Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya Modular Messaging R5.2 to interoperate with Integrated Research PROGNOSIS IP Telephony Manager R9.6 – Issue 1.0

Abstract

These Application Notes describe the procedures for configuring Integrated Research PROGNOSIS IP Telephony Manager R9.6 to interoperate with Avaya Modular Messaging R5.2.

PROGNOSIS IP Telephony Manager is a performance management solution for multi-vendor IP telephony solutions. PROGNOSIS IP Telephony Manager provides visibility of Avaya and other vendor's IP Telephony solutions from a single console. Targeted at multi-site enterprises and managed service providers of IP telephony solutions, PROGNOSIS IP Telephony Manager offers a multi-customer, multi-PBX perspective, enabling a significant reduction in complexity when managing complex IP telephony environments.

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 Integrated Research PROGNOSIS IP Telephony Manager (IPTM) with Avaya Modular Messaging.

The Integrated Research PROGNOSIS IP Telephony Manager is based on the Integrated Research PROGNOSIS product-family architecture for the scalable monitoring of business critical systems. The Integrated Research PROGNOSIS product consists of:

- One or more Integrated Research PROGNOSIS Monitoring Nodes (Server Nodes). These are servers used by the Integrated Research PROGNOSIS product to collect, relay and store information collected from Communication Manager.
- The Integrated Research PROGNOSIS IP Telephony Manager GUI is a Microsoft Windows client program which is used to connect to a PROGNOSIS Monitoring Node and display the information collected by the Monitoring Node. The PROGNOSIS GUI may either be installed on a Monitoring Node or on a separate computer.

The Integrated Research PROGNOSIS IP Telephony Manager product uses two methods to monitor a Modular Messaging system.

- Windows Management Instrumentation (WMI) - The Integrated Research PROGNOSIS IP Telephony Manager uses WMI to monitor the activities and processes running on the Avaya Modular Messaging Application Server (MAS).
- Simple Network Management Protocol (SNMP) – The Integrated Research PROGNOSIS IP Telephony Manager uses SNMP to monitor events and processes running on the Avaya Modular Messaging Storage Server (MSS).

2. General Test Approach and Test Results

The general test approach was to use the IPTM GUI to display the status and activities, current and historical, of the Modular Messaging MAS and MSS.

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

For feature testing, the IPTM GUI was used to verify the correct status of the MSS and MAS, under the following conditions:

- Established SNMP and WMI connection to MSS and MAS respectively
- Voicemail Port Utilization
- TUI activity
- Incoming call activity
- CPU, memory, processes, network and storage statistics for MSS and MAS
- MSS and MAS availability
- Incorrect connection credentials
- Message Waiting Indication (MWI) statistics
- Real-time update of graphical and statistical presentation

2.2. Test Results

All test cases passed successfully.

2.3. Support

For technical support on Integrated Research PROGNOSIS IP Telephony Manager, contact the Integrated Research Support Team at:

- Hotline: +61 (2) 9921 1524
- Email: support@prognosis.com

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify interoperability of Integrated Research PROGNOSIS IP Telephony Manager with Modular Messaging. The solution consists of Communication Manager running on an S8800 server with a G650 Media Gateway connected by a SIP trunk to Session Manager which is controlled by System Manager each running on an S8800 server. A SIP connection between Session Manager and the Modular Messaging Application Server completes the connectivity for routing between Communication Manager and Modular Messaging. The MAS and MSS are each hosted on an S3500 server. A 9641G one-X H323 Deskphone and 9650C H323 Deskphone were used as endpoints in the compliance test. IPTM is hosted on a VMware server with network connectivity to the MAS and MSS Servers.

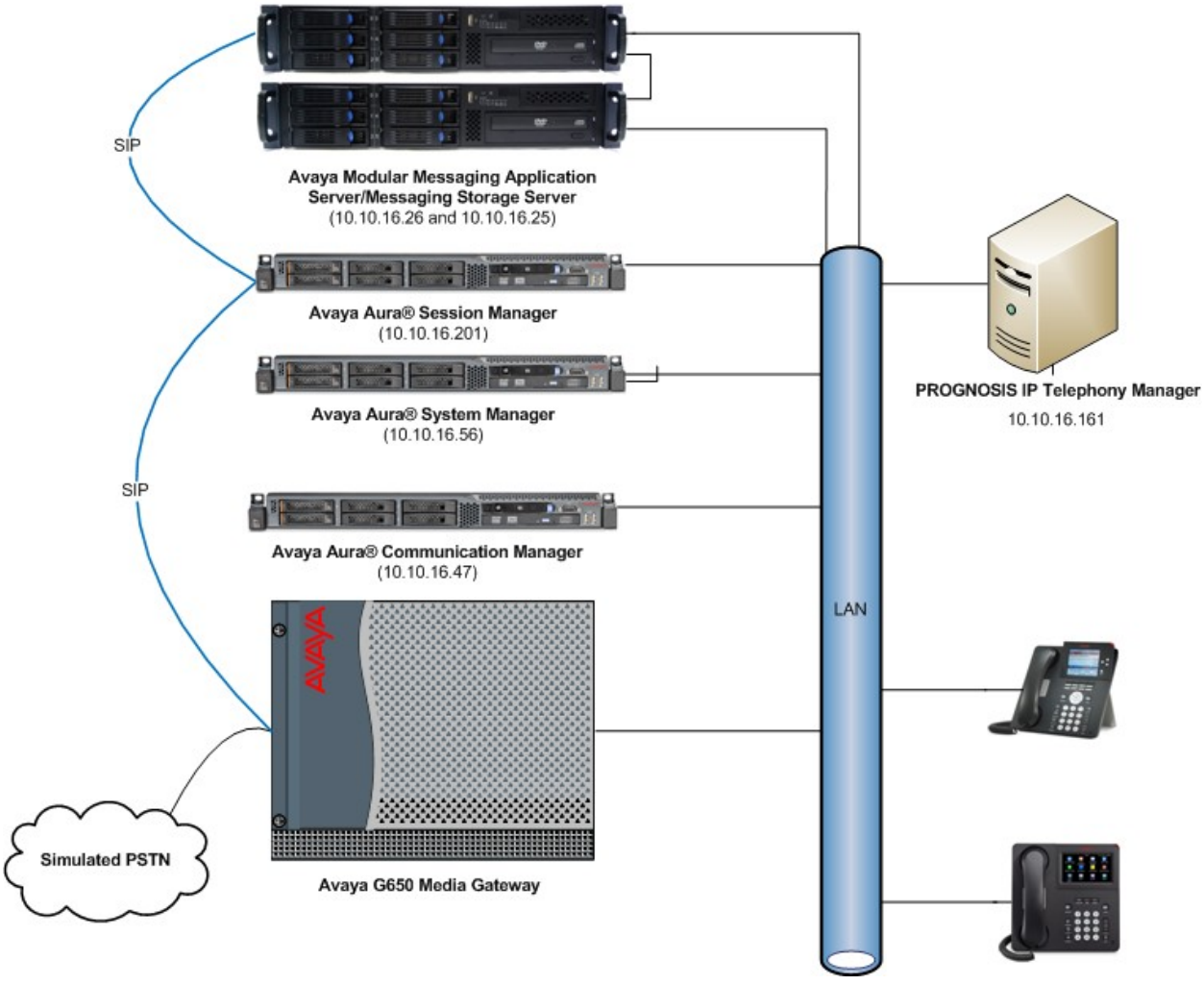


Figure 1: Avaya Aura® Communication Manager, Avaya Aura® Session Manager, Avaya Aura® System Manager and Avaya Modular Messaging with PROGNOSIS IP Telephony Manager Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on Avaya S8800 Server	R6.0.1 SP6 R016x.00.1.510.1-19350
Avaya G650 Media Gateway: • TN2602AP • TN799DP	 HW8 FW61 HW01 FW040
Avaya Aura® Session Manager running on Avaya S8800 Server	R6.1 SP6 6.1.6.0.616008
Avaya Aura® System Manager running on Avaya S8800 Server	R6.1 SP6 Build Number 6.1.0.0.7345-6.1.5.606 Software Update Revision Number 6.1.10.1.1774
Avaya Modular Messaging running on S3500 Servers	5.2 Patch 8 MAS - 9.2.150.13
VMware Server	ESXi 4.1 Integrated Research PROGNOSIS IP Telephony Manager 9.6

5. Configure Avaya Aura® Communication Manager

It is assumed that Communication Manager is already configured and stations on Communication Manager are able to access and use Modular Messaging. No special configuration is required on Communication Manager for the use of PROGNOSIS IP Telephony Manager with Modular Messaging.

