



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Tone Software ReliaTel SNMP Management Application with Avaya Modular Messaging - Issue 1.0

Abstract

These Application Notes detail the configuration steps to enable interoperability between Avaya Modular Messaging and Tone Software ReliaTel SNMP management application. Information in these Application Notes has been obtained through *DeveloperConnection* compliance testing. Testing was conducted via the *DeveloperConnection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

Supporting and maintaining network infrastructure equipment is an important issue many network administrators face. As IP telephony continues to grow and become more commonplace, the requirement to manage the IP telephony infrastructure becomes a critical component within any network. Tone Software ReliaTel is an SNMP alarming and monitoring system that provides network administrators the capability to support their network infrastructure.

1.1. Network Diagram

The network diagram shown in **Figure 1** illustrates the testing environment used for compliance testing. The network consists of Avaya Modular Messaging and Tone Software ReliaTel SNMP management software. Avaya Modular Messaging sends SNMP version 2c traps to the Tone Software ReliaTel SNMP management station. Tone Software ReliaTel needs to be connected to a network that has IP connectivity to the systems that are to be supported. In the sample configuration, Tone Software ReliaTel was on the same IP subnet as Avaya Modular Messaging but this is not a requirement.

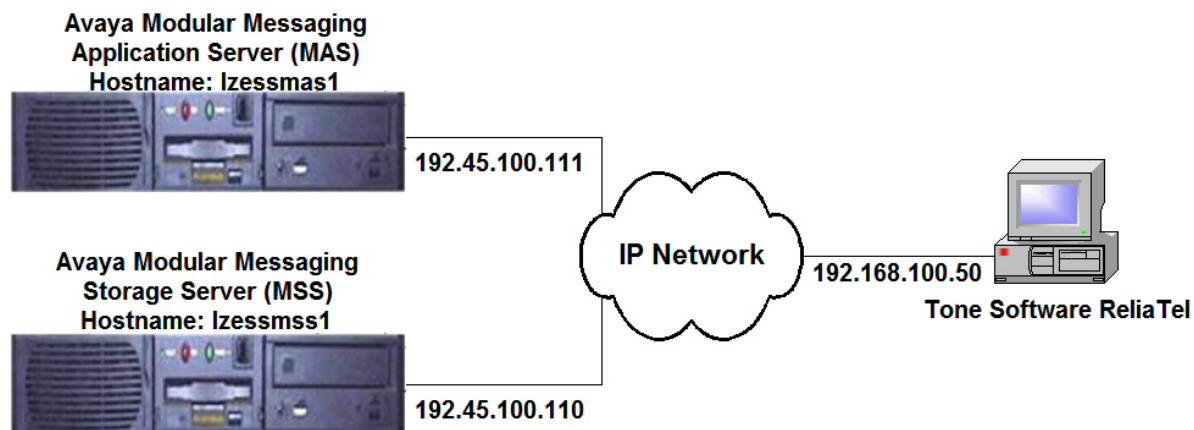


Figure 1: Sample Network Diagram

2. Equipment and Software Validated

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


Equipment	Software
Avaya Modular Messaging	3.1.1
Tone Software ReliaTel	2.4.0

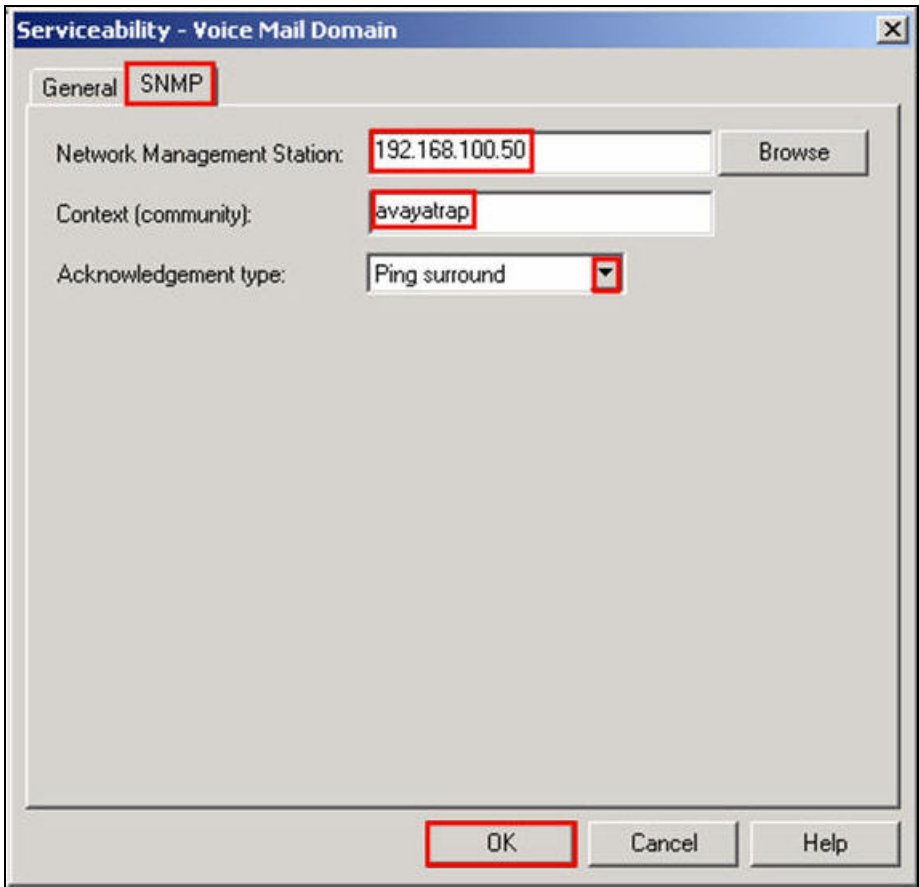
3. Avaya Modular Messaging SNMP Configuration

Enabling SNMP on Avaya Modular Messaging requires two configurations. One configuration administers the SNMP configuration on Avaya Modular Messaging – Messaging Application Server (MAS) and the other on Avaya Modular Messaging – Messaging Storage Server (MSS). The configuration done on Avaya Modular Messaging MAS is administered using the Windows application interface and the configuration for Avaya Modular Messaging MSS is administered through a web interface.

