Avaya Solution & Interoperability Test Lab

Application Notes for TONE Software ReliaTel Global Quality, Performance, and Service Level Management with Avaya IP Office 10.0 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for TONE Software ReliaTel Global Quality, Performance, and Service Level Management to interoperate with Avaya IP Office 10.0 using SNMP and RTCP.

TONE Software ReliaTel Global Quality, Performance, and Service Level Management is a monitoring and management solution that can monitor and maintain groups of telephone switches, PBX systems, and other devices from a single control point. In the compliance testing, TONE Software ReliaTel Global Quality, Performance, and Service Level Management used the SNMP interface from Avaya IP Office to provide alarm monitoring. RTCP was used to monitor QoS of calls.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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.

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1. Introduction

These Application Notes describe the configuration steps required for TONE Software ReliaTel Global Quality, Performance, and Service Level Management to interoperate with Avaya IP Office 10.0 using SNMP and RTCP.

TONE Software ReliaTel Global Quality, Performance, and Service Level Management is a monitoring and management solution that can monitor and maintain groups of telephone switches, PBX systems, and other devices from a single control point. In the compliance testing, the application used the SNMP interface from Avaya IP Office to provide alarm monitoring. RTCP interface was used to provide QoS on active calls.

Upon detection of failures, Avaya IP Office raised alarms and sent SNMP traps to TONE Software ReliaTel Global Quality, Performance, and Service Level Management. The application collected and stored the information from the Avaya IP Office SNMP traps, and presented the information on the monitoring screen. The integration used SNMP version 2c.

2. General Test Approach and Test Results

The feature test cases were performed manually. Different SNMP traps were generated on IP Office and verified on the ReliaTel web-based alarm monitoring screen. ReliaTel also collected the RTCP packets from H.323 stations and displayed detail call traffic in real time.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to ReliaTel.

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

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the handling and displaying of received SNMP traps by ReliaTel for scenarios including IP Office reboot, H.323 and SIP telephone registration/un-registration, Voicemail Pro connect/disconnect, and connect/disconnect of digital telephone. Calls were generated between H.323 stations to view call details generated by RTCP interface.

The serviceability testing focused on verifying the ability of ReliaTel to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to ReliaTel.

2.2. Test Results

All test cases were executed and passed.

2.3. Support

Technical support on ReliaTel can be obtained through the following:

- **Phone:** (800) 833-8663
- **Email:** support@tonesoft.com
- **Web:** http://www.tonesoft.com/tone-secure/support-home/login-reliatel/