6. Configure Avaya Aura® Session Manager

It is assumed that Session Manager is already configured with the relevant routing information for successful routing between Modular Messaging and Communication Manager. No special configuration is required on Session Manager for the use of PROGNOSIS IP Telephony Manager with Modular Messaging.

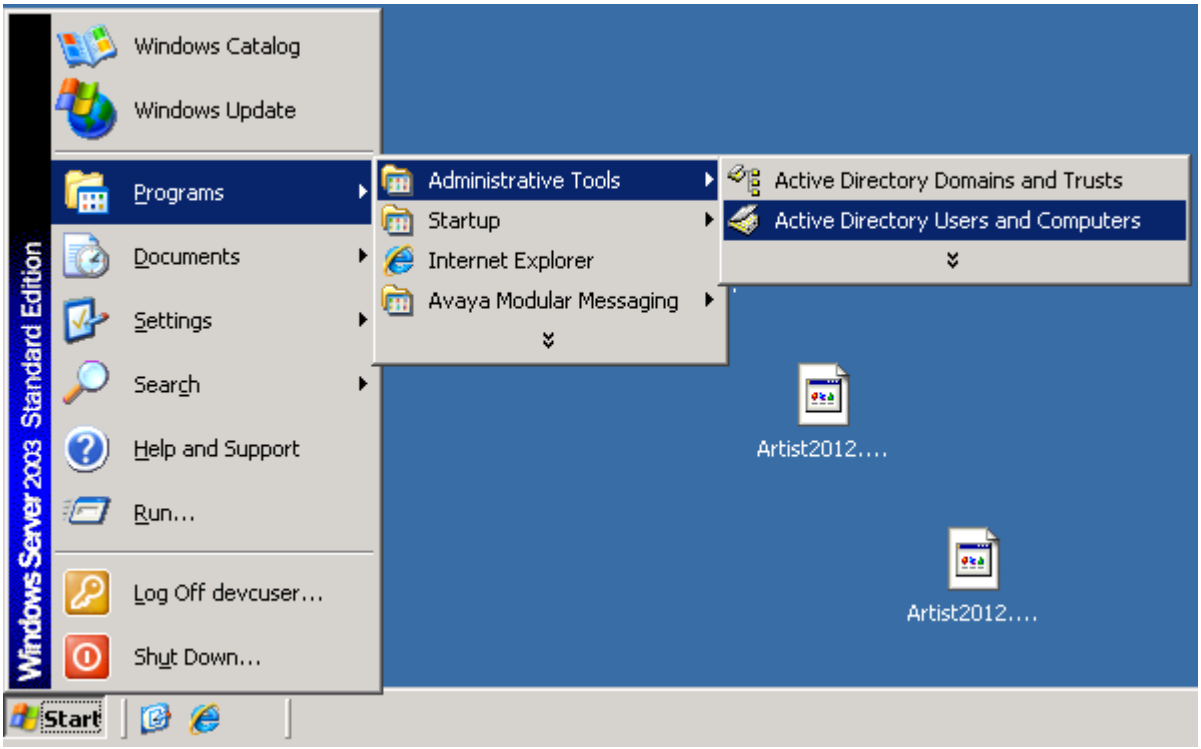
7. Configure Avaya Modular Messaging

While it is assumed that a functioning Modular Messaging solution is already in place with mailboxes configured and connectivity to Communication Manager established via Session Manager. The configuration required to interoperate with PROGNOSIS IP Telephony Manager can be summarized as follows:

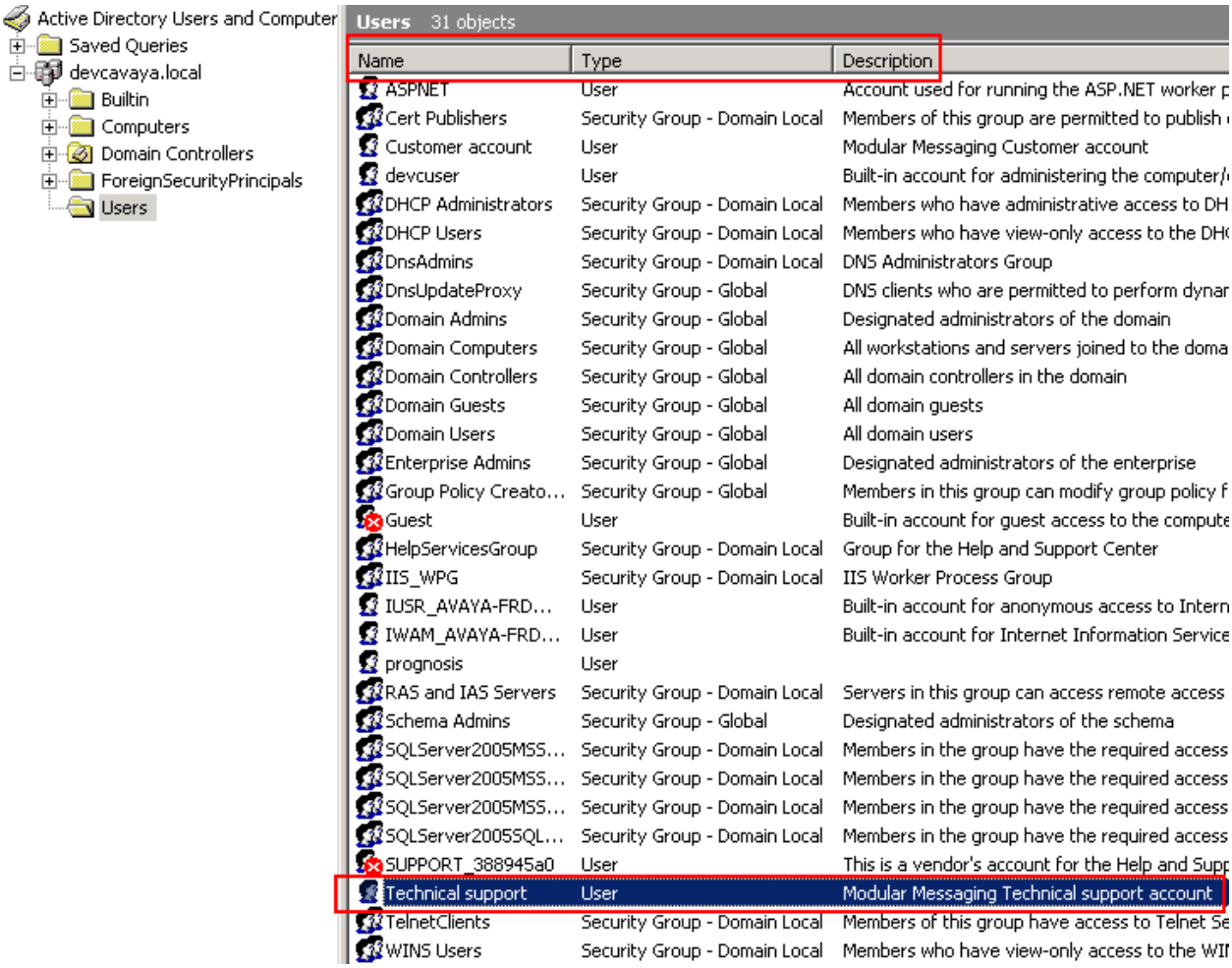
- Configure Active Directory user and password
- Enable WMI connectivity
- Configure SNMP Community
- Configure SNMP Query Originators

