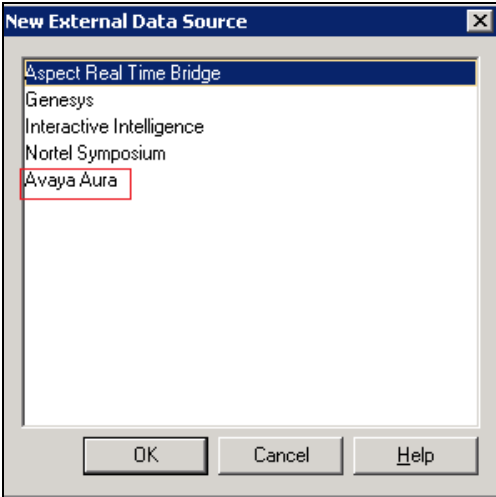
Select **Host View** to view the Host View of the LightLink System as shown below. To start configuration obtain Config Permission and then proceed to configure.



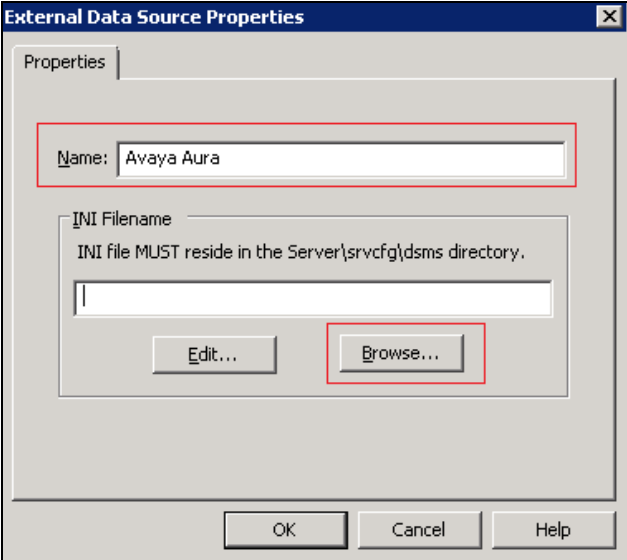
After obtaining the permission to configure, the next step is adding a Data Source. To add a Data Source, right click on the **External Input Manager** and select **New External Data Source** as shown below.



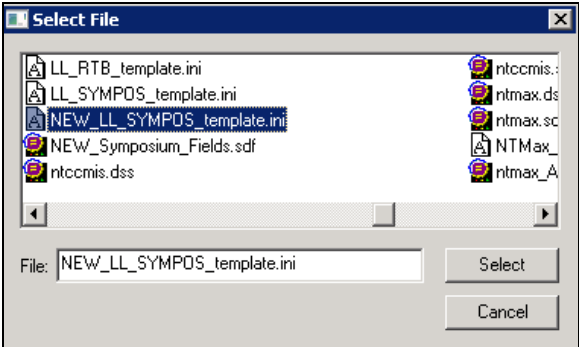
Select **Avaya Aura** for **New External Data Source** and click on **OK** to continue as shown below.



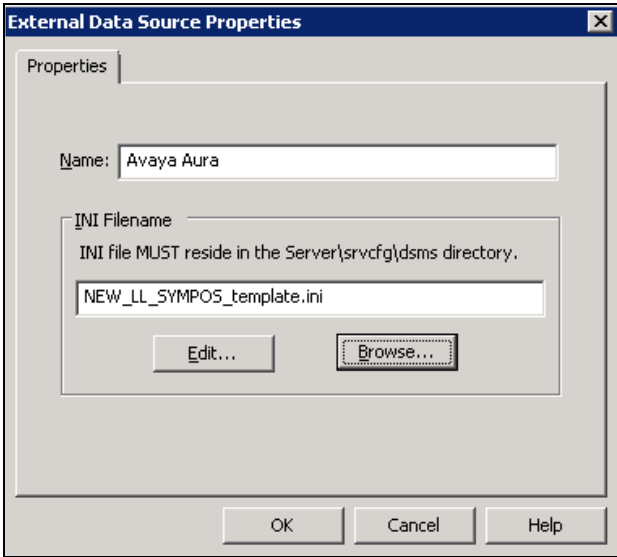
Screen below shows the **External Data Source Properties** window where user needs to populate the **Name** field and select the **INI** file that was configured in **Section 6.1**.



