



Avaya Solution & Interoperability Test Lab

Application Notes for Integrated Research's Prognosis for Unified Communication R11.7 with Avaya Aura® Experience Portal R7.2 - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring Prognosis for Unified Communication R11.7 (Prognosis) to interoperate with Avaya Aura® Experience Portal R7.2.

Prognosis provides real-time monitoring and management solutions for IP telephony networks. Prognosis provides visibility of Avaya and other vendor's IP Telephony solutions from a single console. Prognosis monitors directly to Experience Portal using SNMP connection.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the 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.

1. Introduction

These Application Notes describe the compliance tested configuration used to validate Prognosis for Unified Communication R11.7 (herein after referred to as Prognosis) with Avaya Aura® Experience Portal R7.2. Experience Portal comprises Experience Portal Manager (EPM) and Media Processing Platform (MPP) servers.

Prognosis is a multi-vendor software product designed to provide a comprehensive monitoring and management platform for Unified Communications (UC) environments. It does this by collecting data, filtering as required and then presenting in a 'user-friendly' format, all in real time.

In the testing, Prognosis uses the following methods to collect and monitor an Experience Portal system.

- Web Services (SOAP) to be setup on Experience Portal to collect a range of call data.
- Data from the SNMP MIB: AV-VOICE-PORTAL-MIB.
- SNMP Trap.

2. General Test Approach and Test Results

The general test approach was to verify Prognosis using Web Services (SOAP) and Simple Network Management Protocol (SNMP) connection to monitor and display call information from Experience Portal.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and the Prognosis did not include use of any specific encryption features as requested by Integrated Research.

2.1. Interoperability Compliance Testing

The feature test of the interoperability compliance testing was to verify Prognosis using Web Services and SNMP to display real-time information and to monitor status of operation on Experience Portal. There are 4 kinds of information on Experience Portal that Prognosis obtains and display on the web user interface.

- Application: display all applications and its related information such as DNIS, application name...etc.
- Call Load: display call statistic information such as Unused SIP Sessions, Unused H323 Sessions, MPP Today, SIP Requests Processed, H323 Requests Processed, MPP Active Calls, CCXML Event Sent, CCXML Requests Processed, and VXML Requests Processed.
- MPP (Media Processing Platform): display MPP server statistic.
- Traps: display all SNMP traps sent from Experience Portal system.

2.2. Test Results

All test cases were passed and met the requirements as shown in **Section 2.1** with following observation:

- No Auxiliary EPM server was created for this test and so cannot be viewed.
- Windows 2016 server firewall rules need to be opened for SNMP Trap with default UDP port 162 to pass through for Prognosis.

2.3. Support

For technical support on Integrated Research Prognosis, contact the Integrated Research Support Team at:

- Hotline: +61 (2) 9966 1066
- Email: support@ir.com

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify the Prognosis application with Avaya Aura® Experience Portal. The configuration consists of a duplex Avaya Aura® Communication Manager with an Avaya G430 Media Gateway and Avaya Aura® Media Server, providing virtual H.323 endpoints to Experience Portal. Avaya Aura® Session Manager was configured via Avaya Aura® System Manager to provide SIP trunk to Experience Portal. SIP and H.323 endpoints were used to place/receive call to/from Experience Portal. Avaya Session Border Controller for Enterprise was used to complete a SIP trunk connection to simulate a PSTN connection to the Enterprise solution.

