

Avaya Solution & Interoperability Test Lab

# Application Notes for Inova LightLink with Avaya Communication Manager and Avaya Call Management System with Inova Historical Interface – Issue 1.0

### Abstract

These Application Notes describe the configuration steps required to integrate Inova LightLink with Avaya Call Management System using the Inova Historical interface to capture ACD call center data from Avaya Communication Manager. The Inova Historical interface is used to obtain splits/skills, Vector Directory Numbers (VDNs), and agents data periodically. This interface is provided by the Avaya Communication Solutions and Integration (CSI) group within Avaya Global Services.

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.

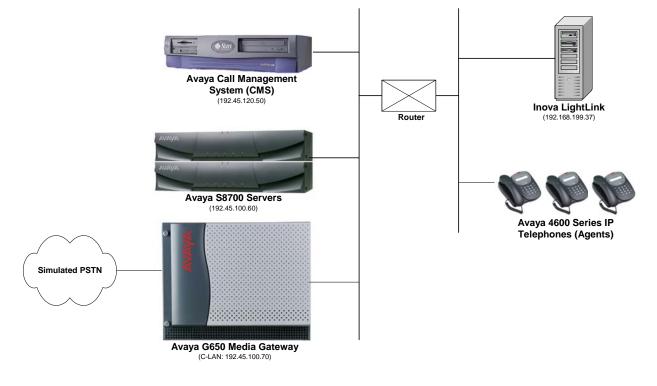
## 1. Introduction

These Application Notes describe the configuration steps required to integrate Inova LightLink with Avaya Call Management System using the Inova Historical interface to capture ACD call center data from Avaya Communication Manager. The Inova Historical interface is used to obtain splits/skills, Vector Directory Numbers (VDNs), and agents data periodically. This interface is provided by the Avaya Communication Solutions and Integration (CSI) group within Avaya Global Services.

Inova LightLink is a middleware platform that supports the integration, management, and delivery of real-time data. Inova LightLink utilizes the real-time call center data from Avaya Communication Manager for splits/skills, VDNs, and agents, and provides the information to applications or contact center organizations for effective management.

The data streams of ACD call center historical data are obtained by Inova LightLink from Avaya CMS. A TCP client-server model is used for the connection, with Avaya CMS being the "client" and Inova LightLink being the "server". Inova LightLink runs a TCP "listener" process to accept the data connection from the Inova Historical interface of Avaya CMS. Avaya CMS can send data to Inova LightLink at 15, 30, or 60 minute intervals (configurable).

Avaya CSI installs and configures the Inova Historical interface on Avaya CMS, and provides the TCP port number associated with each historical interface session to Inova for configuring LightLink. LightLink parses the raw data streams received and makes the data available on various output devices. The historical data can be monitored by customers via customized viewing models.



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# 2. Equipment and Software Validated

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

Equipment	Software
Avaya S8700 Servers	Avaya Communication Manager 4.0, load 730.5
Avaya G650 Media Gateway TN799DP C-LAN Circuit Pack	HW01 FW024
Avaya Call Management System	r14aa.h
Avaya 4600 Series IP Telephones	2.8 (H.323)
Inova LightLink	5.6.264.0

## 3. Configure Avaya Communication Manager

This section provides the procedures for configuring Avaya Communication Manager. The procedures include the following areas:

- Verify Avaya Communication Manager Options
- Administer adjunct CMS release
- Administer IP node names for C-LAN
- Administer IP interface for C-LAN
- Administer data module for C-LAN
- Administer processor interface channel
- Administer measured VDN
- Administer measured Skill

The detailed administration of contact center devices such as ACD/Skill, VDN, Vector, and Agents are assumed to be in place. These Application Notes will only cover how to enable ACD/Skill, VDN, and Agent data to be sent to Avaya CMS.

### 3.1. Verify Avaya Communication Manager Software Options

Log into the System Access Terminal (SAT) to verify that the Avaya Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that the **G3 Version** field is set to "V14" on **Page 1**, as shown below.

```
display system-parameters customer-options
                                                                      1 of 11
                                                                Page
                               OPTIONAL FEATURES
    G3 Version: V14
      Location: 1
                                             RFA System ID (SID): 1
      Platform: 6
                                              RFA Module ID (MID): 1
                                                              USED
                               Platform Maximum Ports: 44000 727
                                     Maximum Stations: 36000 239
                             Maximum XMOBILE Stations: 0
                                                              0
                    Maximum Off-PBX Telephones - EC500: 0
                                                              0
                   Maximum Off-PBX Telephones - OPS: 50
                                                              8
                    Maximum Off-PBX Telephones - PBFMC: 0
                                                              0
                   Maximum Off-PBX Telephones - PVFMC: 0
                                                              0
                   Maximum Off-PBX Telephones - SCCAN: 0
                                                              0
        (NOTE: You must logoff & login to effect the permission changes.)
```

Navigate to **Page 6**, and verify that the **Call Center Release** field is set to "4.0", as shown below.

display system-parameters customer-options CALL CENTER OPTIO	
Call Center Rele	ease: 4.0
Business Advocate? y Call Work Codes? n DTMF Feedback Signals For VRU? y Dynamic Advocate? y Expert Agent Selection (EAS)? y EAS-PHD? y	Reason Codes? y Service Level Maximizer? n Service Observing (Basic)? y Service Observing (Remote/By FAC)? y Service Observing (VDNs)? y Timed ACW? y Vectoring (Basic)? y Vectoring (Basic)? y Vectoring (G3V4 Enhanced)? y Vectoring (3.0 Enhanced)? n Vectoring (ANI/II-Digits Routing)? y
Lookahead Interflow (LAI)? n Multiple Call Handling (On Request)? y Multiple Call Handling (Forced)? y PASTE (Display PBX Data on Phone)? y (NOTE: You must logoff & login to	Vectoring (G3V4 Advanced Routing)? y Vectoring (CINFO)? y Vectoring (Best Service Routing)? y Vectoring (Holidays)? y Vectoring (Variables)? n effect the permission changes.)

### 3.2. Administer Adjunct CMS Release

Use the "change system-parameters features" command and navigate to **Page 12**. Set the **Adjunct CMS Release** field to the software release of the Avaya CMS. In this case, "R14" is used to correspond to Avaya CMS software release R14.0.

```
Page 12 of 17
change system-parameters features
                        FEATURE-RELATED SYSTEM PARAMETERS
 AGENT AND CALL SELECTION
                        MIA Across Splits or Skills? y
                         ACW Agents Considered Idle? y
                         Call Selection Measurement: current-wait-time
   Service Level Supervisor Call Selection Override? n
                                Auto Reserve Agents: all
 CALL MANAGEMENT SYSTEM
                         REPORTING ADJUNCT RELEASE
                                     CMS (appl mis): R14
                                     CCR (appl ccr):
                              BCMS/VuStats LoginIDs? y
                  BCMS/VuStats Measurement Interval: hour
          BCMS/VuStats Abandon Call Timer (seconds):
                    Validate BCMS/VuStats Login IDs? n
                           Clear VuStats Shift Data: on-login
                Remove Inactive BCMS/VuStats Agents? n
```

### 3.3. Administer IP Node Name for C-LAN

Use the "change node-names ip" command, to add entries for Avaya CMS and the C-LAN that will be used for connectivity. In this case, "cms" and "192.45.120.50" are entered as **Name** and **IP Address** for the Avaya CMS server, and "clan2" and "192.45.100.70" are entered as **Name** and **IP Address** for the C-LAN. The actual node names and **IP** addresses may vary. Submit these changes.

change node-names	; ip		Page 1 of 1	
	IP NO	ODE NAMES		
Name	IP Address	Name	IP Address	
clan	192.45 .100.66			
clan-1a05-AES2	192.45 .100.146			
Cms	192.45 .120.50			
clan2	192.45 .100.70		• • •	

### 3.4. Administer IP Interface for C-LAN

Add the C-LAN to the system configuration using the "add ip-interface 2a02" command. The actual slot number may vary. In this case, "2a02" is used as the slot number. Enter the C-LAN node name assigned from **Section 3.3** into the **Node Name** field. The **IP Address** field will be populated automatically.