3.1. Configuring SNMP on Avaya Modular Messaging MAS

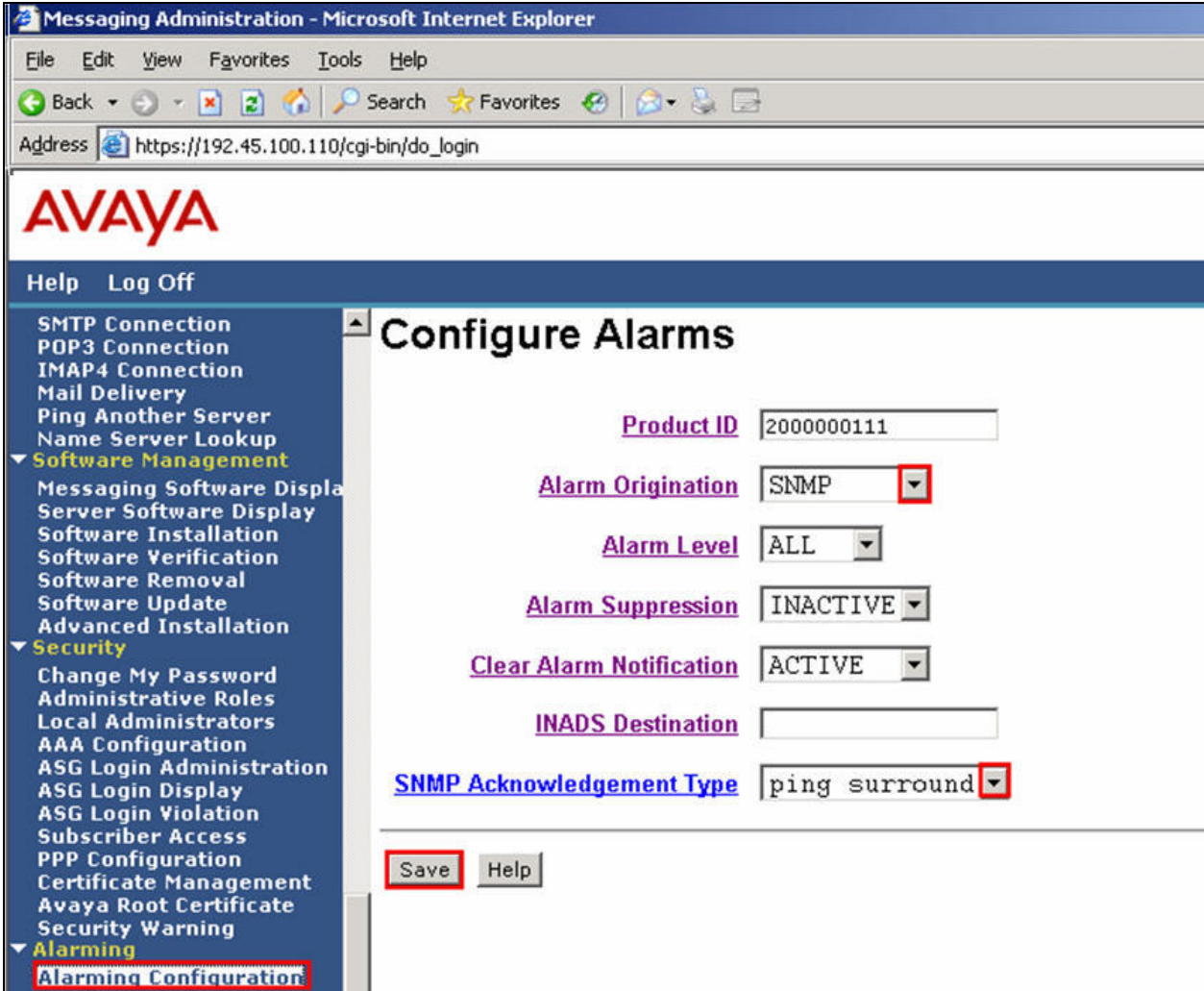
The SNMP configuration for Avaya Modular Messaging MAS is administered through a monitor, keyboard and mouse directly connected to the server running Avaya Modular Messaging MAS. Appropriate logon credentials are required in order to access the system. See **Section 9 [1]** for information about accessing Avaya Modular Messaging.

