



Avaya Solution & Interoperability Test Lab

Application Notes for Resource Software International Visual Rapport with Avaya IP Office – Issue 1.0

Abstract

Resource Software International Visual Rapport is a visual communication console application that provides telephone features, telephone status, and screen pop capabilities at the extension user's client computer. These Application Notes describe the configuration steps required for Visual Rapport features such as Answer, Hang Up, Hold, Transfer, Park, and screen pop, to interoperate with Avaya IP Office systems.

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 configuration steps required for Resource Software International (RSI) Visual Rapport to work with Avaya IP Office. Visual Rapport is an integrated visual communication console application that provides real-time telephone status, telephone feature dialing, and screen pop capabilities, under one application.

Visual Rapport makes call handling simple. Visual Rapport can perform time-consuming telephony functions (including Call, Answer, Hold, Park, and Transfer) with a few mouse-clicks. When an incoming call arrives, Visual Rapport can unobtrusively display the incoming Caller ID information and allows for a decision to be made about the call.

Using Visual Rapport, incoming calls can be linked with information that exists in a database or contact management applications, such as Access, Outlook, Act!, Maximizer, Goldmine or a custom application. As an example, a travel agency with a proprietary customer database could use Visual Rapport to receive screen pops at every agent's desktop and access the details of each customer's travel plans from the Visual Rapport database.

Visual Rapport consists of a server module and a client module. Each Visual Rapport client interfaces with Avaya IP Office via TAPI 1st party call control, and in this case connects a telephone directly to a PC. The Avaya IP Office TAPI driver must be installed on the Visual Rapport client PC to establish the connection to Avaya IP Office for the extension to be controlled by the Visual Rapport client.

The Visual Rapport clients also connect to the Visual Rapport server. The Visual Rapport server, with its Directory Services facilities, authenticates each Visual Rapport client and manages the data exchange between the Visual Rapport clients on the network. Communication between the Visual Rapport clients and server can be accomplished by multicasting or broadcasting. For the purposes of these Application Notes, the Visual Rapport clients and server were configured with broadcasting.

The configuration in **Figure 1** shows a network consisting of Avaya IP412 Office, Avaya IP406 Office V2, Avaya IP Office Manager PC, Visual Rapport server and clients connected to the various networks. Avaya IP412 Office has PRI and Analog trunks to the central office. Avaya IP406 Office V2 can also access the central office facilities over the Small Community Network (SCN). Avaya IP Office SCN networks allow dial plan information to be share between Avaya IP Office systems. SCN networks are also used to collectively ring extensions across two (or more) Avaya IP Office systems by dialing a single hunt group extension. For example, an incoming PRI call was routed to ring hunt group extension 55440 in this configuration. As a result, all three Visual Rapport clients described in **Figure 1** are alerted.

Each of the Visual Rapport clients in **Figure 1** is configured with TAPI 1st party call control connectivity to Avaya IP Office and is registered to a distinct Avaya IP Office extension. Refer to **Table 1** for the mapping of extensions to Visual Rapport clients and to Visual Rapport login user IDs.

Client	Avaya IP Office Extension	Visual Rapport Client User ID
Visual Rapport Client 1	55262	John Smith
Visual Rapport Client 2	55263	Tim Smith
Visual Rapport Client 3	45320	John Adams

Table 1 – Client/Extension/User ID Mapping

The tested configuration is shown in **Figure 1**.

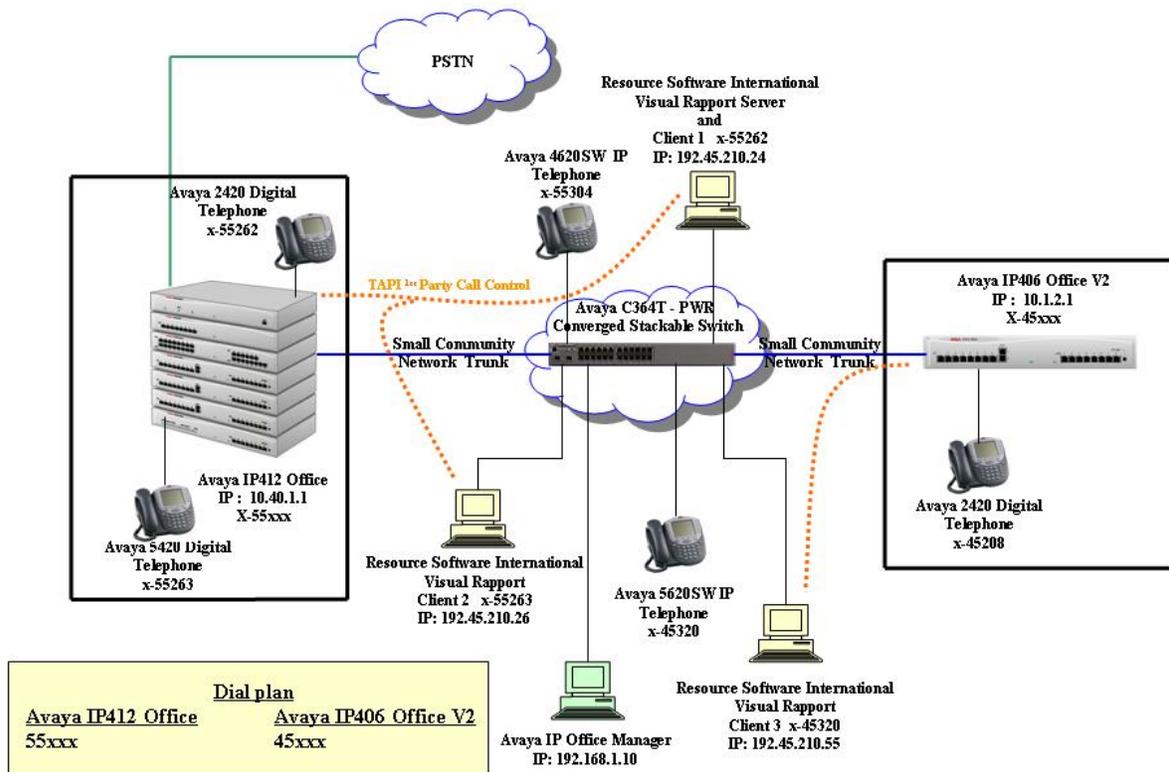


Figure 1 – Network Configuration Diagram

Avaya IP412 Office system was configured to route incoming calls to hunt groups or specific extensions, based on the test case being executed. For an incoming trunk call, Avaya IP412 Office routed the call to the destination extension. While this event occurred, Avaya IP Office also sent TAPI 1st party call control signaling to the Visual Rapport client associated with the destination extension. The user then received visual notification of the incoming call from the Visual Rapport client in addition to the audible notification from the telephone. The Visual Rapport client could be configured to take different actions during an incoming call. For the purposes of compliance testing, one of the three Visual Rapport clients was configured to generate a screen pop after two seconds, when an incoming call was answered at that extension. For example, when receiving an incoming call, the Visual Rapport client assigned to extension 55263 was setup to launch Microsoft Notepad and immediately display the caller's information (Section 5.2.1).

2. Equipment and Software Validated

The following products and software were used for the configuration in Figure 1
Figure 1:

Product	Software/Version
Avaya IP412 Office	4.0.10
Avaya IP406 Office V2	4.0.10
Avaya IP400 Phone Module	6.0.10
Avaya IP400 Digital Station Module	6.0.10
Avaya IP Office Manager	6.0.10
Avaya 4620SW IP Telephone	2.3
Avaya 5620SW IP Telephone	2.3
Avaya 2420 Digital Telephone	5.0
Avaya 5420 Digital Telephone	5.0
Visual Rapport server	2.08
Visual Rapport client	2.08
Avaya C364T – PWR Converged Stackable Switch	4.5.14
PCs for Avaya IP Office Manager and Resource Source International Visual Rapport server and clients	Windows 2003 XP Professional Service Pack 2

Table 2 – Product and Software Version

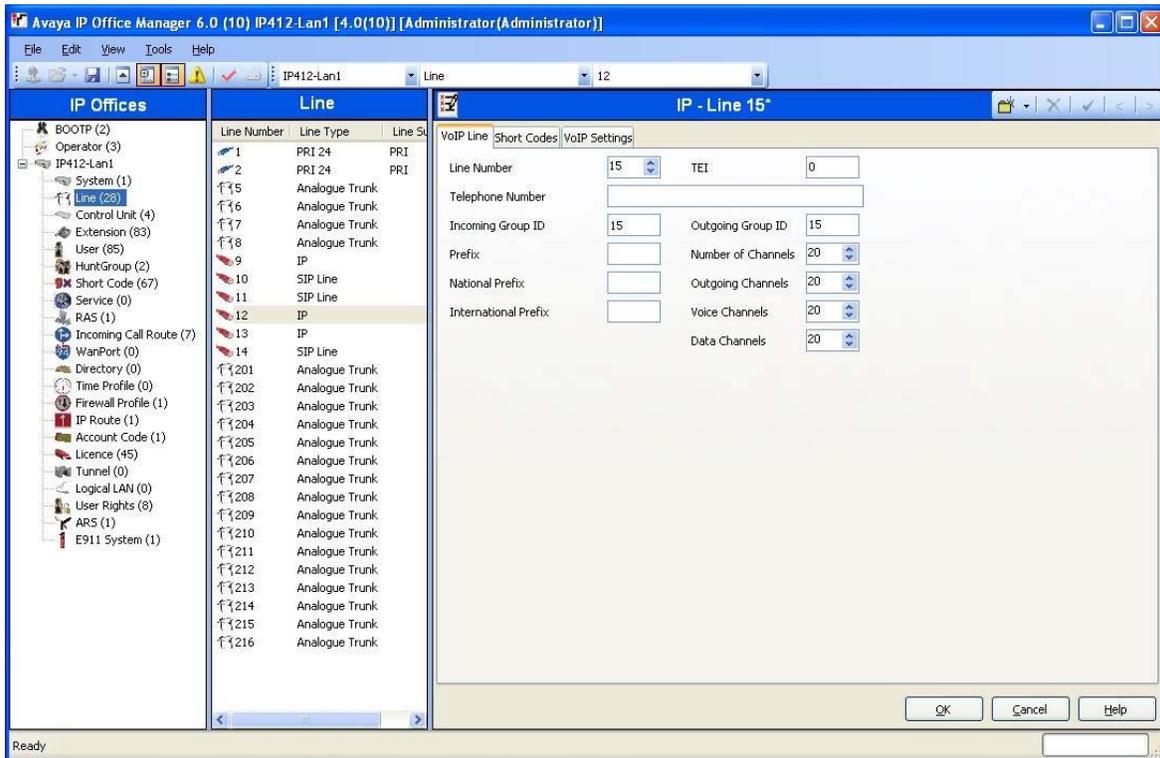
3. Configure Avaya IP Office

The configuration information provided in this section describes the steps required to set up user extensions and passwords on Avaya IP Office. While this is part of a typical Avaya IP Office configuration, the information is needed for the TAPI driver configuration on the Visual Rapport clients.

