Avaya Solution & Interoperability Test Lab

Application Notes for Configuring NMS Adaptive Messaging with Avaya IP Office R8.0 using Avaya IP Office TAPI Service Provider - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for NMS Adaptive Messaging module to interoperate with Avaya IP Office. NMS Adaptive Messaging is one module of the NMS Adaptive Suite which allows a user to communicate, email and SMS to email messaging.

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 compliance tested configuration used to validate the NMS Adaptive Messaging module of the Adaptive Suite with Avaya IP Office R8.0 using Avaya IP Office TAPI3 Service Provider. The Adaptive Suite interoperates with Avaya IP Office using Third Party Telephony Application Programming Interface (TAPI). A module of the Adaptive Suite, the Adaptive CTI Gateway handles all communication between the Adaptive solution and Avaya IP Office.

NMS Adaptive suite is a Computer Telephony Integration platform that provides call control, media blending, progressive and predictive dialling and monitoring functionality to end users. Adaptive Desktop allows operators to control making and receiving calls via an Avaya handset registered to the Avaya IP Office. The Adaptive Messaging module of the Adaptive Suite enables the agents using Adaptive Desktop to send and receive emails. Messages can be received, routed into queues and automatically distributed to the next available, appropriate user. Adaptive Messaging also delivers comprehensive historical reporting detailing service levels, queue volumes, individual and team productivity. Adaptive Messaging works with all industry standard email systems, including Microsoft Exchange, Lotus Domino and Linux-based email servers.

2. General Test Approach and Test Results

The interoperability compliance testing included feature and serviceability testing. The feature testing focused on verifying NMS Adaptive handling of email messages.

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

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2.1. Compliance testing

The compliance testing focused primarily on the following types of calls:

- Email messaging incoming
- Email messaging outgoing

The serviceability testing focused on verifying the ability of NMS Adaptive Messaging to recover from adverse conditions, disconnecting the Ethernet cable for the CTI link and the reboot of Adaptive server under test.

2.2. Test Results

All tests passed successfully. The following observation was noted.

- Adaptive Desktop does not log in a user as a part of the CTI functionality. Call Control is taken for a user already logged in to an extension.

2.3. Support

For technical support on NMS Adaptive products please contact the NMS support team at:

Web address	:	http://www.nms-adaptive.com/support-options.html
Telephone	:	+44 845 612 4000
Email	:	support@nms-adaptive.com

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3. Reference Configuration

Figure 1 shows the network topology for compliance testing. NMS Adaptive Predictive Dialler which resides on a Windows 2003 Server with IP Office TAPI3 Service Provider to provide a CTI connection to IP Office. Avaya 2400 Series digital deskphones are associated with Adaptive Desktop operators/users giving each Adaptive Desktop user telephony functionality from the IP Office. Avaya H.323 IP deskphones can also be used to provide telephony functionality.

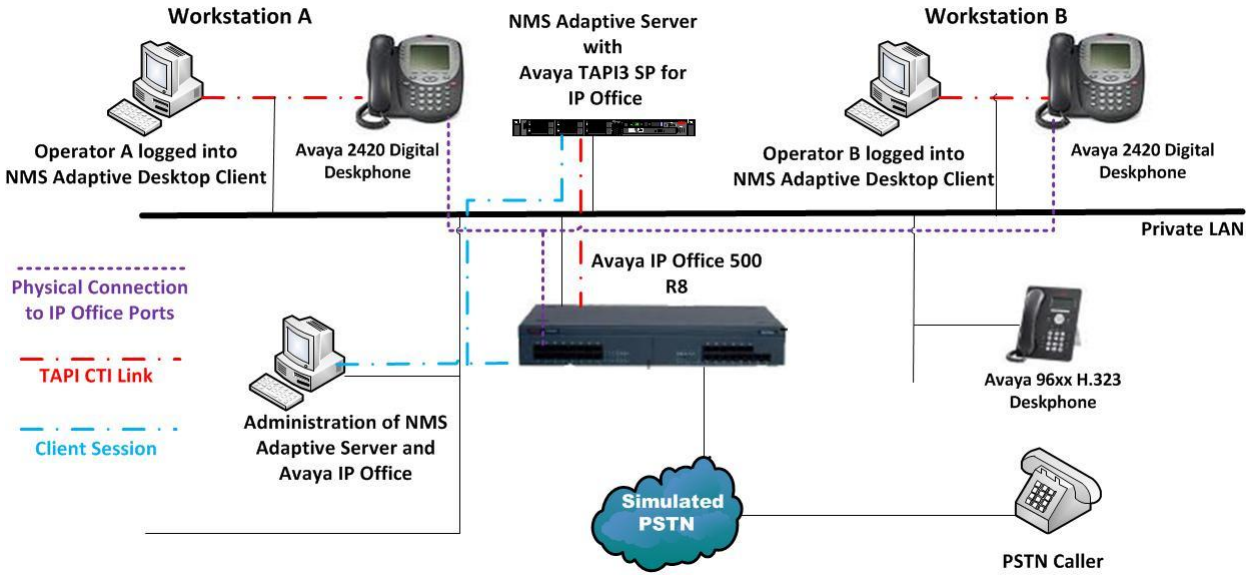

Figure 1: Connection of NMS Adaptive Messaging with Avaya IP Office R8.0

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4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500	Avaya IP Office R8.0.16
Avaya 96xx H.323 Deskphone	Avaya H323 IP Office Firmware Ha96xxua3_Hbas.bin
Avaya 2420 Digital Extension	N/A
Avaya TAPI3 Telephony Service Provider Client for IP Office Installed on Adaptive Server.	Avaya TSPI3w.tsp 1.0.0.17
Platform Independent Server with Windows 2003 Server O/S and NMS Adaptive Server.	NMS Adaptive Messaging Release 9.4
Client Workstation with Windows XP and NMS Adaptive Desktop	NMS Adaptive Desktop Release 9.4

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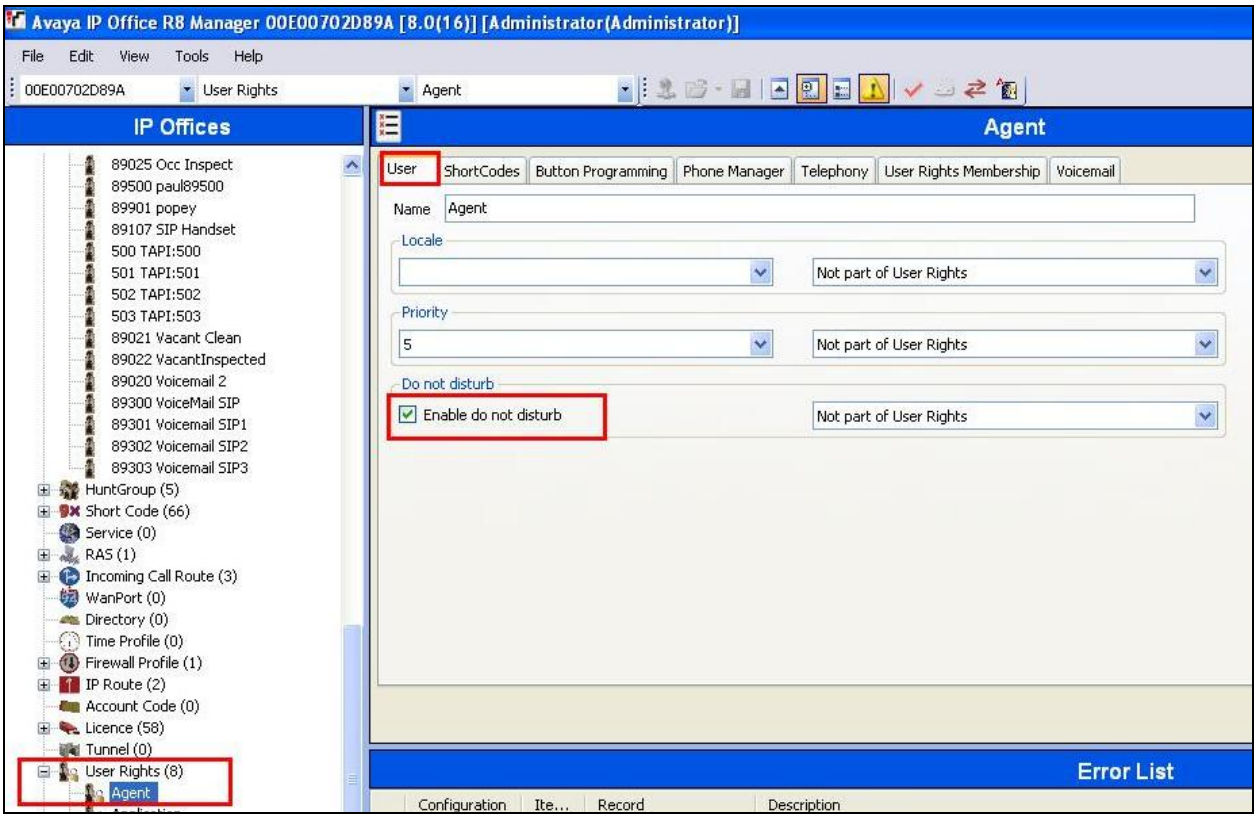
5. Configuration of Avaya IP Office

IP Office is administered using IP Office Manager installed on a client PC. It is assumed that a working IP Office is in place with extensions and users preconfigured. This section shows what changes to the IP Office configuration is required for NMS Adaptive Messaging to interoperate correctly.

Note: A user must be logged into the extension before the Adaptive Desktop can assume control of the extension.

5.1. Configuration of Avaya IP Office Users

Each user will need to be configured to allow the do not disturb feature. Click on **User Rights** in the left window select the user right associated with the users. In the example below this is named **Agent**. Under the **User** tab ensure **Enable do not disturb** is ticked as shown. Enter a suitable name for the User rights as this will be referenced in the User configuration to follow. Click **OK** once the information is entered correctly (not shown).



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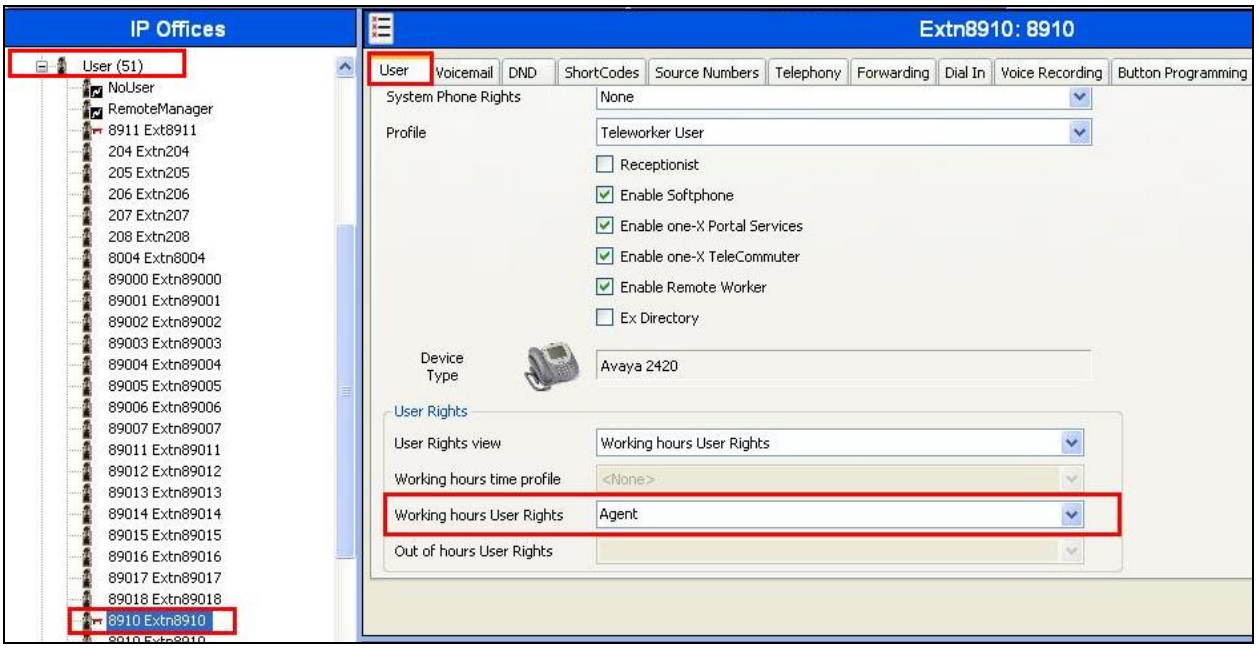
Expand on **User** in the left window and select the user to modify. Under the **User** tab in the right window ensure that **Working hours User Rights** is set to that user rights configured above.