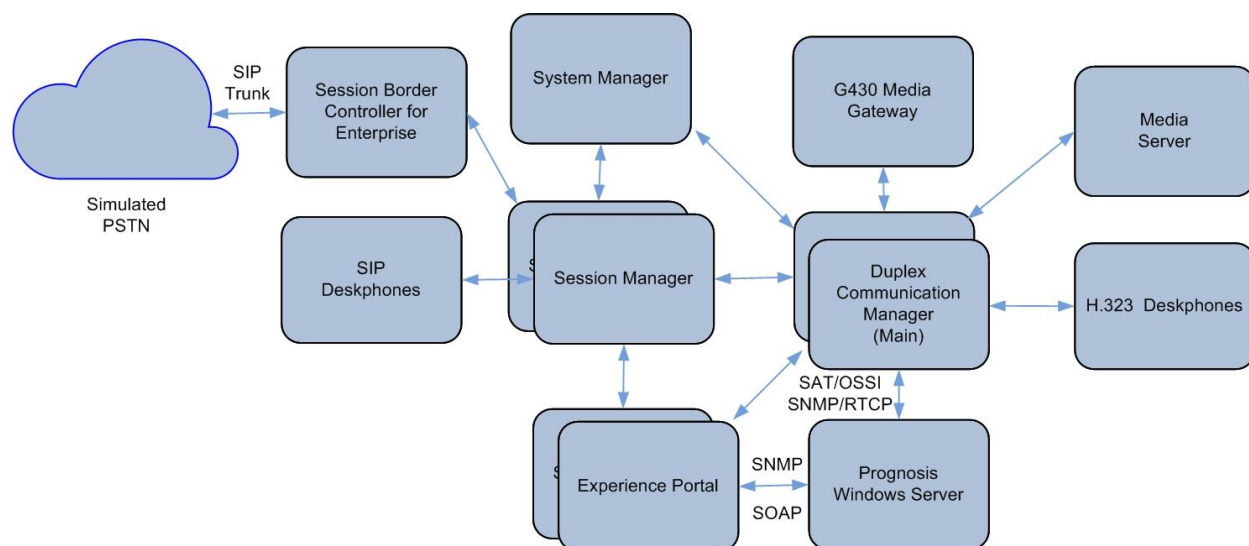


Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

The following equipment and software were used for the compliance test provided:

Equipment/Software	Release/Version
Avaya Aura® Communication Manager	R018x.01.0.890.0 R8.1.0.2.0 – SP2 Update ID 01.0.890.0-25578
Avaya Aura® Media Server	R8.0.1.121
G430 Media Gateway - MGP	41.16.0
Avaya Aura® Experience Portal – EPM/MPP	7.2.2.0.2118
Avaya Aura® System Manager	System Manager 8.1.1.0 Build No. – 8.1.0.0.733078 Software Update Revision No: 8.1.1.0.0310503 Feature Pack 1
Avaya Aura® Session Manager	Session Manager R8.1 FP1 Build No. – 8.1.0.0.810015
J100 Series IP Telephones - J179 - J129	4.0.2.1.3 (SIP) 6.8202 (H323)
96x1 Series IP Telephones - 9641G - 9611G	7.1.6.1.3 (SIP) 6.8202 (H323)
Prognosis for Unified Communications running on Windows Server 2016	11.7

Note: All Avaya Aura® systems and Prognosis runs on VMware 6.x virtual platform.

5. Configure Avaya Aura® Communication Manager

The configuration of Communication Manager for Experience Portal is assumed to be in place and will not be discussed in this document. For more information of how to configure Communication Manager and Experience Portal, please refer to **Section 11**.

6. Configure Avaya Aura® Session Manager

The configuration of Session Manager for Experience Portal is assumed to be in place and will not be discussed in this document. For more information of how to configure Session Manager and Experience Portal, please refer to **Section 11**.

7. Configure Avaya Aura® Experience Portal

The initial administration of Experience Portal and the configuration of the H.323 VoIP connection to Communication Manager and the SIP VoIP connection to Session Manager are assumed to be in place and will not be covered here. This section only covers the configuration of Experience Portal that is required for the purpose of administering Prognosis. The following steps will be covered:

- Configure SNMP connection
- Configure outcall authentication for web services
- Configure applications

Experience Portal is configured via the Experience Portal Management (EPM) web interface. In order to access the web interface, enter <http://<ip-addr>/> as the URL in an internet browser, where <ip-addr> is the IP address of the EPM. Log in using the appropriate credentials. The screen shown below is displayed.

Note: All of the screens in this section are shown after the Experience Portal had been configured. Save the screen parameters after configuring Experience Portal.

The screenshot shows the Avaya Aura® Experience Portal Manager (EPM) web interface. The top navigation bar includes the Avaya logo, the user name 'epadmin', and the last login time 'Jan 5, 2020 at 10:33:43 PM PST'. The main content area is titled 'Avaya Aura® Experience Portal Manager' and contains the following sections:

- Installed Components**
 - Media Processing Platform:** Media Processing Platform (MPP) is an Avaya media processing server. When an MPP receives a call from a PBX, it invokes a VoiceXML (or CCXML) application on an application server. It then communicates with ASR and TTS servers as necessary to process the call.
 - Email Service:** Email Service is an Experience Portal feature which provides e-mail capabilities.
 - HTML Service:** HTML Service is an Experience Portal feature which supports web applications with HTML5 capabilities. It includes support for browser based services for mobile devices.
 - SMS Service:** SMS Service is an Experience Portal feature which provides SMS capabilities.
- Legal Notice**

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REVISED: September 20, 2018

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7.1. Configure SNMP Connection

To configure SNMP connection, navigate to **System Configuration** → **SNMP** on the left pane. The SNMP page is displayed in the right and click on **SNMP Agent Settings**.