For other information, such as Avaya IP Office installation and configuration, etc., please refer to the Avaya IP Office product documentation in Reference [1]. Except where noted, similar configurations are performed on each Avaya IP Office systems.

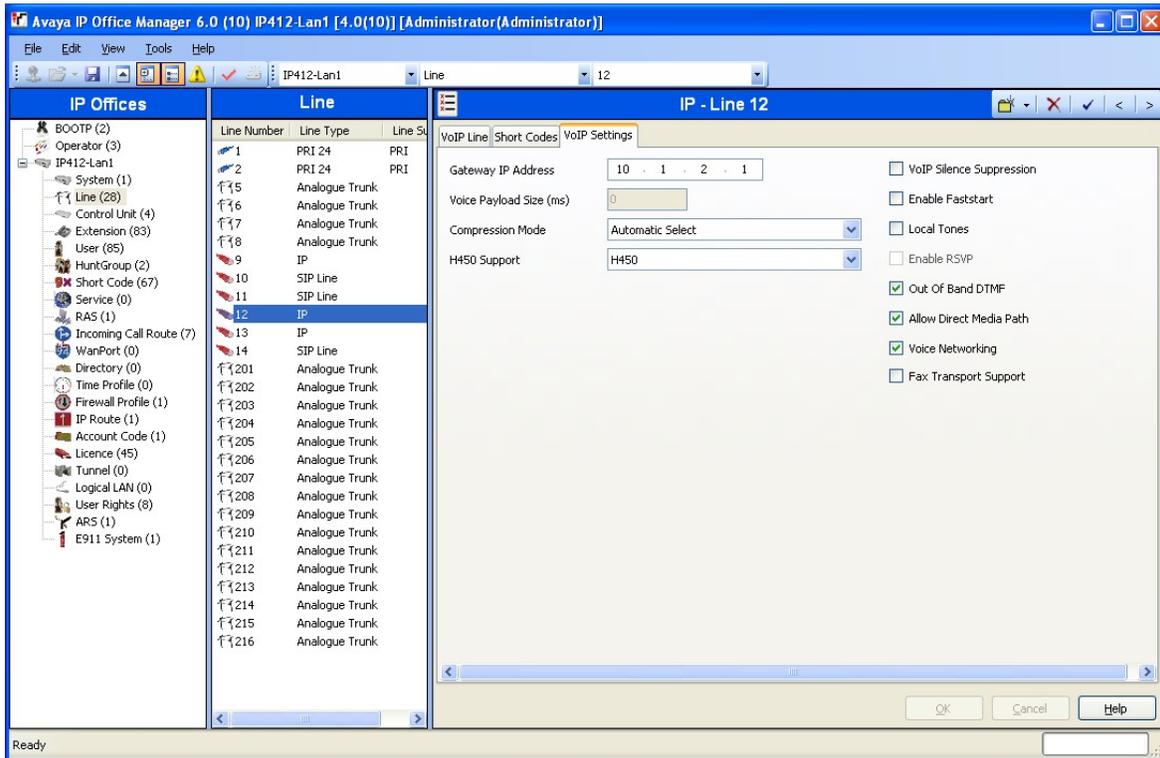
1. From the Avaya IP Office Manager PC, go to **Start** → **Programs** → **IP Office** → **Manager** to launch the Avaya IP Office Manager application. Log into the Avaya IP Office Manager application using the appropriate credentials.
2. In the **Avaya IP Office Manager** window that is displayed (not shown), select **File** → **Open** to search for the IP Office system in the network. Select Avaya IP412 Office.
3. Log into the Avaya IP412 Office system using the appropriate login credentials to receive its configuration.
4. In the **Avaya IP Office Manager** window, go to the configuration tree in the left-hand panel and right-click **Line** and select **New** → **IP Line** (not shown). The screen below should display.

In this case, the system automatically assigns **15** as the **Line Number** (this will vary). Place the value **15** in the **Incoming Group ID** and **Outgoing Group ID** fields. Click the **VoIP Settings** tab.



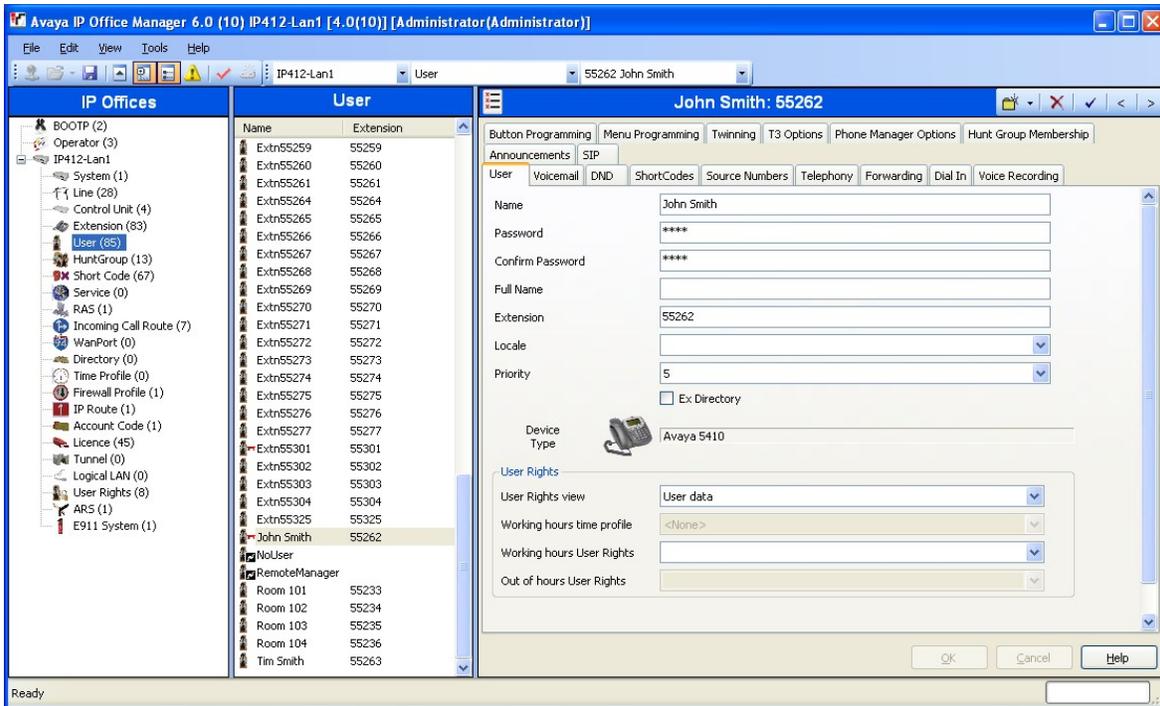
- Set the **Gateway IP Address** to the IP address of the other Avaya IP Office System (see **Figure 1**). Check the **Voice Networking** check-box. The **Voice Networking** parameter turns on SCN capabilities. Click **OK**.

Note: The IP address will be different when administering the other Avaya IP Office system.



- Select **User** on the left-hand panel configuration tree. In the **User** list displayed, scroll down and select the user and extension name mapped to the first Visual Rapport client listed in **Table 1**. Assign a password to the **Password** field for this extension. Record the name and password associated with this extension as this information will be required in **Section 5.2**. Click **OK**.

