

## Avaya Solution & Interoperability Test Lab

# Application Notes for Integrating CA *e*Health for Voice with Avaya Modular Messaging - Issue 1.0

## **Abstract**

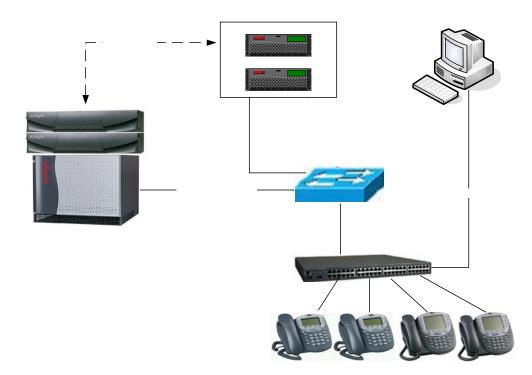
These Application Notes describe the configuration steps required to allow CA *e*Health for Voice to monitor and analyze the Avaya Modular Messaging system by collecting performance data, events and administration information. The *e*Health for Voice performs data collection, storage, analysis of performance data and allows reports to be generated that can be useful to all levels of organization. Information in these Application Notes has been obtained through Developer*Connection* compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

## 1. Introduction

These Application Notes describe the configuration steps required to allow CA *e*Health for Voice to monitor and analyze the Avaya Modular Messaging system by collecting performance data, events and administration information. The *e*Health for Voice can be a centralized data collection system for a network of Avaya Modular Messaging systems. The *e*Health for Voice performs data collection, storage, analysis of performance data and allows reports to be generated that can be useful for various levels of organization.

The *e*Health for Voice supports data collection from Avaya Modular Messaging systems that consists of Avaya Message Application Server (MAS) and Avaya Message Storage Server (MSS). The eHealth for Voice Modular Messaging module is designed to collect key operational data elements for alarms, events, configuration, system and user traffic, and presents a unified and comprehensive reporting platform. The eHealth for Voice uses LDAP and HTTP protocols to collect data elements from Avaya MSS, and native Win32 and ODBC to collect data elements from Avaya MAS.

The *e*Health for Voice automates data collection by allowing a schedule to be setup for each data element. The *e*Health for Voice automatically retrieves and processes data from all servers in the Avaya Modular Messaging system simultaneously and then "pushes" reports and other information to destinations including email and web servers. This information is used for management reporting, capacity planning, grade of service tabulation, and system optimization.



**Figure 1: Compliance Test Configuration** 

**Figure 1** displays the network configuration that was utilized for compliance testing. In the test configuration Avaya Modular Messaging system uses an H.323 IP trunk to communicate with Avaya Communication Manager. Note that the *e*Health for Voice server requires a static IP address. Also, the Microsoft SQL server needs to be in place prior to installing *e*Health for Voice software. In the configuration, all of the *e*Health for Voice software components were installed on the same server with the Microsoft SQL database.

# 2. Equipment and Software Validated

The following equipment and software/firmware were used for the test configuration.

Equipment	Software/Firmware
Avaya S8700 Servers	Avaya Communication Manager 4.0, Load
	730.5
Avaya G650 Media Gateway	-
<ul> <li>TN2312BP IPSI Circuit Packs</li> </ul>	HW02 FW031
<ul> <li>TN799DP C-LAN Circuit Pack</li> </ul>	HW01 FW017
TN2302AP MedPro Circuit Packs	HW03 FW093
Avaya Modular Messaging system	Modular Messaging 3.1 Patch 6
Avaya S3400 MAS	
Avaya S3400 MSS	
Avaya IP telephones:	
• 4610SW	2.8 (H.323)
• 4620SW	2.8 (H.323)
CA eHealth for Voice running on IBM eServer	<i>e</i> Health for Voice 4.0.1
xSeries 306	Microsoft Windows 2003 Server - Enterprise
	Edition
	Microsoft SQL Sever 2000 Service Pack 1 -
	8.0.2039 with Hotfix 2040

# 3. Configure Avaya MSS

This section covers the configuration of Avaya MSS. The Avaya MSS web interface was used to configure the Avaya MSS. This web interface can be accessed by entering <a href="http://<IP address of MSS">http://<IP address of MSS</a>. This configuration covers the following areas:

- Administer trusted server on MSS
- Administer local administrator on MSS

In order to allow data polling and collection on Avaya MSS server, the *e*Health for Voice server is administer as a trusted server. Also, a local administrator account is administered for the *e*Health for Voice application server. It is assumed that the Avaya Modular Messaging system is operational with subscribers administration in place.