Enter proper values for the **Subnet Mask** and **Gateway Address** fields. In this case, "255.255.255.0" and "192.45.100.1" are used to correspond to the network configuration in these Application Notes. Set the **Enable Ethernet Port** field to "y". Default values may be used in the remaining fields. Submit these changes.

```
add ip-interface 2a02
                                                                 Page
                                                                       1 of
                                                                               1
                                  IP INTERFACES
                  Type: C-LAN
                  Slot: 02A02
           Code/Suffix: TN799 D
            Node Name: clan2
           IP Address: 192.45 .100.70
           Subnet Mask: 255.255.255.0
       Gateway Address: 192.45 .100.1
 Enable Ethernet Port? y
       Network Region: 1
                  VLAN: n
Number of CLAN Sockets Before Warning: 400
      Receive Buffer TCP Window Size: 8320
                               ETHERNET OPTIONS
                 Auto? y
```

### 3.5. Administer Data Module for C-LAN

Add a new data module using the "add data-module n" command, where "n" is an available extension. Enter the following values, and submit these changes.

- Name: A descriptive name.
- **Type:** "ethernet"
- **Port:** Same slot number from **Section 3.4** above and port "17".
- Link: An available link number.

```
change data-module 24981 DATA MODULE
Data Extension: 24981 Name: Clan2
Type: ethernet
Port: 02A0217
Link: 2
Network uses 1's for Broadcast Addresses? y
```

#### 3.6. Administer Processor Interface Channel

Assign a new processor interface channel with the "change communication-interface processorchannels" command. Add an entry with the following values, and submit these changes.

- Enable: "y"
- Appl.: "mis"
- **Mode:** "s" for server mode.
- Interface Link: Link number for data module Ethernet port from Section 3.5.
- Interface Chan: TCP channel number for Avaya CMS. In this case "5001".
- Destination Node: Avaya CMS server node name from Section 3.3.
- **Destination Port:** "0"
- Session Local: Corresponding channel number in **Proc Chan** field. In this case "1".
- Session Remote: Corresponding channel number in Proc Chan field. In this case "1".

The **Interface Chan** field contains the Avaya CMS TCP channel number, which is defined as part of the Avaya CMS installation. For the compliance testing, the default TCP channel number of "5001" was used.

change communication-interface processor-channels							Page	1 of	24			
PROCESSOR CHANNEL ASSIGNMENT												
Proc			Gtwy		Inte	rface		Destinat	ion	Ses	sion	Mach
Chan	Enable	Appl.	То	Mode	Link	/Chan		Node	Port	Local	/Remote	e IDnp
1:	У	mis		s	2	5001	cms		0	1	1	
2:	n								0			

### 3.7. Administer Measured VDN

Use the "change vdn n" command, where "n" is the extension of the VDN to be measured by Avaya CMS. Set the **Measured** field to "external" or "both" to enable measurement data on the VDN to be sent to Avaya CMS. Repeat this step for all VDNs that will be monitored by Avaya CMS.

```
change vdn 38000
                                                                 Page
                                                                        1 of
                                                                                2
                            VECTOR DIRECTORY NUMBER
                             Extension: 38000
                                 Name*: Inova VDN 1
                         Vector Number: 380
                  Meet-me Conferencing? n
                    Allow VDN Override? n
                                   COR: 1
                                   TN*: 1
                              Measured: both
        Acceptable Service Level (sec): 10
              Service Objective (sec): 20
        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:
* Follows VDN Override Rules
```

#### 3.8. Administer Measured Skill and Agent

Use the "change hunt-group n" command, where "n" is the extension of the ACD/Skill group number to be measured by Avaya CMS. Set the **Measured** field to "external" or "both" to enable real-time measurement data on the ACD/Skill group and the associated agents to be sent to Avaya CMS. Repeat this step for all ACD/Skill groups that will be measured by Avaya CMS.

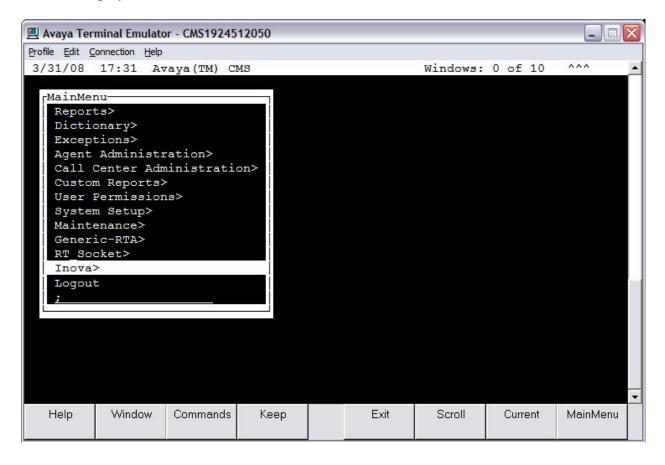
change hunt-group 280	Page	2	of	3	
	HUNT GROUP				
Skill? y AAS? n <b>Measured: both</b>	Expected Call Handling Time (sec): Service Level Target (% in sec): Service Objective (sec):	80		C	
Supervisor Extension:	Service Level Supervisor?				
	Activate on Oldest Call Waiting? Call Selection Override?	Ŷ			
Controlling Adjunct: none	Level 1 Threshold (sec): Level 2 Threshold (sec):	50			
	Dynamic Threshold Adjustment?	n			
VuStats Objective: Timed ACW Interval (sec): Multiple Call Handling: none	Dynamic Queue Position?	n			
	Redirect on No Answer (rings): Redirect to VDN:				
Forced Entry of	of Stroke Counts or Call Work Codes?	n			

# 4. Configure Avaya Call Management System

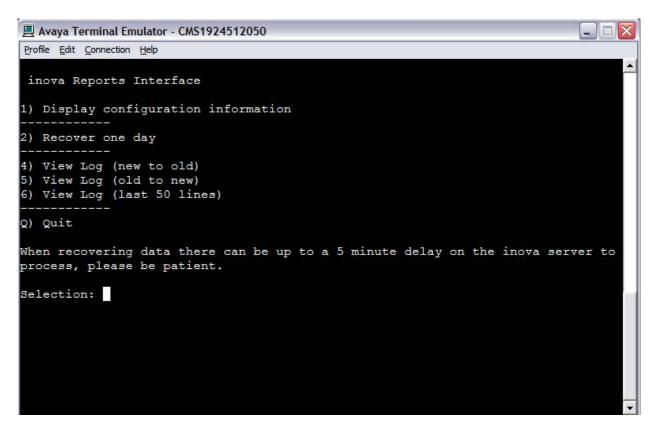
Configuration of the Inova Historical interface is performed by Avaya CSI and is outside the scope of these Application Notes. After the interfaces are configured, the user can follow the procedures below to enable the interface.

### 4.1. Verify Inova Historical Interface

The Inova Historical Interface is always enabled and monitoring splits/skills, VDNs, and agents on Avaya Communication Manager. To verify that ACD call center data is being monitored, use a terminal emulator to connect to Avaya CMS and log in with the proper credentials. The **Main Menu** is displayed as shown below. Select **Inova** from the **Main Menu**.