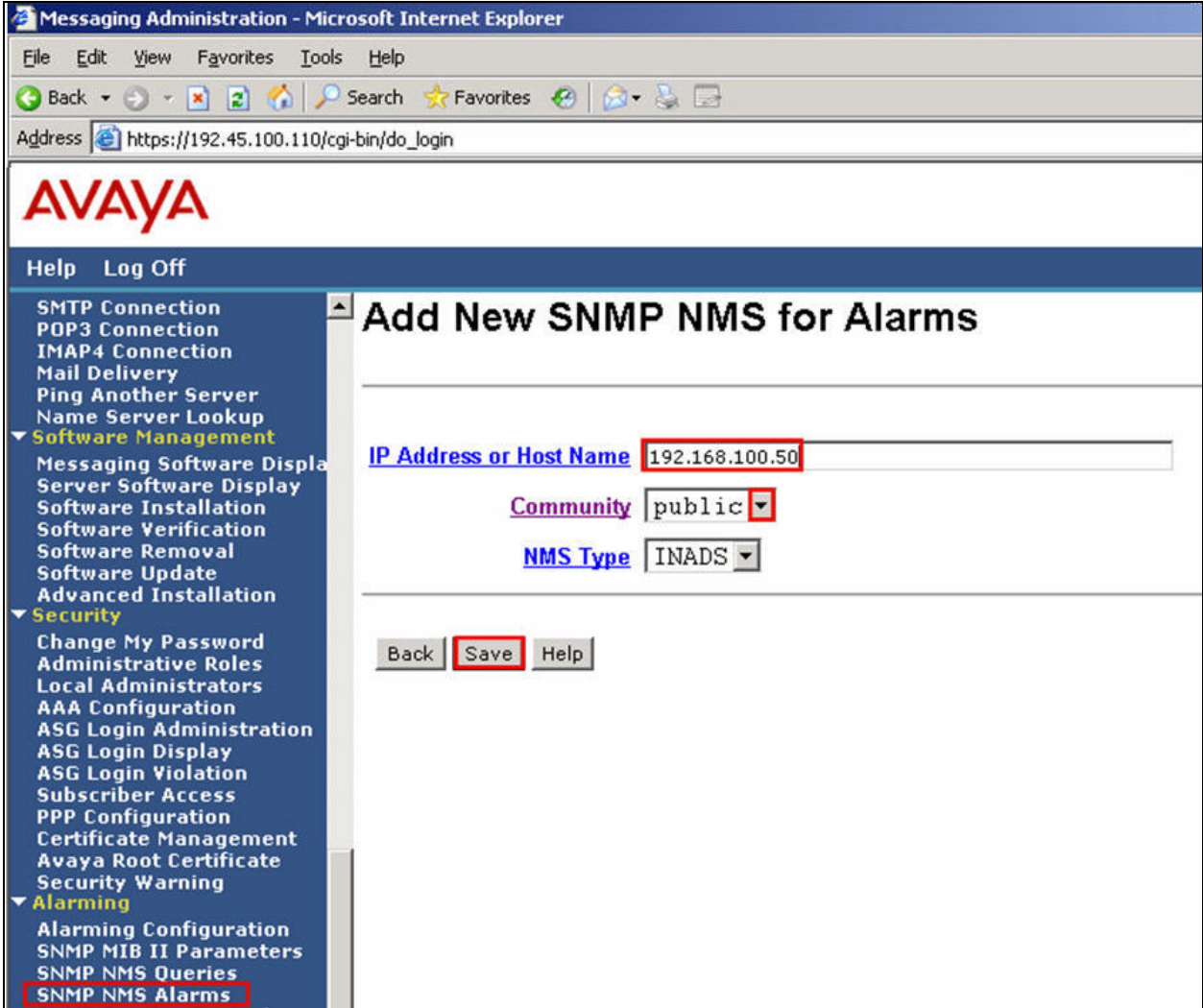
Step	Description
1.	<p>Launch the Voice Mail System Configuration application by click Start→Programs→Avaya Modular Messaging→Voice Mail System Configuration. Navigate to the Serviceability dialogue by double clicking Serviceability.</p>  <p>The screenshot shows the 'Voice Mail System Configuration - LZMAS3' application window. The menu bar includes 'File', 'Edit', 'Tools', and 'Help'. The main area displays a tree view of configuration options. The 'Serviceability' option is highlighted with a red rectangle. The tree view includes the following items: Voice Mail Domains, AvayaVMD, Telephone User Interface, Auto Attendant, Call Me, Notify Me, Message Waiting Indicator, Fax, Security, PBXs, Languages, Audio Encoding, Dialing Rules, Messaging, Web Subscriber Options, Serviceability, Licensing, Message Application Servers, LZMAS3, and Tracing System.</p>

Step	Description
2.	<p>From the Serviceability dialogue, navigate to the SNMP tab by clicking SNMP. Enter the information displayed below and click OK. Network Management Station is the IP address of the Tone Software ReliaTel SNMP management station. Context (community) can be any text string. Use the pull-down arrow for Acknowledgement type and select Ping surround.</p> 

3.2. Configuring SNMP on Avaya Modular Messaging MSS

The SNMP configuration for Avaya Modular Messaging MSS is administered through a web connection to the server running Avaya Modular Messaging MSS. Appropriate logon credentials are required in order to access the system, see **Section 9 [1]** for information about accessing Avaya Modular Messaging.