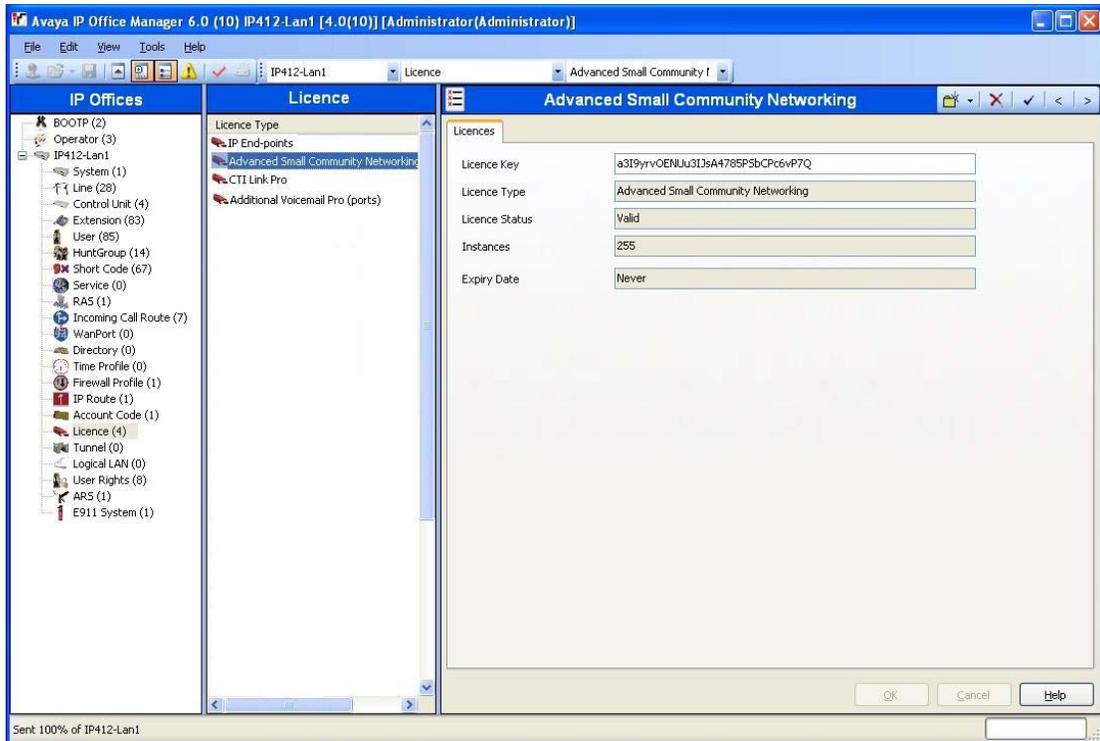
Note: Extension numbers will be different when administering the other Avaya IP Office system



- Repeat **Step 4** for the remaining extensions listed in **Table 1**.

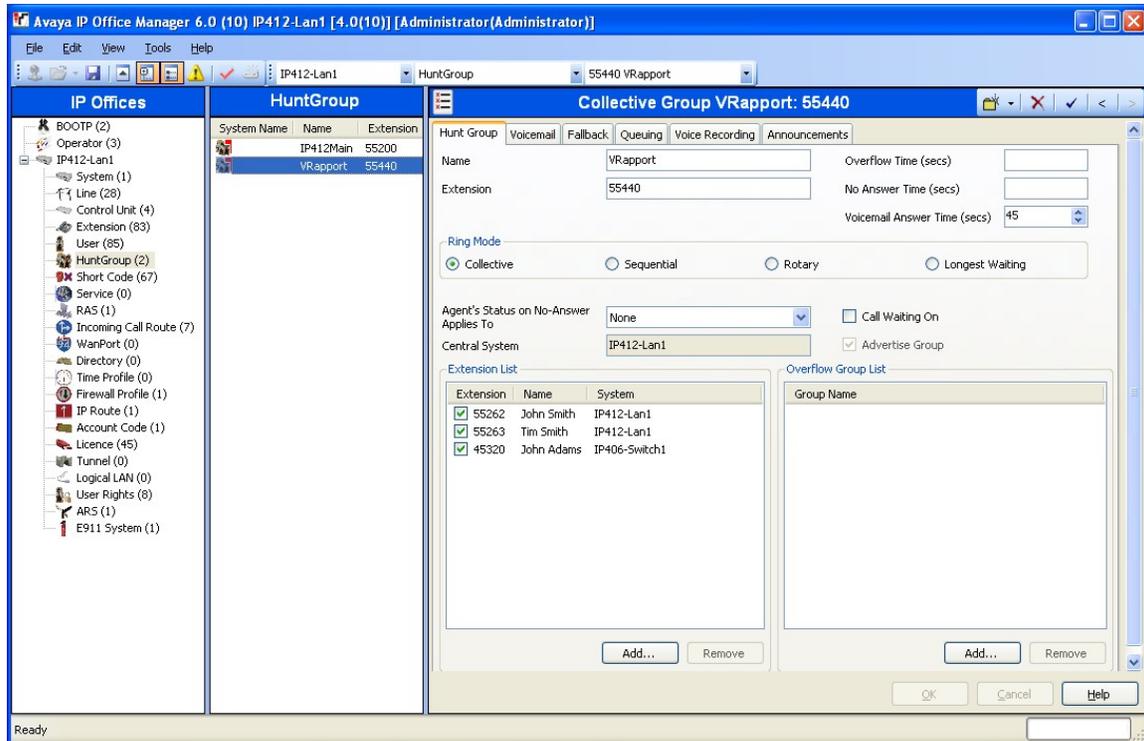
8. Select **License** on the left-hand panel configuration tree. Check that **License Type** is set to **Advanced Small Community Networking** license is installed and **License Status** is set to **Valid**. **Note:** This license is required for multiple system hunt group capabilities and needs to be installed on all participating Avaya IP Office systems.

Note: The compliance tests were performed using SCN trunks, where the dial plans and hunt groups were shared. If SCN hunt group functionality is not required, or where only one Avaya IP Office system is available, this license is not necessary.



9. Create a hunt group by right-clicking on **HuntGroup** on the left-hand panel configuration tree and select **New** (not shown). On the right-hand panel, enter a **Name** for the hunt group. In the **Extension** field, enter the extension assigned to the hunt group. Click on the **Add...** button and select the extension members from the extension list (not shown). In this case, the name of the hunt group is **VRapport**, the hunt group extension is **55440** and the member extensions are **55262**, **55263**, and **45320**. Click **OK**.

Note: Hunt group administration does not need to be performed on the other Avaya IP Office system.



10. In the **Avaya IP Office Manager** window, select **File** → **Save** to push the configuration to the Avaya IP Office system and wait for the system to update.
11. Repeat **Steps 1 – 8** and **10** on the Avaya IP406 Office V2 system. This completes configuration of Avaya IP Office.

4. Configure Resource Software International Visual Rapport Server

The configuration information provided in this section describes the steps required to configure user accounts in the Visual Rapport server. Only one Visual Rapport server is required within the infrastructure and the Visual Rapport client can be co-located as illustrated in **Figure 1**. This information is provided for completeness since the Visual Rapport server does not interface with Avaya IP Office.

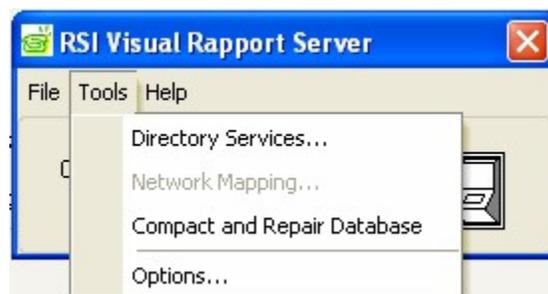
For all other provisioning information, such as software installation, installation of optional components, general configuration of Visual Rapport server, please refer to the Visual Rapport product documentation in References [2] and [3].

The information provided in this section assumes the Visual Rapport server has already been successfully installed and licensed on the PC.

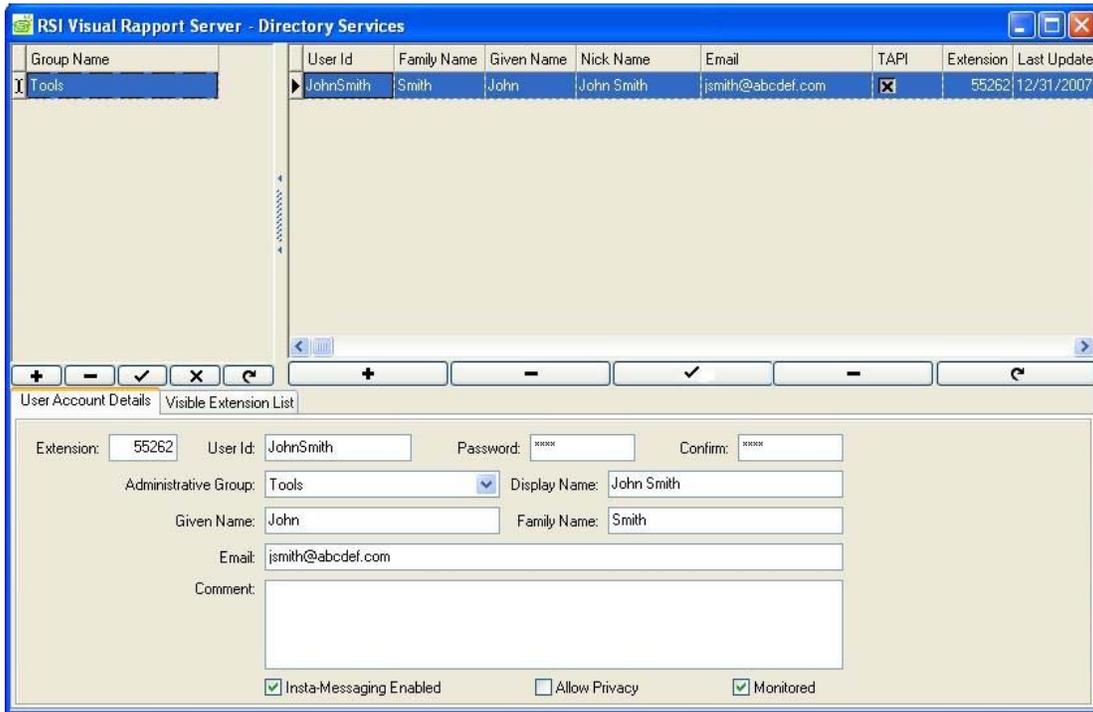
1. Log into the Visual Rapport server PC with the appropriate administrative credentials.
2. Launch the RSI Visual Rapport Server application from the short-cut installed on the Windows desktop. In the **RSI Visual Rapport Server** window, click the switch icon to turn off the Communication Services.