After selecting the Inova option, the Inova Reports Interface menu appears as shown below.



Enter "1" to display the configuration information, followed by the **Enter** key. The **Configured Sessions** screen appears. A description of the screenshot fields appear.

- **SESSION**: Each session defines a connection that Avaya CMS establishes with Inova LightLink.
- **ACD**: This column displays the ACD number associated with Avaya Communication Manager as configured on Avaya CMS.
- **SERVER**: Always displays "inova" as the name for Inova LightLink.
- **PORT**: Shows the TCP port that will be used to transfer data during each session.
- **TYPE**: This column defines what type of data will be transferred during each session.

Profile Edit Conne	ection <u>H</u> elp				
Version V1.3	3				
Configured S	Sessions				
SESSION	ACD	SERVER	PORT	TYPE	
1	3	inova	7002	skill	
2	3	inova	7003	vdn	
3	3	inova	7004	agent	

# 5. Configure Inova LightLink

This section provides the procedures for configuring Inova LightLink. The procedures fall into the following areas:

- Administer Inova historical interface for Skill data
- Administer Inova historical interface for VDN data
- Administer Inova historical interface for Agent data

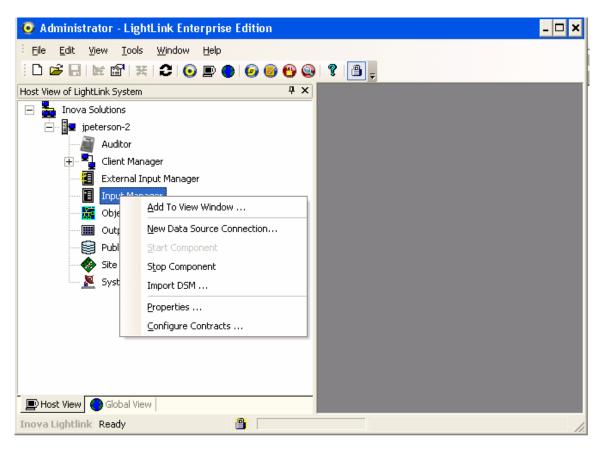
Configuration of LightLink is typically performed by Inova technicians. The procedural steps are presented in these Application Notes for informational purposes.

#### 5.1. Administer Inova Historical Interface for Skill Data

From the LightLink server, start the Administrator application by launching Programs  $\rightarrow$  Inova LightLink  $\rightarrow$  Administrator. The Administrator screen is displayed.

#### 5.1.1. Administer New Custom Data Source

Right-click on **Input Manager** in the left pane and select **New Data Source Connection** from the pop-up menu.



The New Data Source screen is displayed on top of the Administrator screen. Scroll down the window and select Custom Data Source. Click OK.

New Data Source	×
Custom Data Source Data Analysis Data Source Executone Custom Plus Genesys Stat Pump Harris 20-20 Interactive Intelligence LightLink System Data Mitel SX-200 NEC Navigator MIS	▲ 
OK Cancel	<u>H</u> elp

#### 5.1.2. Administer Custom Data General Tab

The **Custom Data Source Properties** screen is displayed next. Select the **General** tab and enter a descriptive name for the new data source. In this case, "Avaya CMS RT Socket Skill – Historical" is used. Retain the default value for the **Preferred ID** field.

Custom Data Source Properties	×
General Connection Settings SSH	
Name Avaya CMS RTSocket Skill - Historical	í
Server ID 1	
Preferred ID 22	
Host jpeterson-2	
OK Cancel	Help

#### 5.1.3. Administer Custom Data Connection Tab

Select the **Connection** tab. For the **Connection port** field, select "TCP/IP Connection" from the drop-down list. Enter the IP address of the LightLink server into the **Hostname or IP address** field. For the **Listening port** field, enter the TCP port number that the Avaya CMS server uses for transferring Skills data. This port number is provided by Avaya CSI. For the compliance testing, the port number used was "7002".

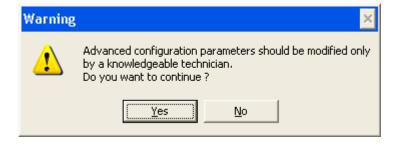
Custom Data Source Properties	×
General Connection Settings SSH	
Connection port: TCP/IP Connection	
Hostname or IP <u>a</u> ddress: 192.168.199.37	
Listening port: 7002	
OK Cancel Help	

#### 5.1.4. Administer Custom Data Settings Tab

Select the **Settings** tab. Select the **Data format file** field, and click on **Browse**. From the **Select File** screen, select "avaya\_rtsocket\_historical\_skill.sdf" from the file list. Repeat the same procedure to select "avaya\_rtsocket\_historical\_skill.dss" for the **Script file** field. For the **Connect timeout (sec.)** field, increase the value to "99999" seconds, as shown below. Retain the default values for the remaining fields, and click on **Advanced**.

Custom Data Source Properties	×
General Connection Settings SSH	
Files       Files MUST reside in the Server\srvcfg\dsms directory.         Data format file:       avaya_rtsocket_historical_skill.sdf         Script file:       avaya_rtsocket_historical_skill.dss	
Edit Browse	
Timing	
Connect timeout (sec.): 99999	
Disconnect timeout (sec.) : 10	
Data timeout (sec.): 90 📫	
Automatically reconnect if data timeout occurs	
Ad <u>v</u> anced	
OK Cancel Help	

The **Warning** pop-up window below is displayed on top of the **Custom Data Source Properties** screen. Click **Yes** to continue.



The Advanced Properties screen is displayed on top of the Custom Data Source Properties screen. Set the value of the ActsAsServer parameter to "1" as shown in the textbox below. to enable the LightLink server to take on the role of the "server" in communicating with Avaya CMS. Also, set the DataFieldsOkOnDisconnect parameter to "1". Click OK to submit the changes for the Advanced Properties screen. Click OK on the Custom Data Source Properties screen to submit the changes for that screen.

Advanced Properties			×
QueueSize=1000 ActsAsServer=1 RecordData=0 RecordFilename=DSM_22.DAT DiagnosticViewRefresh=0 ReconnectWait=0 RedundantWithID=0 DataFieldTimeoutInterval=0 DataFieldS0kOnDisconnect=1 TimedFieldCount=0			
ОК	Cancel	<u>H</u> elp	

The **Administrator** screen is displayed next, and updated with the newly created custom data source "Avaya CMS RT Socket Skill – Historical" as shown below. A green checkmark is displayed by the data source when the connection to Avaya CMS is established.

🧿 Administrator -	LightLink Enterprise Edition	- 🗆 🗙
: <u>F</u> ile <u>E</u> dit <u>V</u> iew	Tools Window Help	
1 🗅 🚅 🖯 🖬 🖆	7  🛪   C   💿 🖻 🎯 🚱 🚱 🚱 🔋 📳 🖕	
Host View of LightLink St	ystem 👎 🗙	
🖃 🏪 Inova Solution	15	
📄 📴 jpetersor	ν-2	
Aud	tor	
	nt Manager	
	rnal Input Manager	
i 🗐 👘 🛅 Inpu	it Manager	
*	Avaya CMS RT Socket Agent - Real-Time	
÷	Avaya CMS RT Socket Skill - Historical	
🕂 🏘	Avaya CMS RT Socket Skill - Real-Time	
÷ 🐳	Avaya CMS RT Socket VDN - Real-Time	
🔚 📶 Obje	ect Bus	
🕂 – 🎹 Outj	put Manager	
Publ	isher	
- 🍫 Site	Monitor	
📃 🧏 Syst	em Event Coalescer	
🔄 🕒 Host View 🔴 Glo	bal View	
Inova Lightlink Read	ly 🖺	1.