7.1. Configure Active Directory user and password

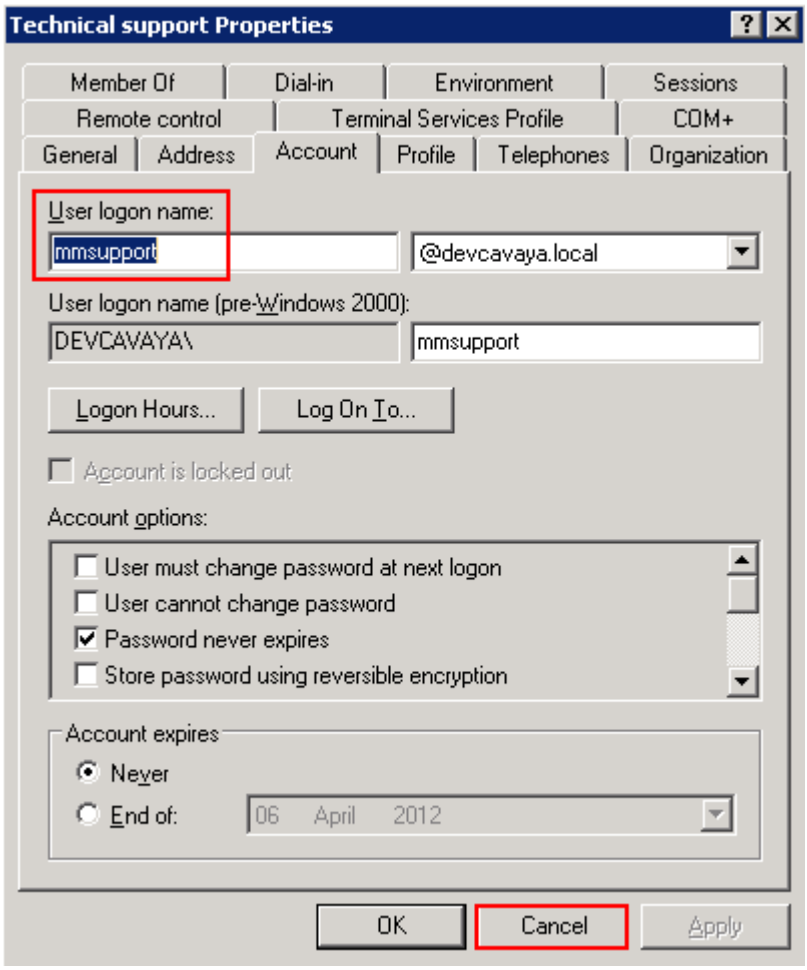
In order for PROGNOSIS IPTM to connect to the MAS to collect WMI information, a username and password must be configured on Active Directory with the correct access rights. By default Modular Messaging is provisioned with a user with sufficient privileges. Login to the Windows MAS server using the relevant administrator credentials and click **Start → Programs → Administrative Tools → Active Directory Users and Computers** as shown below.



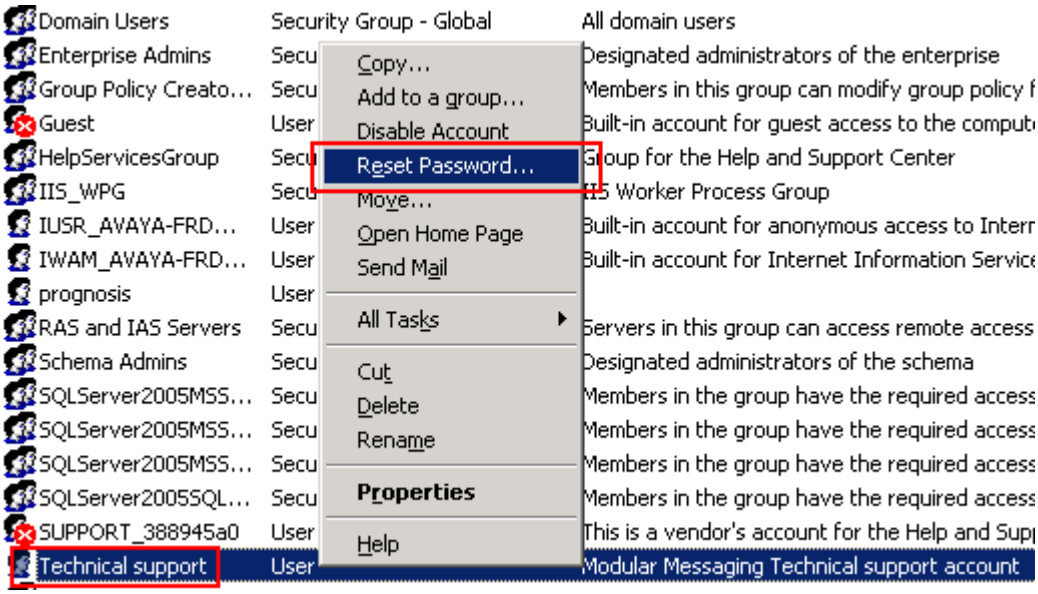
A screen will appear displaying the administered users, locate and select the user with the description **Modular Messaging Technical Support Account**.



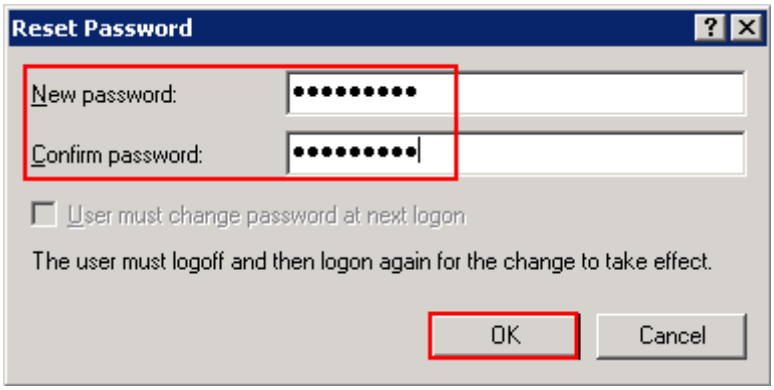
Right click on the user and select **Properties** (not shown), the properties box will appear, click the **Account** tab and note the **User logon name** and click **Cancel**.



Right click on the user again, and select **Reset Password** if the password for this user is not known.

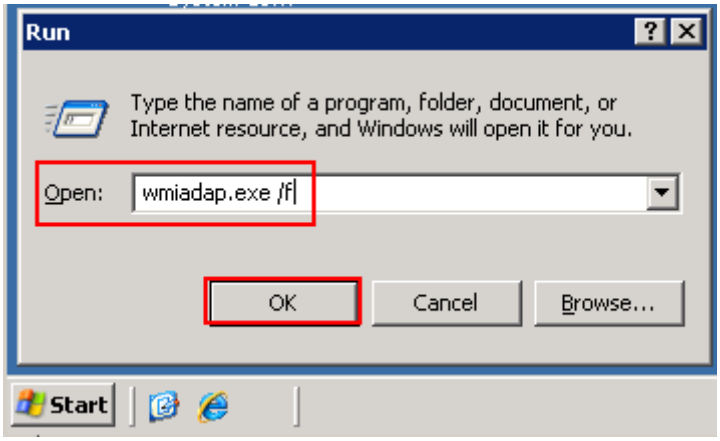


On the page which appears, enter a password sufficient to meet the Active Directory requirements and click **OK**.



7.2. Enable WMI connectivity

The MAS server must be configured in order to enable PROGNOSIS IPTM to connect for WMI information. Click on **Start → Run** enter **wmiadap.exe /f** in the **Open** box and click **OK**.



7.3. Configure SNMP Community

An SNMP Community must be added so that PROGNOSIS IPTM can connect to the MSS for server information and statistics. Click **SNMP → Add** enter **public** in the **Community** field and select **read-only**, click **Save** when done.

7.4. Configure Query Originators

A query origination must be added so that the IP address of the server hosting PROGNOSIS IPTM can connect to the MSS for SNMP information. Click **Query Originators → Add**, the **Add New Query Originator** screen will appear, in the **IP Address or Hostname** enter the details of the PROGNOSIS IPTM server and select the **Community** created in **Section 7.3** from the drop down box, click **Save** when done.