3. In the **RSI Visual Rapport Server** window, select **Tools** → **Directory Services...**

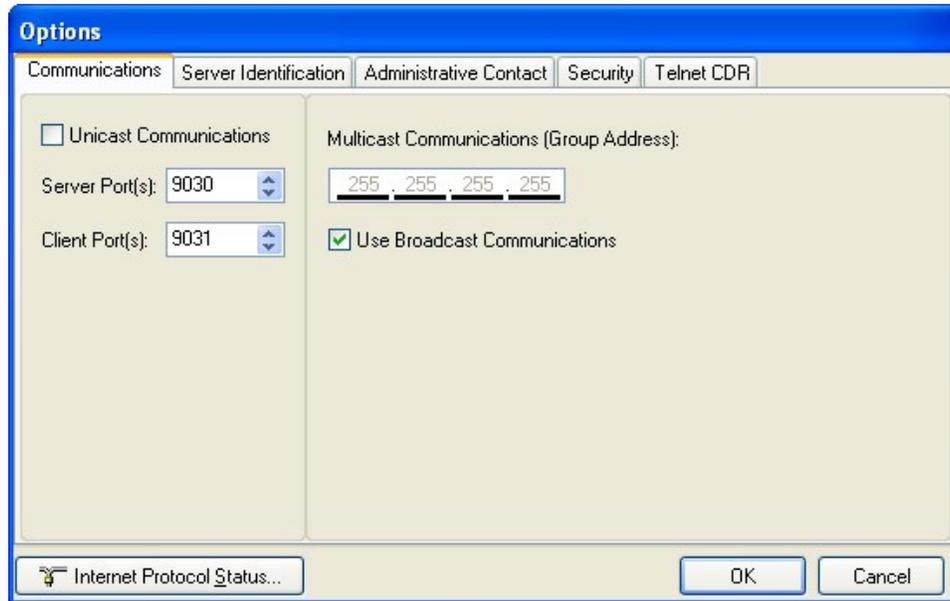


- In the **RSI Visual Rapport Server – Directory Services** window that is displayed, click the **+** in the left-hand panel, enter a **Group Name** (in the top left corner of the window), and then click **✓** to save the information. In this case, the group name created is **Tools**. Click the **+** in the right-hand panel, set the **Extension** to **55262**, **User Id** to **JohnSmith**, and the **Password** to the password defined in Avaya IP Office Manager. The **Administrative Group** name is the same as **Group Name** defined above.

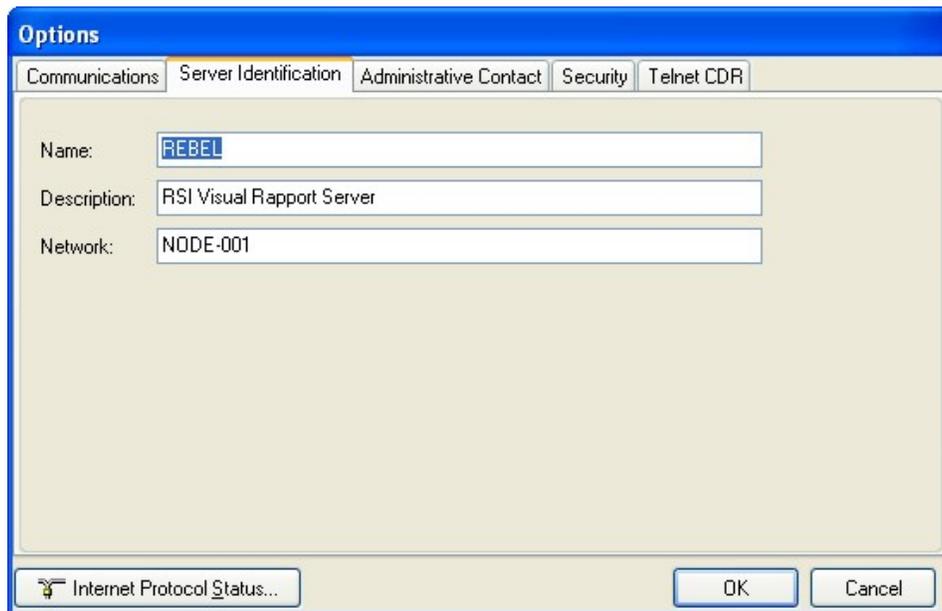


- Repeat **Step 4** for the remaining clients listed in **Table 1**. When done, close the window.
- In the **RSI Visual Rapport Server** window, select **Tools** → **Options...** (see **Step 3**).

7. In the **Options** window that is displayed, make a note of the **Server Port(s)** and **Client Port(s)** settings on the **Communications** tab as it will be referenced in **Section 5.2**. Check the **Use Broadcast Communications** check box. Select the **Server Identification** tab.



8. In the **Server Identification** tab window that is displayed, make a note of the **Name**, **Description** and **Network** information entered as it will be referenced in **Section 5.2**. Click **OK**. This completes configuration of the Visual Rapport server.



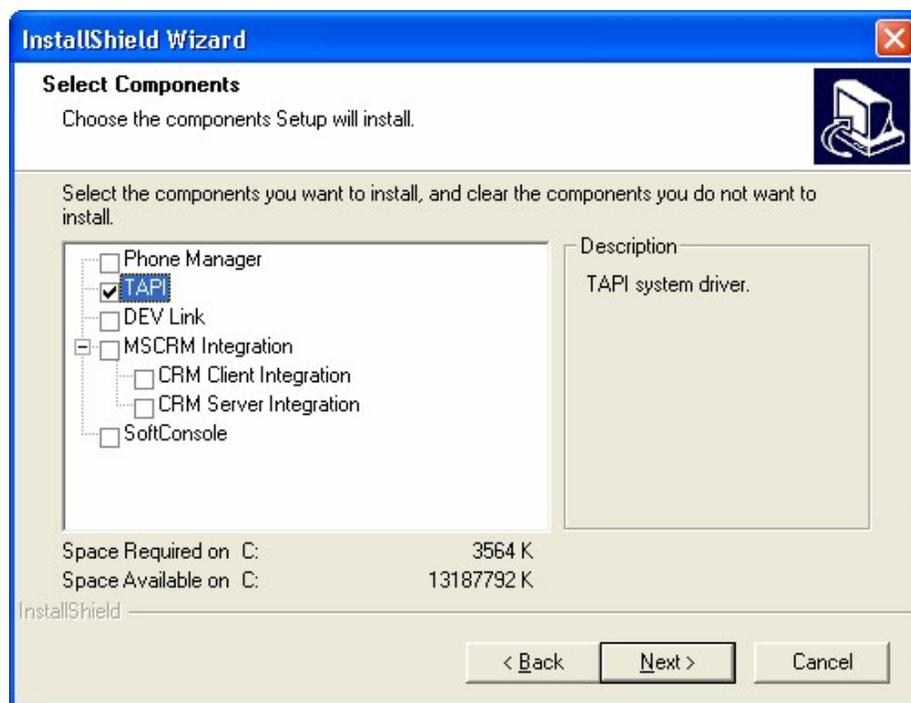
5. Configure Resource Software International Visual Rapport Client PC

The configuration information provided in this section describes the steps required to configure the Visual Rapport client PC.

For all other provisioning information, such as software installation, installation of optional components, configuration of the Visual Rapport client software to integrate with other 3rd party products, etc., please refer to the Visual Rapport product documentation in References [2] and [3].

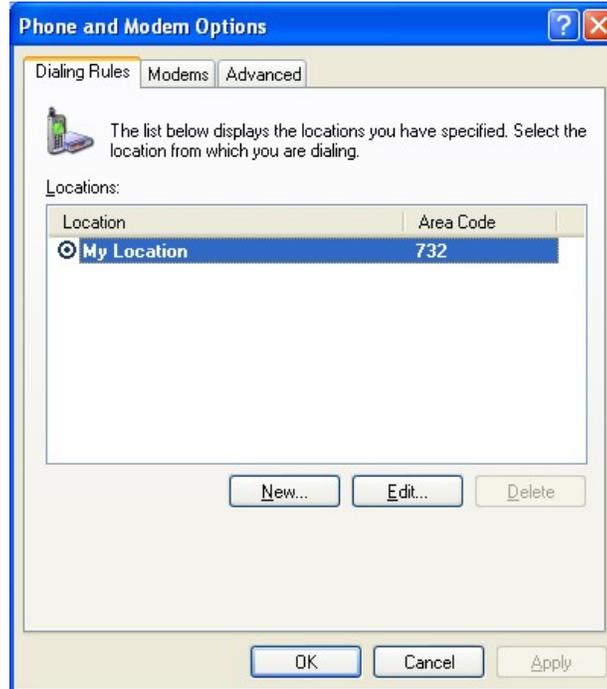
5.1. Install and Configure Avaya TAPI Driver

1. Log into the Visual Rapport client PC with administrative privileges and launch the Avaya IP Office User Suite installer.
2. Click **Next** in the InstallShield wizard until the **Select Components** window is displayed. Check **TAPI** to install the Avaya IP Office TAPI driver on the PC. Click **Next >**.