Step	Description
1.	<p>Launch any web browser and open up a connection to the Avaya Modular Messaging MSS. Navigate to the Alarming Configuration web page by clicking Alarming Configuration which is found within the blue background navigation panel on the left side of the web page. Use the pull-down arrow for Alarm Origination and select SNMP. Use the pull-down arrow for SNMP Acknowledgement Type and select ping surround. Click Save.</p>  <p>The screenshot shows the 'Configure Alarms' page in the Avaya Messaging Administration web interface. The left navigation panel is expanded, showing the 'Alarming Configuration' option highlighted. The main content area contains the following configuration fields:</p> <ul style="list-style-type: none"> Product ID: 2000000111 Alarm Origination: SNMP (selected from a dropdown menu) Alarm Level: ALL (selected from a dropdown menu) Alarm Suppression: INACTIVE (selected from a dropdown menu) Clear Alarm Notification: ACTIVE (selected from a dropdown menu) INADS Destination: (empty text field) SNMP Acknowledgement Type: ping surround (selected from a dropdown menu) <p>At the bottom of the page, there is a 'Save' button highlighted with a red box, and a 'Help' button next to it.</p>

Step	Description
2.	<p>Navigate to the Add New SNMP NMS for Alarms web page by click SNMP NMS Alarms found within the blue background navigation panel on the left side of the web page. IP Address or Host Name is the IP address assigned to Tone Software ReliaTel SNMP management application. Use the pull-down arrow for Community and select public. Click Save.</p> 

4. Tone Software ReliaTel Configuration

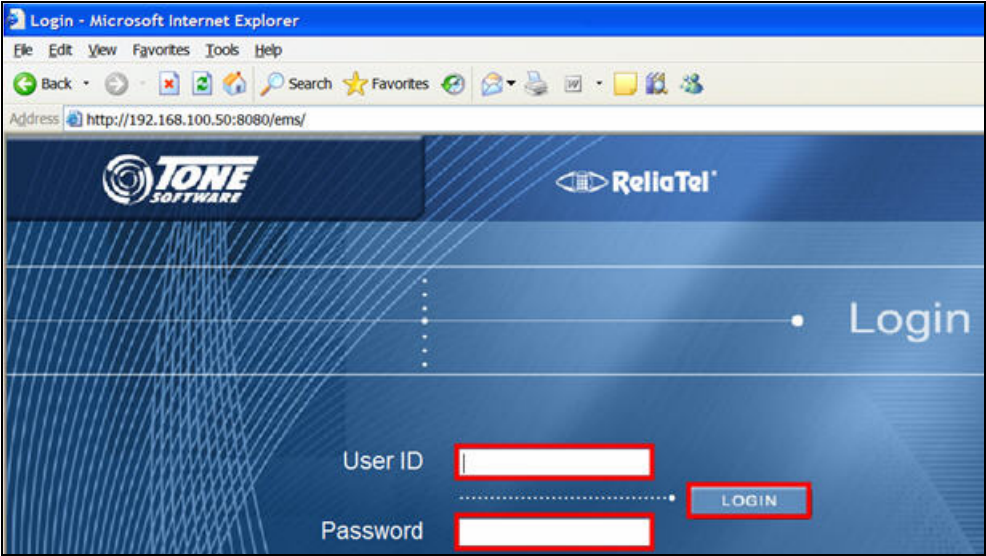
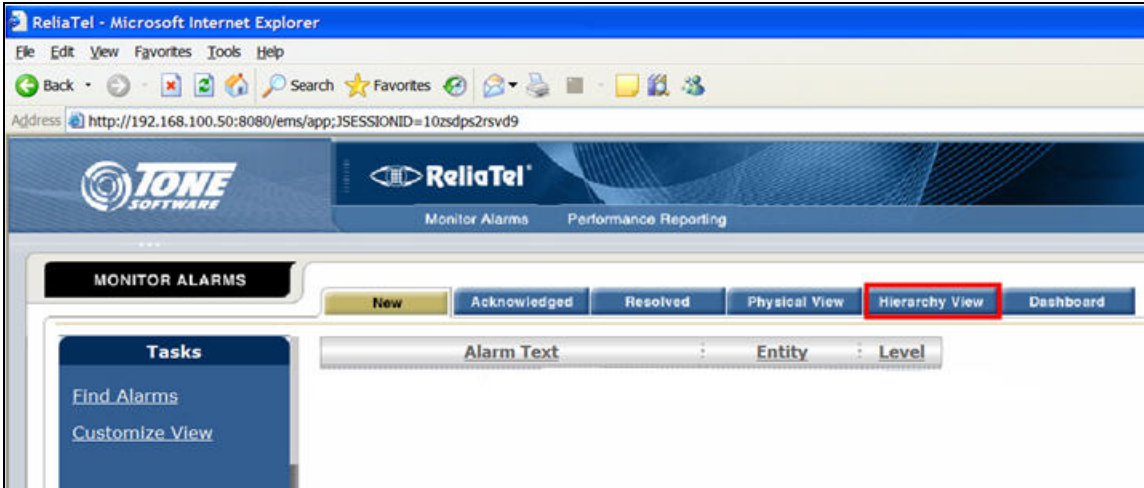
Tone Software ReliaTel is a software application that runs on a Linux platform. Tone Software ReliaTel is a bundled software application sold with server hardware. The configurations can be performed directly on the server or via a telnet/ssh connection. Before systems are delivered to customer locations, Tone Software engineers pre-configure the system with information obtained from customers. The information provided by customers includes the IP address(es), class,