Screen below shows the **NEW\_LL\_SYMPOS\_template.ini** file being selected

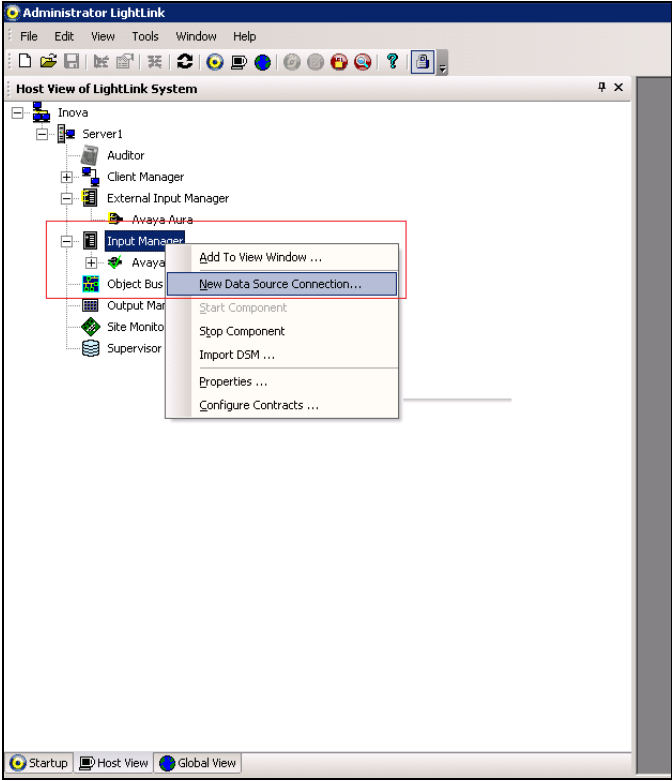


Click on **OK** as shown below once the **External Data Source Properties** configuration is completed.

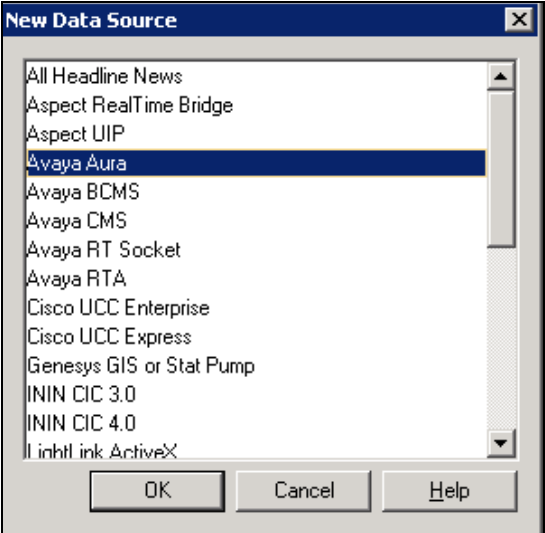




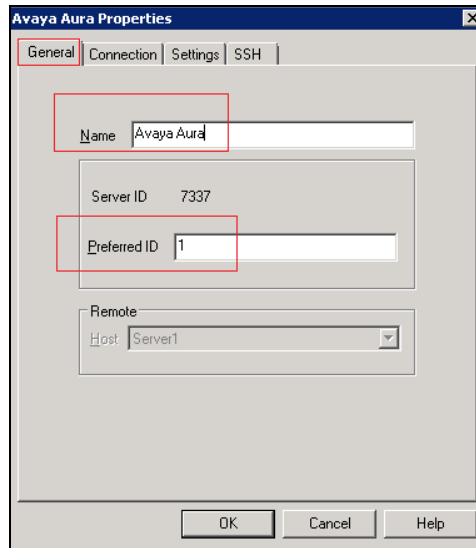
To add a Data source Connection, right click on the **Input Manager** and select **New Data Source Connection** as shown below.



Select **Avaya Aura** as shown below and click on **OK** to continue.