3. Reference Configuration

The configuration used for the compliance testing is shown below. During this compliance testing the ReliaTel Data Access Point (DAP) was installed on a virtual machine and the web part of ReliaTel was hosted on the cloud.
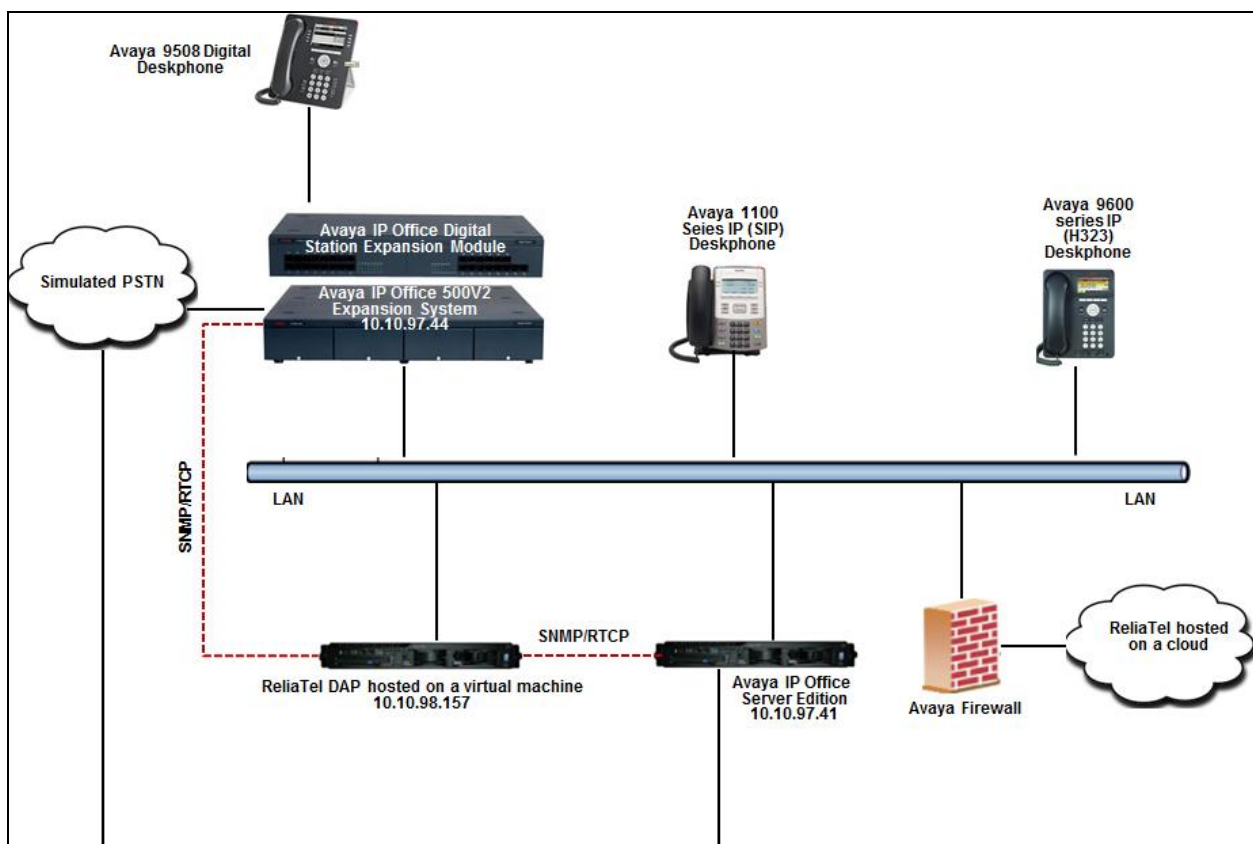
Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office Server Edition server (Linux)	10.0 Build 550
Avaya IP Office 500 V2 Expansion Module	10.0 Build 550
Avaya Telephones: • 1140 IP (SIP) Deskphone • 9641 IP (H323) Deskphone • 9508 Digital Deskphone	4.04.26 6.6229 0.55
TONE Software: ReliaTel hosted on VMWare ReliaTel hosted on Cloud	5.0.0.791

Note: *Testing was performed with IP Office Server Edition R10.0 and an Expansion IP Office 500 v2 R10.0. Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations. Note that IP Office Server Edition requires an Expansion IP Office 500 V2 R10.0 to support analog or digital endpoints or trunks.*

5. Configure Avaya IP Office