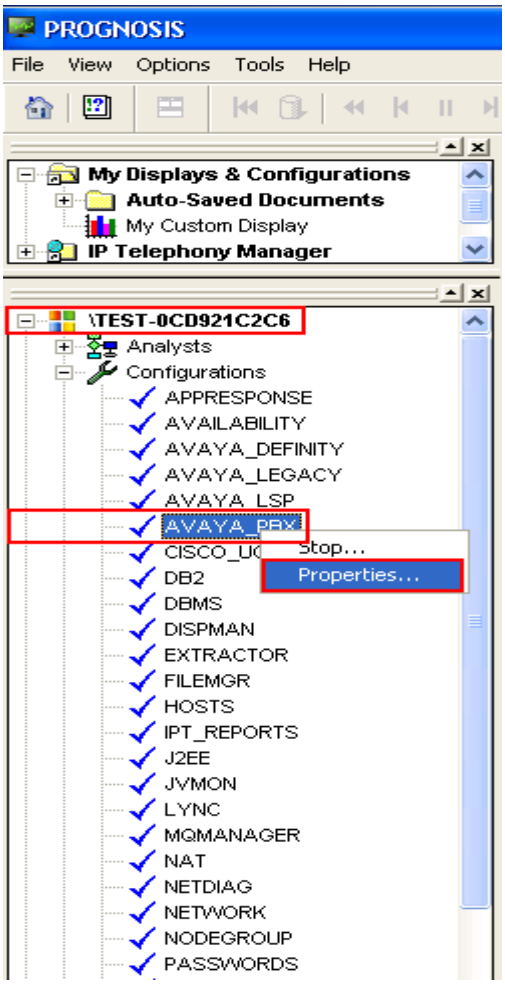
8. Configure Integrated Research PROGNOSIS IP Telephony Manager

For the purposes of the compliance test PROGNOSIS IP Telephony Manager service and client was hosted upon a Microsoft Windows XP SP2 PC and was provided installed by Integrated Research. The configuration required to connect to the Avaya solution can be summarized as follows:

- Define MAS and MSS IP addresses
- Configure WMI connection to MAS
- Configure SNMP connection to MSS

8.1. Define MAS and MSS IP addresses

In order for PROGNOSIS IPTM to connect to the MAS and MSS the corresponding IP addresses must be defined. Login to the PROGNOSIS IPTM client in the **Managed Nodes** pane, which is displayed and removed by clicking **F4**, double click on the name of the PROGNOSIS IPTM Server, in this case **\TEST-0CB921C2C6**, double click on **Configurations**, right click on **AVAYA_PBX** and select **Properties**.



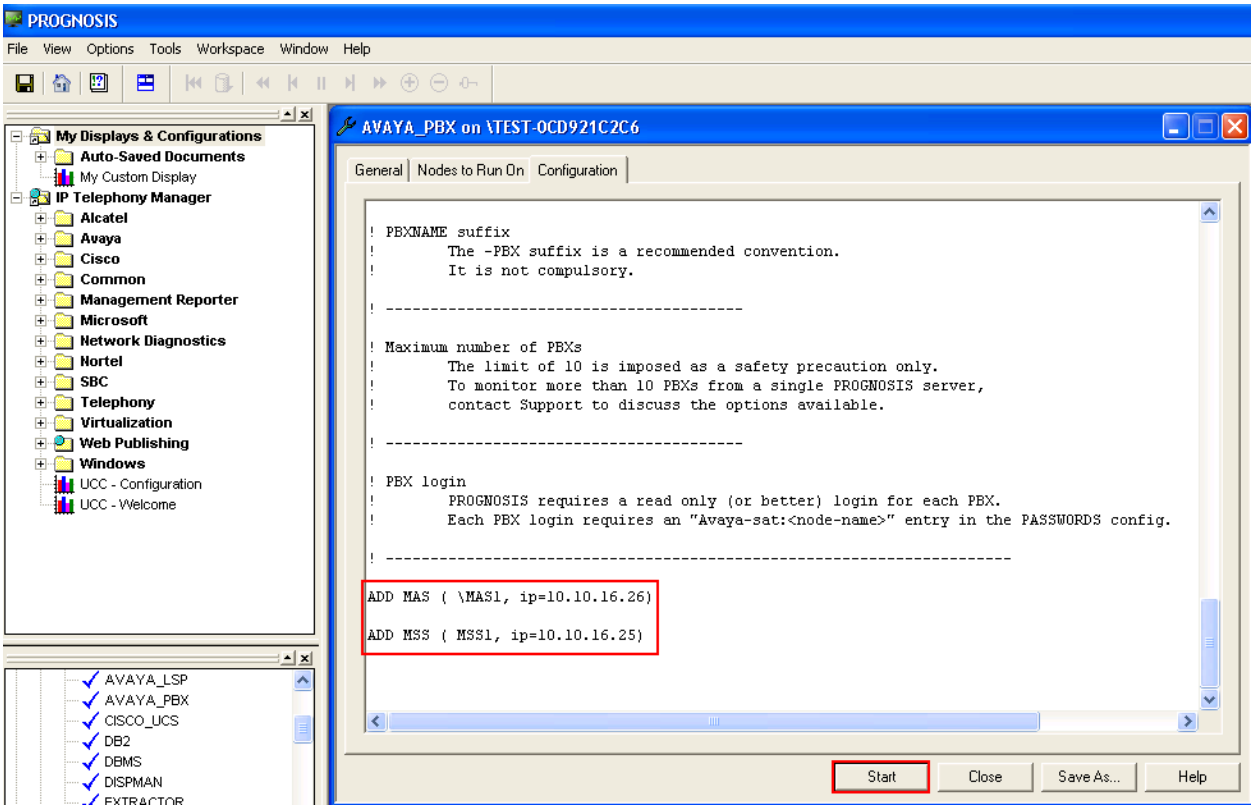
Click on the **Configuration** tab and scroll down to the bottom of the screen, enter the following at the bottom of the configuration page and click **Start**:

ADD MAS (\MAS_ID, ip=IP_OF_MAS)
ADD MSS (MSS_ID, ip=IP_OF_MSS)

In this case:

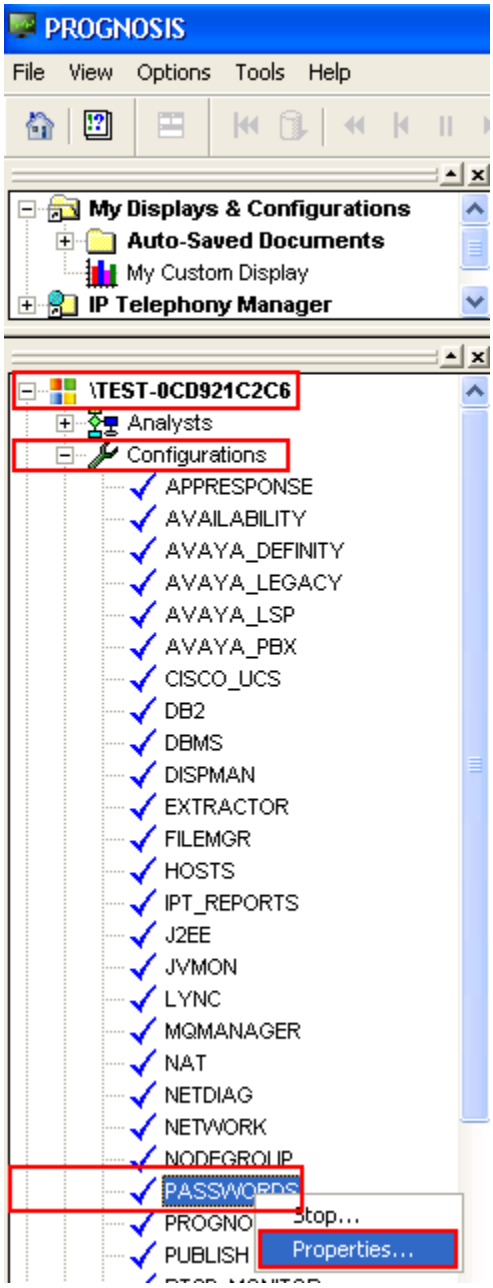
ADD MAS (\MAS1, ip=10.10.16.26)
ADD MSS (MSS1, ip=10.10.16.25)

Note: The MAS and MSS IDs are for reference purposes only and need not reflect the actual hostname configured on the respective servers. PROGNOSIS IPTM uses only the IP addresses to connect to the MAS and MSS servers.

