Inova Solutions
A Geomant Company

LightLink Product Profile

Avaya Aura Contact Center RTD

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1. Introduction

Inova Solutions is a global provider of real-time reporting, alerting and display solutions for contact centers. Inova helps customers identify and measure contact center KPIs, quickly react when KPIs fall out of compliance, and gain insight into the relationship between the call center and overall organizational performance.

Inova's contact center solutions are built on Inova LightLink®, a powerful middleware that extracts, calculates, and unifies data from multiple contact center and enterprise operating systems and prepares it for display to an array of output options. Visual output options include LCD and LED digital signage and wallboards, agent desktop applications, and web-based dashboards. LightLink also allows you to program KPI thresholds that trigger an alert, such as a message, text, email, color change, or audio notification, ensuring that you're instantly aware of changing conditions that need your attention. With these capabilities, LightLink-based solutions provide a foundation for contact center performance management by managing your center's data, unifying your reporting, and ensuring the right people receive the right information when and how they want to see it.

Inova's real-time solutions extend Avaya's reporting value and allow you to:

- Deliver unified real-time reporting across Avaya Aura® Call Center Elite and multi-vendor platforms
- Create custom KPIs that map to your organizational goals
- Integrate enterprise data to gauge the impact of your contact center on the top line

1.1. Executive Summary

The Inova LightLink interface to Avaya Aura Contact Center (formerly known as Nortel Contact Center Manager Server and Symposium Call Center Server) enables LightLink to retrieve an extensive array of data for real-time processing and display. LightLink can connect to Avaya Aura and many other ACD products in the event of a technology refresh.

Inova LightLink communicates with Avaya Aura CCMS through Avaya Aura's Real-Time Data (RTD) Toolkit. LightLink queries the Avaya Aura tables, located on the CCMS server, using the RTD SDK which encloses an API, via standard TCP/IP connections. This process allows current call data to be displayed on any of the output devices supported by the LightLink system.

2. Data Source Specifications

2.1. Available Report Tables

The Avaya Aura CCMS v6.4 RTD toolkit can be redistributed by Inova; this is the only toolkit that is supported with LightLink versions 5.11 and newer. Refer to Figure 1 for the tables that are available from the RTD interface.

Interval to date statistics (starting from 100)

Table Name	Table #
Application	100
Skillset	101
Agent	102
Nodal	103
IVR	104
Route	105

Moving window statistics

Table Name	Table #
Application	106
Skillset	107
Agent	108
Nodal	109
IVR	110
Route	111

Figure 1

The customer must tell Inova if they want to monitor Interval-to-date, Moving Window, or both for their selected data fields.

The following three tables include the data fields commonly monitored by LightLink. However, not all of these data fields in each of these tables are retrieved by the default LightLink configuration; the few data fields NOT retrieved by default have their Descriptions prefaced with an asterisk.

2.2. Application Table

Column Description	Column ID	Comments
Application ID	NIrtd_APPL_APPL_ID	KEY – A unique number to identify an application.
Calls Abandoned[a]	NIrtd_APPL_ CALLS_ABAN	Number of calls abandoned
Calls Abandoned After Threshold[a]	NIrtd_APPL_CALLS_ ABAN_AFT_THRESHOLD	Number of calls abandoned after reaching service level threshold
Calls Abandoned Delay[a]	NIrtd_APPL_ CALLS_ABAN_DELAY	Total delay of all calls abandoned
Calls Answered[a]	NIrtd_APPL_CALLS_ANS	Number of calls answered