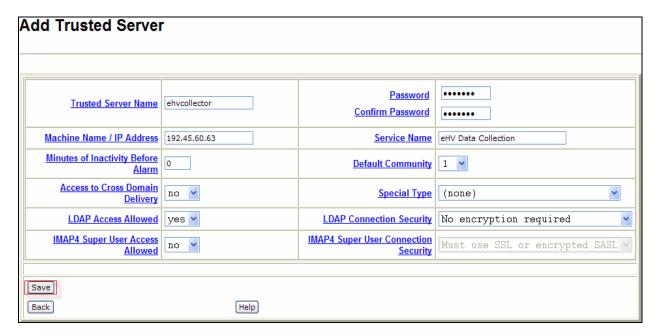
#### 3.1. Administer Trusted Server on MSS

In the left pane, navigate to **Messaging Administration** → **Trusted Servers**. In the right pane, the **Manage Trusted Servers** window appears. Click **Add a New Trusted Server**.

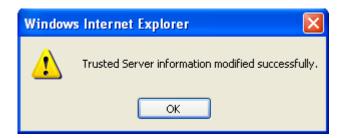


In the right pane, the **Add Trusted Server** window appears. Enter values for the following fields. Click **Save**.

- Trusted Server Name: Enter a descriptive name for the *e*Health for Voice server.
- **Password:** Enter a desired password.
- **Confirm Password:** Enter the password to confirm.
- Machine Name / IP Address: Enter the IP address of the *e*Health for Voice server.
- **Service Name:** Enter a descriptive service name.

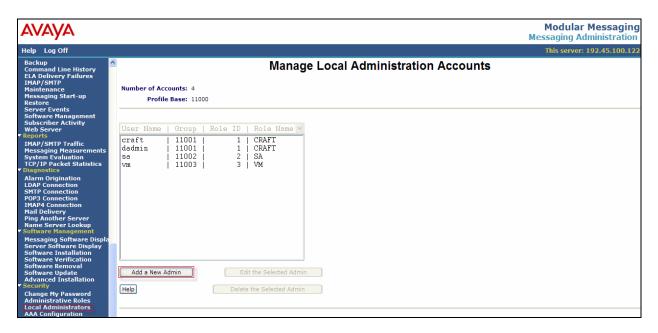


In the Windows Internet Explorer pop up, click OK.



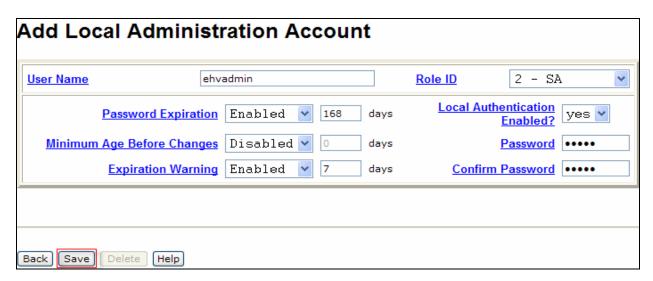
#### 3.2. Administer Local Administrator on MSS

In the left pane, navigate to **Security** → **Local Administrators**. In the right pane, the **Manage Local Administration Accounts** window appears. Click **Add a New Admin**.



In the right pane, the **Add Local Administration Account** window appears. Enter values for the following fields. Click **Save**.

- User Name: Enter a desired user name.
- **Password:** Enter a desired password. Note that by default this password expires after 168 days.
- **Confirm Password:** Enter the password to confirm.



# 4. Avaya MAS

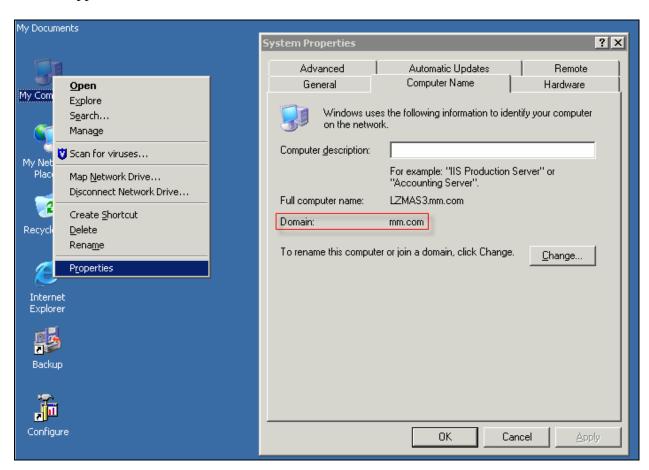
This section covers the obtainment of required information from Avaya MAS. This section covers the following areas:

- Obtain Modular Messaging Voice Domain name
- Administer system administrator account

In order to allow data polling and collection on Avaya MAS, the *e*Health for Voice server needs to know the Avaya Modular Messaging Voice Mail Domain and a system administrator account in Windows domain. The integration between Avaya Modular Messaging system and Avaya Communication Manager are assumed to be in place.