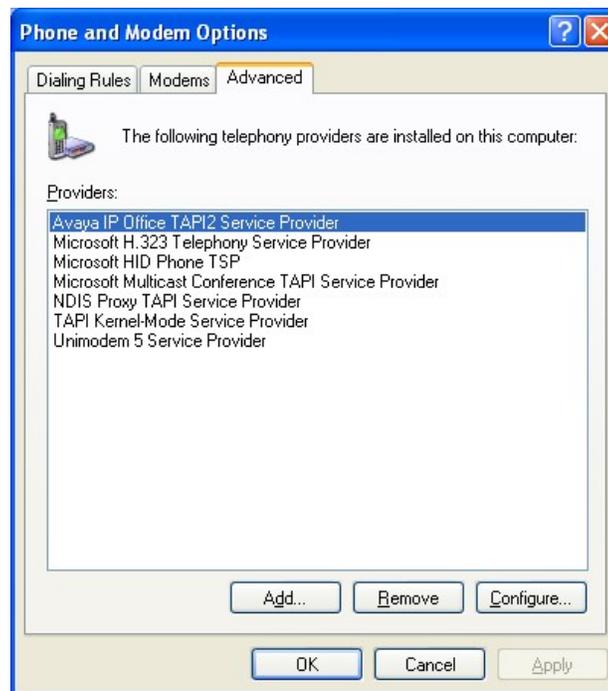


3. Click **Finish** (not shown). This completes the installation of the Avaya IP Office User Suite.
4. Go to **Start** → **Control Panel** and double-click **Phone and Modem Options** in the **Control Panel** window that is displayed.

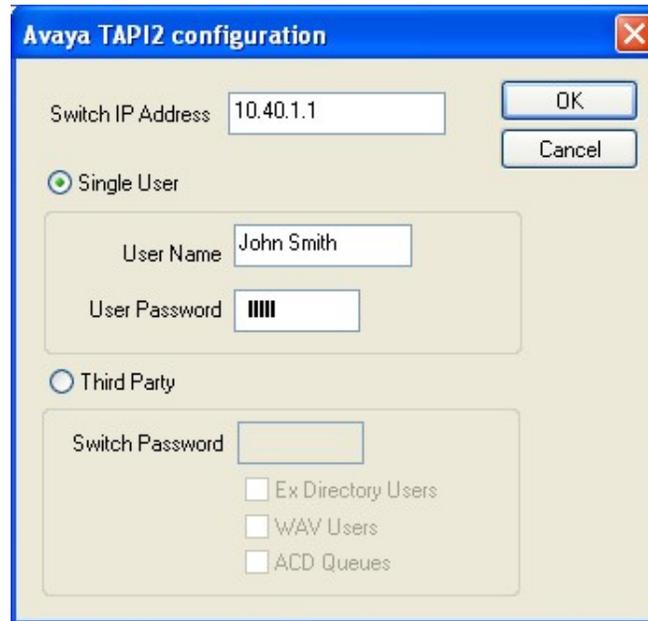
5. In the **Phone and Modem Options** window that is displayed, select the **Advanced** tab.



6. In the **Advanced** tab window that is displayed, highlight **Avaya IP Office TAPI2 Service Provider** and click **Configure...**



7. On the **Avaya TAPI2 configuration** window that is displayed, set **Switch IP Address** to the IP address of Avaya IP Office, select **Single User**, set **User Name** to the name associated with the extension that will be controlled by this Visual Rapport client PC, e.g., **John Smith** and set **User Password** to the password set for the user in **Section 3 Step 4**. Click **OK**.



The screenshot shows the 'Avaya TAPI2 configuration' dialog box. It has a blue title bar with a close button. The main area is light beige. At the top, there is a text box for 'Switch IP Address' containing '10.40.1.1' and two buttons: 'OK' and 'Cancel'. Below this, there are two radio buttons: 'Single User' (which is selected) and 'Third Party'. Under 'Single User', there is a text box for 'User Name' containing 'John Smith' and a password field with four black squares. Under 'Third Party', there is a text box for 'Switch Password' and three checkboxes: 'Ex Directory Users', 'WAV Users', and 'ACD Queues', all of which are unchecked.

8. In the **Phone and Modem Options** window, click **OK**.
9. This completes configuration of the Avaya TAPI Driver on one client PC. Repeat **Steps 1 – 8** for the remaining Visual Rapport clients listed in **Table 1**.

5.2. Configure Resource Software International Visual Rapport Client

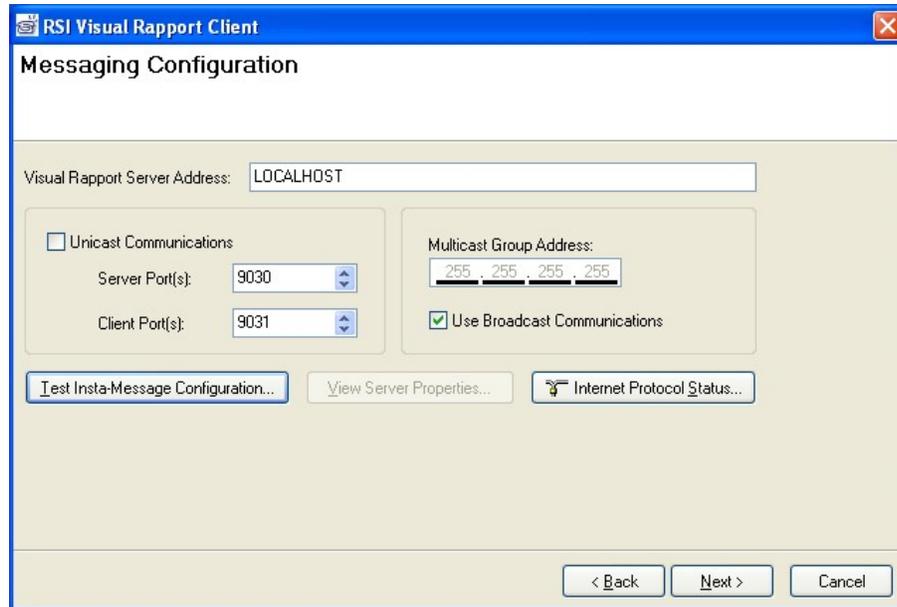
The information provided in this section assumes that the Visual Rapport client has already been successfully installed and licensed on the PC.

1. From the Visual Rapport PC, navigate to **Start** → **Programs** → **RSI** → **Visual Rapport for TAPI** → **Desktop Console**.
2. Click through the initial screens that appear, responding to prompts as appropriate for the local configuration (not shown).
3. In the **RSI Visual Rapport Client** wizard window that is displayed, click **Next >**.

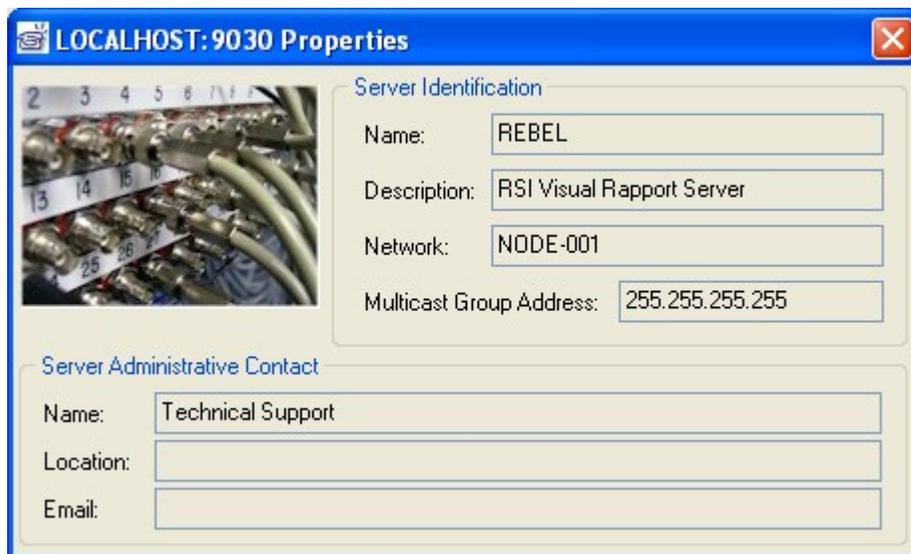


4. In the **Messaging Configuration** window that is displayed, set **Visual Rapport Server Address** to the IP address of the Visual Rapport server as listed in **Figure 1**, verify **Service Port(s)**, and **Client Port(s)** match the settings made on the Visual Rapport server configuration in **Section 4 Step 7**. Click **Test Insta-Message Configuration...**

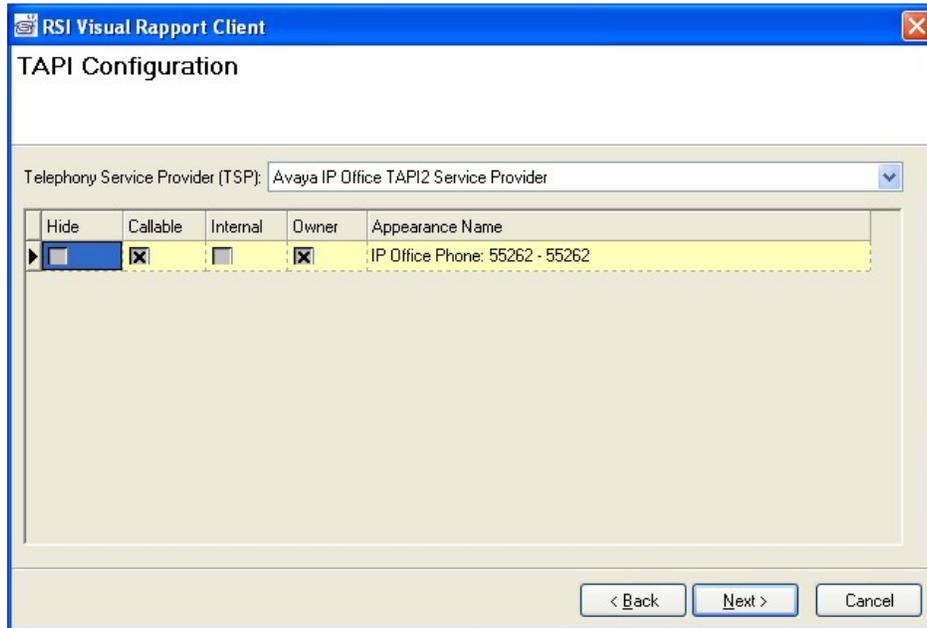
Note: By default, **LOCALHOST** is placed in the **Visual Rapport Server Address** field. In this case, **LOCALHOST** has an IP address of 192.45.210.24 and does not need to be changed since server and client are running on the same PC. Change as appropriate.