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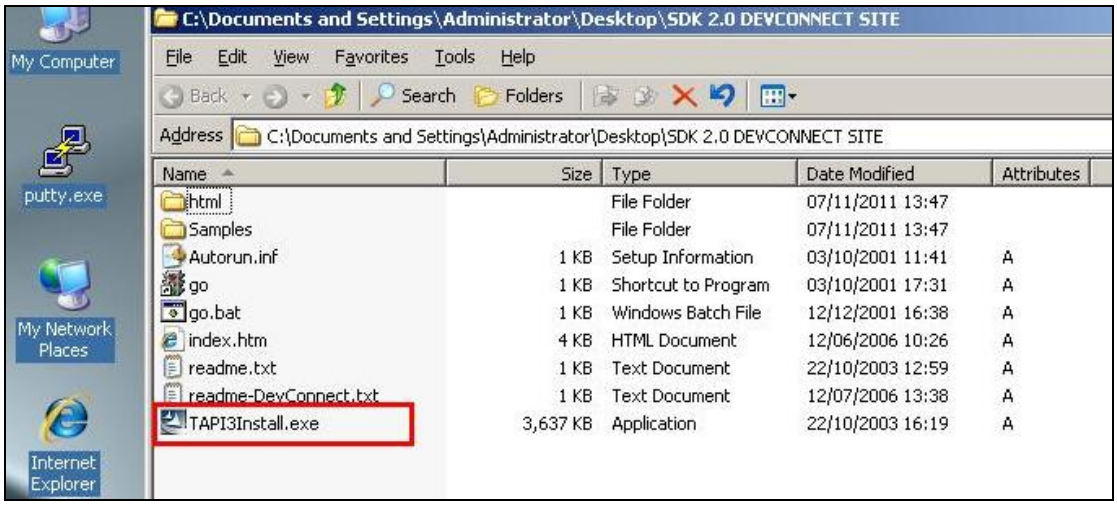
6. Installation and Configuration of Avaya IP Office TAPI3 Service Provider

TAPI3 Service Provider is included in the IP Office CTI Link Software Development Kit (SDK) located on the DevConnect website (http://www.avaya.com/gcm/master-usa/en-us/corporate/alliances/devconnect/index.htm) under the product name IP Office. Once downloaded the install is initiated by running **TAPI3Install.exe** as shown below.



To configure the TAPI Service Provider, navigate to **Control Panel** and right click on **Phone and Modem Options** and properties as highlighted below.

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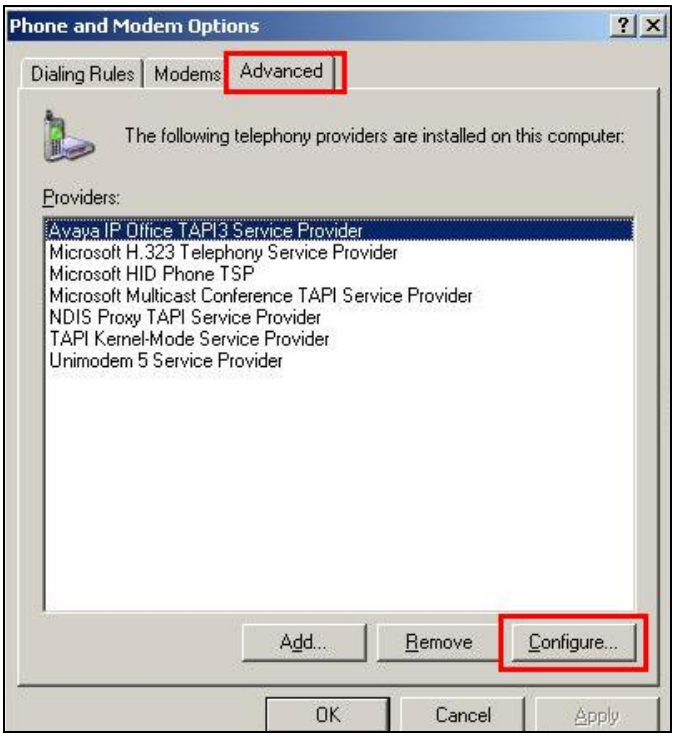
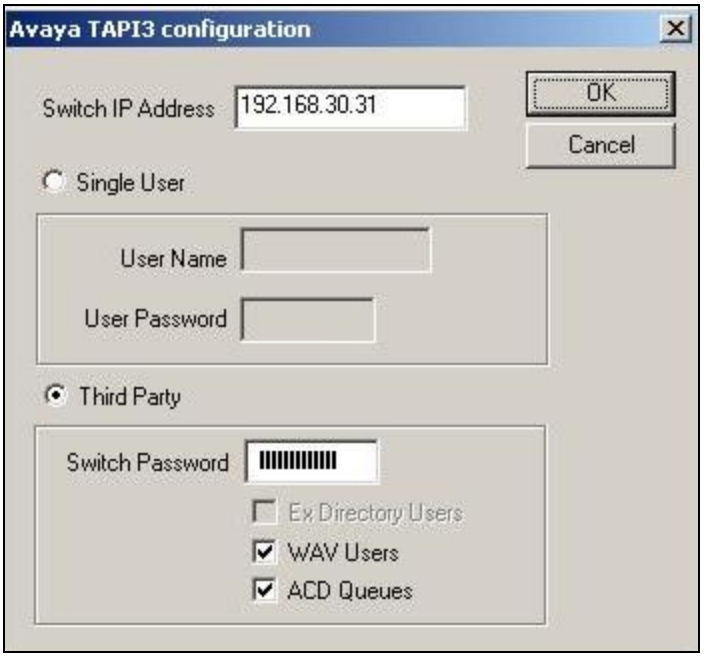
Click on the **Advanced** tab and highlight **Avaya IP Office TAPI3 Service Provider** and click **Configure**.



Enter the IP Office IP address into the **Switch IP Address** box. Select **Third Party** and enter the IP Office Administrators password into the **Switch Password** box. Ensure **WAV Users** and **ACD Queues** are ticked as shown below.



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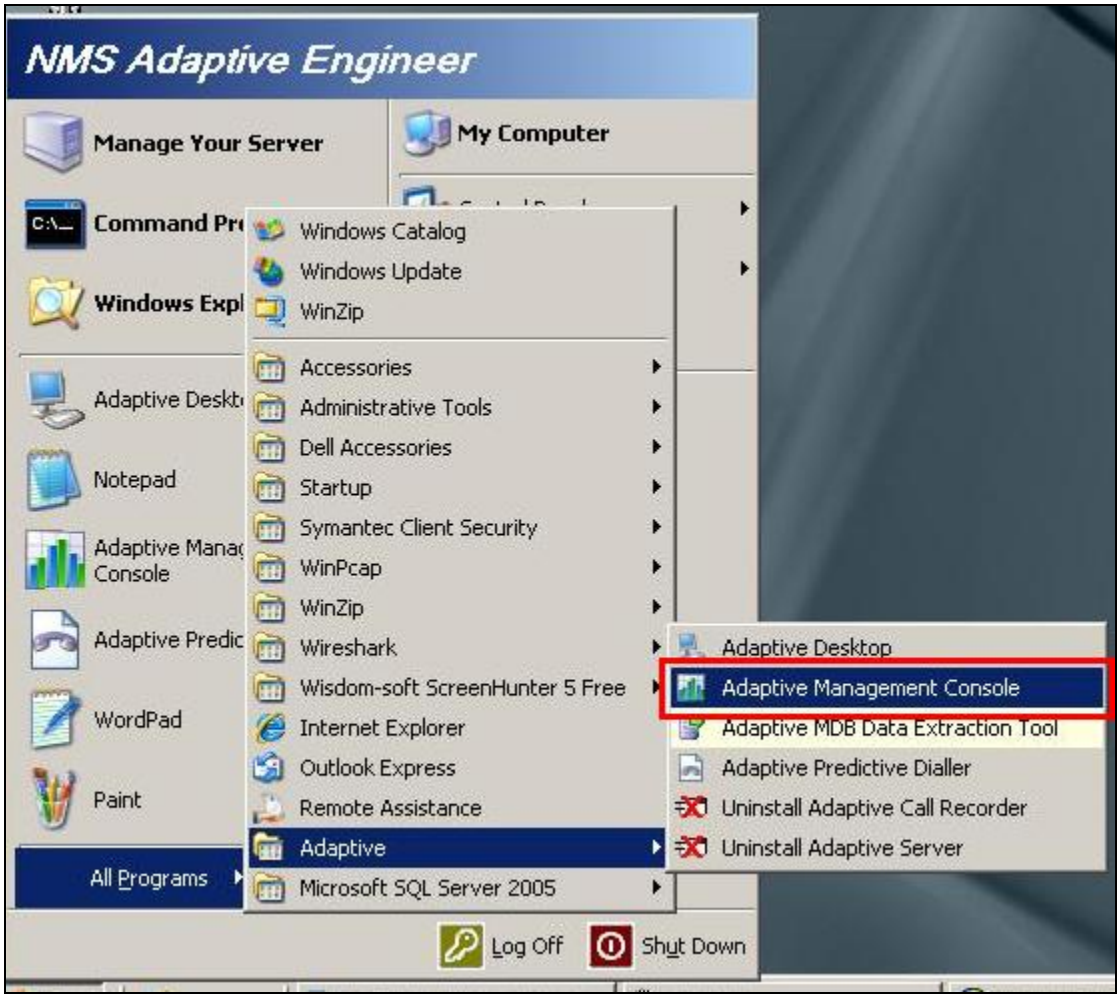
7. Configuration of NMS Adaptive Messaging

This section outlines the steps necessary to configure the NMS Adaptive Messaging to enable the Adaptive Desktop users take control of the Avaya IP Office deskphones. All configuration changes on the Adaptive Server are done through Adaptive Management Console installed on the Adaptive Server.

Note: Installation of the Adaptive Messaging software is outside the scope of this document, for additional information regarding the installation please see **Section 10** of these Application Notes.

7.1. Configuration of NMS Adaptive CTI Gateway

The steps below describe the configuration for Adaptive CTI Gateway. This configuration enables the Adaptive Messaging to communicate with IP Office via TAPI. Open the program **Adaptive Management Console** as shown below.