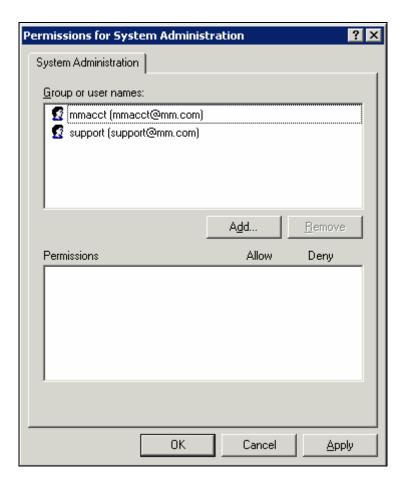
## 4.1. Obtain Modular Messaging Voice Mail Domain Name

From Avaya MAS, right click **My Computer** and click **Properties**. The **System Properties** window appears. Note the domain name in the **Domain** field. Click **Cancel** to close this window.



## 4.2. Administer System Administrator Account

A system administrator account is administered for the *e*Health for Voice to access ODBC on Avaya MAS. In the testing, an existing system administrator account was used. To obtain existing system administrator accounts, start the **Voice Mail System Configuration** by launching **Programs**  $\rightarrow$  **Avaya Modular Messaging**  $\rightarrow$  **Voice Mail System Configuration**. Expand **Security** and double click on **System Administration** (not shown here). The **Permissions for System Administration** window appears. The *e*Health for Voice uses an account in this group to access Avaya MAS. In the test configuration, the "mmacct" account was used.



# 5. Configure eHealth for Voice Server

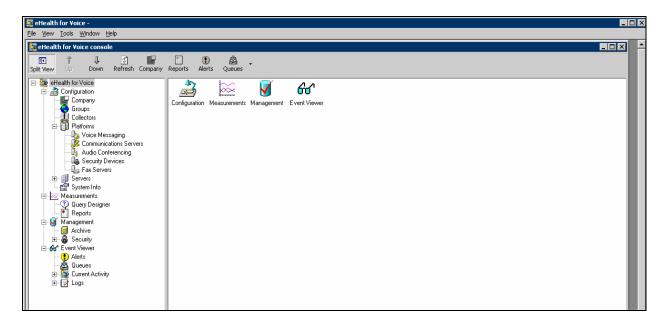
This section covers configuration required on the eHealth for Voice server for data collection. This configuration covers the following areas:

- Administer eHealth for Voice console
- Administer company name
- Administer group name
- Administer collector
- Install license for Modular Messaging module
- Administer voice messaging node for Avaya MSS
- Administer voice messaging node for Avaya MAS
- Activate data elements collection
- Start eHealth services

The *e*Health for Voice server requires a static IP address, and installation of Microsoft SQL server prior to the installation of the *e*Health for Voice application. It is assumed that *e*Health for Voice installation was completed successfully and linked to the Microsoft SQL database. Refer to *e*Health for Voice documentation for detailed installation information.

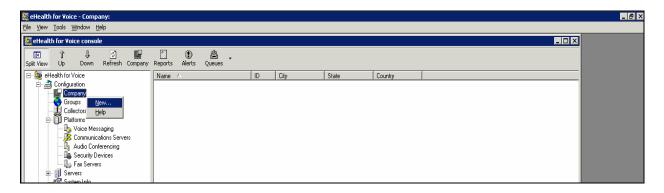
## 5.1. Administer eHealth for Voice Console

From the *e*Health for Voice server, start the eHealth for Voice console by launching **All Programs**  $\rightarrow$  eHealth for Voice  $\rightarrow$  eHealth for Voice.