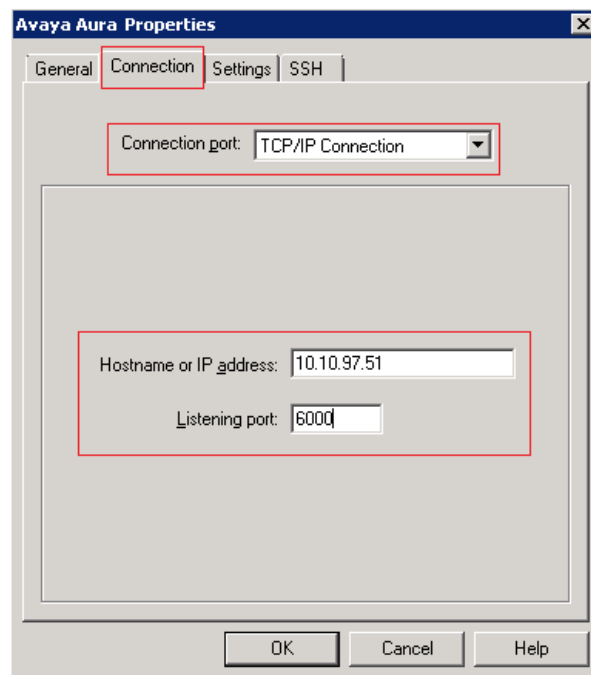


Screen below shows the values populated by default in the **Avaya Aura Properties** window under the **General** tab.

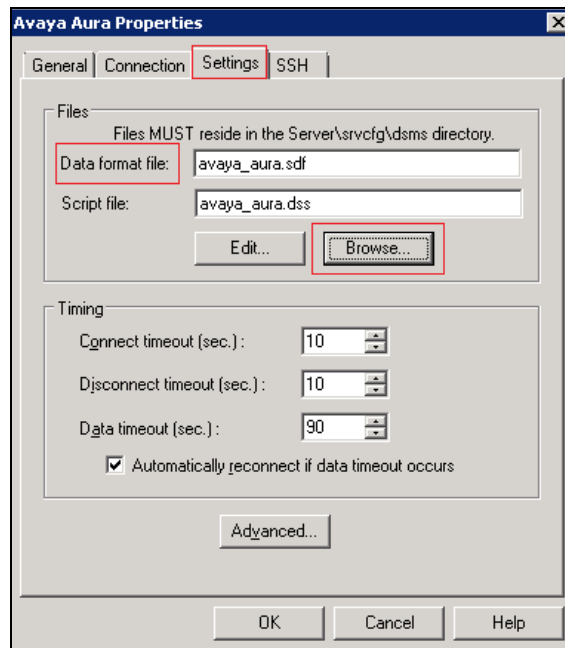


Screen below shows the values populated in the **Avaya Aura Properties** window under the **Connection** tab.

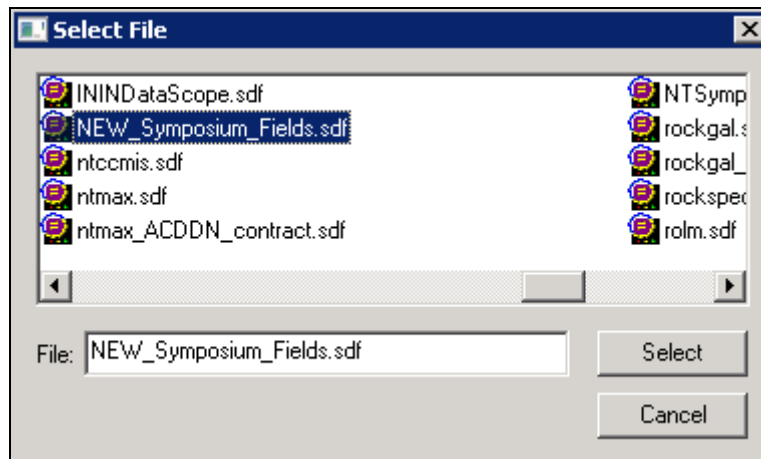
- **Connection port:** Select *TCP/IP Connection* from the drop down menu.
- **Hostname or IP address:** This is the IP address of the CCMS.
- **Listening port:** *6000* was used during compliance testing.



Screen below shows the **Avaya Aura Properties** window where under the **Settings** tab user needs to populate **Data format file** field by selecting the **sdf** file that was configured in **Section 6.1**.