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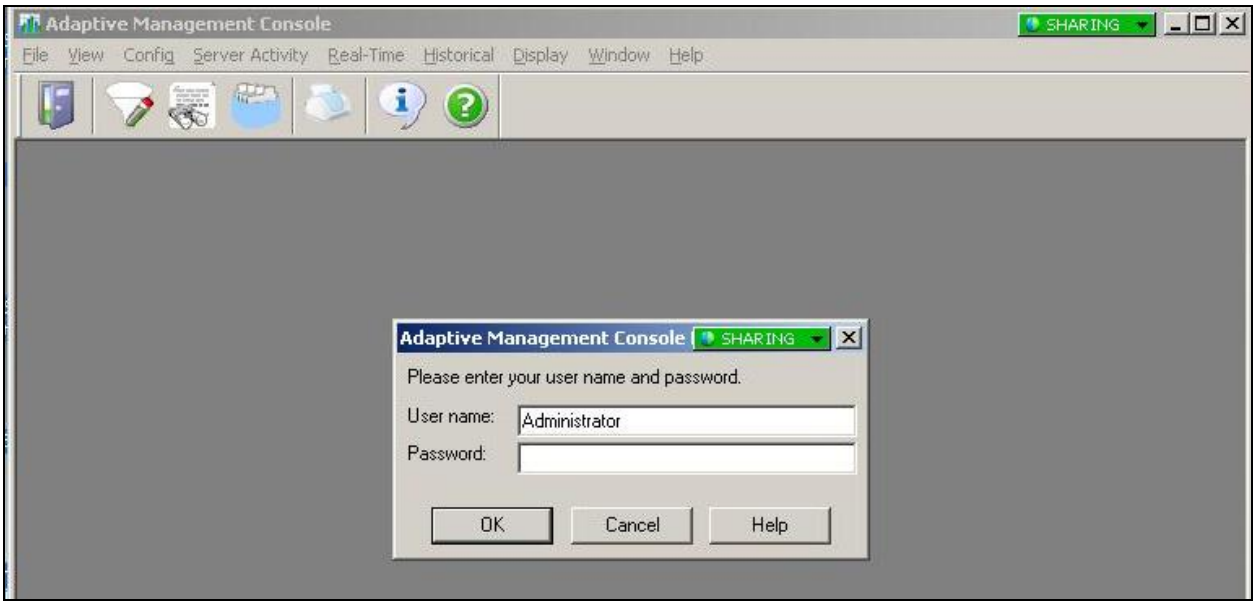
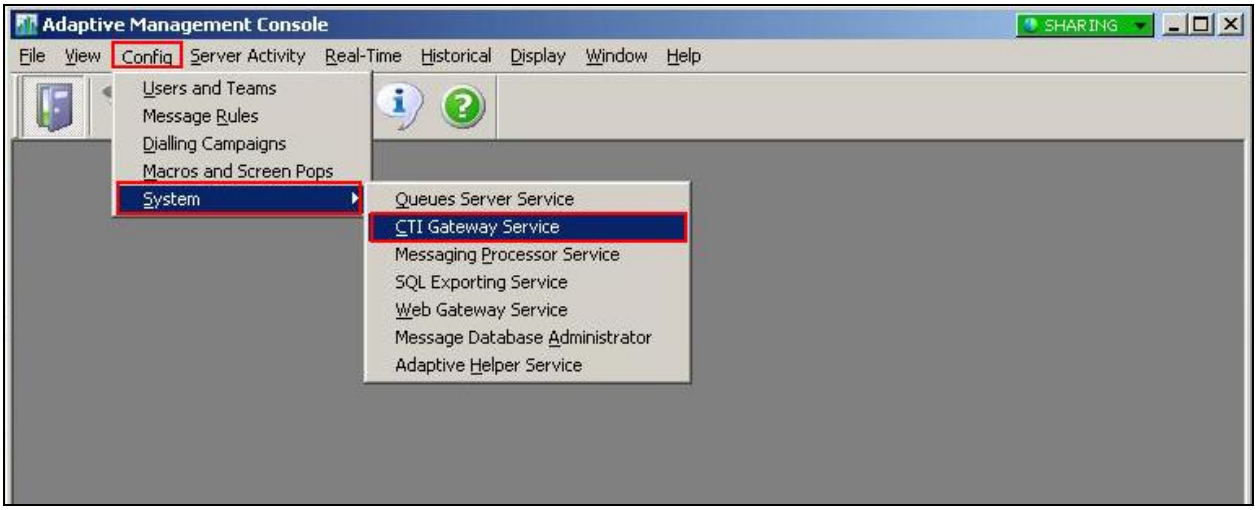
Enter the appropriate credentials into the **Adaptive Management Console** login screen as shown.



Once logged in configure the CTI Gateway Service by clicking on **Config** in the toolbar at the top of the screen and under **System** select **CTI Gateway Service** as shown below.



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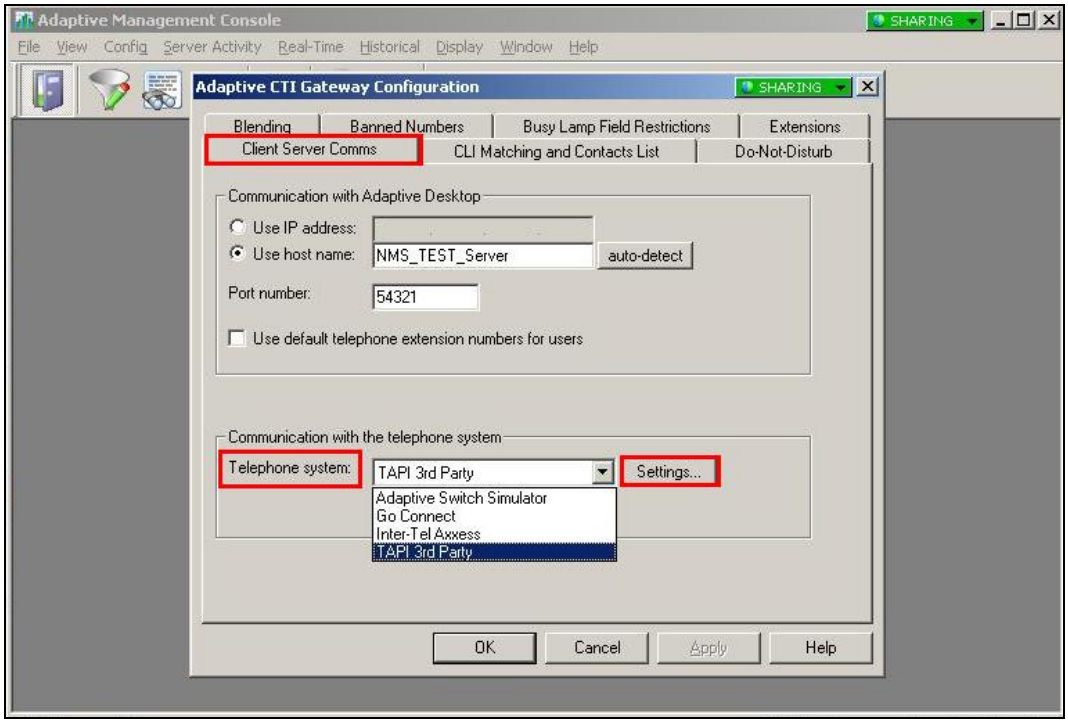
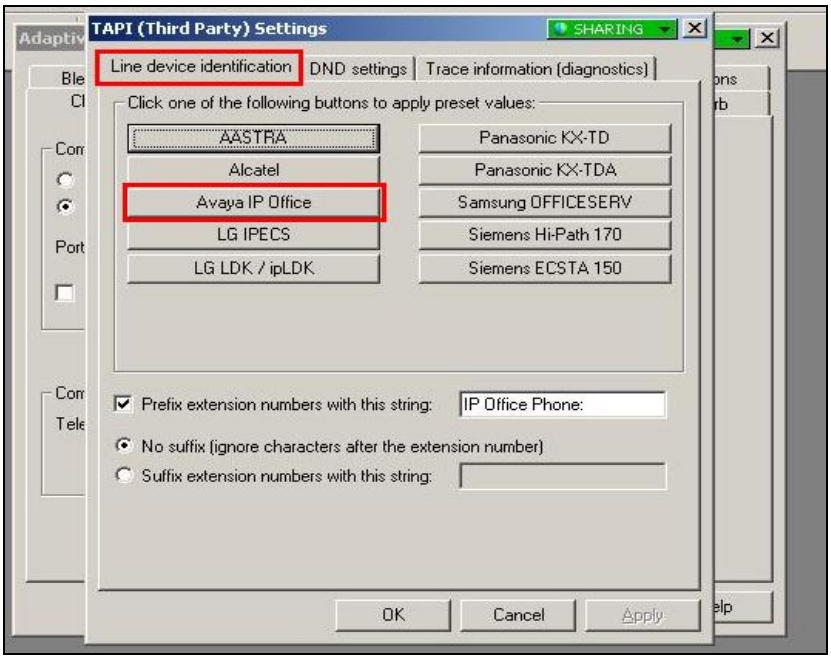
The **Adaptive CTI Gateway Configuration** window opens. Select **Client Server Comms** tab and select **TAPI 3rd Party** for the **Telephone system** as highlighted below. Click **Settings** to configure the TAPI Settings.



The **TAPI (Third Party) Settings** window opens. Click the **Avaya IP Office** button under the **Line device identification** tab and click **OK** to submit. All other entries are default.



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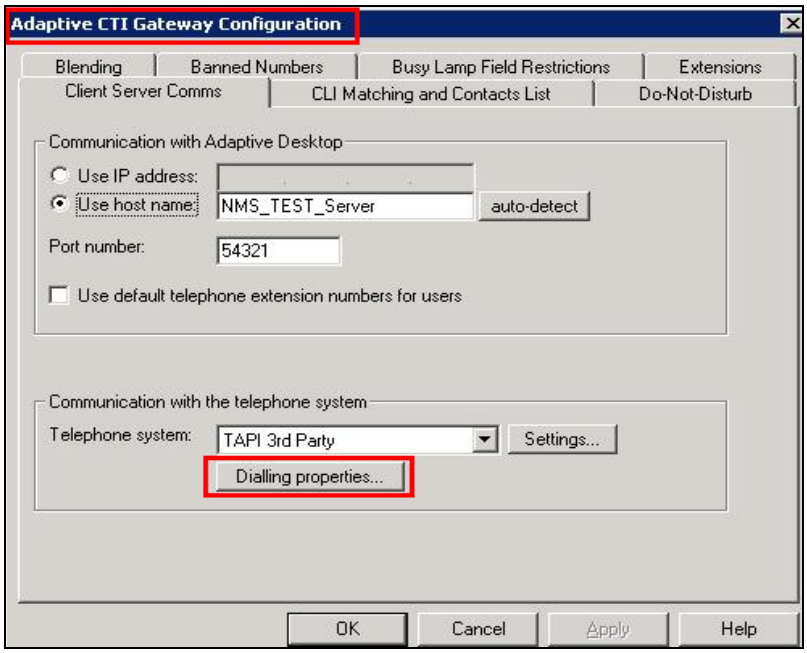
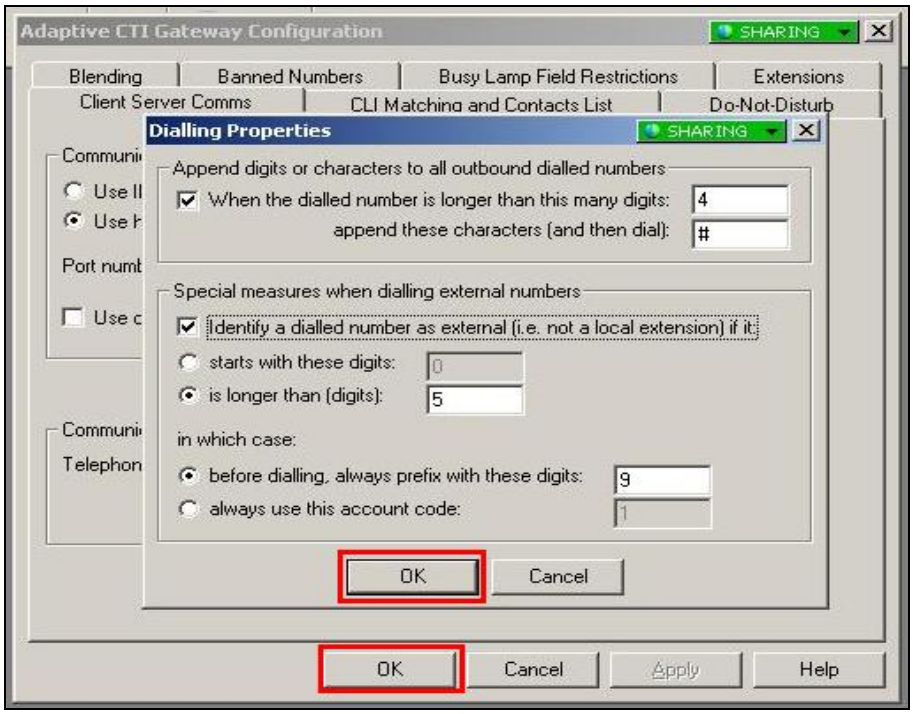
Click on **Dialling properties** on the **Adaptive CTI Gateway Configuration** window as shown below.