The screenshot displays the Avaya Aura Experience Portal 7.2.2 (ExperiencePortal) interface. The top left corner features the Avaya logo. Below it, a red banner reads "Avaya Aura® Experience Portal 7.2.2 (ExperiencePortal)". A navigation breadcrumb shows "You are here: Home > System Configuration > SNMP". The left sidebar contains a menu with categories: User Management, Real-time Monitoring, System Maintenance, System Management, and System Configuration. The main content area is titled "SNMP" and includes a description: "This page displays the destination servers to which Experience Portal sends Simple Network Management Protocol (SNMP) traps." Below this, a section titled "SNMP Traps" states "No SNMP traps are configured." and provides three buttons: "Add", "Delete", and "Test". At the bottom of the main content area, there are three buttons: "SNMP Agent Settings", "SNMP Device Notification Settings", and "Help".

Configure the following parameters as shown below.

- Check on the **Enable SNMP Version 2c** and enter the **Security Name** as “**avaya123**”, this security name can be any name and it will be used in Prognosis configuration.
- **Authorized for SNMP Access** – select **Allow Only the Following** and enter the Prognosis server IP Address.

The screenshot shows the Avaya Aura Experience Portal 7.2.2 configuration interface. On the left is a navigation menu with categories like User Management, Real-time Monitoring, System Maintenance, System Management, System Configuration, Security, Reports, and Multi-Media Configuration. The main content area is titled 'SNMP Version 2c' and 'SNMP Version 3'. Under 'SNMP Version 2c', the 'Enable SNMP Version 2c' checkbox is checked, and the 'Security Name' field contains 'avaya123'. Under 'SNMP Version 3', the 'Enable SNMP Version 3' checkbox is unchecked. Below these are fields for 'Security Name', 'Authentication Protocol' (set to 'None'), 'Authentication Password', 'Privacy Protocol' (set to 'None'), and 'Privacy Password'. At the bottom, the 'Authorized for SNMP Access' section has 'Allow Only the Following' selected, with a list of IP addresses where the first entry is '10.1.10.124'.

- **Transport Protocol** – Select UDP.
- **Port Number** – Select Default Port Number (UDP: 161).

Click **Apply** and **Save** to save configuration.

This screenshot shows a configuration dialog box with two sections. The first section, 'Transport Protocol', has a dropdown menu set to 'UDP'. The second section, 'Port Number', has two radio button options: 'Default Port Number (UDP:161)' which is selected, and 'Custom Port Number' with an empty text input field. At the bottom of the dialog are four buttons: 'Save', 'Apply', 'Cancel', and 'Help'.

Navigate to **System Configuration** → **SNMP** page, click on **Add** button (not shown) to configure Prognosis server as destination server which Experience Portal sends SNMP notifications to. The screen below shows the parameters for the **Add SNMP Trap Configuration**.

- **Enable** – Select **Yes**.
- **Device** – Select **NMS**.
- **Transport Protocol** – Select **UDP**.
- **Host Address** – Enter the IP address of Prognosis server.
- **Port** – Use the port **162**.
- **Notification Type** – Select **Trap**.
- **SNMP Version** – Select version **2c**.
- **Security Name** – In this case for SNMP 2c, it is the community name i.e., “**avaya123**”.

Click the **Save** button to complete the creation and save the configuration.

Change SNMP Trap Configuration

Use this page to change the configuration of an SNMP notification destination server.