### 5.2. Administer Inova Historical Interface for VDN Data

The procedure for administering the VDN data source is similar to the procedure described for administering the Skill data source. Follow all the steps in the procedure described in **Section 5.1** with the following exceptions:

• Section 5.1.2 Use a different Name for the VDN data source.

Custom Data Source Properties	×
General Connection Settings SSH	
Name     Avaya CMS RTSocket VDN - Historical       Server ID     1       Preferred ID     23	
Remote Host jpeterson-2	
OK Cancel	Help

• Section 5.1.3 Use the corresponding TCP port number for the Listening Port field. The corresponding TCP port number on the Avaya CMS server used for transferring VDN data is provided by Avaya CSI. For the compliance testing, the port number used was "7003".

Custom Data Source Properties
General Connection Settings SSH
Connection port: TCP/IP Connection
Hostname or IP address: 192.168.199.37
Listening port: 7003
OK Cancel Help

• Section 5.1.4 Select "avaya\_rtsocket\_historical\_vdn.sdf" for the Data format file field and select "avaya\_rtsocket\_historical\_vdn.dss" for the Script file field as shown below.

Custom Data Source Properties	×			
General Connection Settings SSH				
Files Files MUST reside in the Server\srvcfg\dsms directory. Data format file: avaya_rtsocket_historical_vdn.sdf Script file: avaya_rtsocket_historical_vdn.dss				
Edit Browse				
Timing Connect timeout (sec.) : 999999 📫				
Disconnect timeout (sec.) :				
Data timeout (sec.) : 90 📫				
Automatically reconnect if data timeout occurs				
Ad <u>v</u> anced				
OK Cancel Help				

A green checkmark will be displayed by the VDN data source in the **Administrator** screen once the connection to Avaya CMS is established.

🧿 Administrator - LightLink Enterprise Edition	- 🗆 🗙
Eile Edit View Tools Window Help	
- D 🖆 🗔 🔟 🖆 👯 😂 🧿 🖻 🕘 🙆 🚱 🗐 🚱 📳 📒	
Host View of LightLink System 4 ×	
🖃 🏪 Inova Solutions	
📄 📲 jpeterson-2	
Auditor	
🕀 🖳 🔁 Client Manager	
External Input Manager	
🗁 📲 Input Manager	
🚧 Avaya CMS RT Socket Agent - Real-Time	
🕀 🛷 🐐 Avaya CMS RT Socket Skill - Historical	
🕀 🛷 🕸 Avaya CMS RT Socket Skill - Real-Time	
🕀 🛷 🐐 Avaya CMS RT Socket VDN - Historical	
🛨 🛷 Avaya CMS RT Socket VDN - Real-Time	
Object Bus	
🕀 🎹 Output Manager	
Publisher	
Site Monitor	
🦾 🧏 System Event Coalescer	
Dest View Global View	
Inova Lightlink Ready	1.

### 5.3. Administer RT\_Socket Interface for Agent Data

The procedure for administering the Agent data source requires more steps than configuring the Skill and VDN data sources, and includes the following areas:

- Administer Agent data source
- Administer data set contract
- Administer database output device
- Administer database updater

#### 5.3.1. Administer Agent Data Source

The procedure for administering the Agent data source is similar to the procedure described for administering the Skill data source. Follow all the steps in the procedure described in **Section 5.1** with the following exceptions:

• Section 5.1.2 Use a different Name for the Agent data source.

Custom Data Source Properties	×
General Connection Settings SSH	
Name Avaya CMS RT Socket Agent - Historica	
Server ID 1 Preferred ID 28	
Remote Host jpeterson-2	
OK Cancel	Help

• Section 5.1.3 Use the corresponding TCP port number for the Listening Port field. The corresponding TCP port number on the Avaya CMS server used for transferring Agent data is provided by the Avaya CSI group. For the compliance testing, the port number used was "7004".

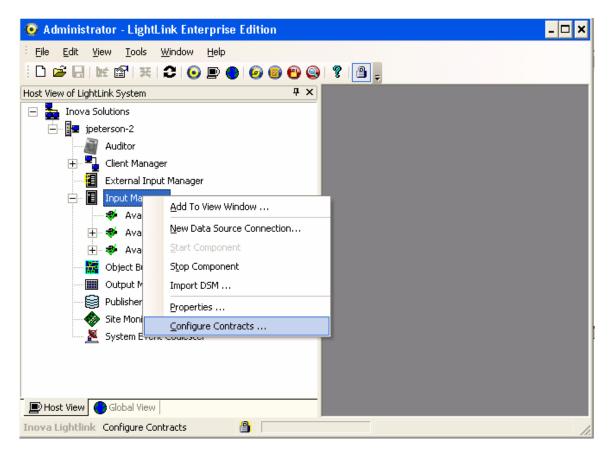
Custom Data Source Properties	×
General Connection Settings SSH	
Connection port: TCP/IP Connection	
Hostname or IP <u>a</u> ddress: 192.168.199.37	
Listening port: 7004	
OK Cancel Help	

• Section 5.1.4 Select "avayaagent\_historicalcontract.sdf" for the Data format file field and select "avayaagent\_historicalcontract.dss" for the Script file field as shown below.

Custom Data Source P	roperties	×	
General Connection S	ettings SSH		
Data format file: av	side in the Server\srvcfg\dsms directory. /ayaagent_historicalcontract.sdf /ayaagent_historicalcontract.dss		
	Edit Browse		
Timing C <u>o</u> nnect timeout (se	ec.): 999999 📫		
Djsconnect timeout	:(sec.): 10 📫		
D <u>a</u> ta timeout (sec.)	: 90 -		
Automatically reconnect if data timeout occurs			
Ad <u>v</u> anced			
	OK Cancel Help		

#### 5.3.2. Administer Data Set Contract

From the **Administrator** screen, right-click on **Input Manager** and select **Configure Contracts** from the pop-up menu to create a new data set contract.



The **Data Set Contract Properties** screen is displayed on top of the **Administrator** screen. Click on **Import From File**.

Data Set Contract Properties	×	
Data Set		
Selected Contract:		
	Edit Contract	
	⊻iew Contract	
	New Contract	
	Delete Contract	
	Import From File	
	Export To File	
Contracts are assigned by data table in the .sdf file for the Data Source, using the DataSetContractTopic entry in the table definition. Use the Settings Tab of the Data Source Properties dialog to access and edit its .sdf file.		
OK Cano	cel Help	

The **Select a Data Set Contract File** screen is displayed. Navigate to the directory "C:\Program Files\Inova Solutions\Server\srvcfg\dsms" and select "avayaagent\_historicalcontract.ini" as shown below. Click **Open**.

Select a Data S	et Contract File	? ×
Look jn:	🔁 dsms 💽 (	G 🤣 📂 🖽 -
My Recent Documents Desktop My Documents	<pre>aspect_310_agent_contract_for_java_simulator_use.i aspect_contract_for_aspect_simulator_use.ini autosim_agent_data_contract.ini autosim_contract.ini avayaagent_historicalcontract.ini avayaagent_realtimecontract.ini avayaRTA_contract.ini dsm_list.ini dsm_list_LWE.ini LL_Genesys_template.ini LL_ININ_template.ini LL_NSI_template.ini LL_RTB_template.ini LL_SYMPOS_template.ini</pre>	ini PNTSymposium_SKILLSET_cc ODBCDSM_contract.ini rosetta.ini smoke.ini Teloquent_BannerView.ini teloquent_schema.ini
My Computer My Network Places	NTMax_ACDDN_contract.ini         Image:	▼ <u>O</u> pen ▼ Cancel

The **Imported Contract Properties** screen is displayed. For the **Topic Name** field, enter "/agenthistorical" as shown below. Retain the default values for the remaining fields, and click **OK**.