Prefix numbers for outside lines and appended numbers are added for the system on this screen. The information added here is non-specific as it is unique for each site. Once the relevant information is added, click **OK** and **OK** on the **Adaptive CTI Gateway Configuration** window, as shown.



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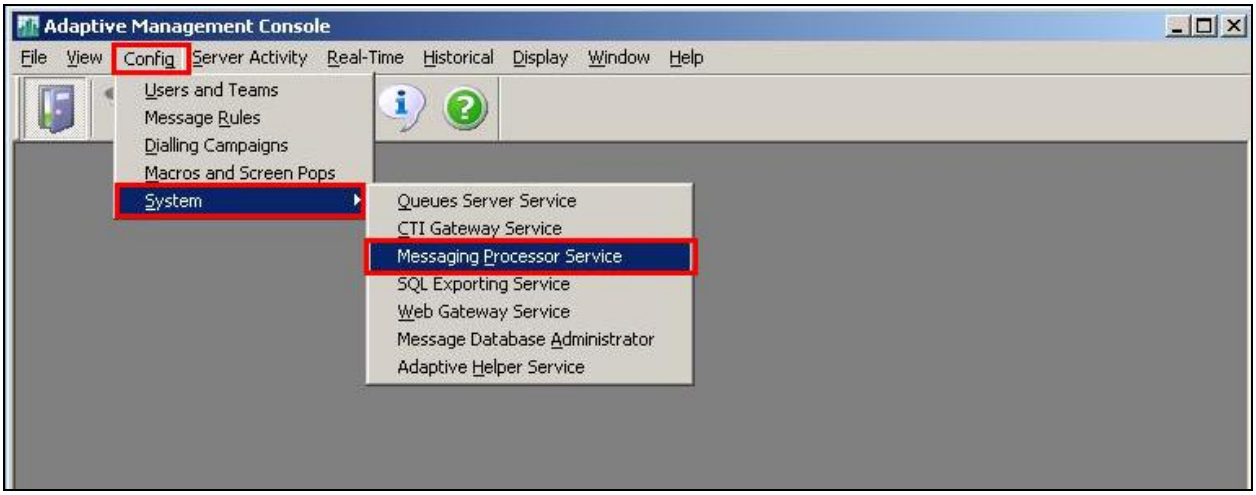
7.2. Configuration of NMS Adaptive Messaging

This section shows the configuration steps necessary to configure Adaptive Desktop to use Messaging. Open the program **Adaptive Management Console** as shown in **Section 7.1**. Under **Config** on the toolbar select **System** and **Messaging Processor Service** highlighted below.



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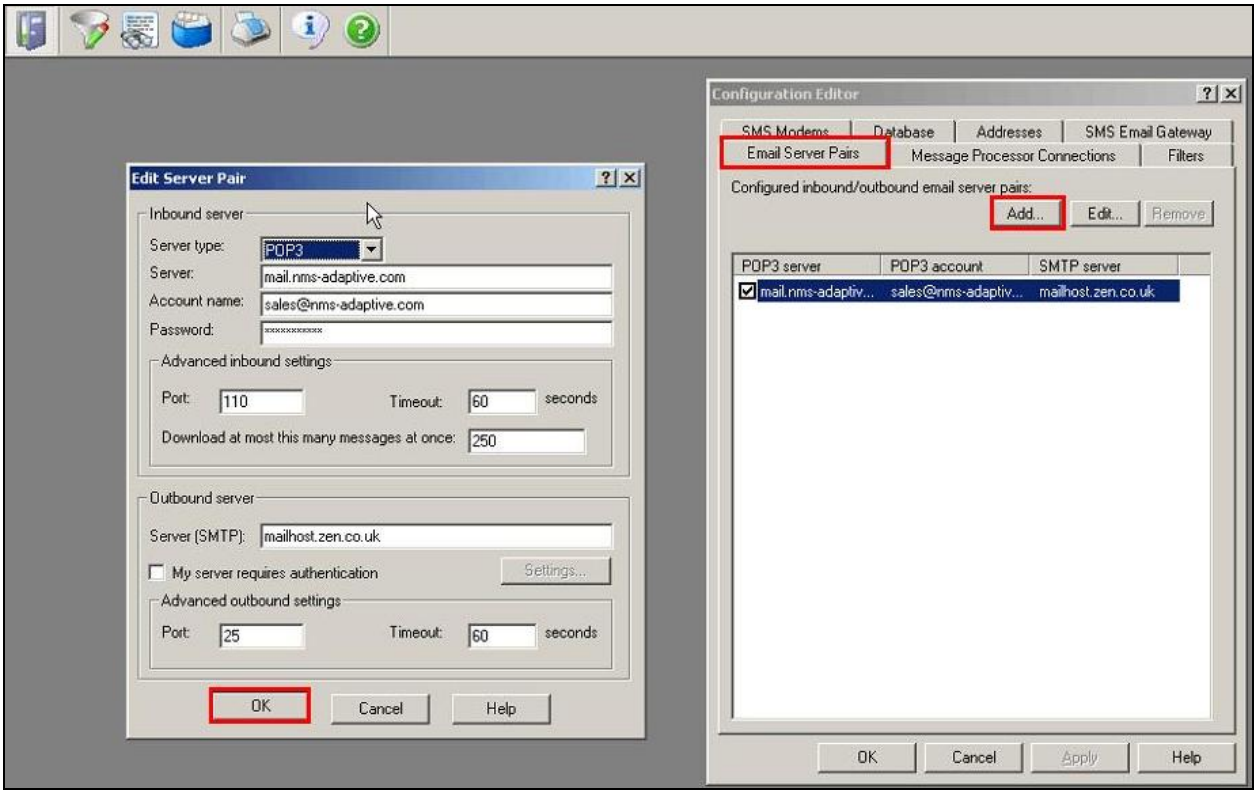
A window called **Configuration Editor** is opened. Click on the **Email Server Pairs** tab and click **Add** to add a new email server. This opens another window called **Edit Server Pair**. Select the following.

- **Server Type** Type of email server that needs to be added. In the example below this is a POP3 server.
- **Server** This is the hostname for the email server.
- **Account name** This is the email address of account for the server.
- **Password** The password associated with the email account.
- **Advanced inbound settings** The correct **Port** number is required depending on the **Server Type** used.
- **Outbound Server** Fill in the appropriate details for the **Outbound server** used. For compliance testing **mailhost.zen.co.uk** was used as the outbound server.



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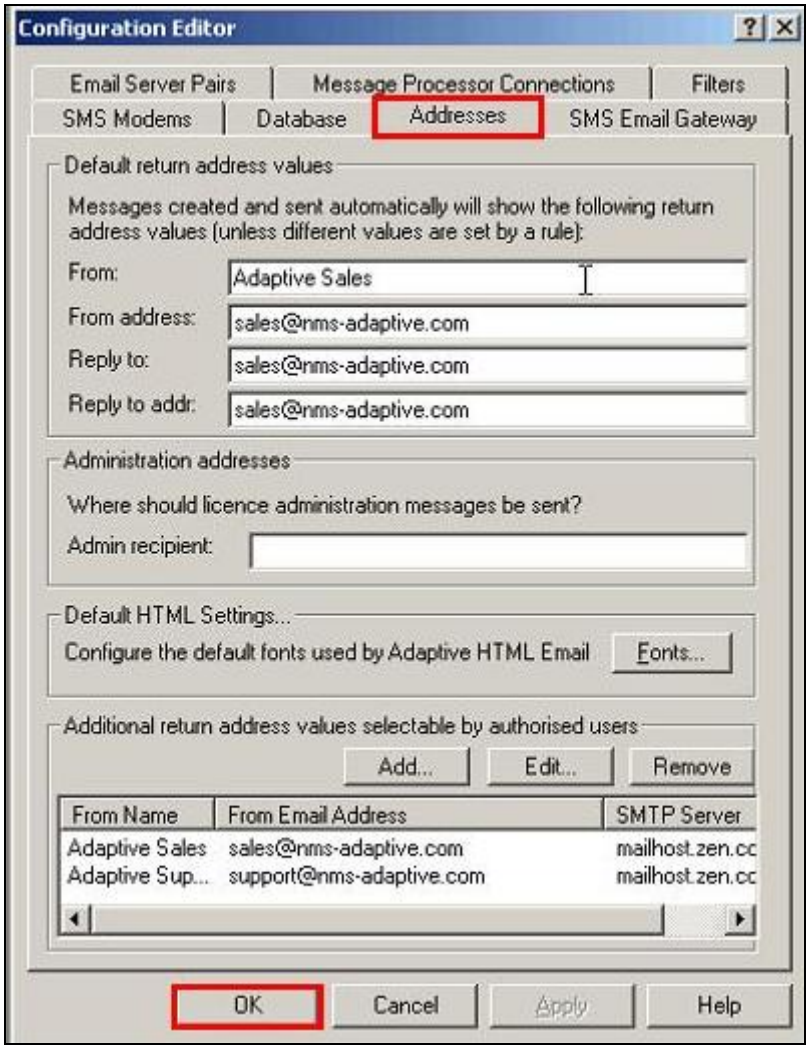
Click on the **Addresse**s tab to assign the **From** and **Reply to** addresses that users will see on the emails sent out. Below is an example of the setup used for compliance testing. **Sales@nms-adaptive.com** is the email address that users receive and reply to when an email is sent.



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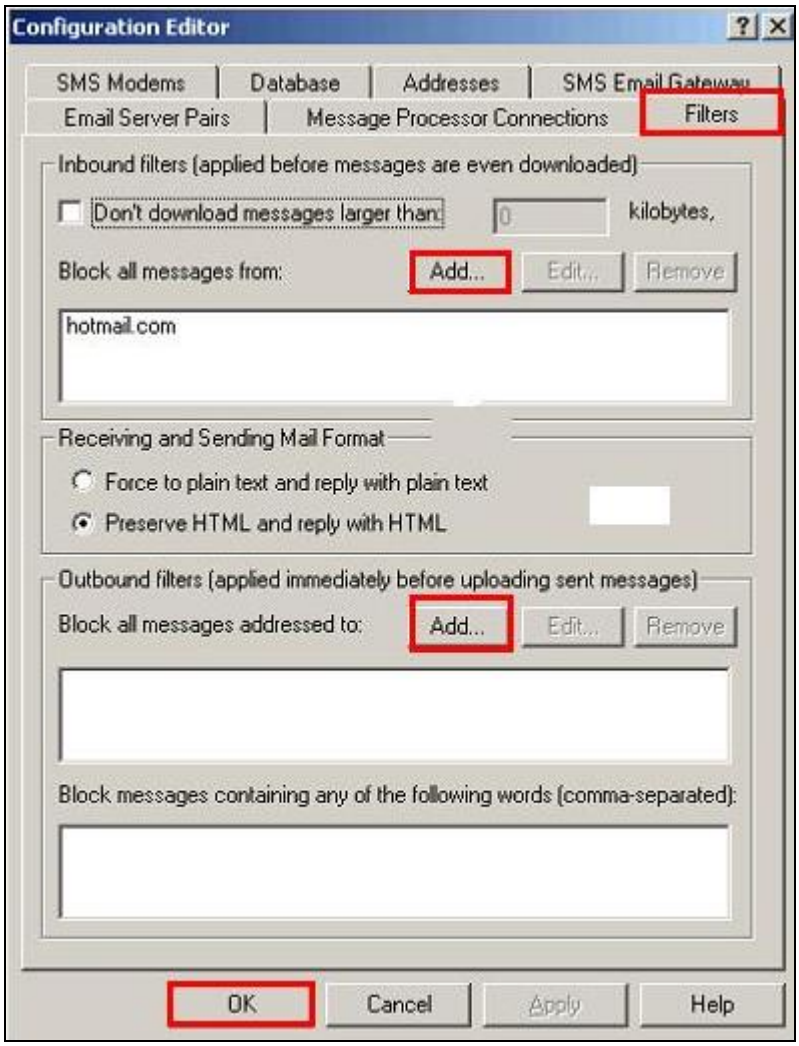
Filters are applied to block emails coming in or going out. Click on the **Filters** tab, click on the **Add** button opposite **Block all messages from:** in order to block incoming emails from certain email servers (the example below shows **hotmail** begin blocked). Click on the **Add** button opposite **Block all messages addressed to:** to block outgoing emails to certain email addresses.