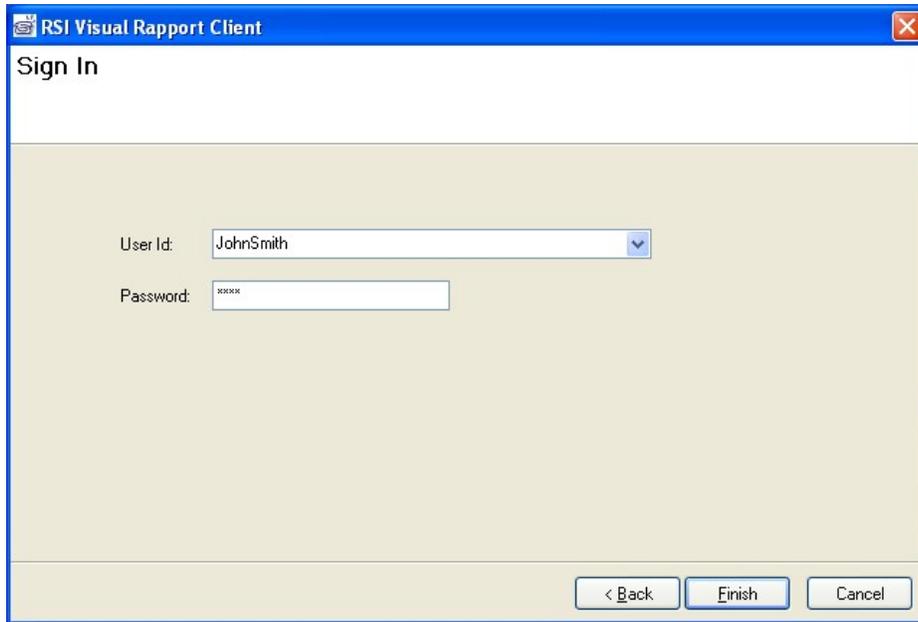
5. If a popup window such as the one below is displayed, the connection between the Visual Rapport client and server is fine. Close the popup window.



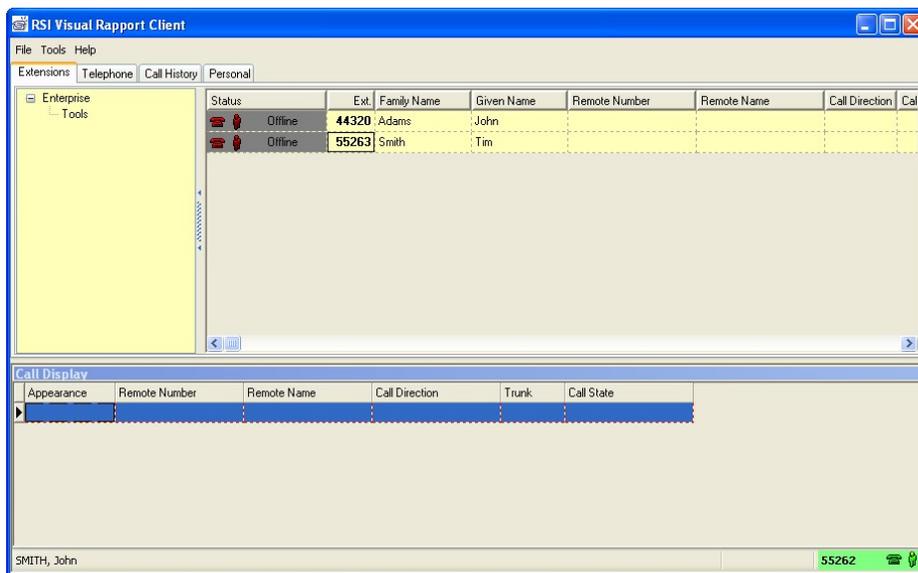
6. In the **Messaging Configuration** window (**Step 4**), click **Next >**.
7. In the **TAPI Configuration** window that is displayed, select **Avaya IP Office TAPI2 Service Provider** from the pull-down menu for **Telephony Service Provider (TSP)**, make sure that **Callable** and **Owner** are checked and click **Next >**.



- On the **Sign In** window that is displayed, select the first Visual Rapport client extension number listed in **Table 1** and enter the password defined for the Visual Rapport client in **Section 4 Step 4**. Click **Finish**.



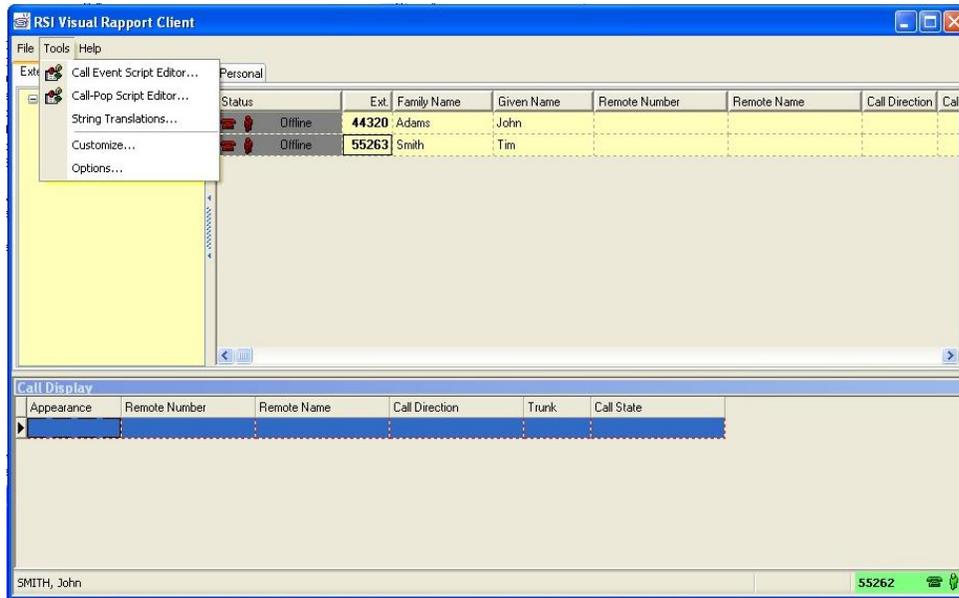
- In the **RSI Visual Rapport Client** window that is displayed, confirm the bottom right corner shows the logged-in extension with a green background.



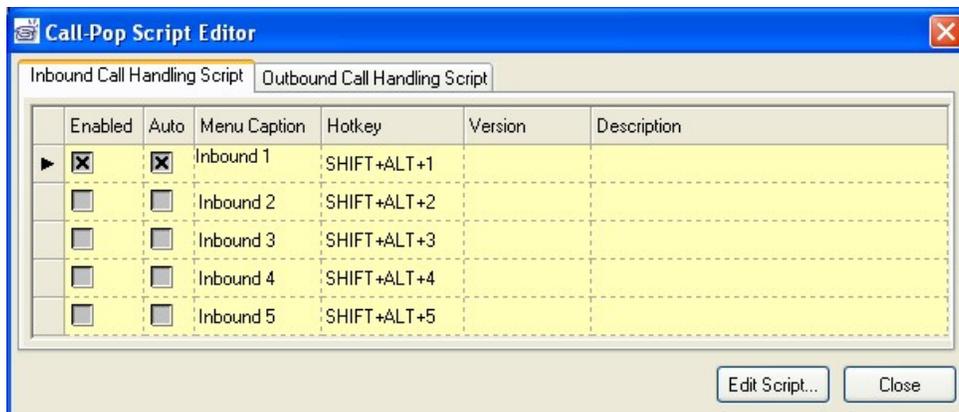
- Repeat **Steps 1 – 9** for the remaining clients listed in **Table 1**. This completes initial configuration of the Visual Rapport client.