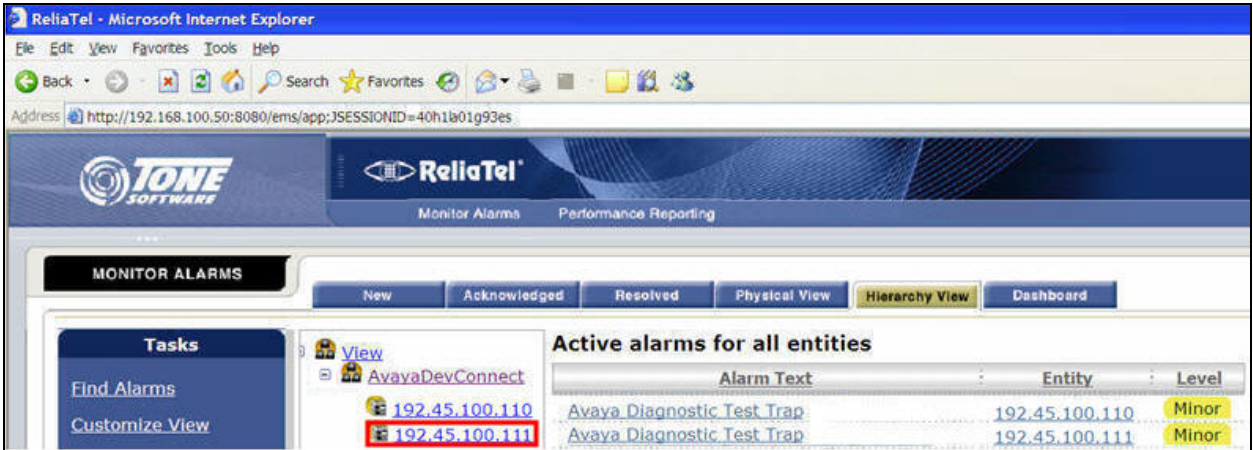
channel type and channel system names. In the sample configuration, the information displayed below was provided to Tone Software in order to provision the system.