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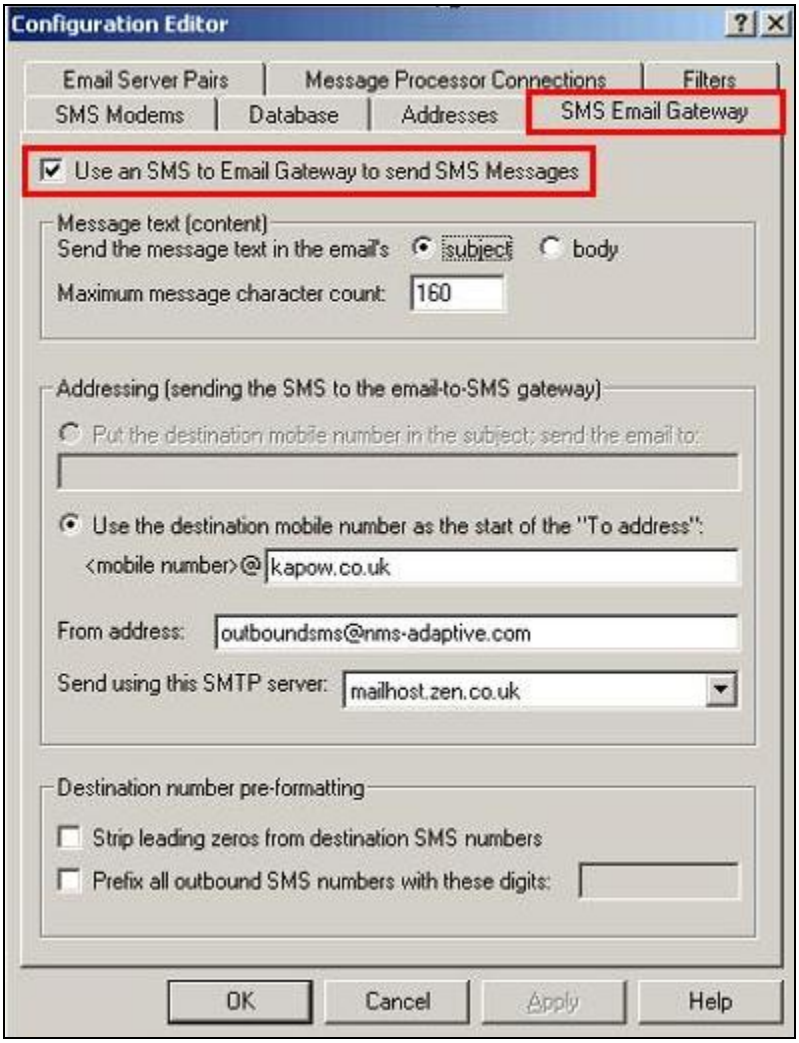
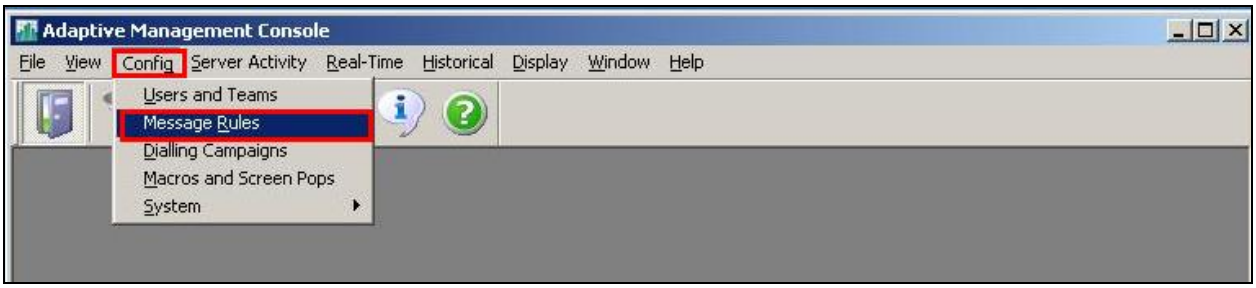
SMS messages can be sent by email, if this is a required setup click on the **SMS Email Gateway** tab. Ensure the **Use an SMS to Email Gateway to send SMS Messages** box is ticked. An example below of such a gateway was used for the compliance testing.



Message rules can be setup to send an automated reply to certain emails being received. Click on **Config** on the top toolbar and select **Message Rules**.



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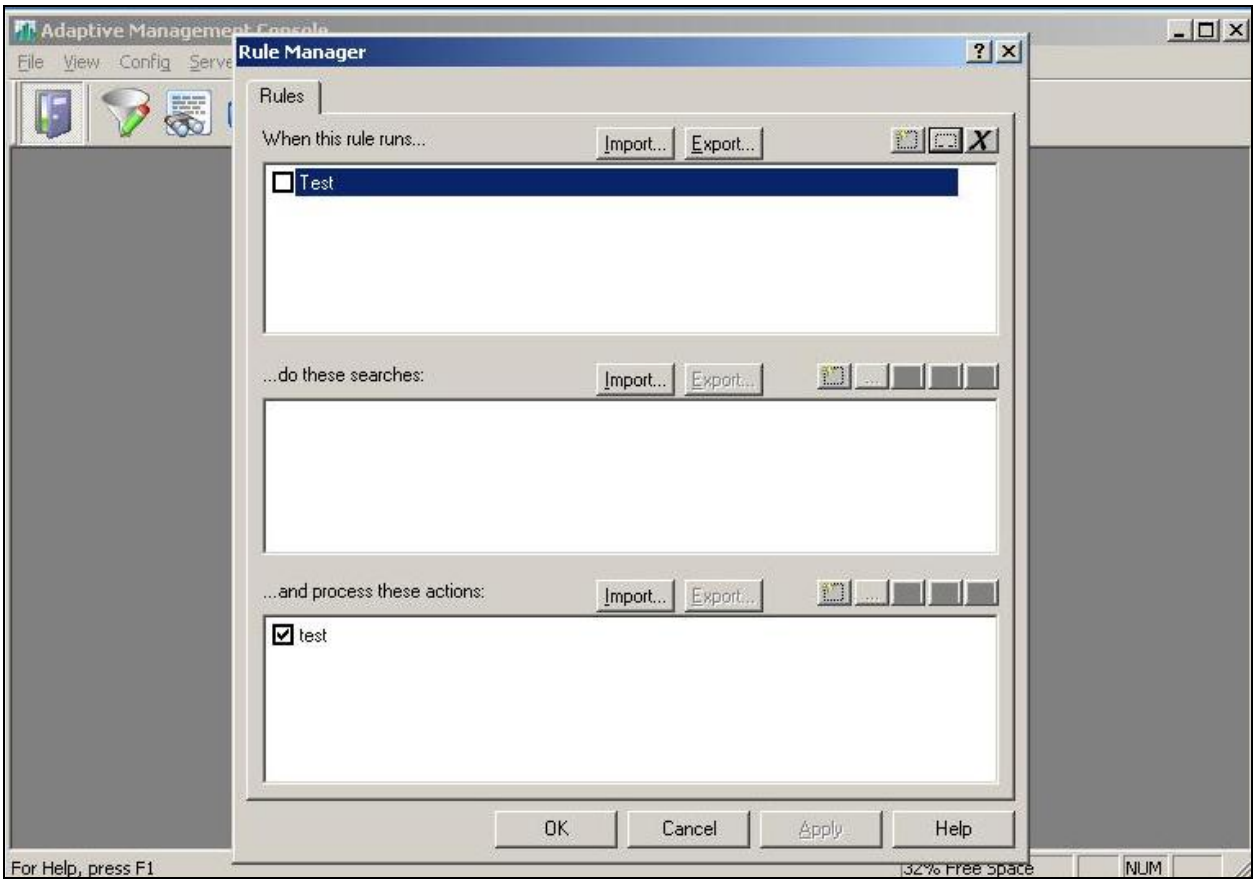
The **Rule Manager** window opens as shown below. Rules can be created or imported using Rule Manager. A **Test** reply rule was in place for compliance testing.



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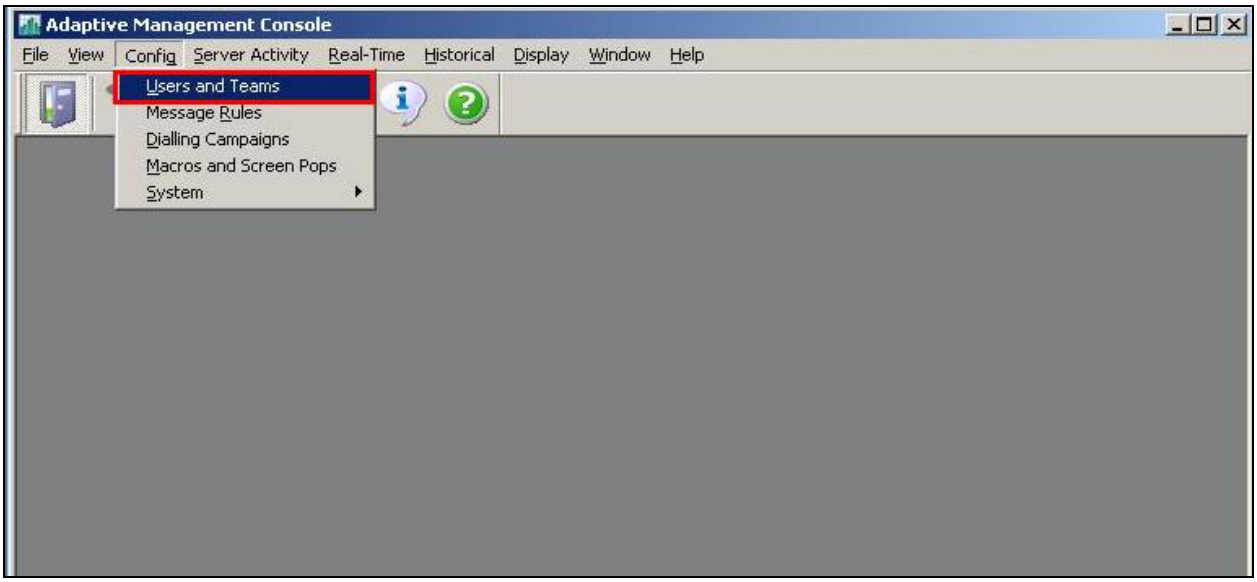
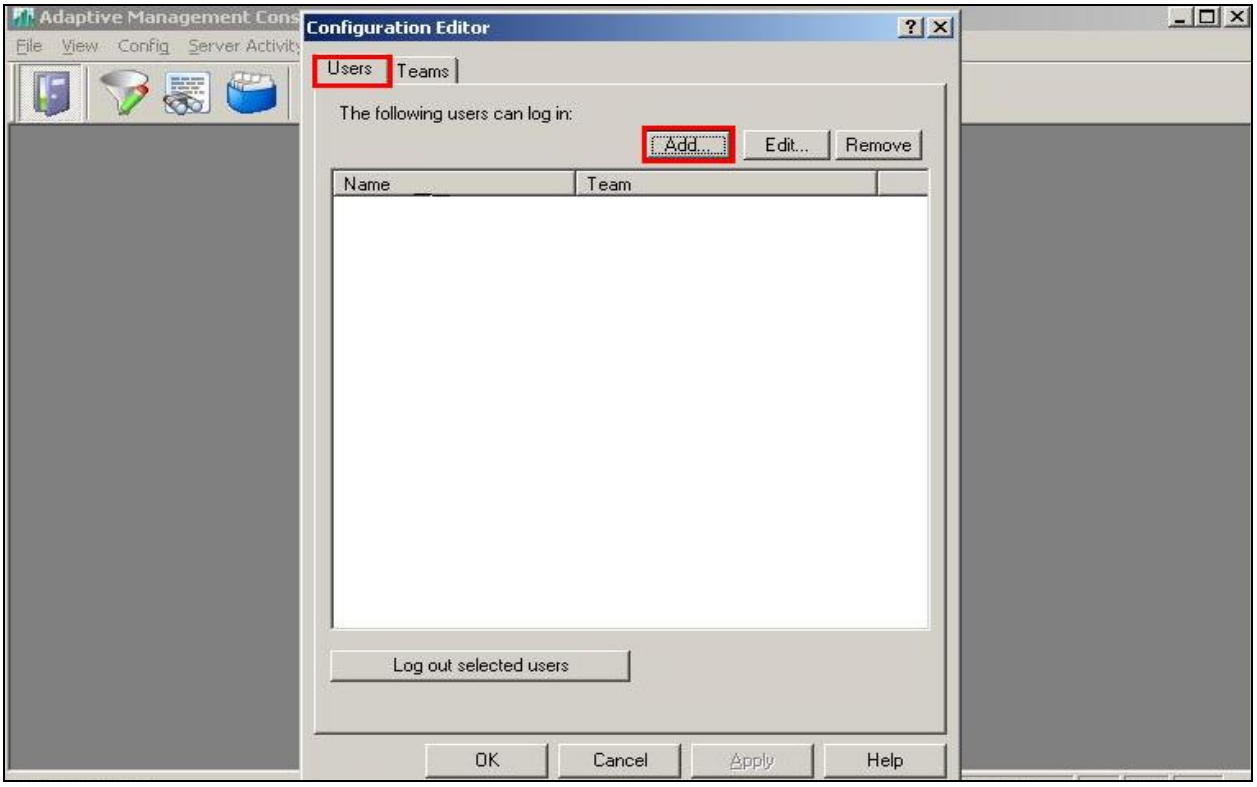
7.3. Adding Adaptive Users