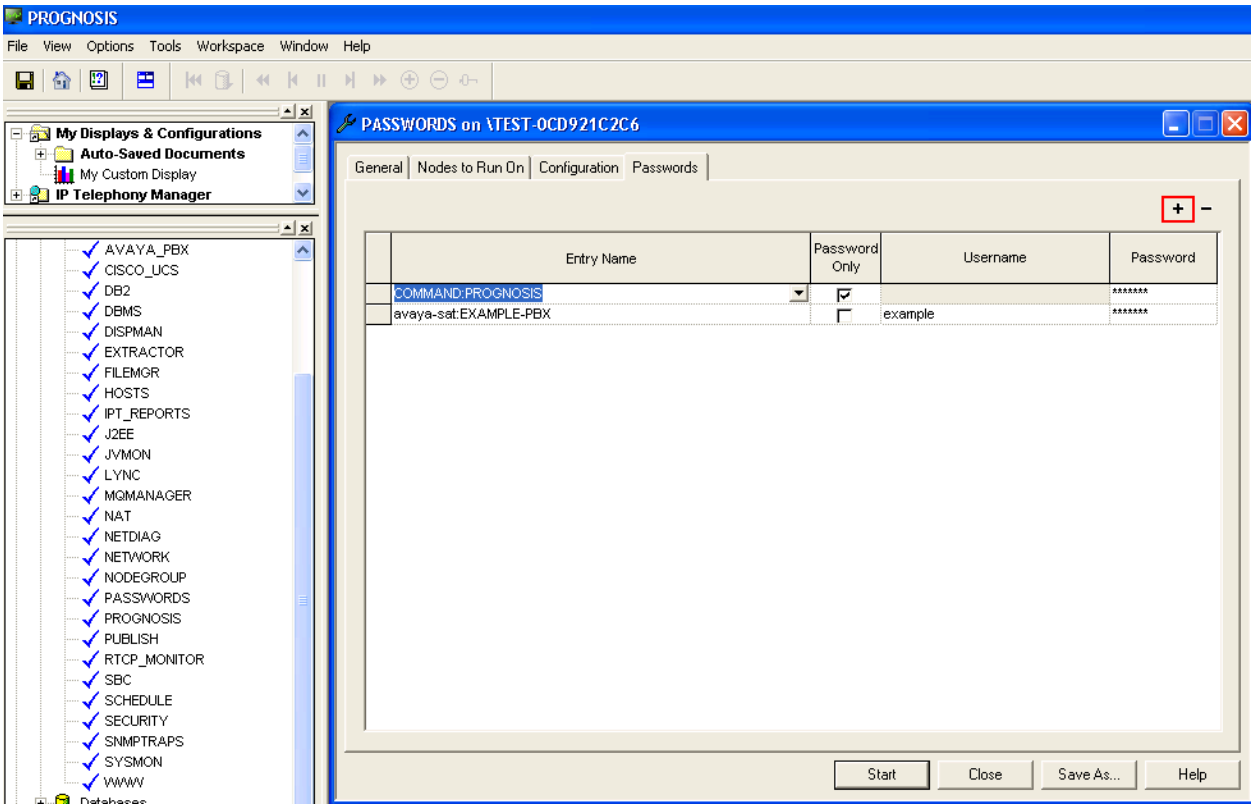


8.2. Configure WMI connection to MAS

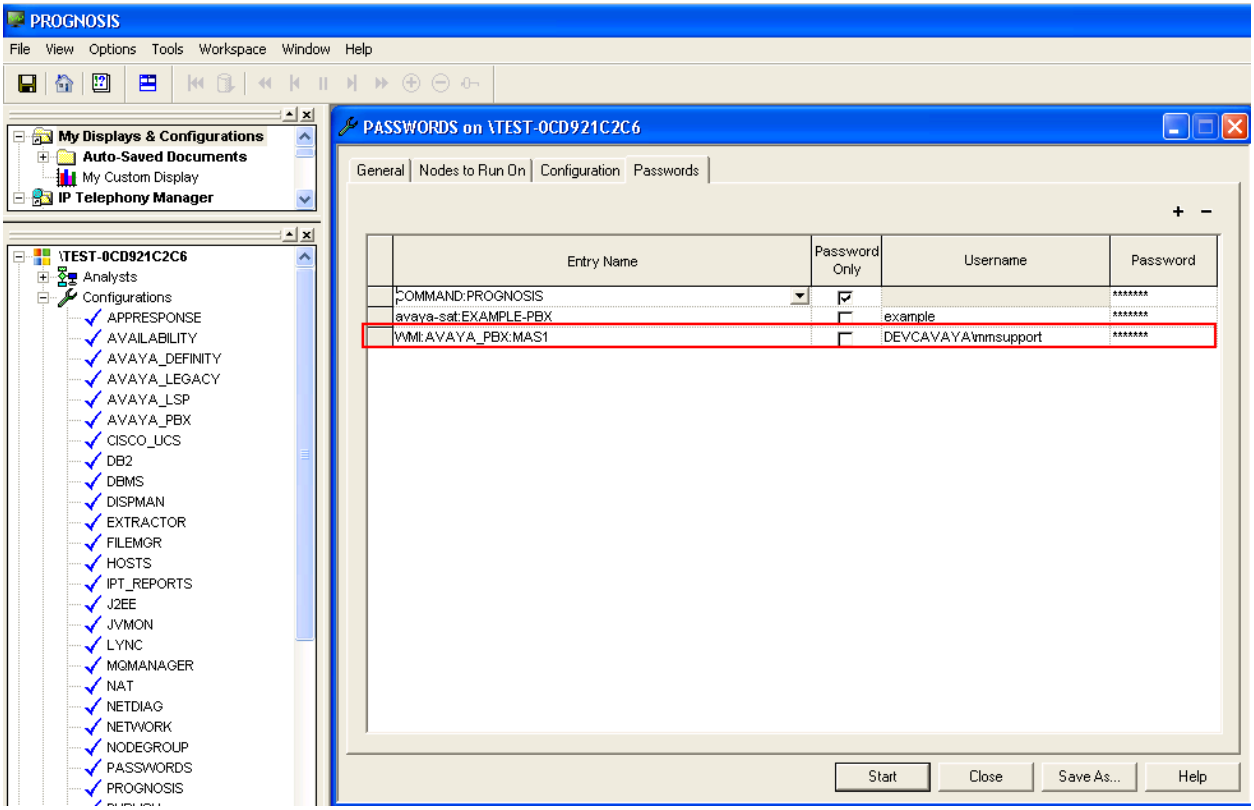
In order for PROGNOSIS IPTM to connect to the MAS for WMI information, the username and password configured in **Section 7.1** must be defined. In the **Managed Nodes** pane, right click on **PASSWORDS** and select **Properties**.



At the screen which appears click on the +.