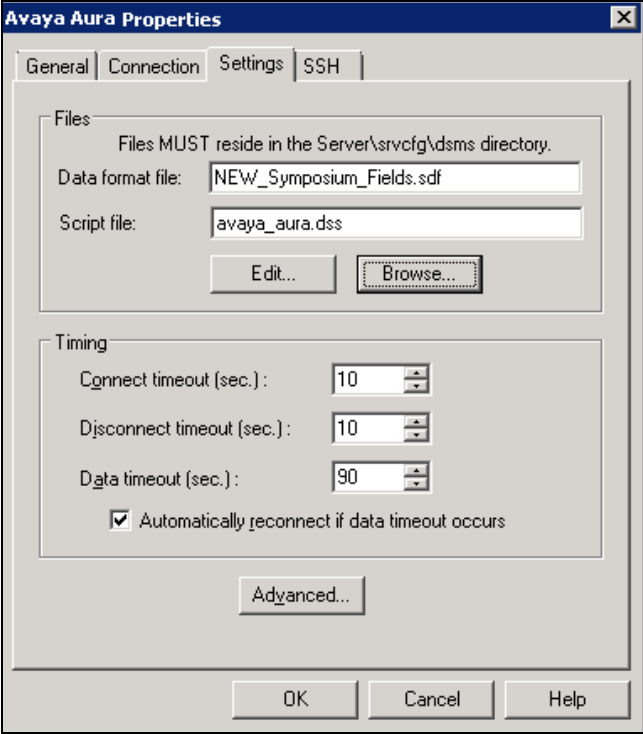


Screen below shows the **NEW\_Symposium\_Fields.sdf** file being selected.

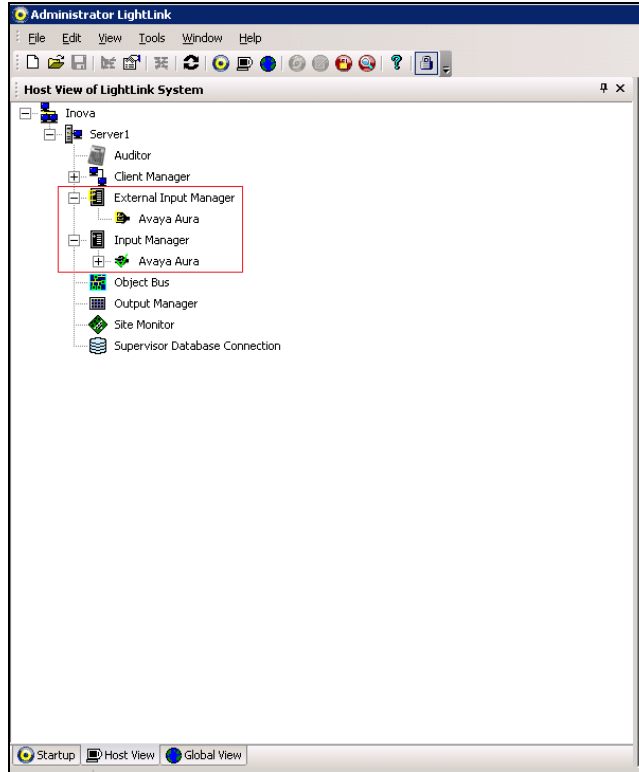


**Note:** During compliance testing the modified .sdf as mentioned in **Section 6.1** was selected.

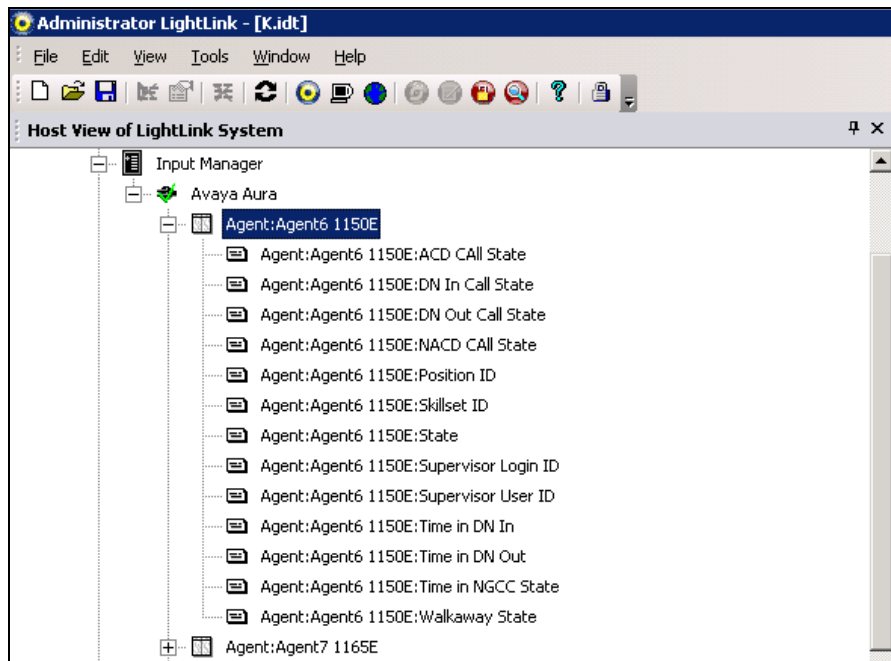
Click on **OK** to complete the information of the **Avaya Aura Properties** as shown below.