Imported Cont	ract Properties - You Must Set the Topic Name	×
Header Attribu	tes Validation Checks	
<u>T</u> opic Name:	/agenthistorica	
Description:	Avaya Historical Contract Data Sets	
	]	
<u>A</u> uthor:	Clint Vess	
<u>C</u> omments:	This specification provides a template to be used as a starting point for	
	configuring what different sources can provide, and which values need defaults.	
	OK Cancel Help	

The Save Contract pop-up screen is displayed next. Click on Yes to save the contract.

Save Cor	ntract? 🔀
?	Do you want to save the contract? Topic: /agenthistorical Description: Avaya Historical Contract Data Sets
	WARNING: Components using this contract must be restarted for changes to take affect.
	<u>Y</u> es <u>N</u> o

At the Data Set Contract Properties screen, click OK.

Data Set Contract Properties	×
Data Set	
Selected Contract:	
/agentrealtime /agenthistorical	Edit Contract
- agent motorical	View Contract
	New Contract
	Delete Contract
	Import From File
	Export To File
Contracts are assigned by data table in the .sdf file Source, using the DataSetContractTopic entry in definition. Use the Settings Tab of the Data Sour dialog to access and edit its .sdf file.	e for the Data the table
OK Can	cel Help

Next, build the connection from the data set contract to the database. Inova LightLink supports any ODBC-compliant database. For compliance testing, a Microsoft Access database was used. From the **Administrative Tools** folder in Microsoft Windows, double-click on **Data Sources** (**ODBC**).

Administrative Tools		- 🗆
e <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> o	ols <u>H</u> elp	
Back 🔹 🕥 🗸 🏂 🔎	Search 😥 Folders 🛛 🔢 🗸	
dress 🦏 Administrative Tools		💌 🄁 Go
	Name 🔺	Size Type
File and Folder Tasks 🛛 🛸	Component Services	2 KB Shortcut
🗐 Rename this file	🛃 Computer Management	2 KB Shortcut
	Data Sources (ODBC)	2 KB Shortcut
Move this file	Event Viewer	2 KB Shortcut
Copy this file	Internet Information Services	2 KB Shortcut
🚳 Publish this file to the Web	Policy Eccal Security Policy	2 KB Shortcut
🖄 E-mail this file	Microsoft .NET Framework 1.1 Configuration	1 KB Shortcut
X Delete this file	ReMicrosoft .NET Framework 1.1 Wizards	2 KB Shortcut
•••	Rerformance	2 KB Shortcut
	Services	2 KB Shortcut
Other Places *		
🚱 Control Panel		
A My Documents		
😡 My Computer		
My Comparent My Network Places		
TY NELWORK Males		
Details ¥		
	•	

In the Create New Data Source screen, select "Microsoft Access Driver (\*.mdb)" as shown below. Click **Finish**.

Create New Data Source	Select a driver for which you want to set up a data so	×
	Name Driver da Microsoft para arquivos texto (*.txt; *.csv) Driver do Microsoft Access (*.mdb) Driver do Microsoft Base (*.dbf) Driver do Microsoft Paradox (*.db ) Driver para o Microsoft Visual FoxPro Microsoft Access Driver (*.mdb) Microsoft Access-Treiber (*.mdb) Microsoft dBase Driver (*.dbf) Microsoft dBase Driver (*.dbf)	$\begin{array}{c} \vee \bullet \\ 4 \\ 4 \\ 4 \\ 4 \\ 6 \\ 4 \\ 4 \\ 4 \\ \bullet \\ \bullet \end{array}$
	< <u>B</u> ack <b>Finish C</b> a	ancel

In the **ODBC Microsoft Access Setup** screen, enter a descriptive **Data Source Name** and then click **Select**.

ODBC Microsoft Access Setup	? ×
Data Source Name: Avaya CMS Agent Database	OK
Description:	Cancel
Database	
	<u>H</u> elp
Select Create <u>R</u> epair Compact	<u>A</u> dvanced
- System Database	
C Database:	
System Database	
	Options>>

In the **Select Database** screen, navigate to the directory where the database table is stored. For the compliance testing, a database table named "avayaagent.mdb" stored in the "C:\Program Files\Inova Solutions\Server\srvcfg\dsms" directory was selected for Microsoft Access. Click **OK**.

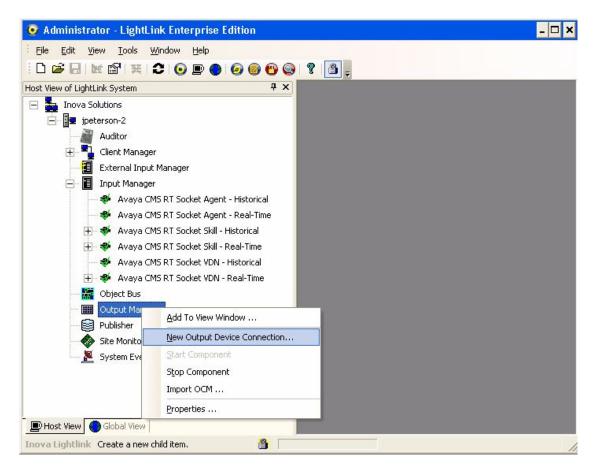
Select Database		×
Database Ngme avayaagent.mdb	Directories: c:\\server\srvcfg\dsms C:\ ▲ C:\ ▲ Program Files C:\ ▲ C:\ A C:\ A	OK Cancel <u>H</u> elp <u>R</u> ead Only <u>E</u> xclusive
List Files of <u>T</u> ype: Access Databases (*.m <b>▼</b>	Drives:	Network

The Agent database should now appear under the **System DSN** tab in the **ODBC Data Source Administrator** screen. Click **OK**.

User DSN System DSN F System Data Sources:	ile DSN   Drivers   Tracing   Connecti	on Pooling About	
Name Avaya CMS Agent Databa LLAuditDB	Driver Microsoft Access Driver (*.mdb) Microsoft Access Driver (*.mdb)	A <u>d</u> d <u>R</u> emove <u>C</u> onfigure	
An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users on this machine, including NT services.			

#### 5.3.3. Administer Database Output Device

From the Administrator screen, right-click on Output Manager and select New Output Device Connection from the pop-up menu to associate the Agent data with an output device.



The New Output Device Connection screen is displayed on top of the Administrator screen. Select Database Publisher Output and click OK.

New Output Device Connection
LightLink Desktop Clients Inova TCP/IP Displays Database Publisher Output XML Publisher Output Email Output LightLink II LED Displays (Serial) LightLink II LED Displays (Serial Simulator) AMS LED Displays
OK Cancel <u>H</u> elp

Solution & Interoperability Test Lab Application Notes ©2008 Avaya Inc. All Rights Reserved. The **Database Publisher Output Properties** screen is displayed next. Select the **General** tab, and enter a descriptive name in the **Name** field.

Database Publisher Output Properties 🛛 🗙
General Settings
Name Avaya Database Publisher
Server ID 1
Preferred ID 5
Remote
Host jpeterson-2
OK Cancel Help

Under the **Settings** tab of the **Data Publisher Output Properties** screen, select the "ODBC DSN" option in the **Connection String Type** section. Click **Browse**.