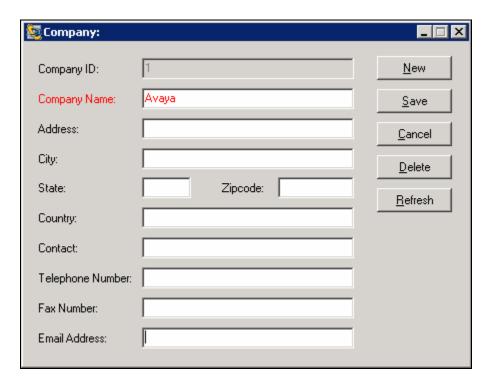


# 5.2. Administer Company Name

In the left pane of **eHealth for Voice console**, right click on **Company** to get the drop down list. Click **New...** from the list.

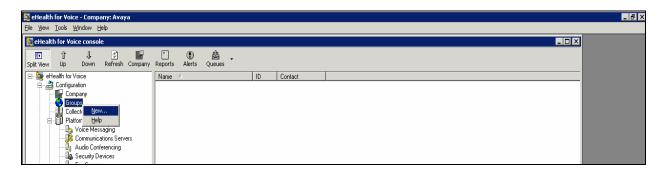


The **Company:** window appears. Enter a company name in the **Company Name** field. Click **Save**.

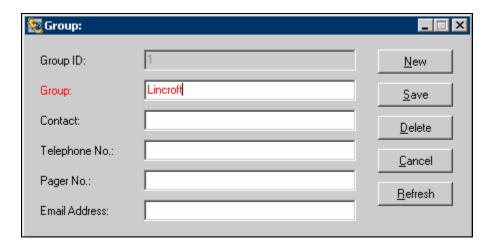


# 5.3. Administer Group Name

In the left pane of **eHealth for Voice console**, right click on **Groups** to get the drop down list. Click **New...** from the list.

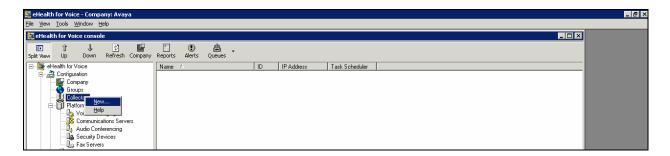


The **Group:** window appears. Enter a descriptive group name in the **Group** field. Click **Save**.

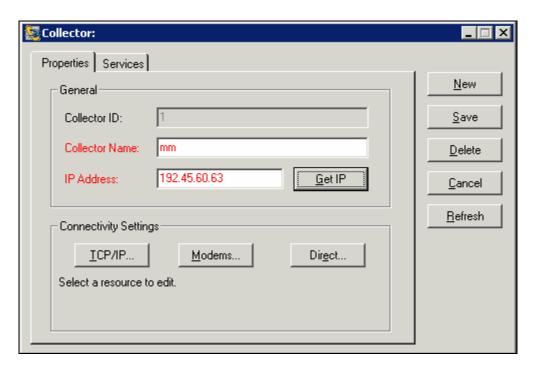


## 5.4. Administer Collector

In the left pane of **eHealth for Voice console**, right click on **Collector** to get the drop down list. Click **New...** from the list.



The **Collector:** window appears. Enter a descriptive collector name in the **Collector Name** field. Click **Get IP** to populate the **IP Address** field with the IP address of the *e*Health for Voice server. Click **TCP/IP...**.

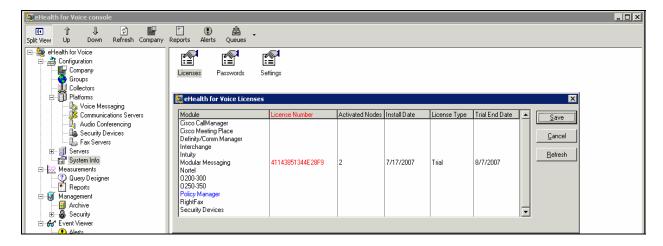


The **IP** Settings window appears. Enter a desired name in the **IP** Group Name field. Note that the IP group name must be unique across all collectors. Enter the maximum number of connections allowed at a time in the **Max** # of **IP** Connections field. Click **Save**.



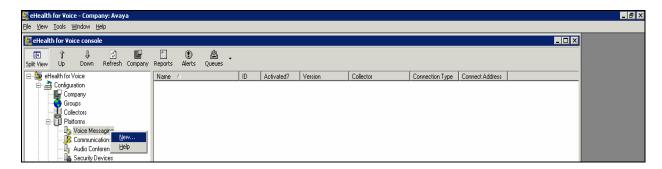
# 5.5. Install License for Modular Messaging Module

In the left pane of **eHealth for Voice console**, select **System Info**. Double click on **Licenses** in the right pane. The **eHealth for Voice Licenses** window appears. Click in the **License Number** column to enter the license for **Modular Messaging** provided by CA. Click **Save**.