This section provides the procedures for configuring IP Office. The procedures include the following areas:

- Administer SNMP
- Administer Alarms
- Administer RTCP

Note that all the configurations shown in the examples below were done on the Primary system and the same has to be repeated on the Expansion system too.

5.1. Administer SNMP

From a PC running the IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the application. Select the proper IP Office system, and log in using the appropriate credentials.

The **Avaya IP Office Manager for Server Edition** screen is displayed. From the configuration tree in the left pane, select **System** to display the **DevCon IPO Sev1** screen in the right pane. Select the **System Events** tab, followed by the **Configuration** sub-tab. Check the **SNMP Enabled** field, enter "public" for the **Community (Read-only)** field and retain the default values in the remaining fields.

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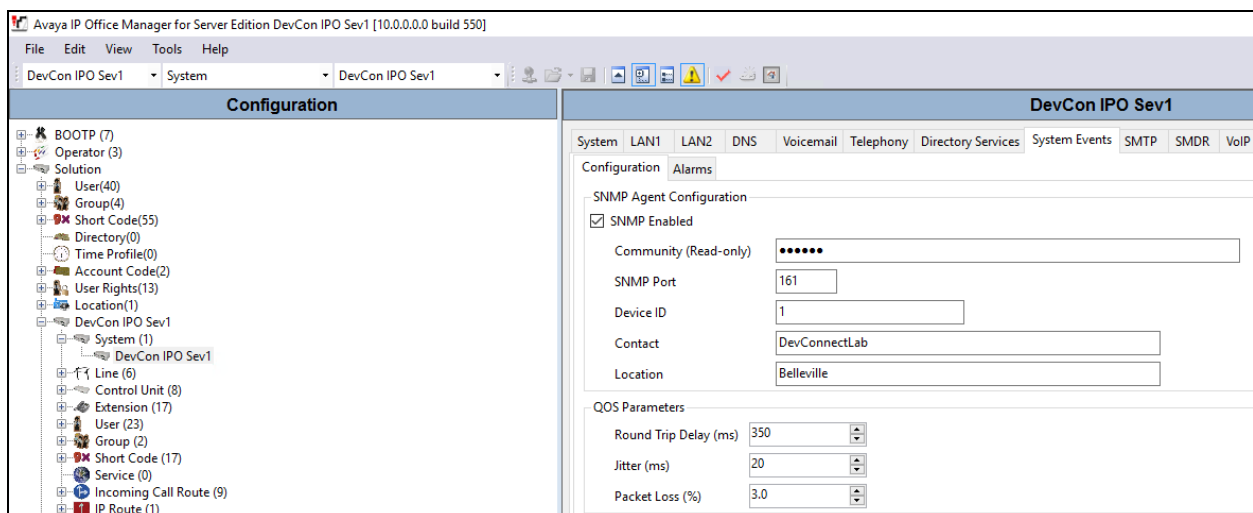
5.2. Administer Alarms