Open the **Adaptive Management Console** as described in **Section 7.1**. Under **Config** select **Users and Teams** highlighted below.



Select the **Users** tab and click on the **Add** button highlighted below.



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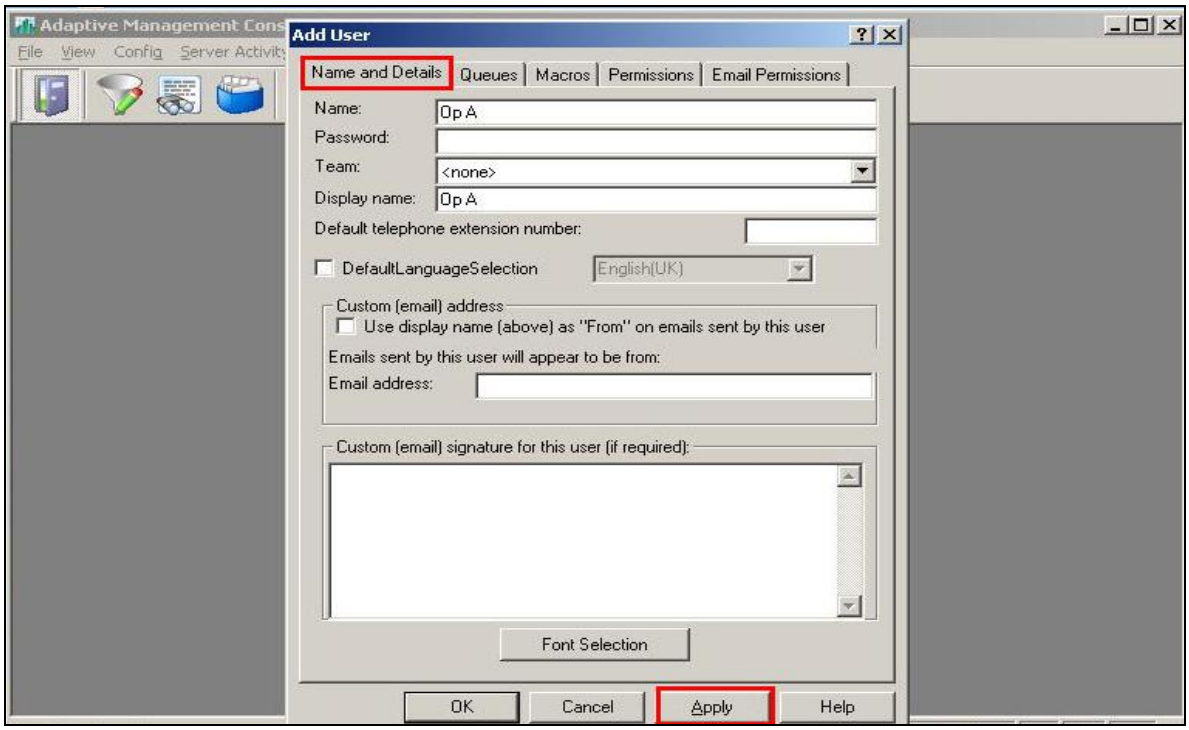
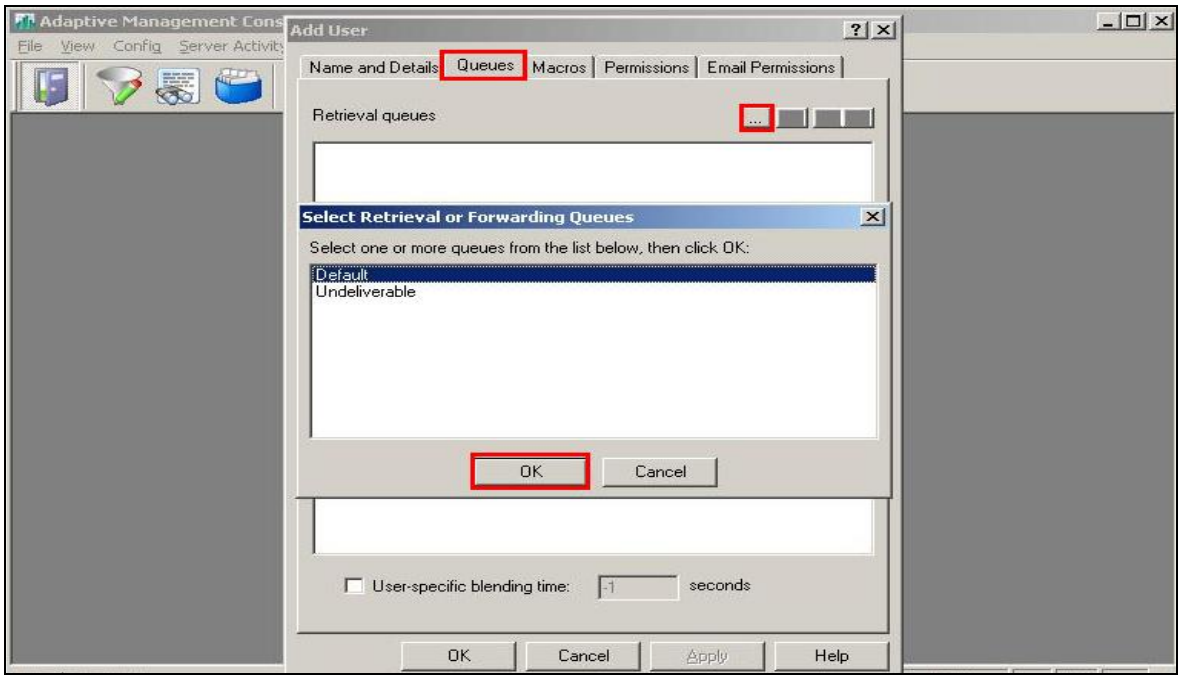
The **Add User** window is opened, under the **Name and Details** tab enter a suitable **Name** and **Password** and click **Apply**.



Select the **Queues** tab and click on the icon highlighted below. The **Select Retrieval or Forwarding Queues** window is opened. Select the required queue that will be associated with the new user and click **OK**.



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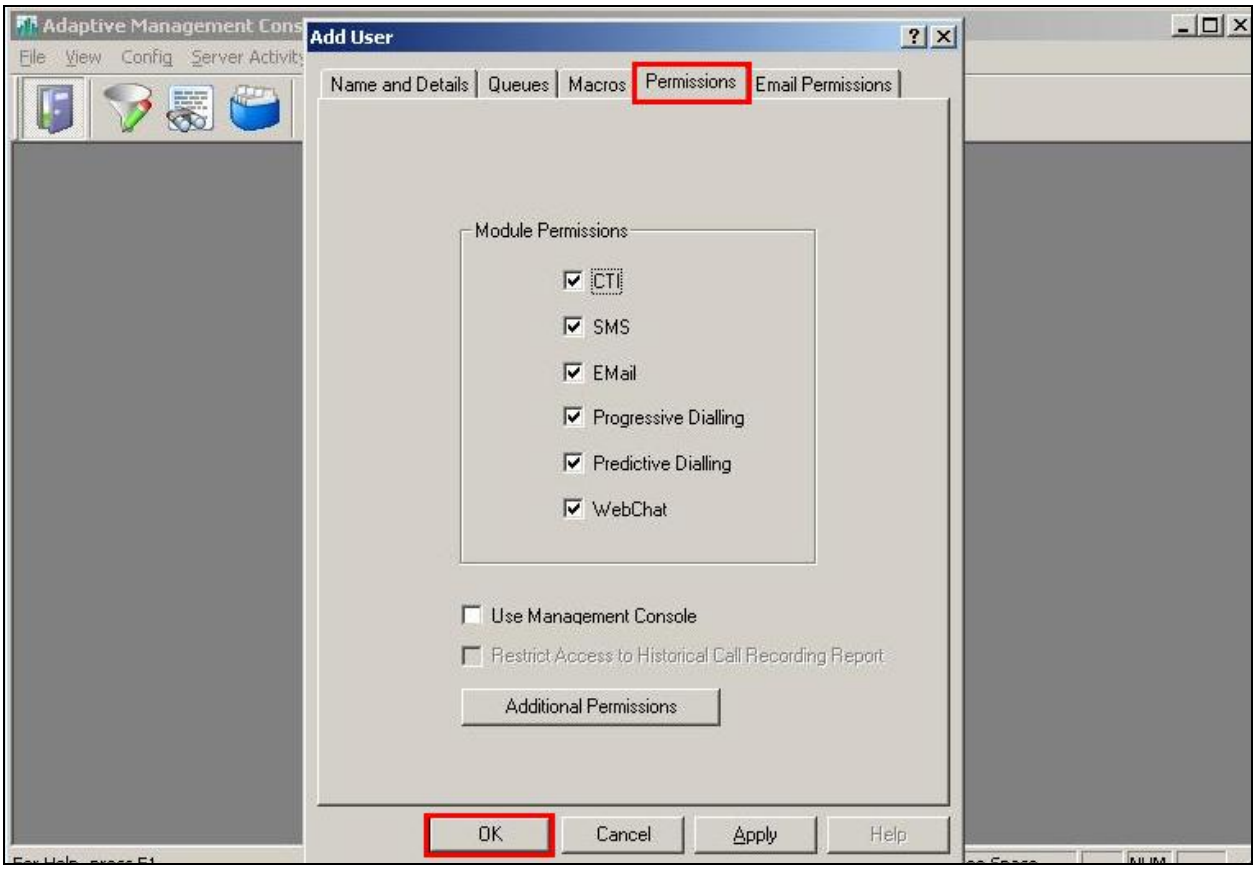
Click on the **Permissions** tab and select the **Module Permissions** required for the user, the example below shows all possible modules selected for the user. Click on **OK** once selected.