Column Description	Column ID	Comments
Calls Answered After Threshold[a]	NIrtd_APPL_CALLS_ ANS_AFT_THRESHOLD	Number of calls answered after reaching service level threshold
Calls Answered Delay[a]	NIrtd_APPL_ CALLS_ANS_DELAY	Total delay of all calls answered
Calls Waiting[a]	NIrtd_APPL_CALLS_ WAITING	Number of calls currently waiting
Max Waiting Time[a]	NIrtd_APPL_MAX_ WAITING_TIME	Amount of time the oldest call waiting has been in system
Waiting Time[a]	NIrtd_APPL_ WAITING_TIME	Total amount of time all calls in the system have been waiting
Calls Answered Delay At Skillset	NIrtd_APPL_CALLS_ ANS_DELAY_AT_ SKILLSET	Delay of all calls from the time they are queued against the first skillset until they are answered
Calls Given Termination Treatment	NIrtd_APPL_CALLS_ GIVEN_TERMINATE	Calls terminated by: Given Force Busy, Force Overflow, Force Disconnect, Route to, or Default Reached a Non-ISDN trunk while being routed to a remote site Transferred in an IVR session Networked out through MACD queue
Calls Offered[a]	NIrtd_APPL_CALLS_ OFFER	Number of calls offered
Time Before Interflow (formerly Delay Before Interflow)	NIrtd_APPL_DELAY_ BEF_INTERFLOW	Amount of time a call spent in the Master Application before interflowing to Primary Application
Network Out Calls[b]	NIrtd_APPL_NETWRK_ OUT_CALLS	Number of calls networked out
Network Out Calls Abandoned[b]	NIrtd_APPL_NETWRK_ OUT_ABAN	Number of outgoing network calls abandoned at destination sites
Network Out Calls Abandoned Delay[b]	NIrtd_APPL_NETWRK_ OUT_ABAN_DELAY	Total delay experienced by calls that were networked out and abandoned at destination sites
Network Out Calls Answered[b]	NIrtd_APPL_NETWRK_ OUT_ANS	Number of calls networked out and answered
Network Out Calls Answered Delay[b]	NIrtd_APPL_NETWRK_O UT_ANS_DELAY	Total delay experienced by all calls networked out and answered
Network Out Calls Waiting[b]	NIrtd_APPL_NETWRK_ OUT_CALLS_WAITING	Number of local CDN call requests currently waiting at destination site(s)
***Network Out Calls Requested**	Nlrtd_APPL_NETWRK_ OUT_CALLS_REQ	The number of network calls that were sent to another site

Table 1: Application Table

[a] *This statistic includes calls that originally entered the Contact Center Manager Server at this site and calls that were received at this site from the Contact Center Network. Delays are calculated from the time the call enters this site if it is a local CDN call or from the time the call is logically queued to this site if it is a network call.*

[b] *Network Out statistics refer to calls that originally entered the Contact Center Manager Server at this site but were sent to another site on the Contact Center network. Delays for Network Out statistics are calculated from the time the call arrives at the source site to the time the call is treated (either answered, abandoned, or terminated) at the destination site.*

2.3. **Skillset Table**

Column Description	Column ID	Comments
Skillset ID	NIrtd_SKLST_ SKILLSET_ID	KEY
Agents Available	NIrtd_SKLST_AGENT_ AVAIL	Number of agents waiting for a call and logged into this skillset
Agents In Service	NIrtd_SKLST_AGENT_ IN_SERVICE	Number of agents logged in for this skillset
Agents on Skillset Calls	NIrtd_SKLST_AGENT_ ON_ICCM_CALL	Number of agents currently on local and network CDN calls queued to this skillset
Agents Not Ready	NIrtd_SKLST_AGENT_ NOT_READY	Number of agents currently in the Not Ready state logged into this skillset
Calls Waiting	NIrtd_SKLST_CALL_ WAIT	Number of calls waiting for an agent in this skillset
Longest Waiting Time Since Last Call	NIrtd_SKLST_ LONGEST_WAIT_ TIMES_SINCE_LAST_ CALL	Longest wait time for all idle agents waiting to answer a call in this skillset
Max Waiting Time	NIrtd_SKLST_MAX_ WAIT_TIME	Amount of time oldest call currently waiting has been in skillset
Waiting Time	NIrtd_SKLST_TOT_ WAIT_TIME	Total time all currently waiting calls in the skillset have been waiting
Expected Wait Time	NIrtd_SKLST_EXPECT_ WAIT_TIME	Time a new call is expected to wait before being answered by an agent with this skillset
Calls Answered After Threshold	NIrtd_SKLST_CALL_ ANS_AFT_ THRESHOLD	Number of calls answered after waiting equal to or longer than the Service Level Threshold for this skillset