Select the **Alarms** sub-tab, and click **Add**.
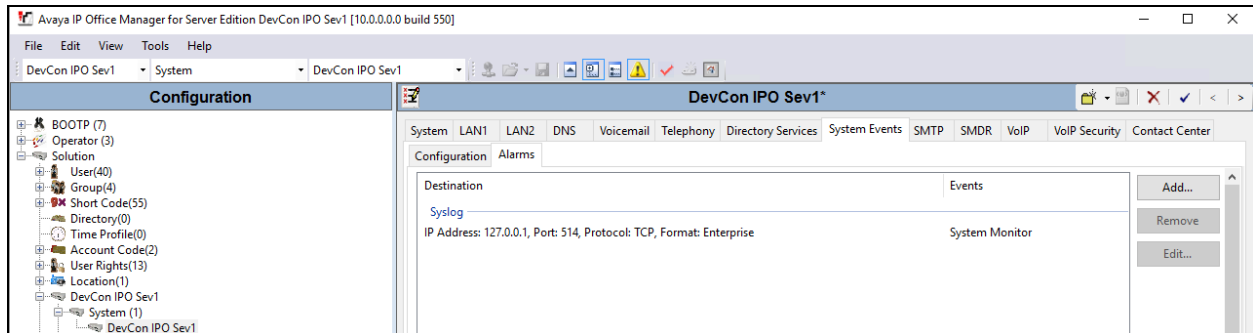
The screen is updated with new parameters, as shown below. Select the radio button for **Trap**, and enter the IP address of ReliaTel DAP server hosted on the virtual machine in the **Server Address** field. Enter a desired string for **Community**. Note that the community string is not used by ReliaTel, but needs to be configured on IP Office ("avayatrap" was used during compliance testing). In the **Events** section, scroll down the pane as necessary to check all desired events to be collected and sent. During compliance testing all entities under events were selected. Retain the default values in the remaining fields.

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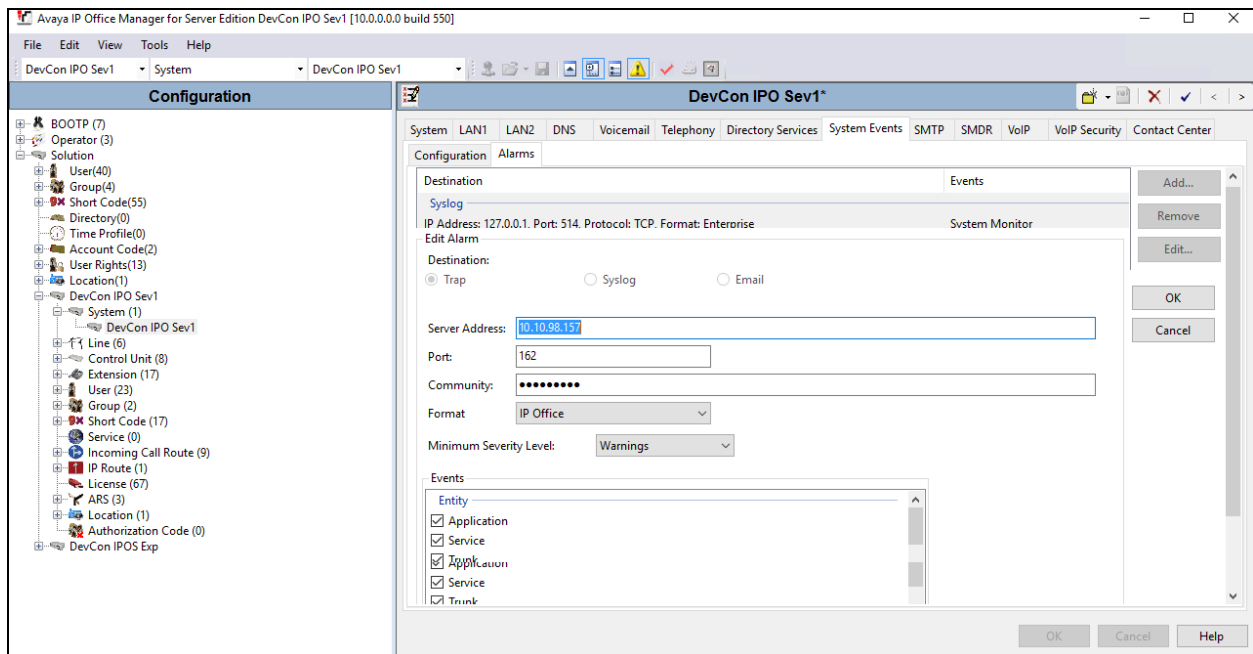
5.3. Administer RTCP