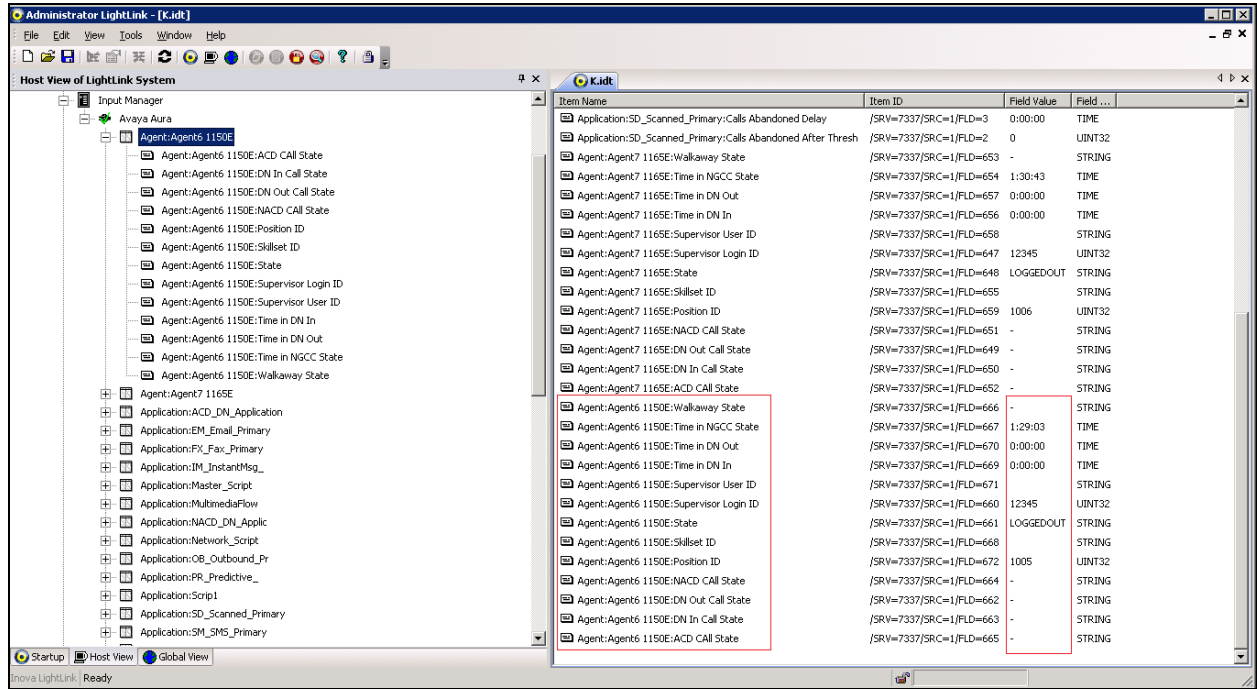
Screen below shows the window after the completion of the configuration.



Screen below shows the attributes that can be monitored under **Agent:Agent6 1150E**, which represents a typical agent report.



Screen below shows the attributes that can be selected to be monitored by the user. The values under the **Field Value** column will change based on RTD available from the CCMS.



## 7. Verification Steps

Real-time Displays were launched on Contact Center Manager Administrator to monitor real-time activity of calls being placed into the system. This was used to verify the data observed on the Lightlink Administrator screen display. Refer to the above screen for the LightLink Administrator screen display.

## 8. Conclusion

All of the executed testset cases have passed and met the objectives outlined in **Section 2.1**. The Inova LightLink Middleware v5.11.69 is considered compliant with Avaya Aura® Contact Center's Contact Center Manager Server Release 6.4.

## 9. Additional References

[1] Product documentation for Avaya products may be found at:

<https://support.avaya.com/css/Products/>

*Avaya Aura® Contact Center Planning and Engineering* (NN44400-210)

*Avaya Aura® Contact Center Installation* (NN44400-311)

*Avaya Aura® Contact Center Server Administration* (NN44400-610)

*Avaya Aura® Contact Center Overview* (NN44400-111)

*Avaya Aura® Contact Center Fundamentals* (NN44400-110)

*Avaya Aura® Contact Center Manager Administration – Client Administration* (NN44400-611)

[2] Product documentation for Inova LightLink may be found at:

<http://www.inovasolutions.com/call-center-reporting/>

---

**©2014 Avaya Inc. All Rights Reserved.**

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

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](mailto:devconnect@avaya.com).