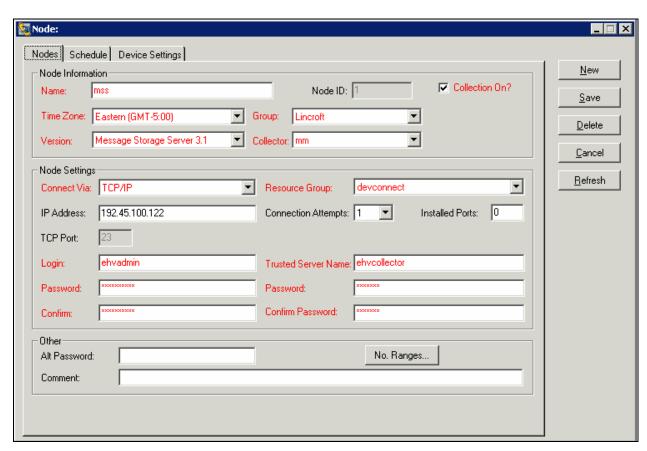
# 5.6. Administer Voice Messaging Node for Avaya MSS

In the left pane of **eHealth for Voice console**, right click on **Voice Messaging** to get the drop list. Click **New...**from the list.



The **Node:** window appears. Enter values for the following fields. Click **Save**.

- Name: Enter a descriptive name.
- **Time Zone:** Select a time zone, in which the node resides, from the drop down list. For data integrity, it is crucial that the time zone be set correctly to match the time zone of the node.
- Group: Select a group name administered in Section 5.3 from the drop down list.
- Version: Select "Message Storage Server 3.1".
- Collector: Select a group name administered in Section 5.4 from the drop down list.
- **Resource Group:** Select the IP group name administered in **Section 5.4** from the drop down list.
- **IP Address:** Enter the IP address of Avaya MSS.
- **Connection Attempts** Select desired connection attempts. Note that in a large environment more than 1 connection attempts may degrade performance.
- Login: Enter the user name administered in Section 3.2.
- **Password:** Enter the password administered in **Section 3.2**.
- **Confirm:** Enter the password to confirm.
- Trusted Server Name: Enter the trusted server name administered in Section 3.1.
- **Password:** Enter the password administered in **Section 3.1**.
- **Confirm:** Enter the password to confirm.

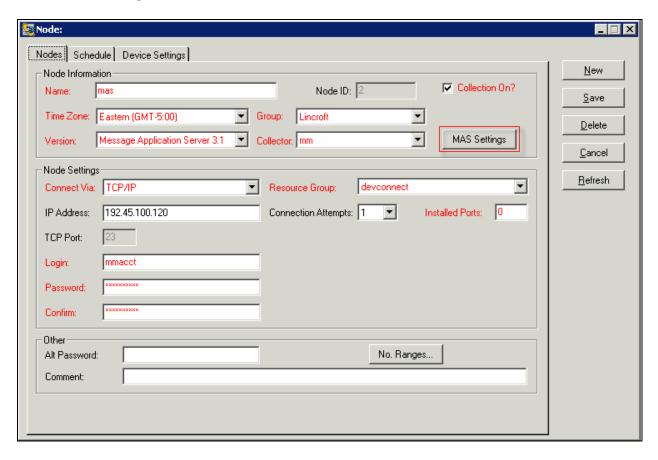


# 5.7. Administer Voice Messaging Node for Avaya MAS

Follow steps from **Section 5.6** to add a new node and enter values as shown below:

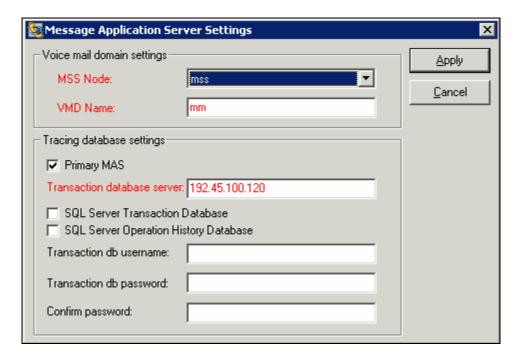
- **Version:** Select "Message Application Server 3.1".
- **IP Address:** Enter the IP address of Avaya MAS.
- Login: Enter the user name verified in Section 4.2.
- **Password:** Enter the password associated with user name "mmacet".
- **Confirm:** Enter the password to confirm.