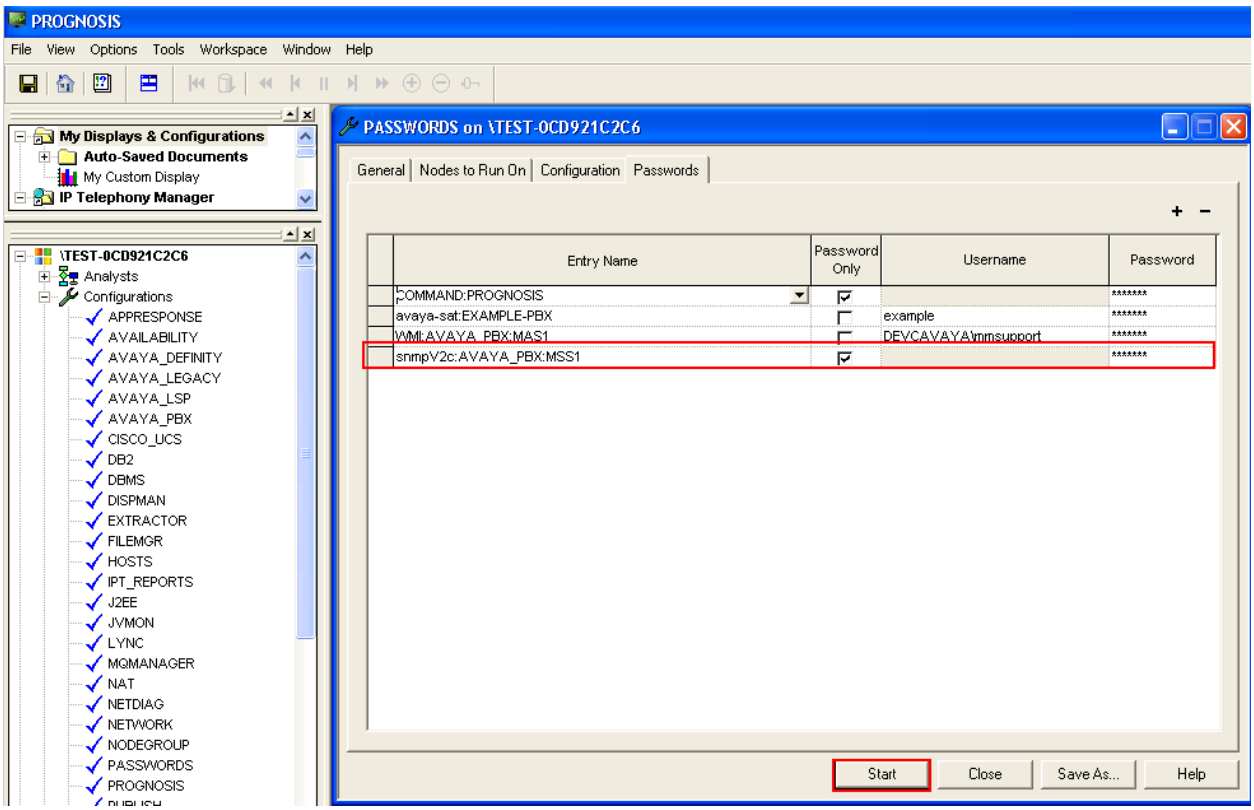


Enter **WMI:AVAYA_PBX:MAS_ID** in this case **WMI:AVAYA_PBX:MAS1** in the **Entry Name** column, and the user credentials created in **Section 7.1**, where **DEVCAVAYA** is the Active Directory Domain Name and click **Start**.



8.3. Configure SNMP connection to MSS

In order to collect SNMP information from the MSS, the SNMP string configured in **Section 7.5** must be defined. Using the same method specified in **Section 8.2** add an entry containing **snmpV2c:AVAYA_PBX:MSS_ID** in this case **snmpV2c:AVAYA_PBX:MSS1**, place a tick in the **Password Only** column and enter the community string specified in **Section 8.2** as the password, click **Start** when done.

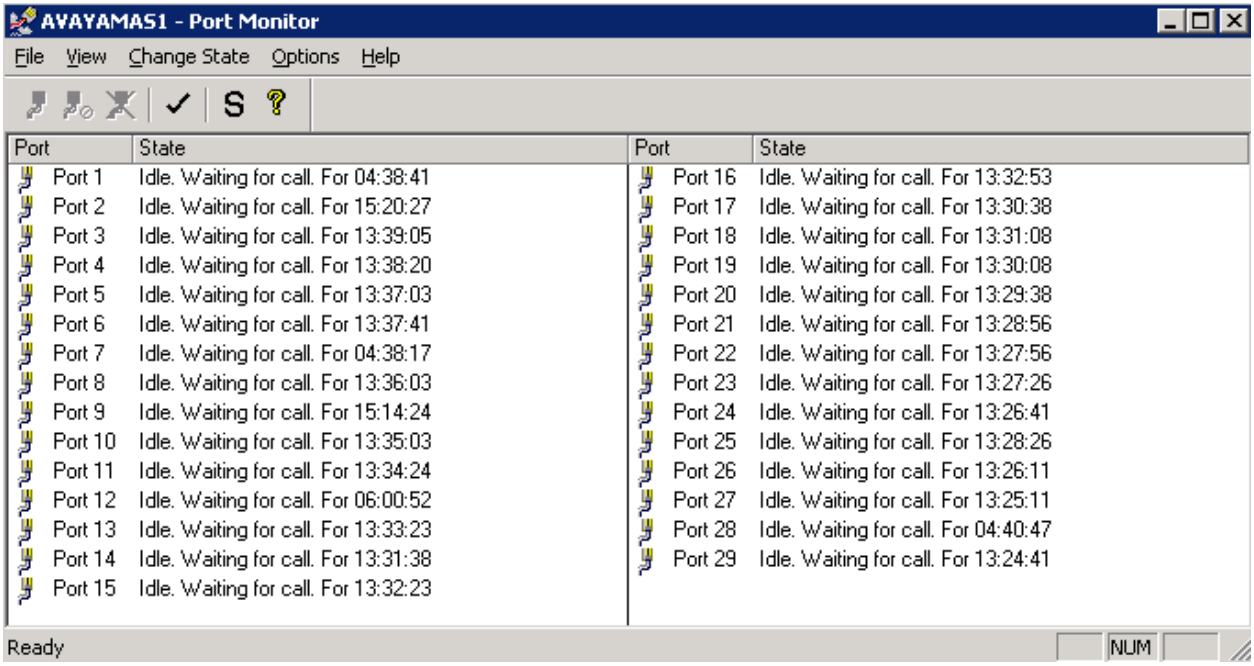


9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Modular Messaging and PROGNOSIS IP Telephony Manager.

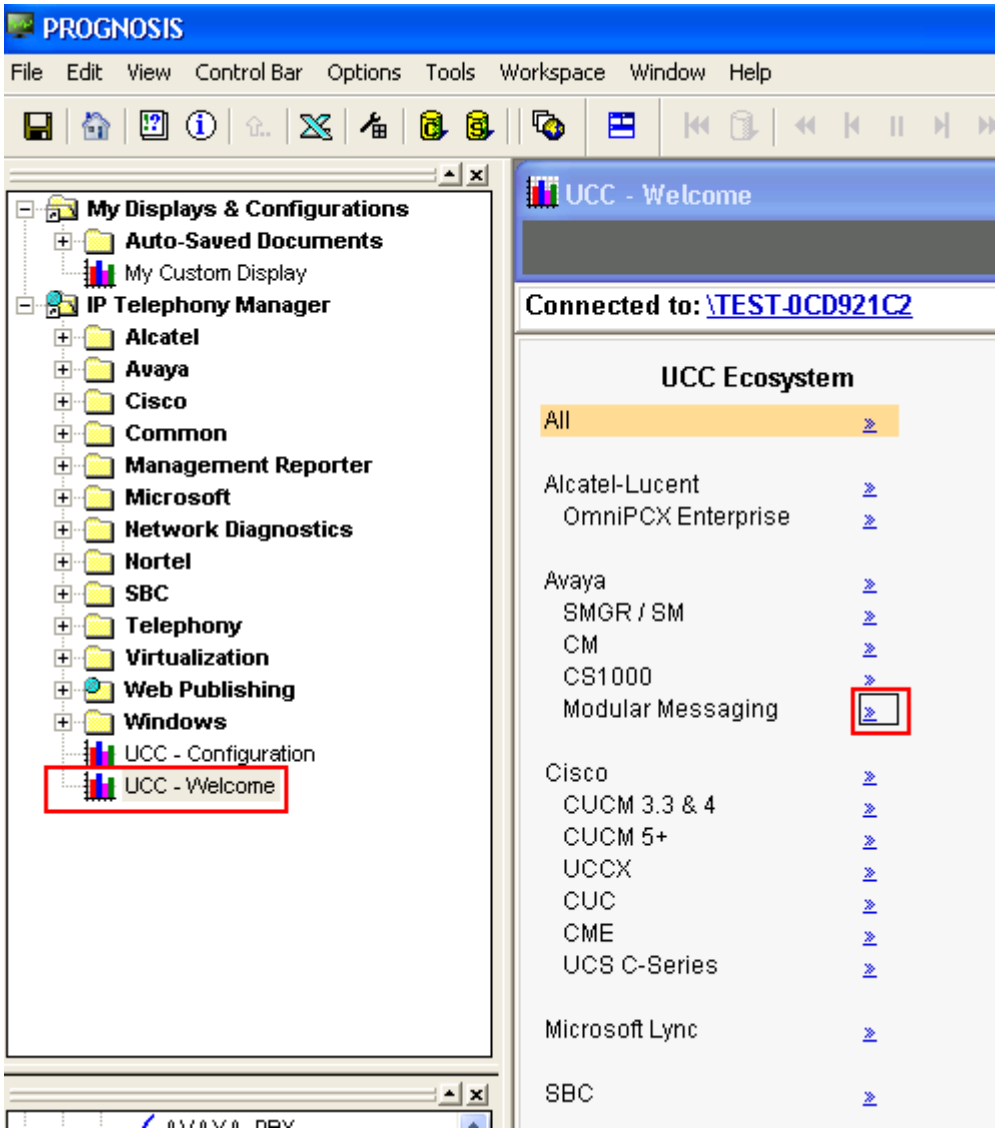
9.1. Verify Modular Messaging Port Status