From the configuration tree in the left pane, select **System** to display the **DevCon IPO Sev1** screen in the right pane. Select the **LAN1** tab, followed by the **VoIP** sub-tab. For the **RTCP collector IP address for phones** field enter the IP address of the ReliaTel DAP server hosted on the virtual machine. Retain the default values in the remaining fields.

Note that all stations need to be rebooted after the below configuration is completed before the RTCP data is being monitored.

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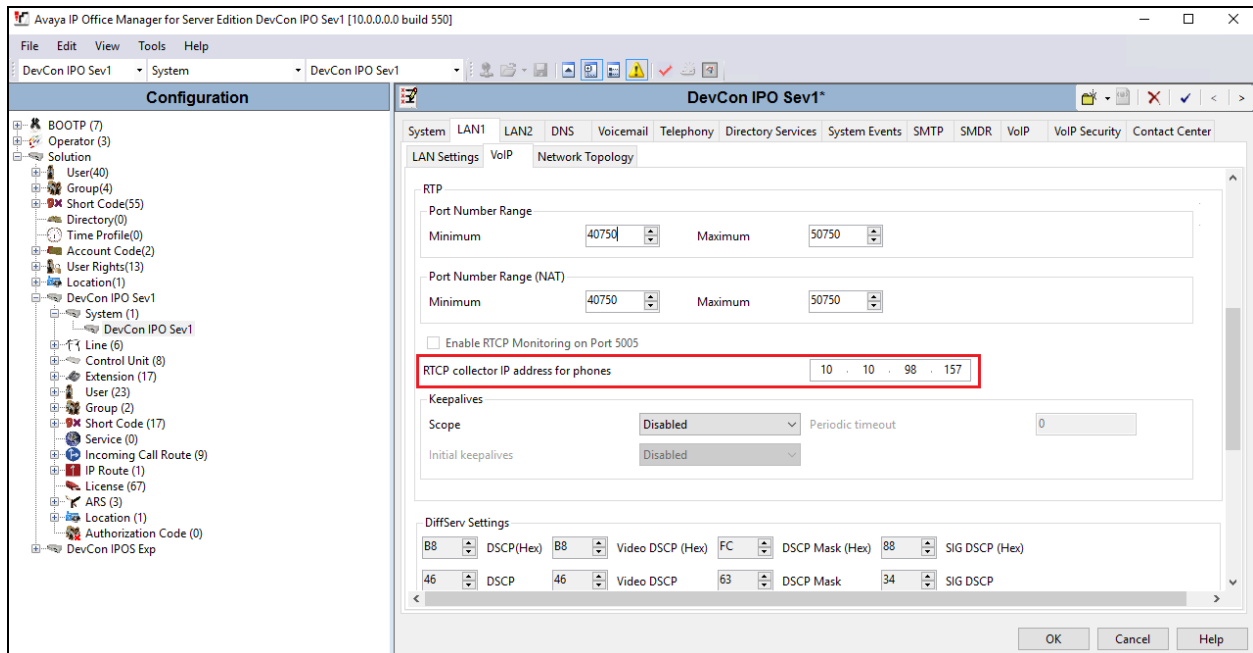
6. Configure TONE Software ReliaTel Global Quality, Performance, and Service Level Management
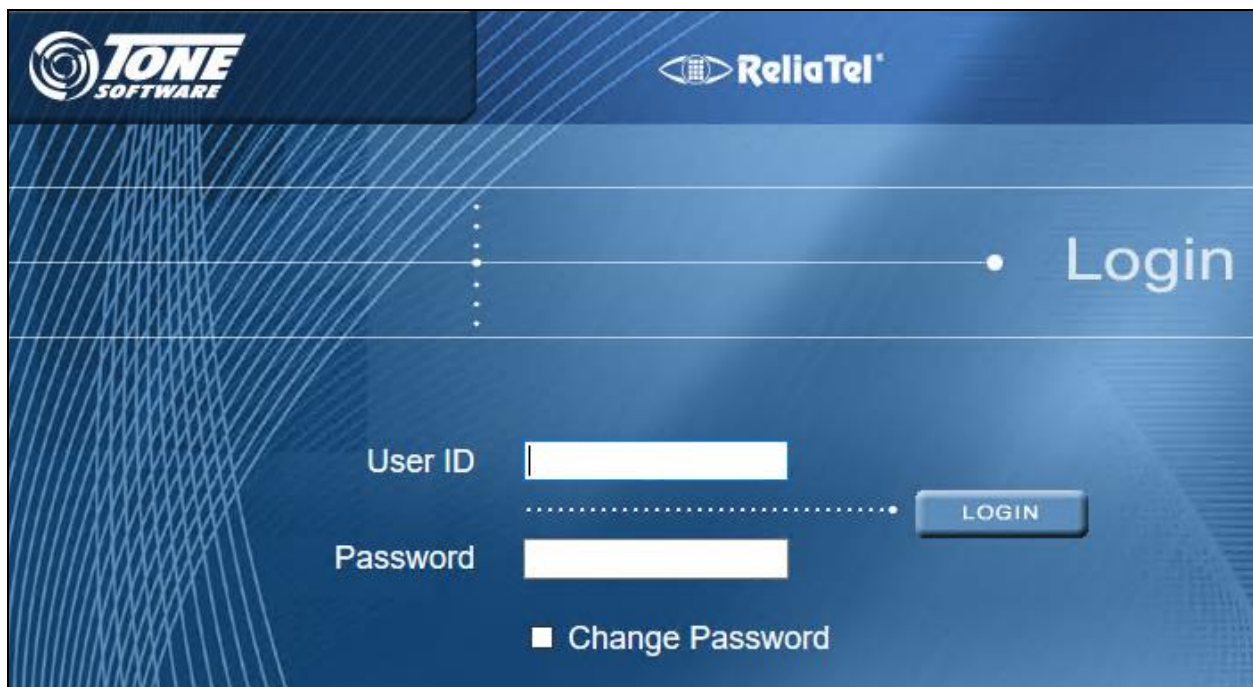
This section provides the procedures for configuring ReliaTel. The procedures include the following areas:

- Launch web interface
- Administer Centers
- Administer DAPs
- Administer Entities
- Administer RTCP

The configuration of ReliaTel is typically performed by TONE Software technicians. The procedural steps are presented in these Application Notes for informational purposes.

6.1. Launch Web Interface

Access the ReliaTel web interface by using the URL provided by Tone Software in an Internet browser window. Log in using the appropriate credentials.

The **ReliaTel** screen is displayed. Select **Administration → General Administration** from the top menu.