Database Publisher Output Properties	×
General Settings	
<u>C</u> onnection String: Driver=MSDASQL;	
Connection String Type C User <u>Specified</u> C OLE DB Connection String C OLE DB Data Link File © O <u>D</u> BC DSN	
Options Update <u>T</u> imeout Interval (sec): 30 Disconnect Between <u>U</u> pdates	
OK Cancel Help	

Solution & Interoperability Test Lab Application Notes ©2008 Avaya Inc. All Rights Reserved. The **Select Data Source** screen is displayed. Select the data source corresponding to the Agent database and click **OK**.

Select Data Source				? ×
File Data Source Machine Data	Source			1
Data Source Name Avaya CMS Agent Database dBASE Files Excel Files LLAuditDB MS Access Database Visual FoxPro Database Visual FoxPro Tables	Type System User User System User User User	Description LightLink (MS Access)		
			<u>N</u> ew	
A Machine Data Source is spe "User" data sources are speci sources can be used by all use	ific to a us	er on this machine. "Syste	em'' data	
		OK Cancel	Help	,

In the Login screen, specify the login credentials if required. Click OK.

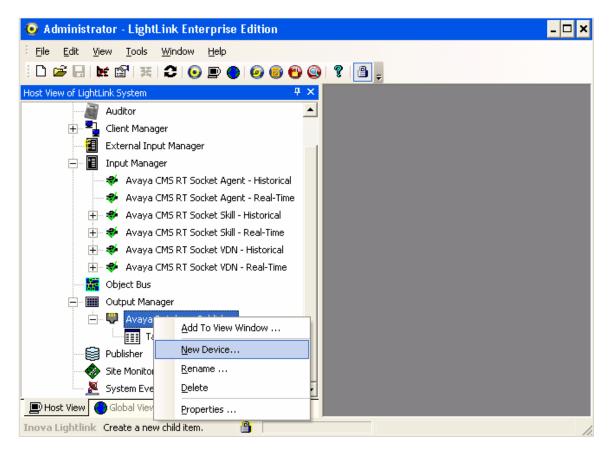
Login	×
Data Source Avaya CMS Agent Database	OK
	Cancel
Login name:	<u>D</u> atabase
Password:	<u>H</u> elp

Return to the Database Publisher Output Properties screen and click OK.

Database Publisher Output Properties	×
General Settings	
Connection String Type C User Specified C OLE DB Connection String C OLE DB Data Link File © ODBC DSN	
Options Update <u>T</u> imeout Interval (sec): 30 Disconnect Between <u>U</u> pdates	
OK Cancel Help	

#### 5.3.4. Administer Database Updater

From the **Administrator** screen, expand **Output Manager**. Right-click on the newly created **Avaya Database Publisher** and select **New Device** from the pop-up menu to create a database updater for the new database output device.



The **Create Database Updater** screen is displayed. Select the radio button for **Create a New Table**, and enter "agenthistorical" for the **New Table Name**. Click **OK**.

Create Database Updater	×
<ul> <li>Create a New Table</li> <li>Use a Stored Procedure</li> <li>Use an Existing Table</li> <li>Copy Table Structure from:</li> </ul>	
Empty Table	
agentrealtime	
New Table <u>N</u> ame: agenthistorical	
OK Cancel <u>H</u> elp	

In the Update Settings screen, select the options shown in the screen below. Click OK.

Update Settings 🛛 🗙									
<ul> <li>Perform Updates</li> <li>On <u>R</u>eception of Contract Data Set Values</li> <li>C <u>Periodically</u></li> <li>C Periodically if <u>D</u>ata Values have Changed</li> </ul>									
C Periodically based on <u>C</u> onditions <u>E</u> dit Conditions									
Update Period: 10 Seconds									
Update Method									
Overwrite Last Values (Snapshot)									
C Append Values (Historical)									
OK Cancel Help									

The **Field Mappings for Table** screen is displayed next and filled in with the table name. Click on the **AutoFill** menu option and select the **Create Columns From Group** in the pop-up menu.

Field Mappings for Table: agent	historical	_ 🗆 🗙								
Update Options Historical	Updates will occur every 10 Seconds if values have ch	anged.								
Maintenance Options Updates will stop being added when there are more than 9999 records.										
AutoFill Configuration Field Ro	w Column Change View	Visible Columns: 0								
Create Columns From Group Fill Row From Group										
Create Table from Data Source Fill Table from Data Source										
Fill Table from Data Source										
☑ When Updating, Only Write Rows w	ith New Data Values	DK Cancel Help								

The Automated Column Creation screen is displayed on top of the Field Mappings for Table screen. Update the options as shown below and then click Select a Group.

Automated Column Creation 🛛 🗙										
Create Columns from the Fields in the Group:										
<u>S</u> elect a Group										
Create Additional Columns For:										
Eecord Number										
Date and Time Stamp										
Group or Row Name										
Location (Source) or Row Name										
Use a Default String Length of: 40										
OK Cancel <u>H</u> elp										

Solution & Interoperability Test Lab Application Notes ©2008 Avaya Inc. All Rights Reserved. The **Create Columns from Group** screen is displayed next. Expand **Contract Data Sets** and select "/agenthistorical" as shown below. Click **OK**.

Create Columns from Group:
<ul> <li>LightLink System</li> <li>Avaya CMS RT Socket Agent - Historical</li> <li>Avaya CMS RT Socket Agent - Real-Time</li> <li>Avaya CMS RT Socket Skill - Historical</li> <li>Avaya CMS RT Socket Skill - Real-Time</li> <li>Avaya CMS RT Socket VDN - Historical</li> <li>Avaya CMS RT Socket VDN - Real-Time</li> <li>Contract Data Sets</li> <li>[agenthistorica]</li> <li>[agentrealtime]</li> </ul>
Refresh OK Cancel

Click OK in the Automated Column Creation screen.

Automated Column Creation 🗙										
Create Columns from the Fields in the Group:										
/agenthistorical										
Create Additional Columns For:										
<u>R</u> ecord Number										
Date and Time Stamp										
Group or Row Name										
Location (Source) or Row Name										
Use a Default String Length of: 40										

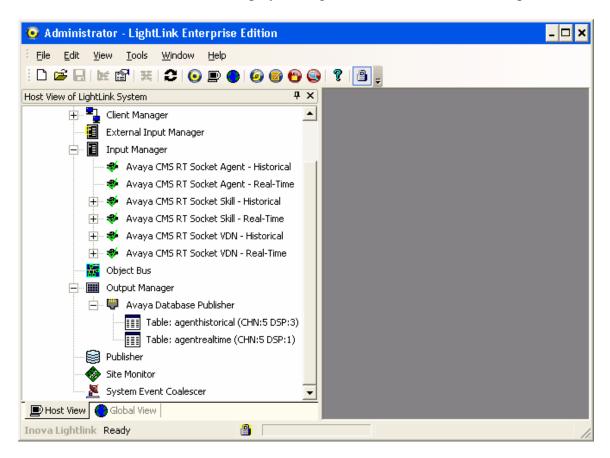
Solution & Interoperability Test Lab Application Notes ©2008 Avaya Inc. All Rights Reserved. The **Field Mappings for Table** screen is updated with the columns for the database as shown below. Select the **Period** column and right-click to select **Edit Column** from the pop-up menu.