From the MAS server, click **Start → Programs → Avaya Modular Messaging Port Monitor** and verify the status of the voicemail ports is accurate according to activity on Modular Messaging. In the image below, no applications provided by Modular Messaging are being accessed and all the ports are idle and waiting for a call.

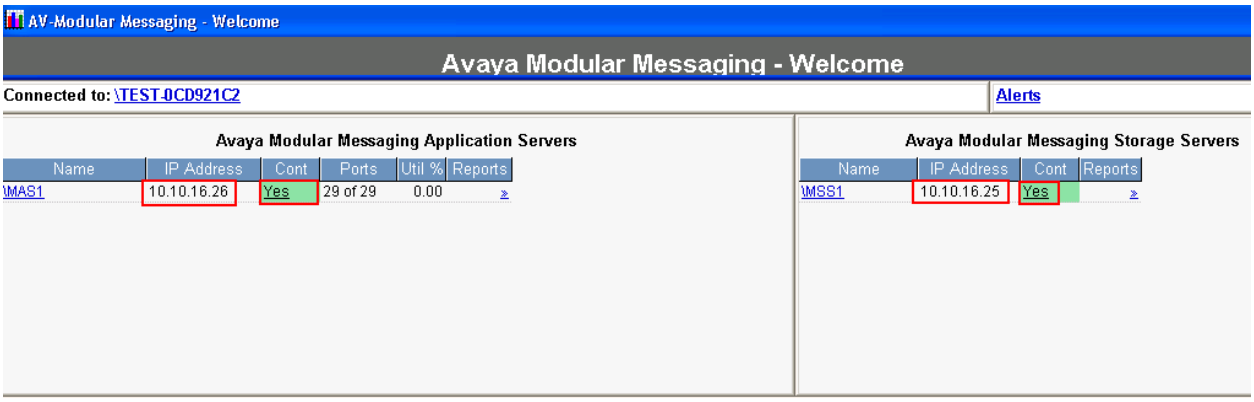


9.2. Verify Integrated Research IP Telephony Manager Status

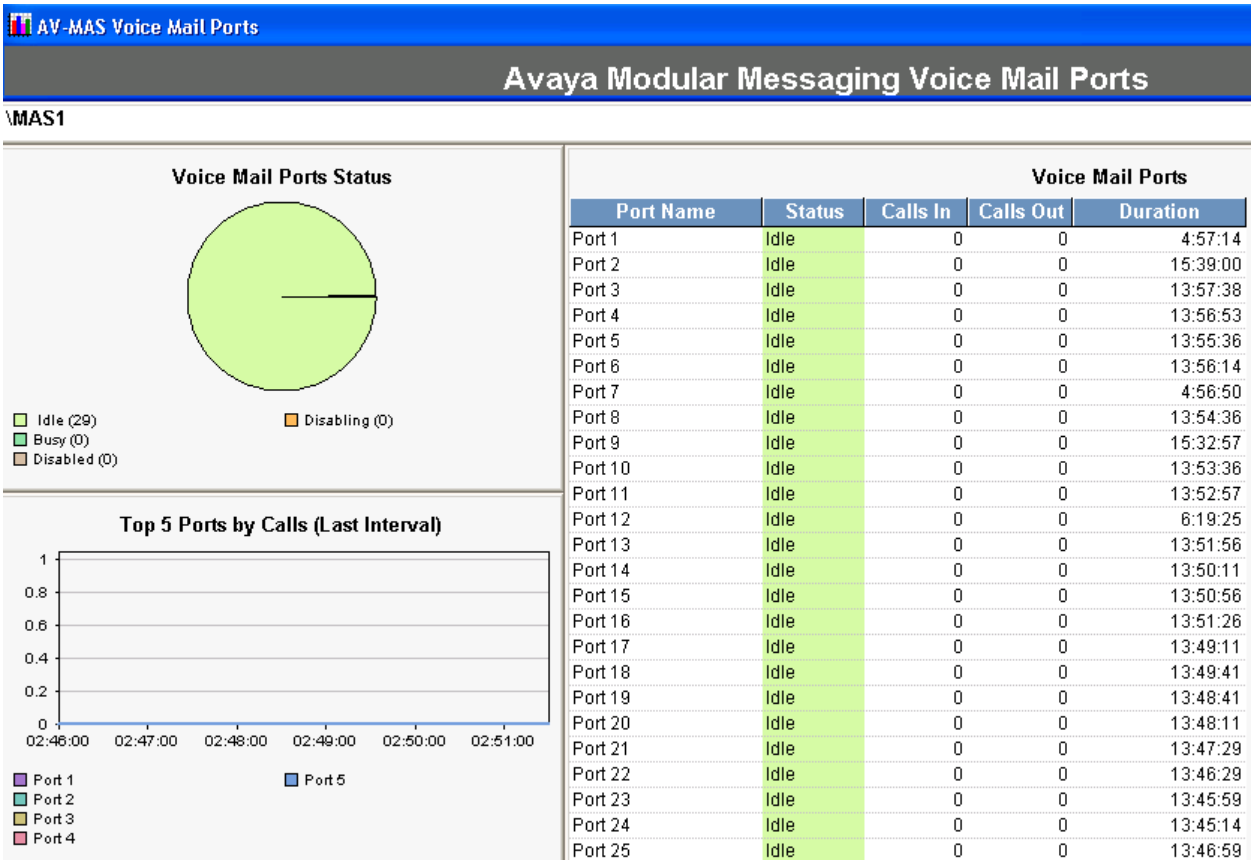
From the PROGNOSIS IPTM client click **UCC Welcome**, in the page which appears click on the double chevron next to **Modular Messaging** (highlighted in the screen below).