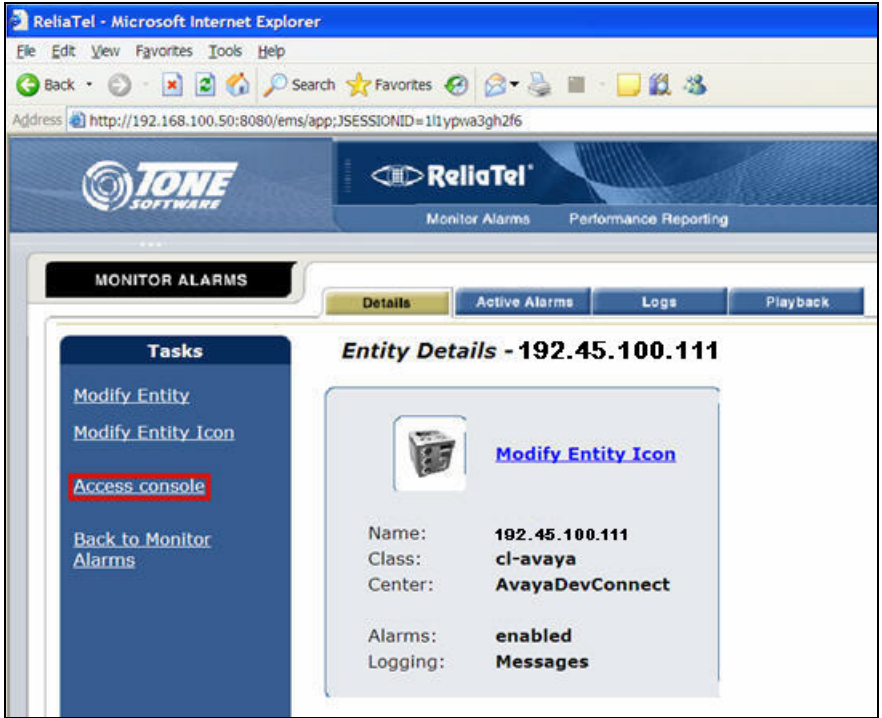
- **IP address** = “192.168.100.50”
- **Channel Type** = “SNMPMGR”
- **Channel System** = “Avaya”
- **Center** = “AvayaDevConnect”
- **Class** = “cl-avayamdsrv”

Step	Description
1.	<p>Using a keyboard and monitor directly connected to the Tone Software ReliaTel server login using default credentials, see Section 9 [2]. Once logged on, users will be presented with the Command Line Interface (CLI) of the Linux Operating System. Navigate to the <code>/etc/conf/</code> directory by using the “cd” commands displayed below. Use the “vi” text editor and open up the cdata.conf text file.</p> <pre data-bbox="289 793 1503 1052"> ===== PuTTY log 2007.06.21 13:37:35 ===== Red Hat Enterprise Linux AS release 4 (Nahant Update 5) Kernel 2.6.9-55.ELsmp on an i686 login: xxxxxx Password: xxxxxx -sh-3.00\$ cd etc -sh-3.00\$ cd conf -sh-3.00\$ vi cdata.conf </pre>

Step	Description
2.	<p>Using “vi”, a text editing program included as part of Red Hat Linux, enter the information displayed below. This text file houses the channel configuration information for Tone Software ReliaTel. Channels are added into the system by creating a Channel entry. A channel in the text file must follow the following format. A Channel name begins with the open bracket and ends with the closed bracket. The entity name must start with “c-“ and uses the following format: c-NAME where NAME can be any text value. In the sample configuration, the IP address of the device being added to the database was used as the NAME. The chanType and chanSystem fields are Tone Software ReliaTel provided information. These parameters distinguish what software process receives information and how that information is processed by Tone Software ReliaTel. The chanEmulator must be set to “4425” when an Avaya Modular Messaging system is being managed. The account field is the IP address of the system being managed. The acc_device field is a combination of the IP address of the system, a colon and the communication port of the access method used when accessing the device from Tone Software ReliaTel. For example, a device with an IP address of “192.45.100.111” and an access method using telnet (which uses port 23) would be “192.45.100.111:23”. Other supported access methods include ssh. Additional entries are created using the exact same format. Repeat this process for every Avaya Modular Messaging MSS system being managed.</p> <pre data-bbox="289 890 1438 1134"> # Avaya Development Connect Lab channels configuration [c-192.45.100.111] chanType = SNMPMGR chanSystem = Avaya chanEmulator = 4425 account = 192.45.100.111 acc_device = 192.45.100.111:23 </pre>
3.	<p>Once the changes to the cdata.conf text file have been made, the user must re-initialize the application. Repeat this process for each new device added to the system.</p> <pre data-bbox="289 1276 1503 1539"> ===== PuTTY log 2007.06.21 13:37:35 ===== Red Hat Enterprise Linux AS release 4 (Nahant Update 5) Kernel 2.6.9-55.ELsmp on an i686 -sh-3.00\$ pkill -HUP dapmgr -sh-3.00\$ rc-ent rctype=n center=AvayaDevConnect -sh-3.00\$ rc-ent rctype=new entity=192.45.100.111 center=AvayaDevConnect class=cl-avayamdsrv -sh-3.00\$ restore-log 192.45.100.111 </pre>