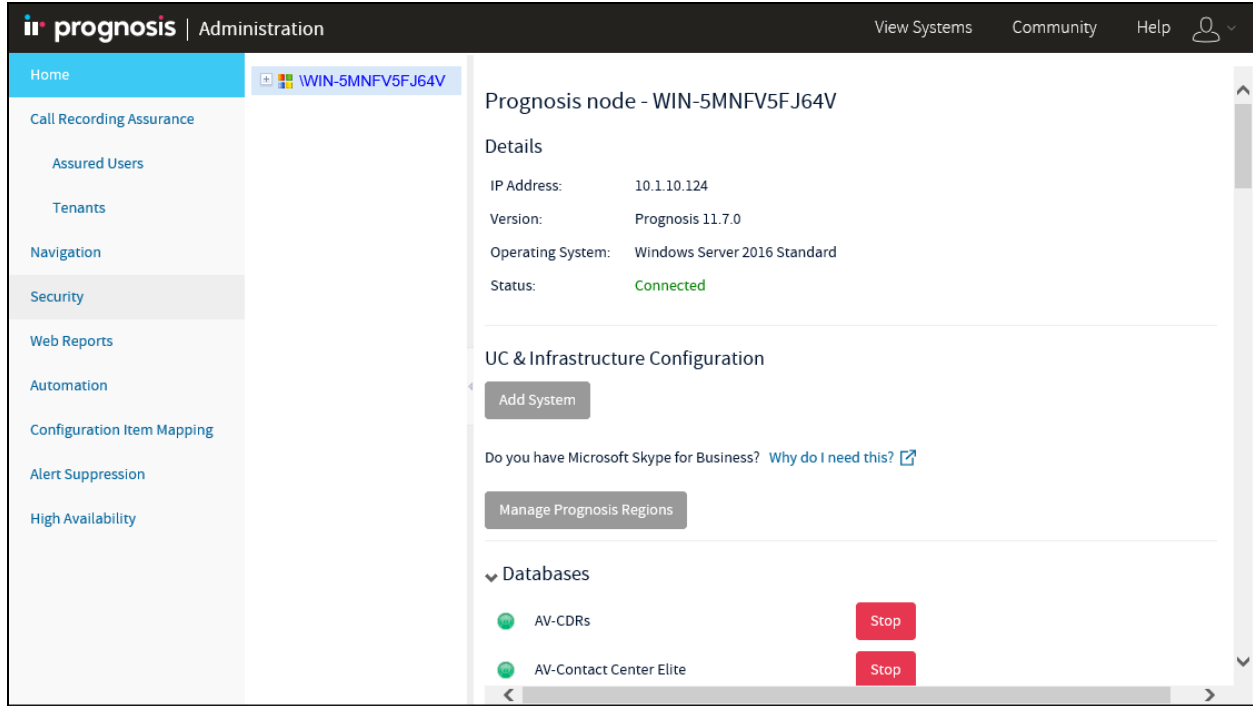
Enable:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Device:	NMS ▼
Transport Protocol:	UDP ▼
Host Address:	10.1.10.124
Port:	162
Notification Type:	Trap ▼
SNMP Version:	2c ▼
Security Name:	avaya123
Authentication Protocol:	None ▼
Authentication Password:	
Privacy Protocol:	None ▼
Privacy Password:	

8. Configure Prognosis

This section describes the configuration of Prognosis required to interoperate with Experience Portal. Log in to the Prognosis with administrative privileges. Launch the Prognosis Administration by clicking **Start → All Programs → Prognosis → Administration** and log in with the appropriate password.



The **Prognosis Administration** homepage is displayed as shown below.



8.1. Administer Avaya Aura® Experience Portal Service Configuration

Click **Add System** and scroll below to **Contact Centers**.

Contact Centers

Avaya Aura Experience Portal

Select **Avaya Aura Experience Portal** from drop-down menu. Click **Add** to add a new Experience Portal. In this test configuration, the following entries are added for Experience Portal with display name of **AAEP72** and with IP addresses of **10.1.10.81**.

The following settings were used during the compliance test.

Basic Details:

- **Display Name: AAEP72**
- **IP address: 10.1.10.81** [EPM IP Address]
- **Customer Name: Avaya**
- **Site Name: DevCon Lab**

SOAP Connection Details:

- **User Name: outcall**
- **Password: outcall123**

SNMP Connection Details:

- Select **Use SNMP Version 2c**
- **Community String:** As configured in **Section 7.1**.

Leave the **Databases and Thresholds** as checked. Click **Add** to affect the addition.

Add Avaya Aura Experience Portal

Basic Details

Display Name: *

IP Address: *

Customer Name:

Site Name:

SOAP Connection Details

User Name: *

Password: *

SNMP Connection Details

Use SNMP Version 2c

Use SNMP Version 3

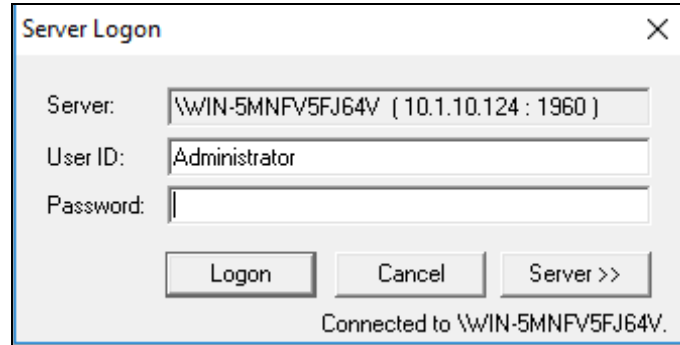
Community String:

Databases and Thresholds

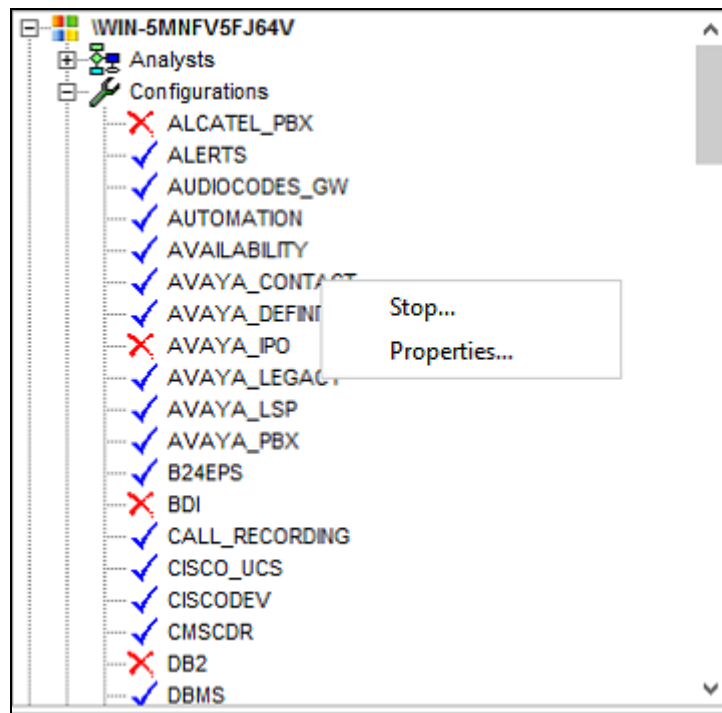
Start standard databases and thresholds

8.2. Verifying Configurations with Prognosis Client

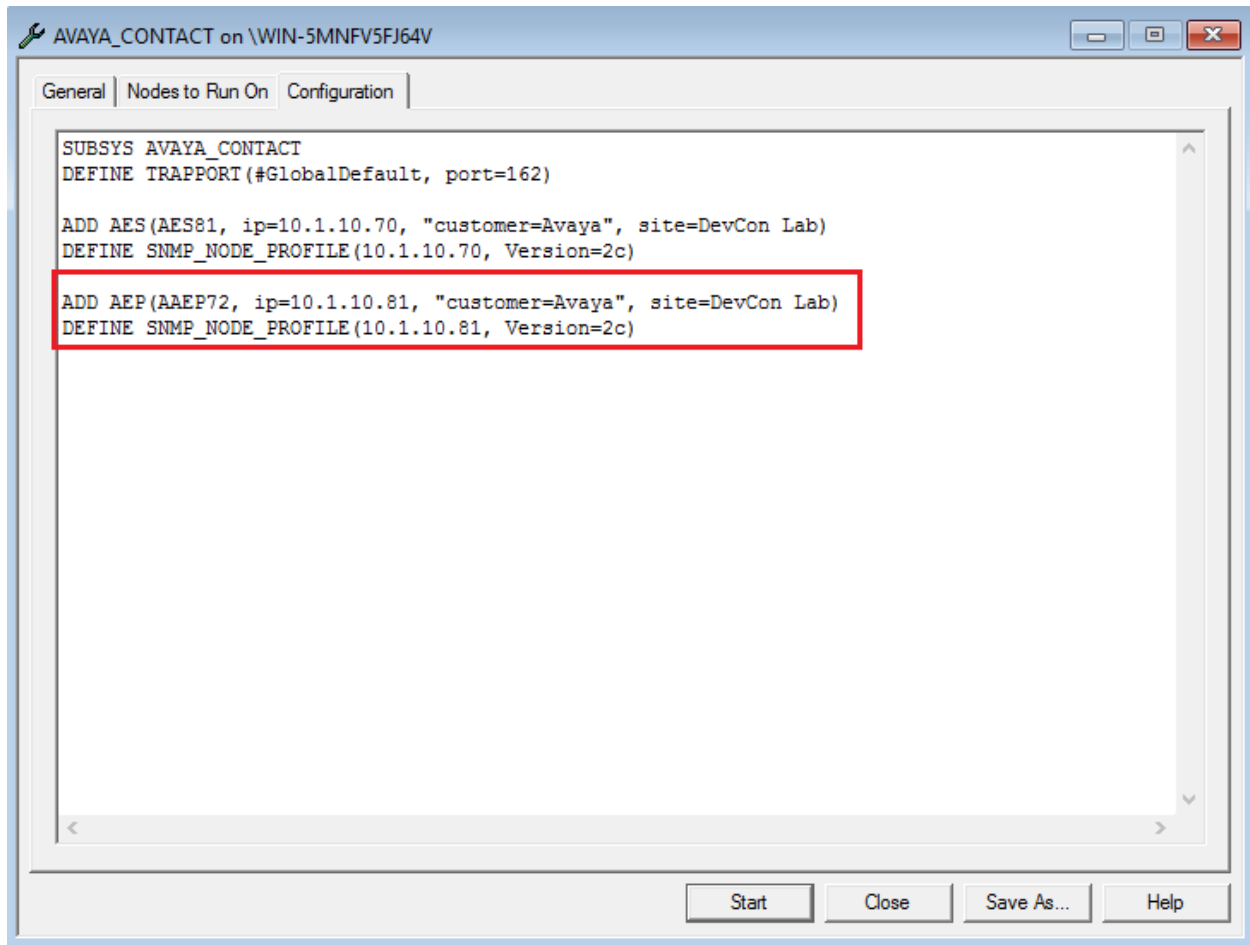
On Prognosis server, click **Start** → **All Programs** → **Prognosis** → **Prognosis Client** to start the Windows Client application (not shown). Log in with the appropriate credentials.