5.2.1. Configure Visual Rapport Client for Generic Screen Pop

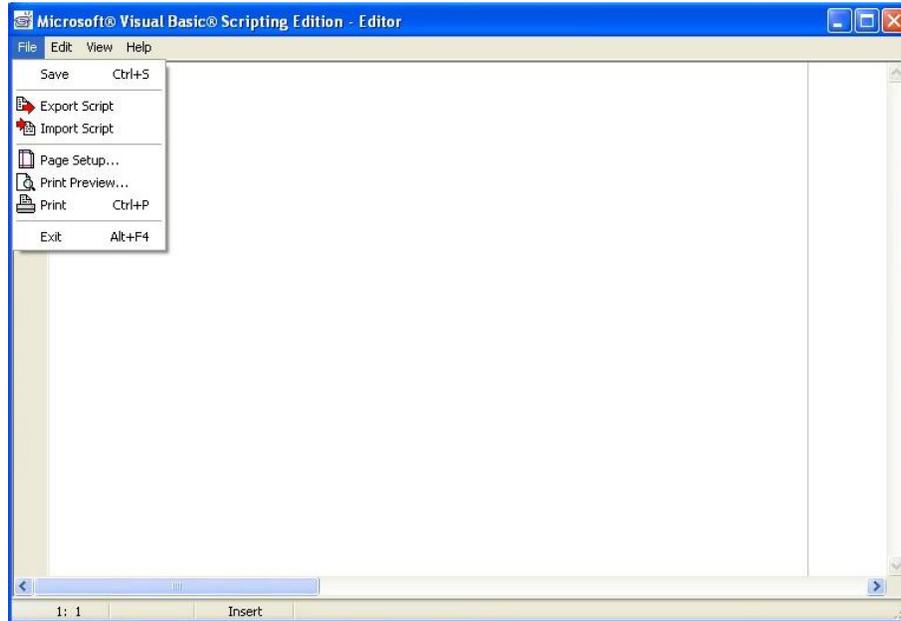
1. Go to **Start** → **Programs** → **RSI** → **Visual Rapport for TAPI** → **Desktop Console** to launch the Visual Rapport client.
2. On the **RSI Visual Rapport Client** window that is displayed, select **Tools** → **Call-Pop Script Editor...**



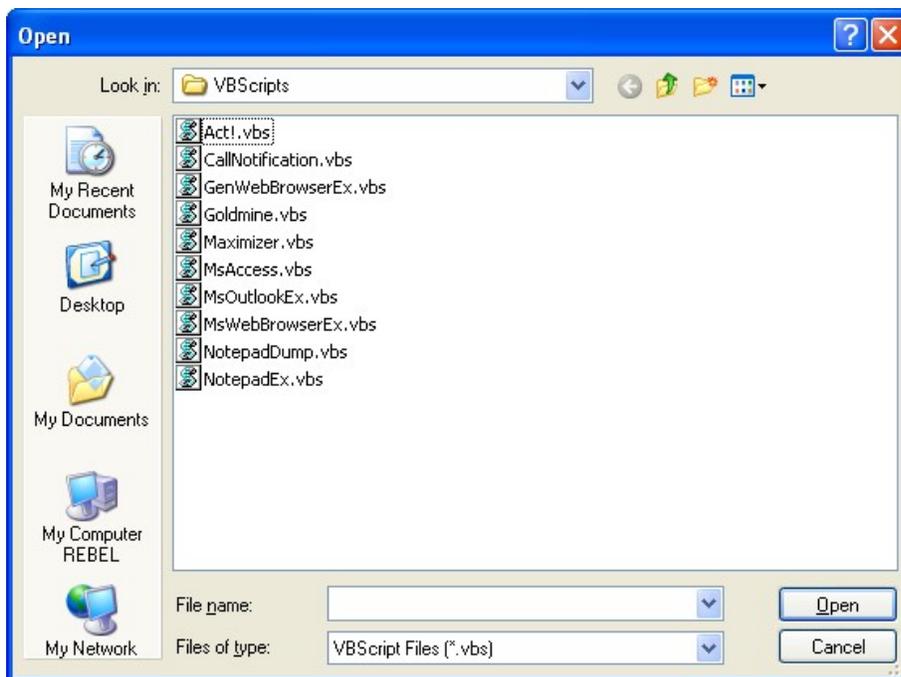
3. On the **Call-Pop Script Editor** window that is displayed, for **Inbound 1** under **Menu Caption**, check **Enabled** and **Auto** and click **Edit Script...**



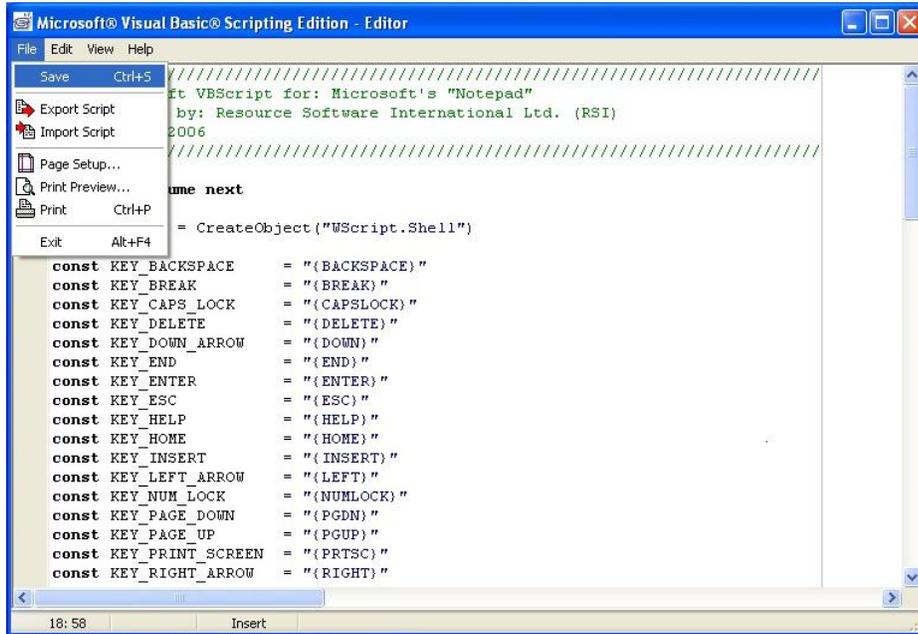
4. On the **Microsoft® Visual Basic® Scripting Edition – Editor** window that is displayed, select **File → Import Script**.



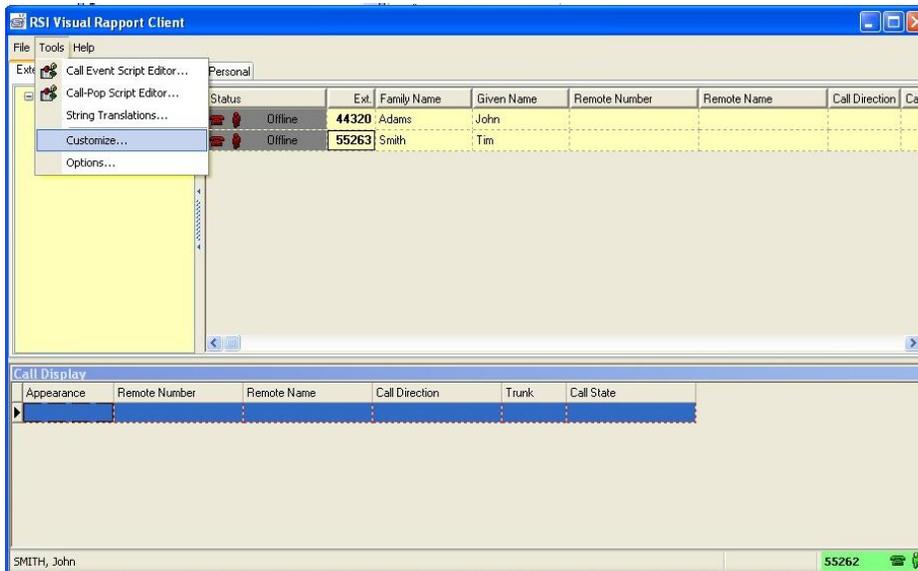
5. On the **Open** window that is displayed, select **NotepadDump.vbs** and click **Open**.



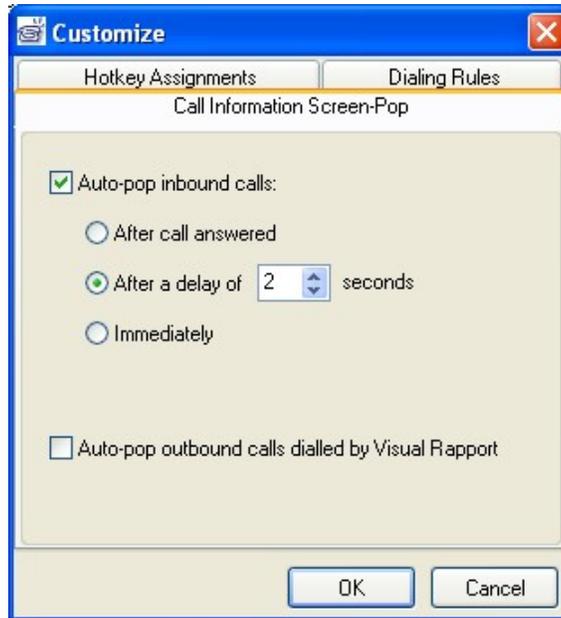
- On the **Microsoft® Visual Basic® Scripting Edition – Editor** window, select **File → Save**.



- On the **Microsoft® Visual Basic Scripting Edition – Editor** window (Step 6), select **File → Exit**.
- On the **Call-Pop Script Editor** window (Step 3), click **Close**.
- On the **RSI Visual Rapport Client** window, select **Tools → Customize...**



10. On the **Customize** window that is displayed, check **Auto-pop inbound calls**, select **After a delay of 2 seconds** and click **OK**. This completes configuration of Visual Rapport client to generate screen pop for inbound calls.



11. Repeat **Steps 1 – 10** for the remaining clients listed in **Table 1**.

6. Interoperability Compliance Testing

Interoperability compliance testing evaluated the ability of Visual Rapport to successfully generate screen pops for inbound calls. Answer, Hang Up, Hold, Transfer, and Park of inbound, outbound and internal calls were verified successfully using the Visual Rapport clients.

6.1. General Test Approach

The general test approach was to verify:

- The telephone status capabilities of the Visual Rapport application.
- The telephone feature capabilities of the Visual Rapport application including Answer, Hang Up, Hold, Transfer, and Park of inbound, outbound and internal calls.
- The capability of Visual Rapport to dial Avaya IP Office shortcodes (for example, *17, *07*55262#). For more information on shortcodes, see Reference [1].
- The screen pop capabilities of the Visual Rapport application when the client extension detects an incoming call.
- The serviceability of Visual Rapport.