6.2. Administer Centers

The **ReliaTel** screen is updated as shown below. Select **General → Centers** in the left pane to display a list of centers. Click **New** to add a new center.
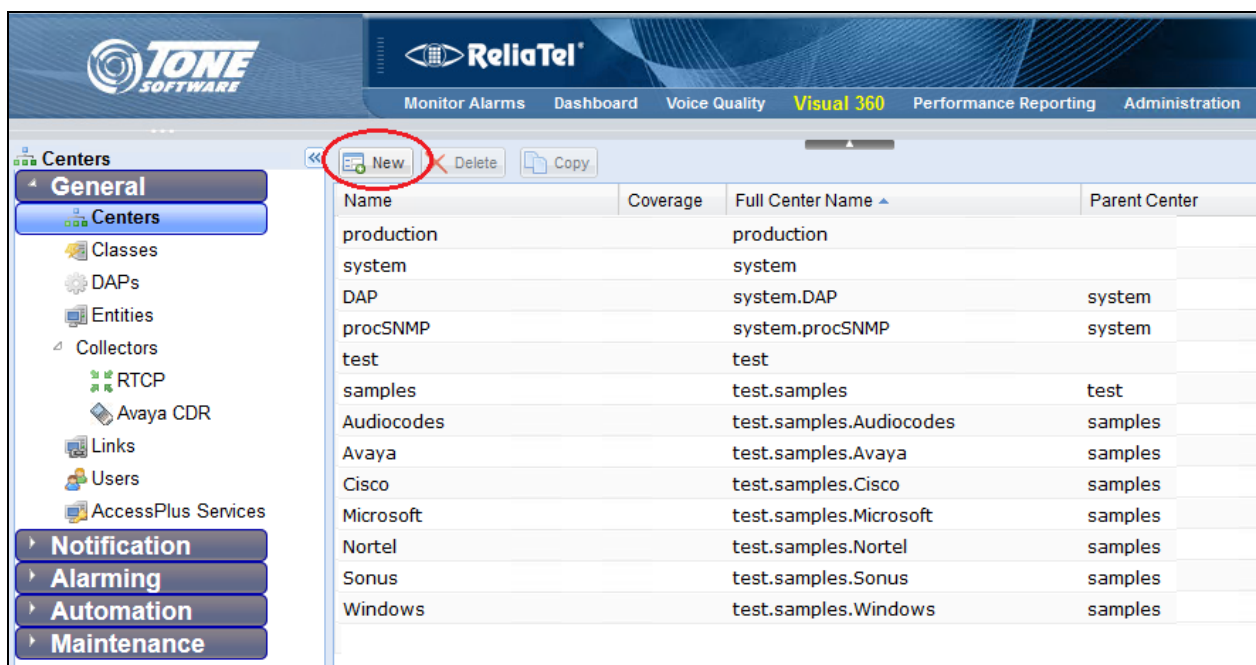
In the bottom pane, select the **General** tab. Enter a descriptive **Name**, and retain the default values in the remaining fields.

6.3. Administer DAPs

Select **General → DAPs** from the left pane to display the screen below. Select the displayed entry in the right pane.

The screen is updated with details in the bottom right pane. Select the **cdata.conf** tab and click **Edit**. Scroll down the bottom right pane, and add a set of entry lines shown below for IP Office, using a descriptive channel name within the brackets, a descriptive **chanSystem**, and the IP address of IP Office for **account** and **host**. Enter all other entry lines exactly as shown. Create entries here for both Primary and Expansion IP Office Systems.

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6.4. Administer Entities

Select **General → Entities** from the left pane to display a list of entities in the right pane. Click **New** to add a new entity.

In the lower portion of the screen, select the **General** tab. Enter a descriptive **Name** and a desired **Description**. For **Center**, select the center name from **Section 6.2**. For **Class**, select "cl-avaya-ipoff".

Select the **Logging** tab. Check the **Log State** field. For **Channel**, enter the channel name from **Section 6.3**. For **Log Pattern**, select "l-avaya-ipoff" from the drop-down list. Retain the default values in the remaining fields.

Example above shows the steps configured for the IP Office Primary System. Repeat the steps in this section for IP Office Expansion System also.

6.5. Administer RTCP

Select **General** → **RTCP** from the left pane to display a list of entries in the right pane. Click **New** to add a new RTCP.