Column Description	Column ID	Comments
Longest Waiting Time Since Login	NIrtd_SKLST_ LONGEST_WAIT_ TIMES_SINCE_LOGIN	Longest waiting time of all idle agents who are currently waiting to answer calls for this skillset; this time is since login
Agents on DN Calls	NIrtd_SKLST_AGENT_ ON_DN_CALL	Number of agents logged in for this skillset on a DN call
Skillset State	NIrtd_SKLST_ SKILLSET_STATE	State of the skillset (In Service or Out of Service)
Agents Unavailable	NIrtd_SKLST_AGENT_ UNAVAILABLE	Number of agents currently unavailable to take calls, based on: (#Agents in service) – (#Agents Available)
Network Calls Waiting	NIrtd_SKLST_ NETWRK_CALL_ WAIT	Number of incoming network CDN calls currently waiting at this skillset
Network Calls Answered	NIrtd_SKLST_ NETWRK_CALL_ANS	Number of incoming network CDN calls answered by an agent assigned to this skillset
Total Calls Answered Delay	NIrtd_SKLST_TOT_ ANS_DELAY	Total delay experienced by calls answered by an agent in this skillset from the time they were queued until they were answered (not applicable to ACD and NACD calls)
Total Calls Answered	NIrtd_SKLST_TOT_ CALL_ANS	Total calls answered by an agent within this skillset
Agent On Network Skillset Call	NIrtd_SKLST_AGENT_ ON_NETWRK_ICCM_ CALL	Number of agents who are logged in for this Skillset and are currently handling network CDN calls assigned to this skillset
Agent On Other Skillset Call	NIrtd_SKLST_AGENT_ ON_OTHER_ICCM_ CALL	Number of agents who are logged in for this skillset but are active on other skillsets' calls
Agent On ACD-DN Call	NIrtd_SKLST_AGENT_ ON_ACD_CALL	Number of agents who are logged in for this Skillset but are currently handling ACDDN calls
Agent On NACD-DN Call	NIrtd_SKLST_AGENT_ ON_NACD_CALL	Number of agents who are logged in for this Skillset but are currently handling NACD-DN calls
Calls Offered	NIrtd_SKLST_CALL_ OFFERED	Number of calls queued to this skillset; they might or might not be answered by this skillset

Column Description	Column ID	Comments
***Network Calls Offered**	Nlrtd_SKLST_ NETWRK_CALL_ OFFERED	The number of incoming network CDN calls queued to this skillset
SkillsetAbandon	NIrtd_SKLST_CALL_ ABANDON	Number of calls that were abandoned by callers while being queued to this skillset
SkillsetAbandonDelay	NIrtd_SKLSET_CALL_ ABANDONDELAY	Amount of delay experienced by calls that were abandoned by callers while being queued to this skillset; the time from when the call was queued until it was dequeued
SkillsetAbandonDelay AfterThreshold	NIlrtd_SKLSET_CALL_ ABANDONDELAY_ AFTERTHRESHOLD	Number of calls whose SkillsetAbandonDelay values were greater than or equal to the service level threshold
Queued Call Answered	NIrtd_SKLSET_ QUEUED_CALL_ANS	The number of queued calls that were answered for the skillset within the last interval-to-date or moving window

Table 2: Skillset Table

2.4. Agent Table

Column Description	Column ID	Comments
Agent ID	NIrtd_AGENT_AGENT _ID	A unique number to identify an agent. String value, KEY
State[a, c]	NIrtd_AGENT_STATE	State the agent is currently in; see below for complete description
Supervisor ID	NIrtd_AGENT_ SUPERVISOR_ID	Byte (17) String
Time In State	NIrtd_AGENT_TIME_ IN_STATE	Total time agent has been in the indicated state (excluding DN states)
Answering Skillset	NIrtd_AGENT_ANS_ SKILLSET	ID of the skillset in which the agent is currently answering a skillset call
DN In Time In State	Nlrtd_AGENT_DN_IN_ TIME_IN_STATE	Length of time the agent has been answering incoming DN calls
DN Out Time In State	Nlrtd_AGENT_DN_ OUT_TIME_IN_STATE	Length of time agent has been making outgoing DN calls
Supervisor User ID	NIrtd_AGENT_ SUPERVISOR_USER_ ID	BYTE (16) Buffer

Column Description	Column ID	Comments
Position ID	NIrtd_AGENT_ POSITION_ID	Unique identifier of the agent's position ID
Not Ready Reason Code High and Not Ready Reason Code Low	Nlrtd_AGENT_NOT_ READY_REASON	Not Ready Reason Code entered by the agent
***DN Out Call Number High and DN Out Call Number Low**	Nlrtd_AGENT_DN_ OUT_CALL_NUM	The DN number dialed by an agent
Skillset Calls Answered	Nlrtd_AGENT_SKLST_ CALL_ANS	Number of local and incoming network CDN calls answered by an agent
DN InCall Answered	Nlrtd_AGENT_DN_IN_ CALL_ANS	Number of DN calls answered by an agent
DN OutCall Made	Nlrtd_AGENT_DN_ OUT_CALL_	Number of DN calls made by an agent
***Answering Application**	Nlrtd_AGENT_ANS_A PP	A unique number to identify an application
Answering CDN Low and Answering CDN High	Nlrtd_AGENT_ANS_C DN	A special directory number that allows incoming calls to be queued at a CDN when they arrive at the switch
***Answering DNIS Low and Answering DNIS High**	Nlrtd_AGENT_ANS_D NIS	The phone number dialed by the incoming caller