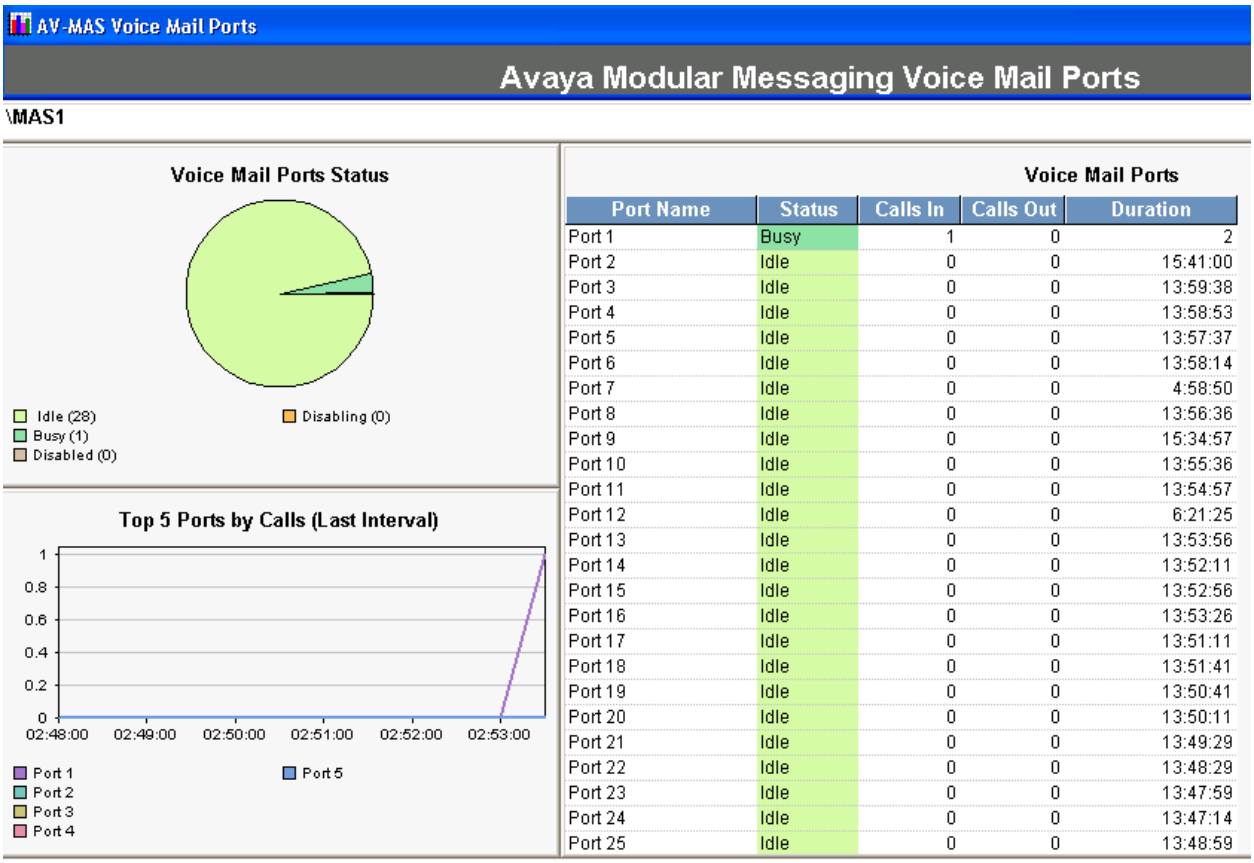
In the **Avaya Modular Messaging – Welcome** window that appears, verify that both the MAS and MSS servers are visible with their corresponding IP addresses and **Yes** in the **Cont** column.



Click on **MAS1** → **Ports**, verify the port usage is displayed and corresponds to true activity through Modular Messaging and the Port Status field shown in **Section 9.1.** Place a call into Modular Messaging and verify that the channels in use increase accordingly.



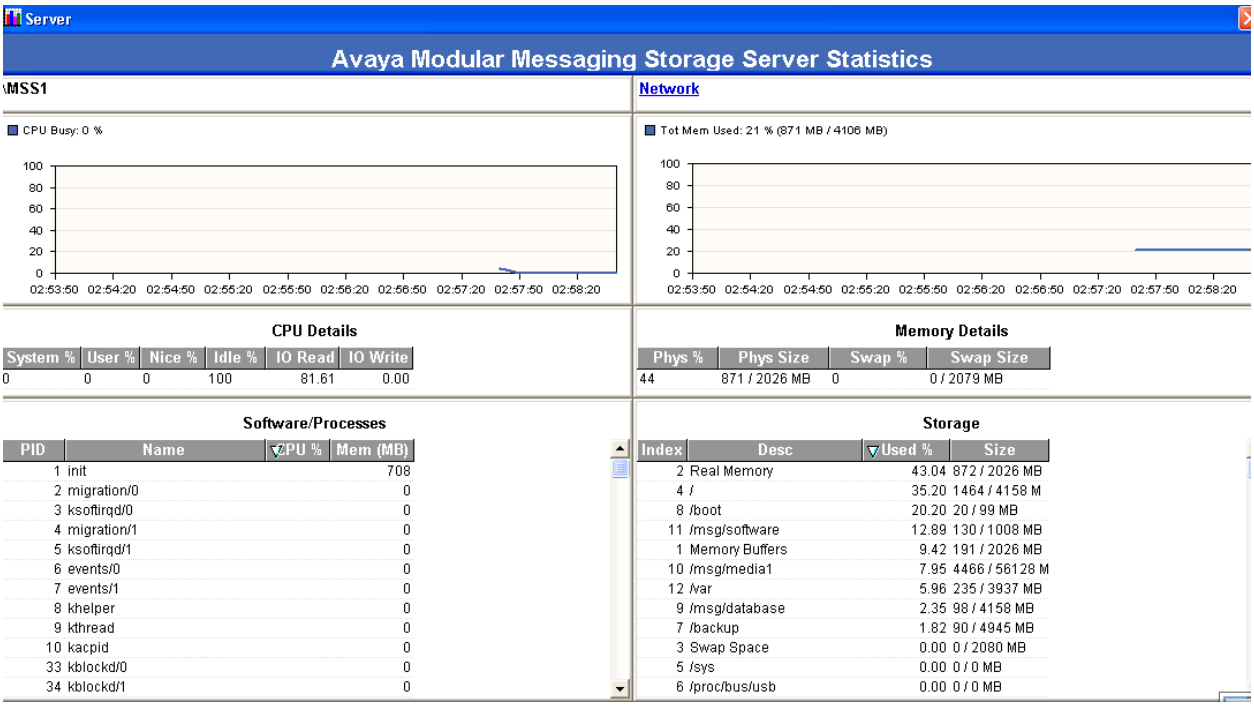
Place a call into Modular Messaging and verify that the Voice Mail Ports status is displayed accordingly.



Voice Mail Ports

Port Name	Status	Calls In	Calls Out	Duration
Port 1	Busy	1	0	2
Port 2	Idle	0	0	15:41:00
Port 3	Idle	0	0	13:59:38
Port 4	Idle	0	0	13:58:53
Port 5	Idle	0	0	13:57:37
Port 6	Idle	0	0	13:58:14
Port 7	Idle	0	0	4:58:50
Port 8	Idle	0	0	13:56:36
Port 9	Idle	0	0	15:34:57
Port 10	Idle	0	0	13:55:36
Port 11	Idle	0	0	13:54:57
Port 12	Idle	0	0	6:21:25
Port 13	Idle	0	0	13:53:56
Port 14	Idle	0	0	13:52:11
Port 15	Idle	0	0	13:52:56
Port 16	Idle	0	0	13:53:26
Port 17	Idle	0	0	13:51:11
Port 18	Idle	0	0	13:51:41
Port 19	Idle	0	0	13:50:41
Port 20	Idle	0	0	13:50:11
Port 21	Idle	0	0	13:49:29
Port 22	Idle	0	0	13:48:29
Port 23	Idle	0	0	13:47:59
Port 24	Idle	0	0	13:47:14
Port 25	Idle	0	0	13:48:59

Return to the **Avaya Modular Messaging – Welcome** screen and click on **MSS1** verify the presence of MSS details accurately reflecting the status of the MSS.



10. Conclusion

These Application Notes describe the procedures for configuring the Integrated Research PROGNOSIS IP Telephony Manager to interoperate with Avaya Modular Messaging. In the configuration described in these Application Notes, PROGNOSIS IP Telephony Manager established SNMP and WMI connections to Avaya Modular Messaging servers to view the status and statistics of the Messaging Application Server and Message Storage Server. During compliance testing, all test cases were completed successfully as mentioned in **Section 2.2**.

11. Additional References

The following Avaya documents are available from http://support.avaya.com

[1] Avaya Modular Messaging Admin Guide Release 5.2 with Avaya MSS

The following PROGNOSIS documents were provided by Integrated Research.

[2] IPTM Avaya Modular Messaging Certification Test Plan v0.3.doc

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.