#### Click **MAS Settings**.



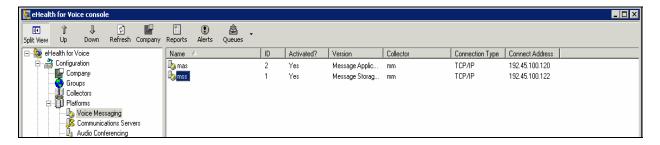
The **Message Application Server Settings** window appears. Enter values for the following fields. Click on **Apply**.

- MSS Node: Select the MSS node name administered in Section 5.6.
- VMD Name: Enter the Voice Mail Domain name verified in Section 4.1.
- **Primary MAS:** Check the checkbox to notify *e*Health for Voice that this is the primary MAS node. The primary MAS server would have the MM Tracing Server service running, and collects transaction information from all MAS in the voice mail domain. Note that if this check box is not checked, the *e*Health for Voice cannot obtain transaction information.
- **Transaction database server:** Enter the IP address of Avaya MAS that is running MM Tracing Server service.



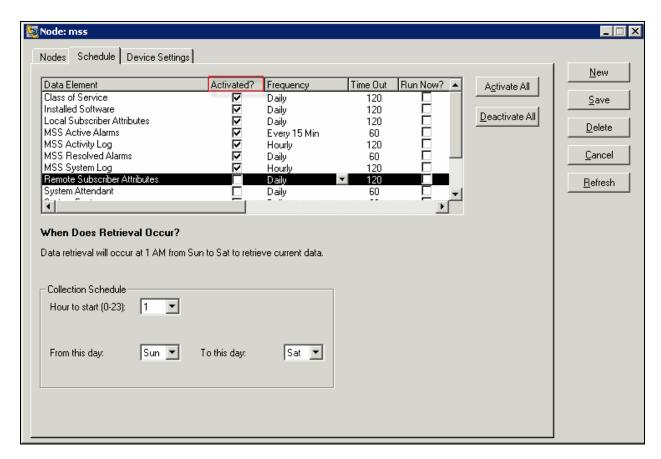
#### 5.8. Activate Data Elements Collection

In the left pane of **eHealth for Voice console**, when **Voice Messaging** is selected all the configured nodes appear in the right pane.



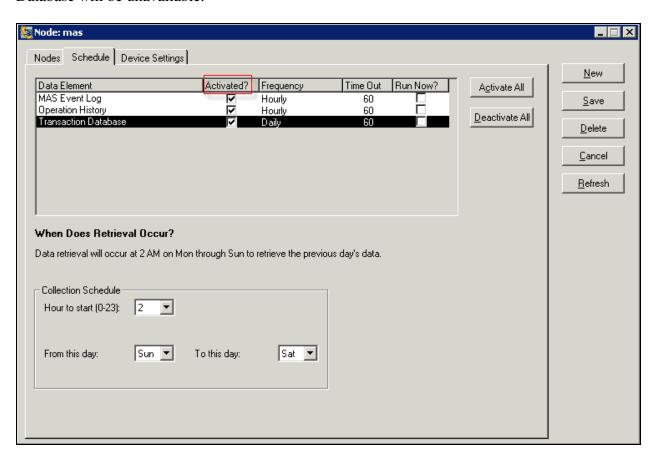
## **5.8.1. Avaya MSS**

Double click the MSS node name administered in **Section 5.6**. The **Node: mss** window appears. Select the **Schedule** tab to select data elements to be collected and to define collection frequency. Note that the available data elements will depend on the particular platform. Check the **Activated** checkboxes for the data elements that need to be collected. Click **Save**.