Table 3: Agent Table

[a]DMS connectivity differences: The following states are not available for DMS connectivity because hold event and consultation event are not reported:

- Consultation with out caller
- CDN call on hold and DN In/Out call on hold
- CDN call on hold and DN In/Out call active and on hold
- ACD call on hold and DN In/Out call active and on hold
- Not Ready and DN In/Out call on hold and active

The following agent state combinations are only valid for DMS connectivity because agents can be shown talking (active) on both the SDN and the In calls key (hold events are not reported by the DMS Interface):

- CDN call active and DN In/Out call active
- ACD call active and DN In/Out call active

Agent is shown as DN Out Call active, by only pressing the acquired SDN key. Agent is not shown on DN call if any of the non-acquired SDN keys are used.

[b]For M1 connectivity, an agent can be assigned multiple DN keys. Therefore an agent can be in a state that they are answering a DN call as well as placing another DN call on hold.

[c]Possible values of "State" for agents:

- Undefined – the stat of agent is unknown
- Busy
- Not Ready – Not Ready key activated
- Waiting for CDN call
- Reserved for a call
- Skillset call active
- NACD call active
- ACD call active
- DN In/Out call active
- CDN call on hold
- NACD call on hold
- ACD call on hold
- DN In/Out call on hold
- DN In/Out call on hold and active[b]
- CDN call active and DN In/Out call on hold
- NACD call active and DN In/Out call on hold
- ACD call active and DN In/Out call on hold
- CDN call on hold and DN In/Out call active
- CDN call on hold and DN In/Out call on hold
- CDN call on hold and DN In/Out call active and on hold
- NACD call on hold and DN In/Out call active
- NACD call on hold DN In/Out call active and on hold
- ACD call on hold and DN In/Out call active
- ACD call on hold DN In/Out call on hold
- ACD call on hold DN In/Out call active and on hold
- Not Ready and DN In/Out call active
- Not Ready and DN In/Out call on hold
- Not Ready and DN In/Out call on hold and active
- Consultation with out caller
- CDN call presented
- Emergency
- Walkaway or Walkaway combination with other states

There are three additional tables available in the Avaya Aura Contact Center RTD interface which we do not typically report: the Nodal table, IVR table, and Route table. Since they are not typically used in LightLink installs, their contents will not be covered in this document. Please refer to Avaya's document "Avaya Aura Contact Center RTD API Programmers Guide" for the data reported from those tables.

3. Prerequisites

Inova Solutions requires the customer to provide the following information:

- IP Address/Host Name of the CCMS (not CCMA).
- User credentials for access. These are created on the CCMS, not the CCMA (thin-client credentials won't work).
- Tables required; Inova can monitor from 12 tables. Refer to Figure 1 for a list of the tables available from AACC CCMS / RTD.
- Specific data fields required. The tables in Section 2 show the data fields associated with each table from Figure 1, available in either/both Moving Window and/or Interval-to-date.
- Numbers and names of data required.
- The customer must tell Inova if they want to monitor Interval-to-date, Moving Window, or both for their selected data fields.

4. Product Specifications

4.1. Capacity and Limitations

LightLink can monitor up to 12 tables from AACC CCMS /RTD.

4.2. Compatibility

LightLink uses the Avaya Aura CCMS v6.4 RTD toolkit. According to Avaya, this toolkit version is backwards compatible to all versions of Avaya Aura and (previously) Nortel Symposium.

4.3. Licensing

The Avaya Aura CCMS v6.4 RTD toolkit can be redistributed by Inova; this is the only toolkit that is supported with LightLink versions 5.11 and newer.

The Avaya Aura RTD interface in LightLink is a separately licensed ACD connector.

4.4. Firewall

No firewall changes are expected to be needed for LightLink to connect to the Avaya Aura CCMS RTD.