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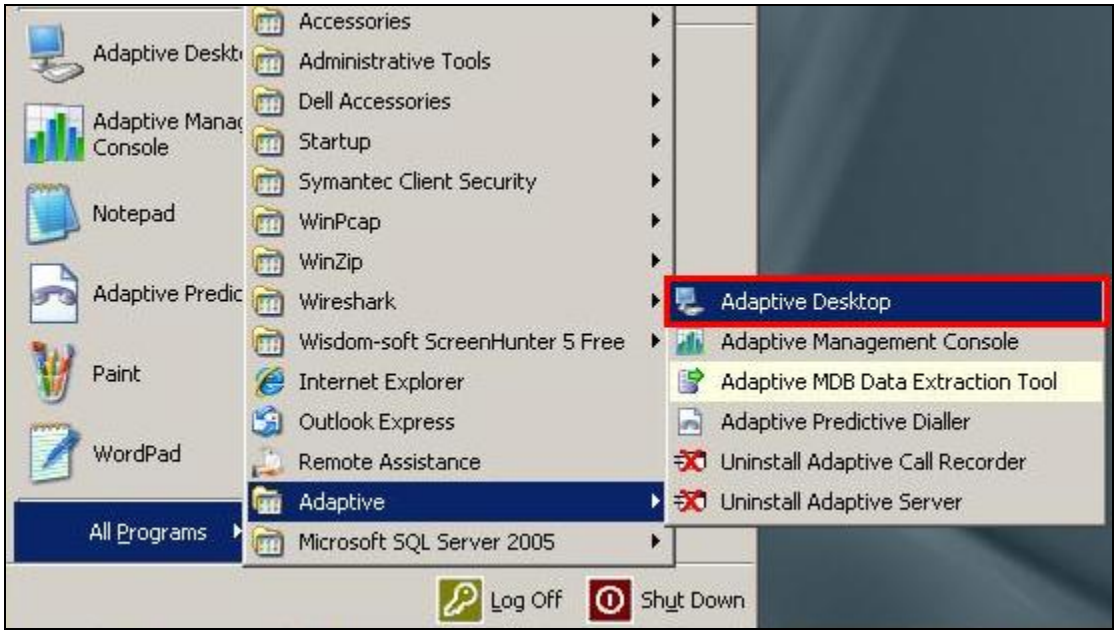
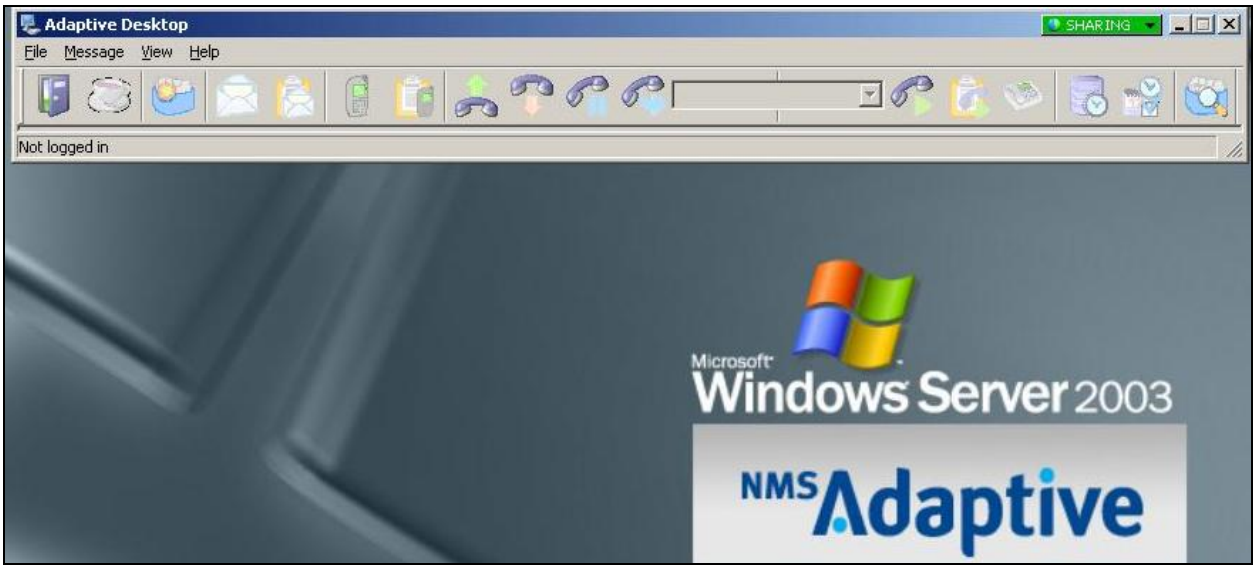
7.4. Configure Adaptive Desktop

Open **Adaptive Desktop** as shown below.



This opens the **Adaptive Desktop** window as shown.



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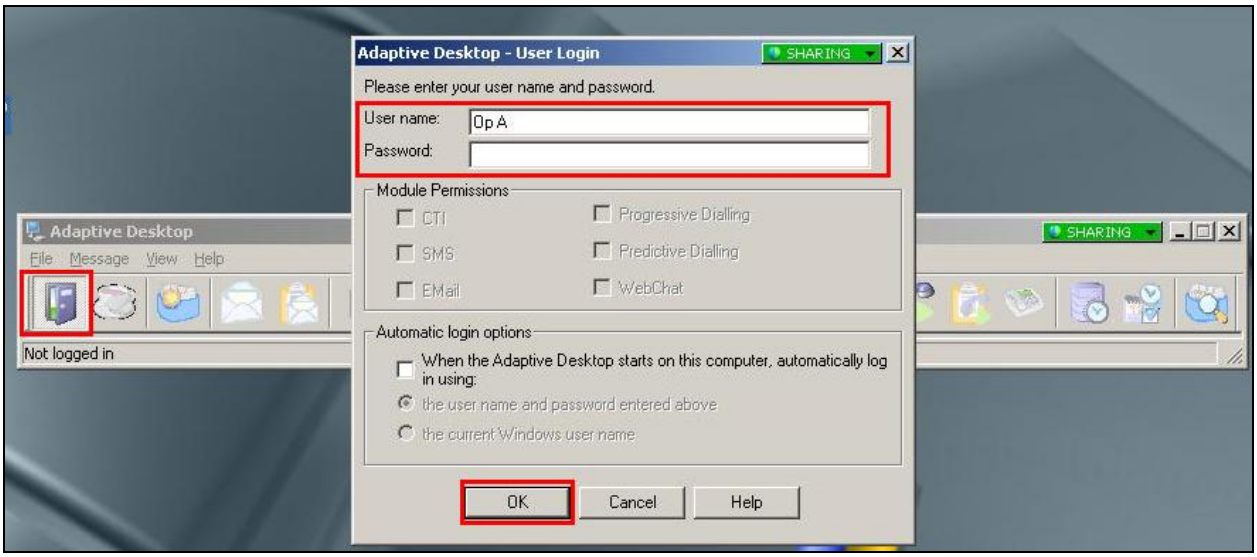
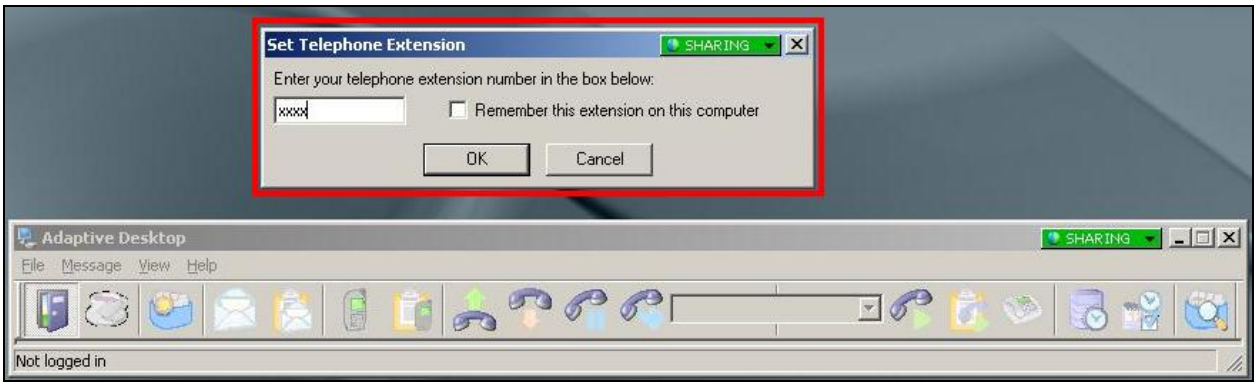
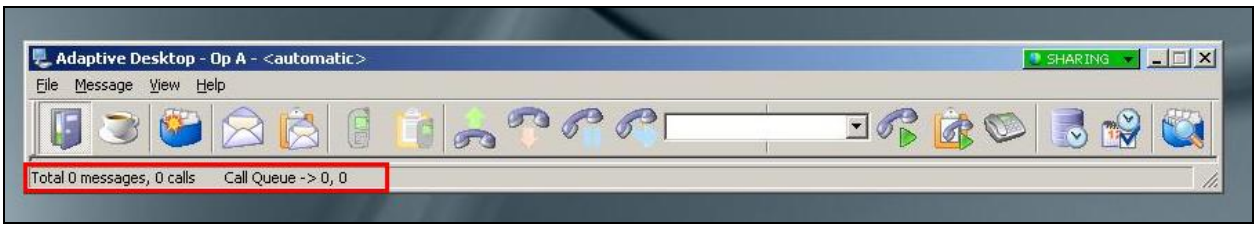
Click on the Login Icon highlighted. This opens the **Adaptive Desktop – User Login window**, Enter the required **User name** and **Password** and click **OK**.



Once **OK** is clicked above the **Set Telephone Extension** window opens. Enter the IP Office extension that is to be associated with the Adaptive Desktop operator and click **OK**.



Once logged in information on **messages**, **calls**, and **Call Queue** is displayed as highlighted below.



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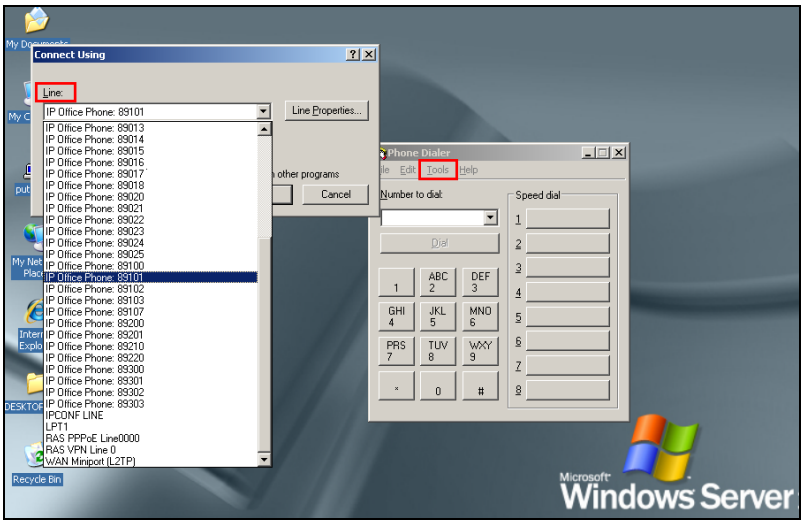
8. Verification Steps

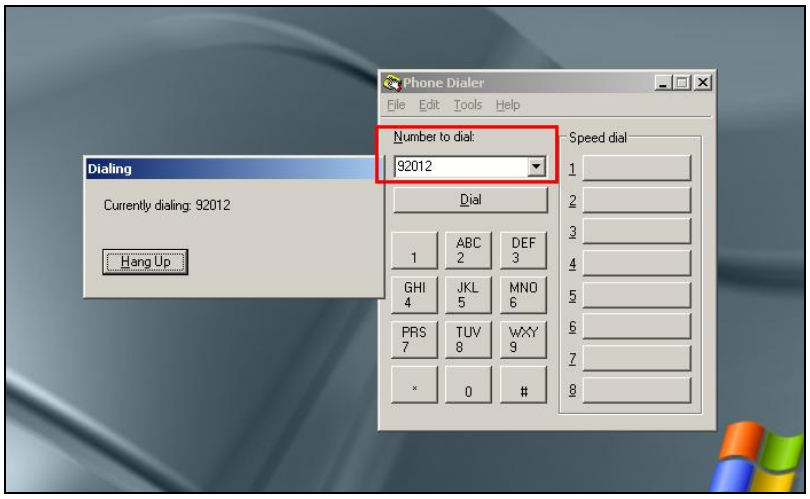
This section illustrates the steps necessary to verify that the NMS Adaptive Messaging is connected to the IP Office correctly.