In the lower portion of the screen, select the **General** tab. Enter a descriptive **Name** and a desired **Description**. For **Center**, select the center name from **Section 6.2**. For **Class**, select "RtcpCollector". For **DAP**, select the DAP hosted on the virtual machine (created in **Section 6.3**) and enter its IP address in the **IP Address** column. For **RTCP Listening Port (s)**, enter "5005". Check the **Enabled** field and retain default values for all other fields.
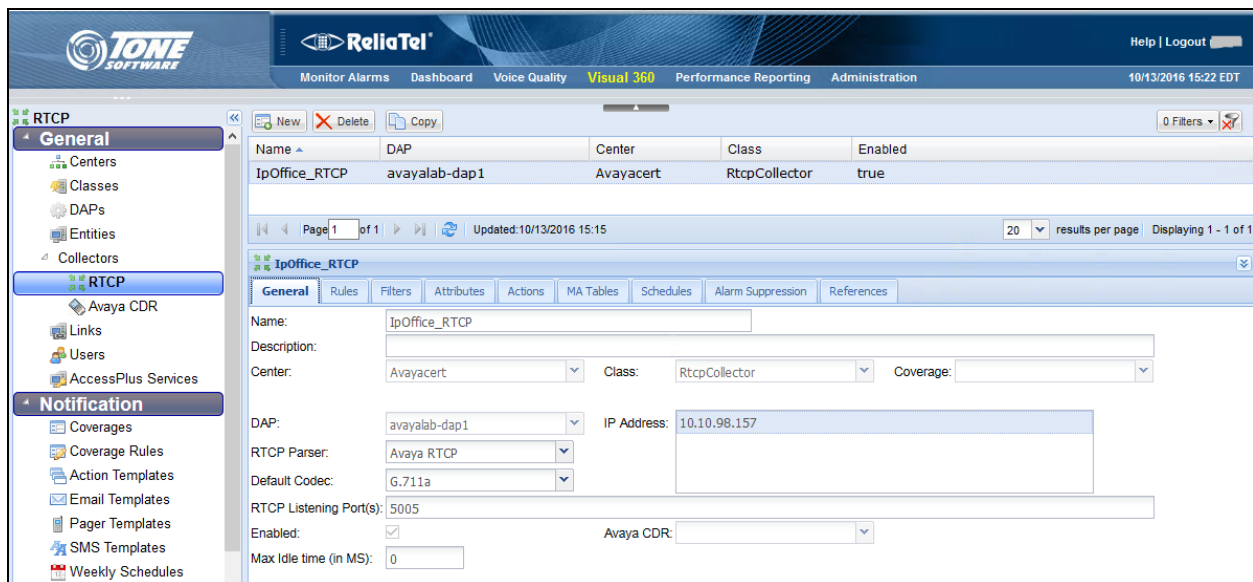
7. Verification Steps

This section provides the test that can be performed to verify proper configuration of IP Office and ReliaTel.

7.1. Verify Avaya IP Office

From a PC running the IP Office Monitor application, select **Start → Programs → IP Office → Monitor** to launch the application. The **Avaya IP Office SysMonitor** screen is displayed, as shown below. Click on the **Filter** icon.
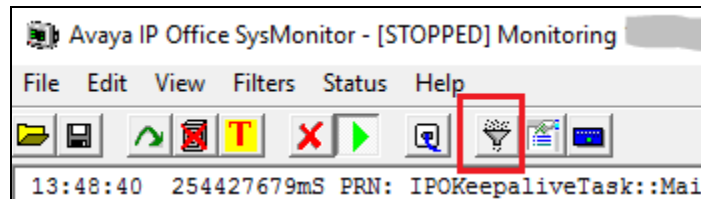
The **All Settings** screen is displayed. Select the **Services** tab. In the **SNMP Events** sub-section, check **Trap Generation**, as shown below.

Generate an alarm on IP Office, such as logout and login back an IP telephone. Verify that the generated SNMP traps are displayed on the **Avaya IP Office SysMonitor** screen, as shown below.

7.2. Verify TONE Software ReliaTel Global Quality, Performance, and Service Level Management

On the **ReliaTel** screen, select **Monitor Alarms → Alarm List** from the top menu. Select **View → Avayacert → ipOffice_primary** in the left pane, where **Avayacert** is the center name from **Section 6.2**, and **ipOffice_primary** is the entity name from **Section 6.4**.

Verify that the new traps as mentioned in **Section 7.1** are displayed in the right pane, as shown below.

Verify that RTCP information for an active call is displayed as shown below by right clicking on **ipOffice_RTCP** and selecting **View Active Call** (not shown).

8. Conclusion

These Application Notes describe the configuration steps required for TONE Software ReliaTel Global Quality, Performance, and Service Level Management to successfully interoperate with Avaya IP Office 10.0. All feature and serviceability test cases were completed.

9. Additional References

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

1. *Administering Avaya IP Office™ Platform with Manager*, Release 10.0, available at http://support.avaya.com.

2. *ReliaTel Release 5.0 Administrator Guide*, Guide Version 5.0, available via the ReliaTel web interface.

3. *ReliaTel Operator Guide Release 5.0.*, Guide Version 5.0, available via the ReliaTel web interface.

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