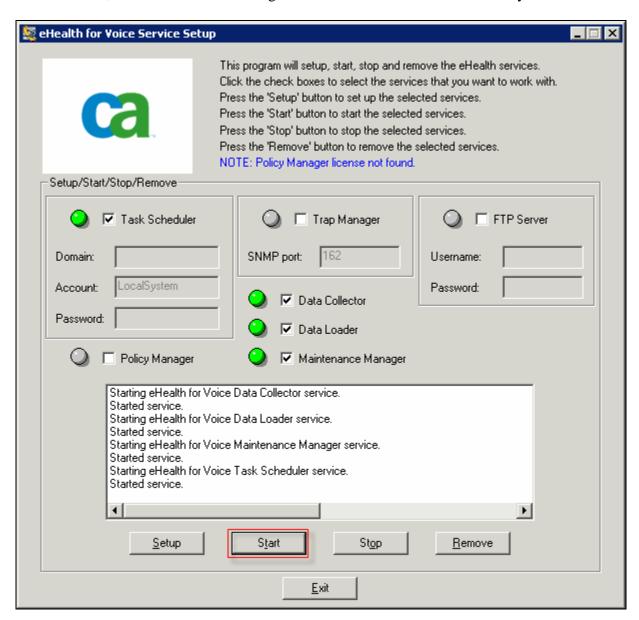
## 5.8.2. Avaya MAS

Double click the MAS node name administered in **Section 5.7**. The **Node: mas** window appears. Select the **Schedule** tab to select data elements to be collected and to define collection frequency. Check the **Activated** checkboxes for the data elements that need to be collected. Click **Save**. If the MAS node is not designated as the **Primary MAS**, then Operation History and Transaction Database will be unavailable.



#### 5.9. Start eHealth Services

To start the eHealth services, navigate to All Programs → eHealth for Voice → Service Setup. The eHealth for Voice Service Setup window appears. Check the checkboxes as shown below and click Start, all the buttons becomes green if services are started successfully.



# 6. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. Feature testing focused on verifying *e*Health for Voice collecting data from Avaya Modular Messaging as scheduled for each data element. Also, feature testing included verifying the collected data and compared the data with Avaya Modular Messaging. Serviceability testing focused on verifying that the *e*Health for Voice server can resume data collection after failure recovery.

## 6.1. General Test Approach

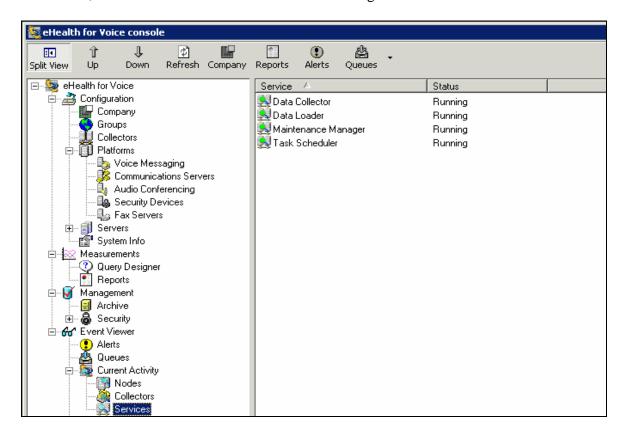
The general test approach was to set data collection frequency for Avaya MSS and MAS data elements on *e*Health for Voice and verify the operation of task scheduler, data collector, and data loader. The collected data were verified by using reports from *e*Health for Voice and Avaya Modular Messaging. Serviceability testing scenarios included rebooting *e*Health for Voice and Avaya MAS/MSS, disconnecting the Ethernet cable of *e*Health for Voice and Avaya MAS/MSS, and taking action such as leaving voice mail during the interval to generate data.

#### 6.2. Test Results

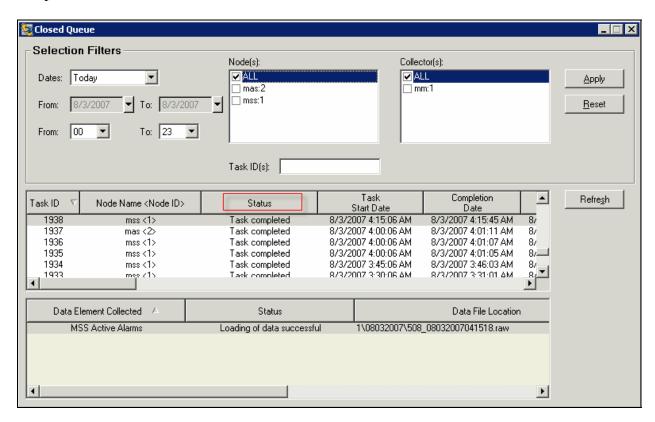
All feature and serviceability test cases were completed successfully.

## 7. Verification

This section describes verification steps that can be used on the *e*Health for Voice server to verify processes status, data collection status, and data validation. In the left pane of **eHealth for Voice console**, expand **Current Activity** and select **Services** to verify the status **Data Collector**, **Data Loader**, and **Task Scheduler** services are "Running".