6.2. Test Results

Visual Rapport successfully passed all test cases. As a result of the testing, the following observations were noted:

- Avaya IP Office does not provide Caller ID Name via TAPI for incoming PRI trunk calls.
- Avaya IP Office is does not send the correct Call Display Trunk information to the Visual Rapport client for both incoming and outgoing trunk calls.
- The Visual Rapport client requires a restart if the client's associated extension is involved in a conference call. Visual Rapport does not support Conference; however, the associated extension's involvement in a conference is not affected by the reset.
- The Visual Rapport client does not support Message Waiting Indication (MWI).
- The Visual Rapport client does not support Do Not Disturb, Call Forwarding, or Voicemail; however, this should not prevent the ability to dial the Do Not Disturb, Call Forwarding, or Voicemail shortcodes from the client (or any programmed shortcode).

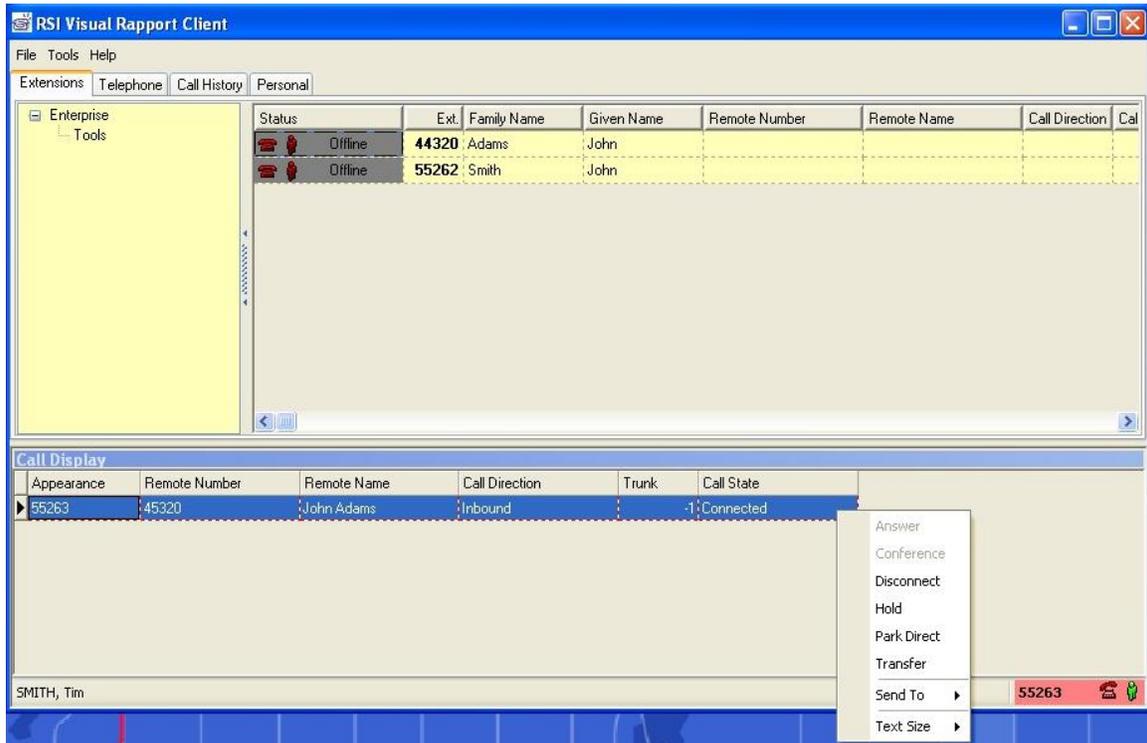
7. Verification Steps

The following steps may be used to verify the configuration:

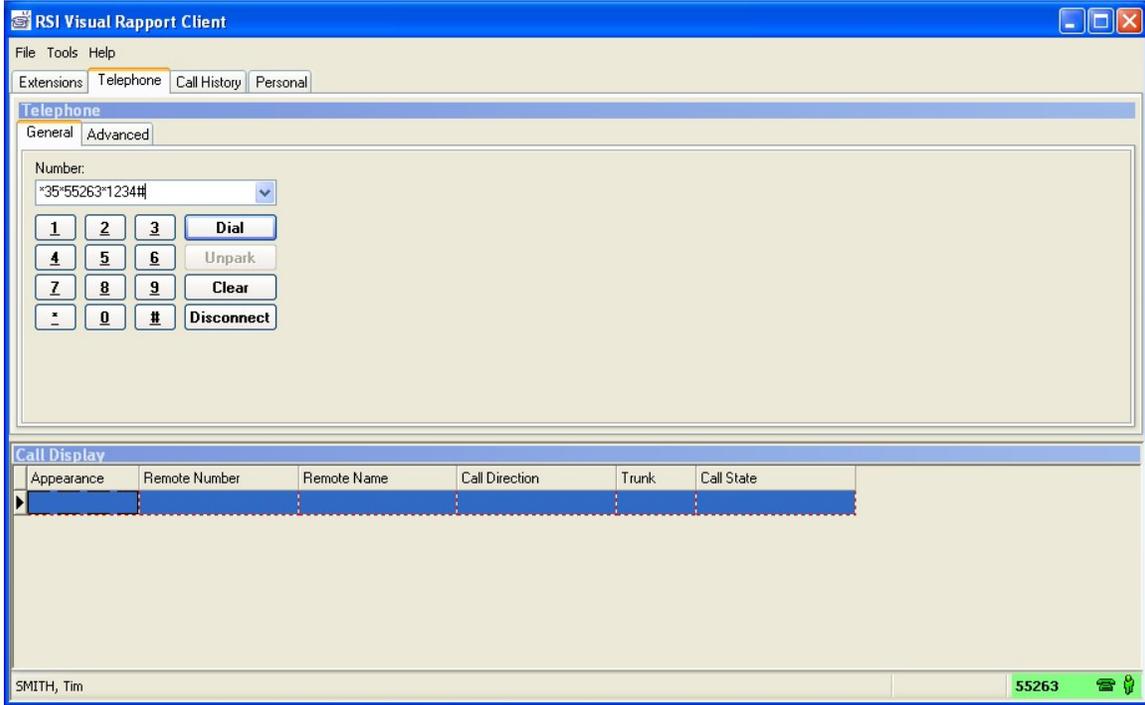
- Verify each Visual Rapport client PC successfully pings each Avaya IP Office as well as the Visual Rapport server in the test network.
- Place a call between two Visual Rapport client extensions and verify that each Visual Rapport client can be used to display, answer and hang up the call.
- Verify each Visual Rapport client can be used to initiate and/or drop an inbound or outbound call.
- Verify each Visual Rapport client can be used to Hold, Transfer, and Park inbound, outbound and internal calls.
- Verify incoming calls to extension 55263 activate screen pop of Microsoft NotePad after two seconds as described in **Section 5.2.1**, and the information is correct.
- Verify each Visual Rapport client can be removed and connected from the network without issues.

7.1. Visual Rapport Client

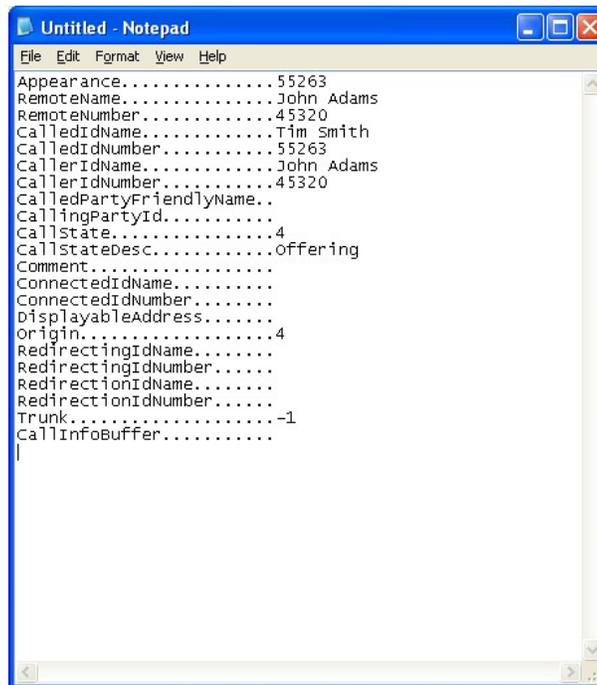
1. The Visual Rapport client is activated by clicking on the appearance button or by picking up the associated ringing telephone extension. The screen below displays an inbound call that has been answered at extension 55263. A right-click on the active appearance pops a call operation menu, where Visual Rapport call features are performed.



- Click the **Telephone** tab from the above window. The **Number** pad was used to for Avaya IP Office shortcode dialing, and for any other dialing requirement.



- Screen pop presentation was in the format presented below.



8. Support

Technical support for Visual Rapport can be obtained by contacting Resource Software International Systems, Ltd. at:

- Phone: 800.891.6014 / 905.576.4575
- E-mail: support@telecost.com
- Web: <http://www.telecost.com>

9. Conclusion

These Application Notes describe the steps for configuring the Resource Software International Visual Rapport clients to interoperate with Avaya IP Office systems. All test cases completed successfully.

10. References

The following Avaya product documentation can be found at <http://support.avaya.com>:

[1] Avaya IP Office 4.0 Installation Manual, Issue 15e (31st January 2007), 15-601042.

The following Resource Software International product documentation is installed during the Visual Rapport installation process:

[2] Visual Rapport Startup Guide

[3] Visual Rapport User Guide

©2008 Avaya Inc. All Rights Reserved.

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

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.