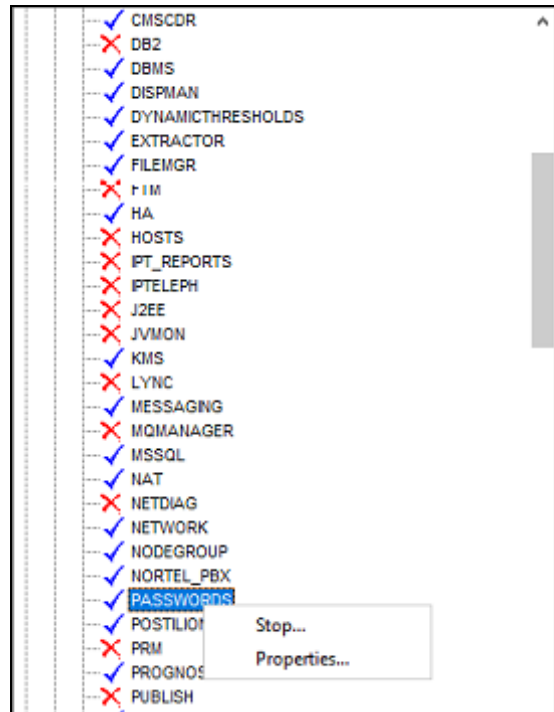
To check the configurations of the Experience Portal to be monitored, expand **Configurations** of the Monitoring Node on the left pane, right-click on **AVAYA_CONTACT** and select **Properties**.



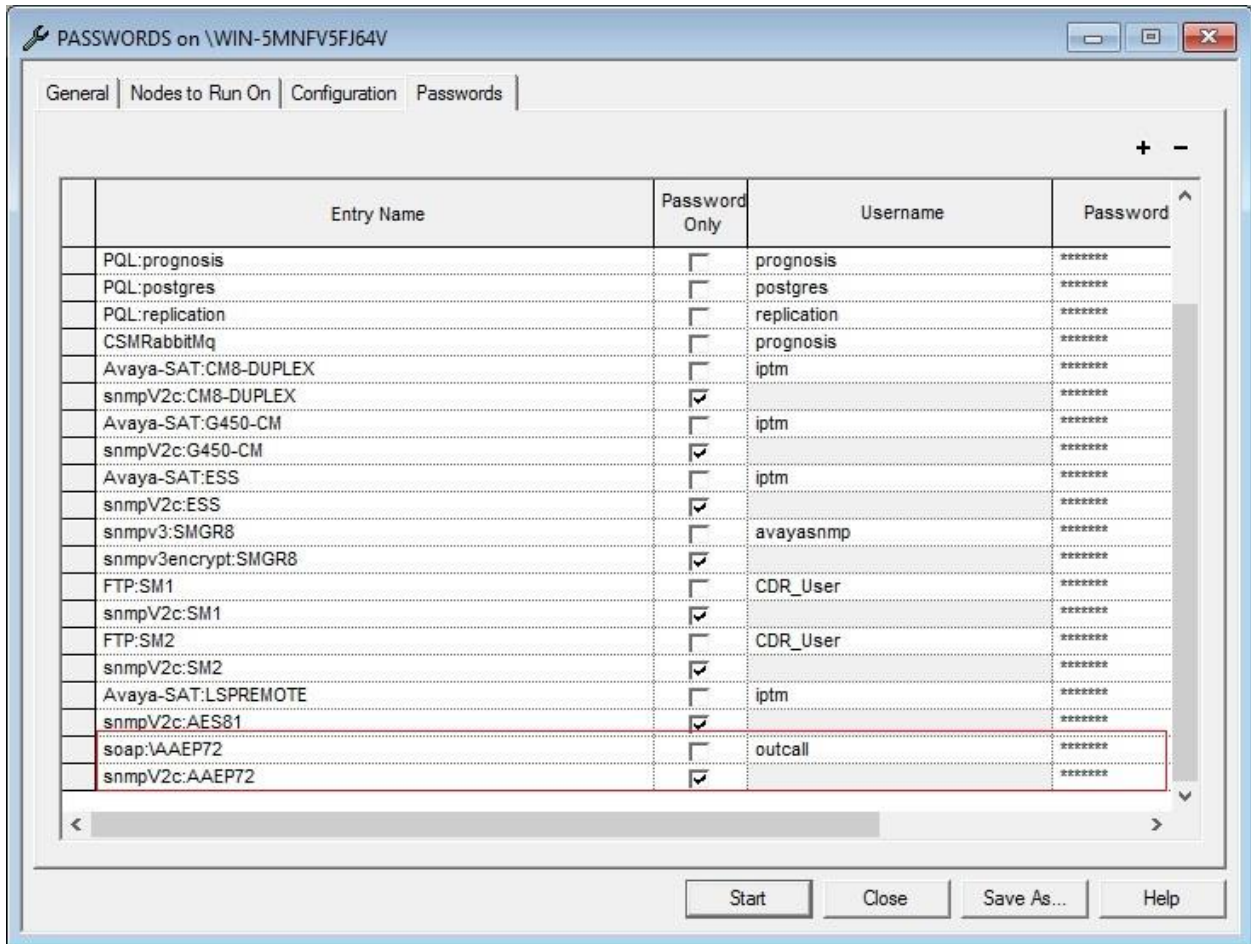
The **AEP** entry configured earlier is displayed below:



To check the configurations of the password to be monitored, expand Configurations of the Monitoring Node on the left pane, right-click on **PASSWORDS** and select **Properties**.

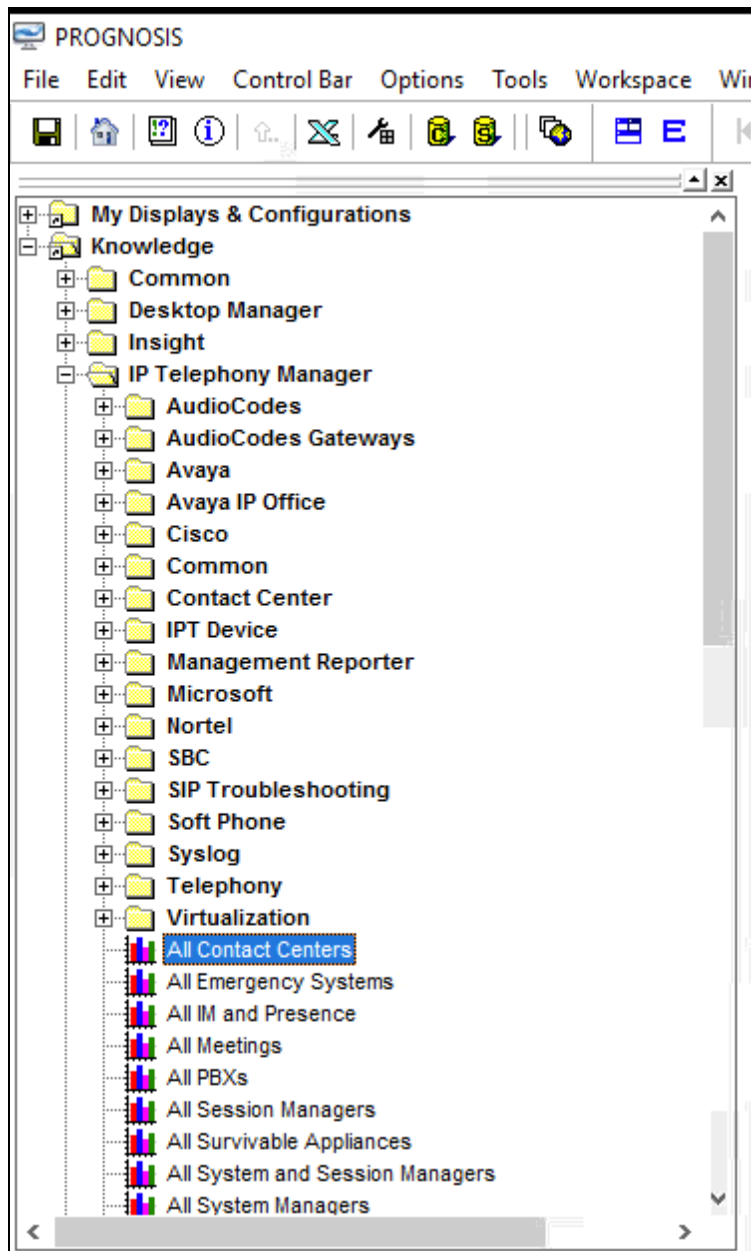


The password entries are displayed. In the compliance test, the first entry of AAEP was added **snmpv2c:AAEP72** with the password and **soap:\AAEP72** with username and the password (Community String) as configured in **Section 8.1**.