Step	Description
4.	<p>Using a web browser open a connection to the Tone Software ReliaTel server accessing port 8080 and requesting the /ems directory. For example, in the sample configuration the IP address of “192.168.100.50” was assigned to Tone Software ReliaTel server and the following URL was used to access the system http://192.168.100.50:8080/ems. The user will need to provide a login and password in order to access Tone Software ReliaTel. Refer to Section 9 [2] for information such as default credentials used for Tone Software ReliaTel.</p> 
5.	<p>The user is presented with the MONITOR ALARMS web page. Click Hierarchy View.</p> 

Step	Description
6.	<p>The user is presented with the Hierarchy View web page. This page displays the active alarms that have been received. Tone Software ReliaTel provides default pattern matching on traps sent from Avaya Modular Messaging, however, the default parameters for any trap can be modified. To demonstrate this feature the test trap generated from every system in the test was relabeled “Avaya Diagnostic Test Trap”.</p> 
7.	<p>From the Hierarchy View page, the user can click on any of the specific device entities the system has been configured to support to obtain more detailed SNMP information or to access the device (based on the access type defined from Step 2).</p> 

Step	Description
8.	<p>From the Entity Details web page, the user can click the Access console text which opens up an additional window (not shown) to access the system based on the access type configured in Step 1.</p> 

5. Interoperability Compliance Testing

The interoperability compliance testing focused on verifying Tone Software ReliaTel's capability to receive and interpret SNMP version 2c traps from Avaya Modular Messaging.

5.1. General Test Approach

The general test approach was to configure the Tone Software ReliaTel database to monitor the systems depicted in **Figure 1**. SNMP version 2c was used and test traps were generated from each system and verified to be properly interpreted by Tone Software ReliaTel. Tone Software ReliaTel was capable of performing in-band access to the devices monitored using telnet or ssh.

5.2. Test Results

Tone Software ReliaTel passed all test cases. Tone Software ReliaTel was verified to be capable of receiving and interpreting SNMP version 2c traps from Avaya Modular Messaging. Tone Software ReliaTel was verified to be capable of in-band access using telnet or ssh to Avaya Modular Messaging MSS.

6. Verification Steps

This section describes some of the verification steps that can be taken to validate the configuration used for testing.

- Verify the Tone Software ReliaTel management station has IP connectivity to the devices being monitored. This can be done on the console of Tone Software ReliaTel by issuing the “ping” command from a terminal window.
- Verify the entity details configured for the device being monitored. See **Section 4 Step 2**.

7. Support

Technical support for Tone Software ReliaTel can be obtained through the following:

- **Phone:** 1-800-833-8663
- **Email:** info@tonesoft.com

8. Conclusion

These Application Notes demonstrate how to configure Tone Software ReliaTel to interoperate with Avaya Modular Messaging using SNMP version 2c. These Application Notes also demonstrate how to configure Tone Software ReliaTel to support Avaya Modular Messaging MAS and MSS. Information in these Application Notes can be leveraged to support additional Avaya Modular Messaging servers.

9. Additional References

The documents referenced below were used for additional support and configuration information. The Avaya documentation was obtained from <http://support.avaya.com>. The Tone Software documentation was obtained from <http://www.tonesoft.com> (access to Tone Software documentation may require a support account).

- [1] *Avaya Modular Messaging Release 3.1 with the Avaya MSS Messaging Application Server Administrator Guide*, February 2007, Document Number 123871
- [2] *Administrator's Guide for Tone Software ReliaTel*, June 2007, Issue 1.0

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