Field Maj	ppings	for Ta	ible:	ag	entl	hist	ori	ica	ι																						-	
Update Options Snapshot Updates will occur when Contract Data Set Values are received.																																
Mainter	nance Op	tions	N	o ma	ainter	hanc	e c	occi	urs (	whe	en d	oing	g Sr	пар	sho	ŧυ	pda	ates	:.													
<u>A</u> utoFill	<u>C</u> onfig	uration	Eie	ield <u>R</u> ow Column Change <u>Vi</u> ew Vi <u>s</u> ible Columns: 41 💼																												
Ti Pe Al	Lc Ex S	ił D. Ir	In	In A	Ar A(	Ał	Ał	A(	н	St	A١	AL.	Αl	AL	Αl	Αl	Αl	Αl	Αl	Αl	Αl	Αl	о	Ri /	Al	Αl	Αl	Αl	A(	A(	A( A	.( Di I
7a 7a Ti Pe 7a [R] [S] A(	/a /a / Lc []N S	ε /ε /. ε /ε Ιr ił D. π	a /a n In N IT	/a / In A	'a /a Ar A(	Za At IIN	/ε At	/ε Α( ΙΤ	/ε Ηι Π	/ε St	/ε Α\ ΙΤ	/ε Al , IT	/ε Al IT	/ε Al IT	/ε Al IT	/a Al IT	/ε Al	/ε Al	/ε Al	/ε Al	/ε Al	/ε Al IT	/ε Οι ΓΤ	/a . Ri /	/ε Δί	/a Al	∕a Al	/ε Al	7a A( ,	/ε Α( ,	7a 7 A( A	a /a . ( Di I [ [IN ]
11910	Į.	1			. [1	[III	L'	L)	.'		.'	.,	.,	.'	.,	.'	0	L'	11	L1	.'	.,	.,	.'	μη.	.'	Į.	0	ţii	.,		1.00
•																																►
☑ <u>W</u> hen	Updating	), Only '	Write	Row	vs wi	th N	ew	Dat	a V	alu	es										0	ĸ				Car	nce	I			<u>H</u> el	p

The **Column Configuration** screen is displayed on top of the **Field Mappings for Table** screen. Select the radio button for **Data Field, Expression, or Constant** and check **Is a Key Field.** Repeat this step for the **ACD**, **LogID** and **Skill** fields. Together, the Period, ACD, LogID, and Skill fields comprise the key for each database row.

Column Configuration 🛛 🗙
Storage Type:       Image: Constant       Im
Column <u>N</u> ame: Period <u>S</u> et From a Data Field Name
Data Type: STRING  Width: 40
OK Cancel <u>H</u> elp

Solution & Interoperability Test Lab Application Notes ©2008 Avaya Inc. All Rights Reserved. The Administrator screen will now display the "agenthistorical" table in the left pane.



# 6. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The feature testing focused on verifying Inova LightLink parsing and displaying of ACD/Skill, VDN, and Agent data from Avaya CMS.

The serviceability testing focused on verifying the ability of Inova LightLink to recover from adverse conditions, such as restarting the RT\_Socket interface interfaces.

## 6.1. General Test Approach

The feature test cases were performed manually. Incoming calls were made to the monitored Skill and VDN groups to enable data streams to be sent to LightLink. Manual call controls and work mode changes from the Agent telephones were exercised as necessary to populate specific fields in the data streams.

The serviceability test cases were performed manually by stopping and restarting the RT\_Socket interface, and by disconnecting and reconnecting the LAN cable to the LightLink server.

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

### 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 Communication Manager and Inova LightLink.

### 7.1. Verify Avaya Communication Manager

Verify the status of the processor interface channel by using the "status processor-channels n" command, where "n" is the processor channel number from **Section 3.6**. Verify that the **Session Layer Status** is "In Service", and that the **Socket Status** is "TCP connected", as shown below.

Verify the status of the TCP/IP link number by using the "status link n" command, where "n" is the TCP/IP link number assigned to the C-LAN used to connect to the Avaya CMS server from **Section 3.5**. Verify that the **Link Status** is "connected", and that the **Service State** is "in-service/active", as shown below.

```
status link 2
                                                                Page 1 of
                                                                              5
                               LINK/PORT STATUS
                 Link Number: 2
                Link Status: connected
                  Link Type: ethernet
                  Link Name: Clan2
      Service Port Location: 02A0217
Service Port Data Extension: 24981
              Service State: in-service/active
                  Node Name: clan2
          Source IP Address: 192.45.100.70
                Subnet Mask: 255.255.255.0
          Broadcast Address: 192.45.100.255
           Physical Address: 00:04:0d:4b:28:08
                    Enabled? yes
           Maintenance Busy? no
            Active Channels: 1
```

## 7.2. Verify Avaya Call Management System

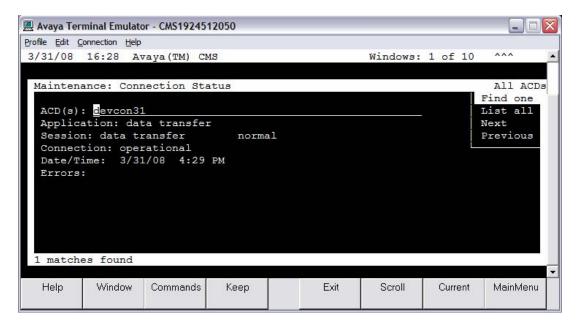
From the **MainMenu**, verify the status of the connection to Avaya Communication Manager by selecting **Maintenance**  $\rightarrow$  **Connection Status**, as shown below.

📃 Avaya Term	ninal Emulato	or - CMS19245	12050					
Profile Edit Co	nnection <u>H</u> elp							
3/31/08	16:30 A	vaya(TM) Cl	MS			Windows:	0 of 10	^^^ ·
Call C Custom User P	s> nary> ions> Administr enter Adr Reports ermission	ministrati¢ ≻	on>					
Mainte		Back Up D Restore D Backup/Re Printer A Connectio ACD Statu Archiving ACD Admin Error Log	ata store Dev: dministrat n Status s Status Log Repo:	tion				
Help	Window	Commands	Кеер		Exit	Scroll	Current	MainMenu

Enter the corresponding **ACD**(**s**) number, which is provided by the Avaya CSI group. For the compliance testing, the corresponding switch connection is ACD system "3". Tab over to **Find one** and press **Enter**.

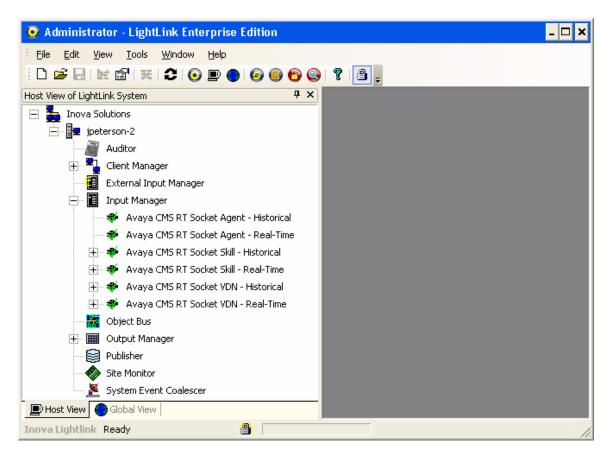
💻 Avaya Terr	minal Emulato	or - CMS19245	12050					X
Profile Edit C	onnection <u>H</u> elp	·						
3/31/08	16:32 Av	yaya(TM) Cl	MS		Windows:	1 of 10	~~~	±
Maintena ACD(s): Applica Session Connect Date/Ti Errors:	: <u>3</u> ation: n: zion: ime:	ection St	atus				All ACD: Find one List all Next Previous	
Help	Window	Commands	Кеер	Exit	Scroll	Current	MainMenu	-

The switch connection status is displayed. Check the status in the **Session** and **Connection** fields, as shown below.



### 7.3. Verify Inova LightLink

From the Administrator screen, verify that Avaya CMS RT Socket Agent – Historical, Avaya CMS RT Socket Skill – Historical, and Avaya CMS RT Socket VDN – Historical under Input Manager in the left pane are all up and running with a green check mark as shown below. Note that different names may be used for these interfaces.