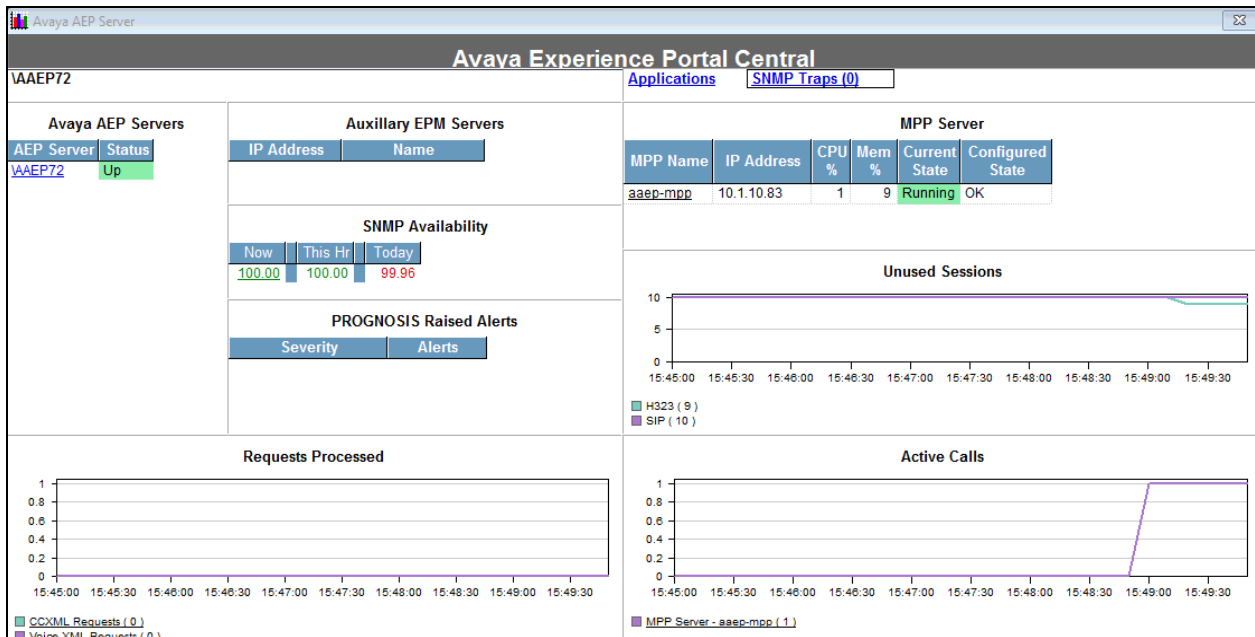
9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Experience Portal and Prognosis. Log in to the Prognosis with administrative privileges. Launch the Prognosis View by clicking **Start → All Programs → Prognosis → Prognosis Client** as in **Section 8.2**. Select on the left pane under the server node, **Knowledge → IP Telephony Manager → Virtualization → All Contact Centers**.



Click the **AAEP72** on the right plane (not shown), a new page shows **Avaya Experience Portal Central** general status such as Avaya AEP (EPM) Servers, Status, SNMP Availability, MPP Server, Active Calls, Sessions etc., ... as shown below. Further details like Applications and SNMP Traps can be displayed by clicking the respective information.

Place multiple calls to Experience portal, verify the Active Calls shows correct ongoing calls and the other statistic of Experience Portal in the interface.



To verify whether the Prognosis is able to receive and display the SNMP traps sent from the Experience Portal, select **SNMP Traps** on the top right to open **Avaya Experience Portal SNMP Traps** window.

AEP - SNMP Traps				
Avaya Experience Portal SNMP Traps				
VAAEP72				
Trap Time	Server	Message	Trap Severity	Trap Location
02/21/20,21:12	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,21:32	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,21:47	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,22:07	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,22:22	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,22:42	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,22:57	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,23:17	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,23:37	VAAEP72	Set Symbol Status: Major	Minor	epm
02/21/20,23:57	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,00:17	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,00:37	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,00:57	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,01:17	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,01:32	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,01:47	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,02:07	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,02:27	VAAEP72	Set Symbol Status: Major	Minor	epm
02/22/20,02:47	VAAEP72	Set Symbol Status: Major	Minor	epm

10. Conclusion

These Application Notes describe the procedures for configuring the Integrated Research Prognosis for Unified Communications R11.7 to interoperate with Avaya Aura® Experience Portal R7.2. During compliance testing, all test cases were completed successfully with observations in **Section 2.2**.

11. Additional References

The following Avaya documentations can be obtained on the <http://support.avaya.com>.

[1] *Administering Avaya Aura® Communication Manager*, Release 8.1.x, Issue 5, Nov 2019.

[2] *Administering Avaya Aura® Session Manager*, Release 8.1.1, Issue 2, Oct 2019.

[3] *Administering Avaya Aura® Application Experience Portal*, Release 7.2.3, Issue 1, Sep 2019.

Prognosis documentations are provided in the online help that comes with the software package.

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