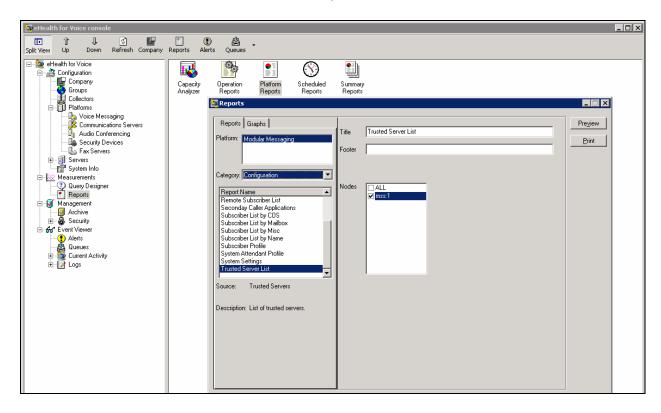


To verify data collection, select **Queues** in the left pane. Double click on **Closed** (not shown here). The **Closed Queue** window appears. Verify that the **Status** of each task displays "Task completed".

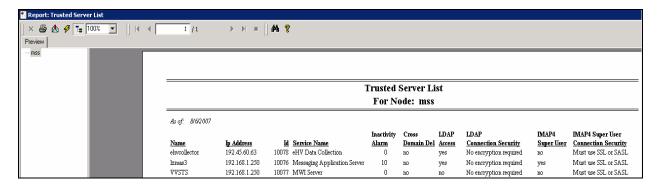


To validate data, generate a report from *e*Health for Voice and compare the data with Avaya Modular Messaging. Note that the data collection has to be completed successfully before generating a report for any data element. For example, these Application Notes show data comparison for a listing of the trusted servers. In the left pane of **eHealth for Voice console**, select **Reports**. Double click **Platform Reports**. Make the following selections and click **Preview**.

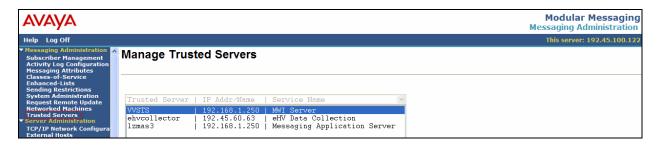
- Platform: Select "Modular Messaging".
- **Category:** Select "Configuration" from the drop down list.
- **Report Name:** Select "Trusted Server List".
- Nodes: Check the checkbox for the node, where the trusted server list is obtained.



The **Reports: Trusted Server List** window appears. Verify the **Name**, **Ip Address**, and **Service Name** field values with the trusted server list from Avaya Modular Messaging.



To get the trusted server list on Avaya Modular Messaging, use the Avaya MSS web interface and in the left pane navigate to **Messaging Administration** → **Trusted Servers**. The **Manage Trusted Servers** appears in the right pane. Verify the **Trusted Server**, **IP Addr/Name**, and **Service Name** field values with the **Trusted Server List** report from *e*Health for Voice.



# 8. Support

Technical support on CA eHealth for Voice can be obtained through the following:

• Web: www.supportconnect.ca.com

Phone: (888) 832-4340Email: concord@ca.com

## 9. Conclusion

These Application Notes describe the configuration steps required for *e*Health for Voice 4.0.1 to interoperate with the Avaya Modular Messaging 3.1 system. The *e*Health for Voice supports data collection from the Avaya Modular Messaging system that consists of Avaya MAS and Avaya MSS. The eHealth for Voice Modular Messaging module is designed to collect key operational data elements for alarms, events, configuration, system and user traffic, and presents a unified and comprehensive reporting platform. The *e*Health for Voice successfully collected data from the Avaya Modular Messaging system as scheduled. In addition, data validation completed successfully using reports from *e*Health for Voice and Avaya MSS/MAS.

## 10. Reference

Product documentation for Avaya products may be found at <a href="http://support.avaya.com">http://support.avaya.com</a>.

• Avaya Modular Messaging Release 3.1 Documentation - Modular Messaging with the Avaya MAS and MSS ONLY (CD Collections), February 2007.

Product documentation for CA products may be found on the software installation CD.

- *eHealth for Voice Platform Guide Avaya Modular Messaging Servers*, Document ehvamm1012007724, July 2007.
- *eHealth for Voice Technote 421* Guide to the Installation of Microsoft SQL Server 2000, January 3, 2006.
- *eHealth for Voice Operation Guide*, Document ehvog1022006b15, November 2006.

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