#### 7.3.1. Verify Historical Skill Data

From the Administrator screen, expand on Avaya CMS RT Socket Skill – Historical under Input Manager. A list of fields that can be viewed from the Skill data streams is displayed in the left pane. Initially, the right pane will be empty (not shown). Click on File from the top left of the screen, and select New to create a new window for viewing.

🧿 Administrat	tor - LightLi	ink Enterprise Edition -	[Histo	rical Skill]	- 🗆 ×
Eile Edit Vie	w <u>T</u> ools <u>y</u>	<u>W</u> indow <u>H</u> elp			_ @ ×
🗅 🚅 🔒   🛤	£ 😭 🔀	2 💿 🖻 🌒 🙆 🧭	🖰 🕥	? 🕘 🖕	
Host View of LightLi	ink System		Ψ×	• Historical Skill	4 Þ ×
	🐳 🛛 Avaya Ci	MS RT Socket Agent - Real-Tin	ne 🔺	Item Name	Item ID
	🐳 Avaya Ci	MS RT Socket Skill - Historical		PreIntSkill:280:Acceptable	/SRV=1/SRC=26/FLI
	🕂 🐨 🌃 PreD	)aySkill:280		PreIntSkill:280:ACD Calls	/SRV=1/SRC=26/FLI
	🕂 🐨 🔣 PreD	DaySkill:281		PreIntSkill:280:ACD Time	/SRV=1/SRC=26/FLI
	🕂 🔟 PreD	DaySkill:510		PreIntSkill:280:ACW IN Time	/SRV=1/SRC=26/FLI
		DaySkill:520		PreIntSkill:280:ACW OUT Time	/SRV=1/SRC=26/FLI
	1 1	ntSkill:280		PreIntSkill:280:ACW Time	/SRV=1/SRC=26/FLI
		PreIntSkill:280:Acceptable		PreIntSkill:280:Answer Time	/SRV=1/SRC=26/FLI
		PreIntSkill:280:ACD Calls		PreIntSkill:280:Avg Handle Time	/SRV=1/SRC=26/FLI
		PreIntSkill:280:ACD Time		PreIntSkill:280:Avg Position Staffed	/SRV=1/SRC=26/FLI
		PreIntSkill:280:ACW IN Time			
		PreIntSkill:280:ACW OUT Tim	е		
		PreIntSkill:280:ACW Time			
		PreIntSkill:280:Answer Time			
		PreIntSkill:280:Avg Handle Ti			
	🖻	PreIntSkill:280:Avg Position S	taff 🚽		
<u> </u>					
🗩 Host View 🧲	Global View			•	•
Inova Lightlink	Ready	<b>a</b>			1

The **View Window Attributes** screen is displayed on top of the **Administrator** screen. Enter a descriptive name for the view window and click **OK**.

View Window Attributes											
Enter the name of the View Window											
Historical Skill											
OK Cancel	<u>H</u> elp										

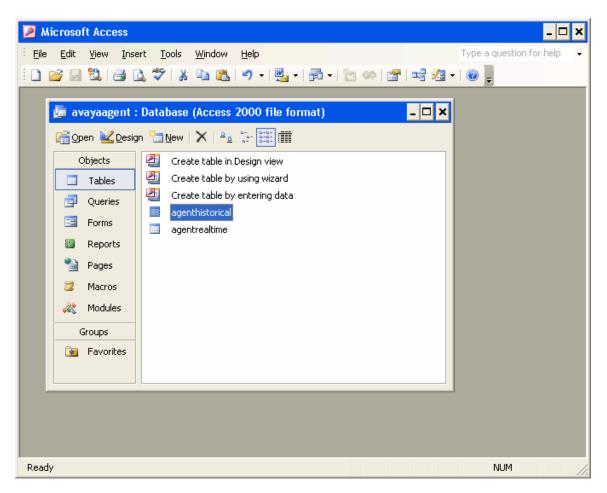
An empty **verify data** screen is displayed (not shown). Click and drag data fields under **Avaya CMS RT Socket Skill** – **Historical** from the left pane into the new **verify data** window in the right pane. Data values from subsequent data streams will then be displayed into the right pane as shown in the Administrator screen above.

### 7.3.2. Verify Historical VDN Data

Follow the procedures in **Section 7.3.1**, to expand **Avaya CMS RT Socket VDN** – **Historical** and create a new window for viewing the selected VDN data.

#### 7.3.3. Verify Historical Agent Data

From the LightLink server, navigate to the database table used for storing the Agent data in Microsoft Access. Double-click on the "agenthistorical" database table to display the Agent data received by LightLink from Avaya CMS.



The Agent data is displayed as shown in the screen below. The Agent data will be populated in real-time as call center activity takes place. To view the latest Agent data, re-open the "agenthistorical" table.

e <u>E</u> dit <u>V</u> iew <u>I</u> nse			ndow <u>H</u> elp		Type a question	
- 🛃 🖏 🖪 🖸	🗸 💫 🛛 🗶 🖓	□ <u></u> ] 17   <u>8</u>   <u>2</u>	, 👬 🛛 🏂 🏹	A No. 100 A N	2 - 🕼 🗐	-
agenthistorical :	Table				-	. 🗆 🗙
TimeStamp	Period	ACD	LogID	Extension	Skill	-
3/28/2008 8 P	reDay	3	29101	20101	280	
008 8:06:56 PM P	reDay	3	29102	20102	280	
008 8:06:56 PM P	reDay	3	29103	20103	281	
008 8:06:56 PM P	reDay	3	29104	20104	280	
008 8:06:56 PM P	reDay	3	29104	20104	281	
008 8:06:56 PM P	reDay	3	35511	24511	510	
008 8:06:56 PM P	reDay	3	35513	24513	520	
008 8:06:56 PM P	reDay	3	35514	24514	520	
008 8:06:56 PM P	reInt	3	29101	20101	280	
008 8:06:56 PM P	reInt	3	29102	20102	280	
008 8:06:56 PM P	reInt	3	29103	20103	281	
008 8:06:56 PM P	reInt	3	29104	20104	280	
008 8:06:56 PM T	oday	3	29101	20101	280	
008 8:06:56 PM T	oday	3	29102	20102	280	
008 8:06:56 PM T	oday	3	29103	20103	281	
008 8:06:56 PM T	oday	3	29104	20104	280	
008 8:06:56 PM T	oday	3	29104	20104	281	
008 8:06:56 PM T	oday	3	35511	24511	510	
008 8:06:56 PM T	oday	3	35513	24513	520	_
	<u></u>	l⊾¥l-€-oo	0554.4	2454.4	C00	
cord: 🚺 🔳	1 • •	▶ <b>*</b> of 20	<u> </u>			

## 8. Support

Contact Inova Solutions for technical support and for other display options such as real-time and historical dashboards, digital signage and desktop products.

- Web: <u>www.inova-support.com</u>
- **Phone:** (888) 637-1080
- Email: <a href="mailto:support@inovasolutions.com">support@inovasolutions.com</a>

## 9. Conclusion

These Application Notes describe the configuration steps required for Inova LightLink to successfully interoperate with Avaya Communication Manager using the Inova Historical interface of Avaya Call Management System. All feature and serviceability test cases were completed successfully.

## 10. References

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

- Administrator Guide for Avaya Communication Manager, Document 03-300509, Issue 3.1, February 2007, available at <a href="http://support.avaya.com">http://support.avaya.com</a>.
- Avaya Call Management System Switch Connections, Administration, and Troubleshooting, Document ID 07-601582, February 2006, available at <u>http://support.avaya.com</u>.
- Inova LightLink Middleware Installation Instructions, available at <u>http://www.inova-support.com</u>.

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