8.1. Verify that Avaya IP Office TAPI Service Provider is running correctly

Open **Phone Dialer** (Windows program installed on all Windows platforms) on the Evolution Server where TAPI is installed. Click on the **Tools** menu and select **Connect Using**. Another box opens as shown below. Open the **Line** dropdown box and all the IP Office users should here as an available line to use.



Choose any line and in the box **Number to dial** enter a valid IP Office extension number as shown below and click **Dial**. The **Phone Dialer** should successfully call the chosen extension number.



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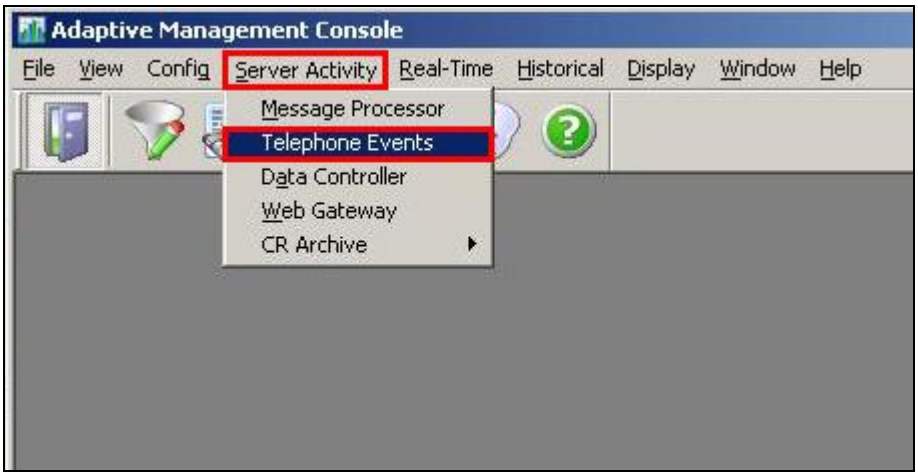
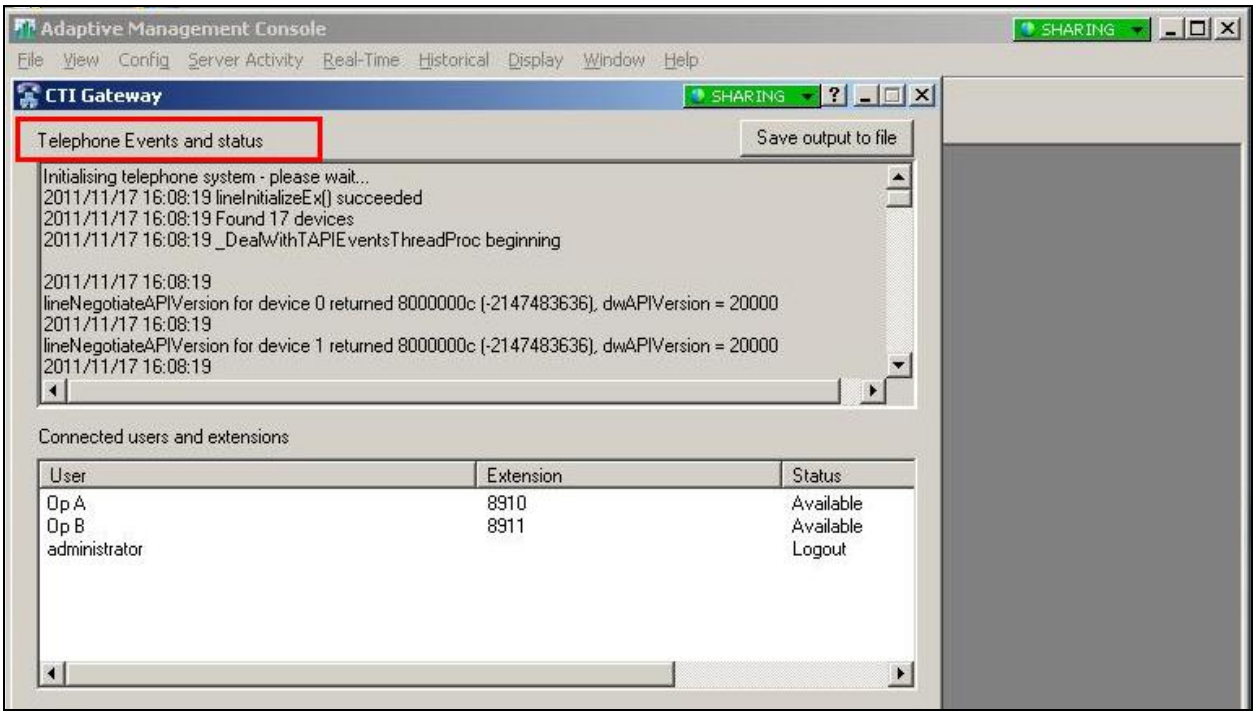
8.2. Verify that NMS Adaptive Server has CTI functionality

Open Adaptive Management Console as shown in **Section 7.1**. Click on **Server Activity** in the top menu and **Telephone Events** as shown below.



Telephone Events and status are displayed in the **CTI Gateway** window as shown below.



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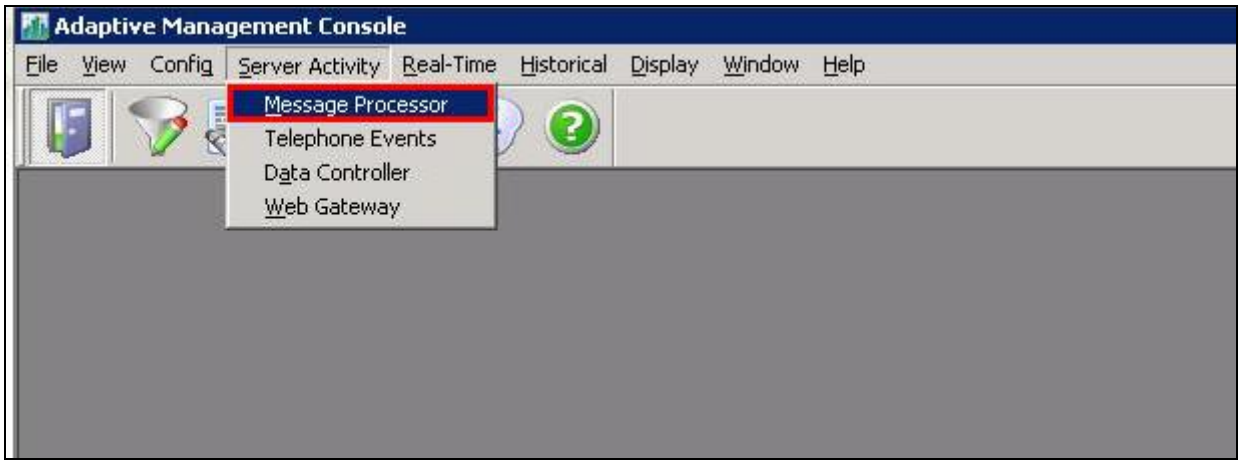
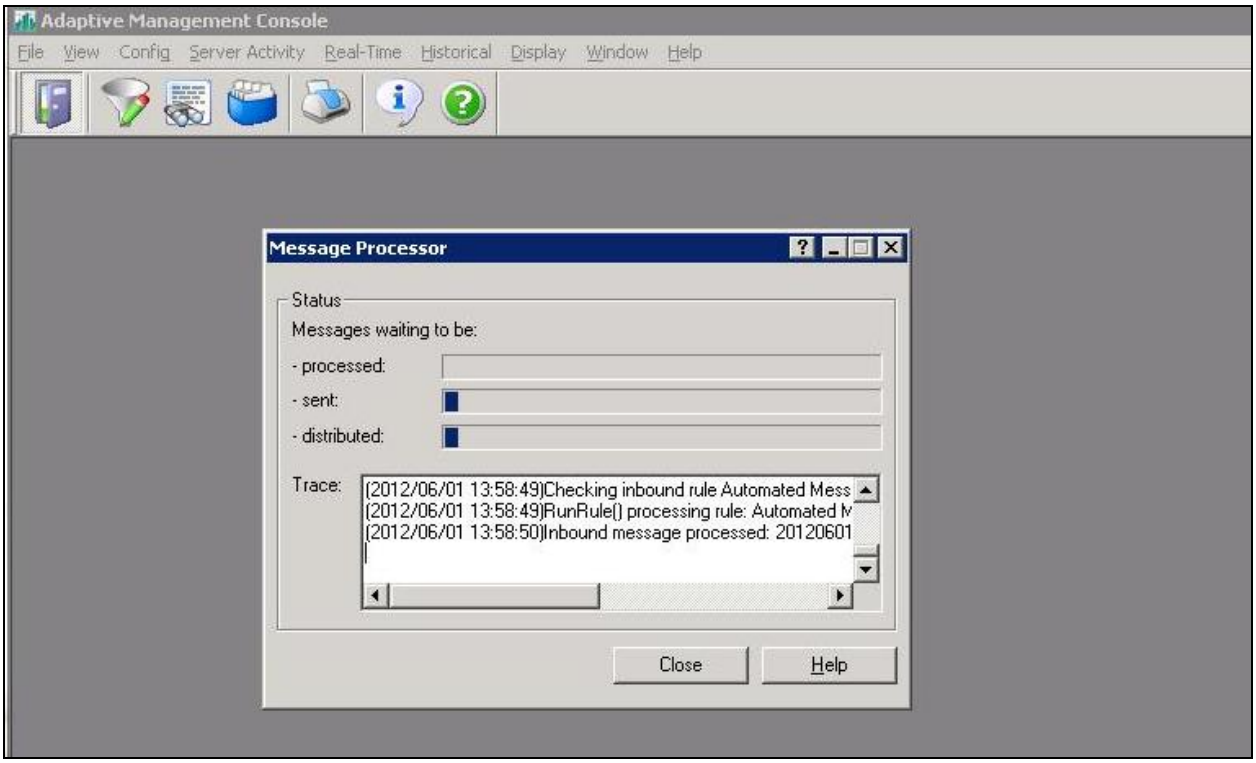
8.3. Verify Emails are received correctly

Open Adaptive Management Console as shown in **Section 7.1**. Click on **Server Activity** in the top menu and **Message Processor** as shown below.



The **Message Processor** window opens which shows email messages being processed in real-time. Any errors with messages being sent/received will be observer in the window.



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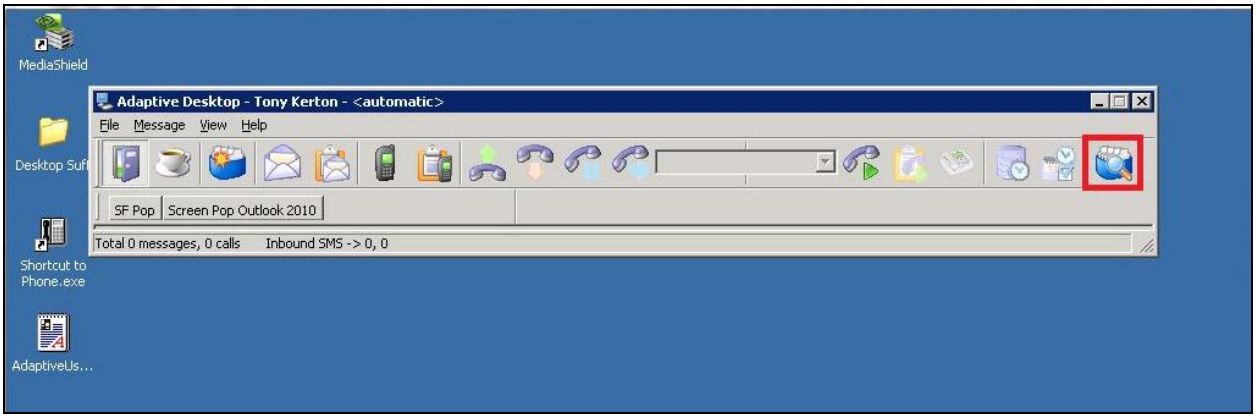
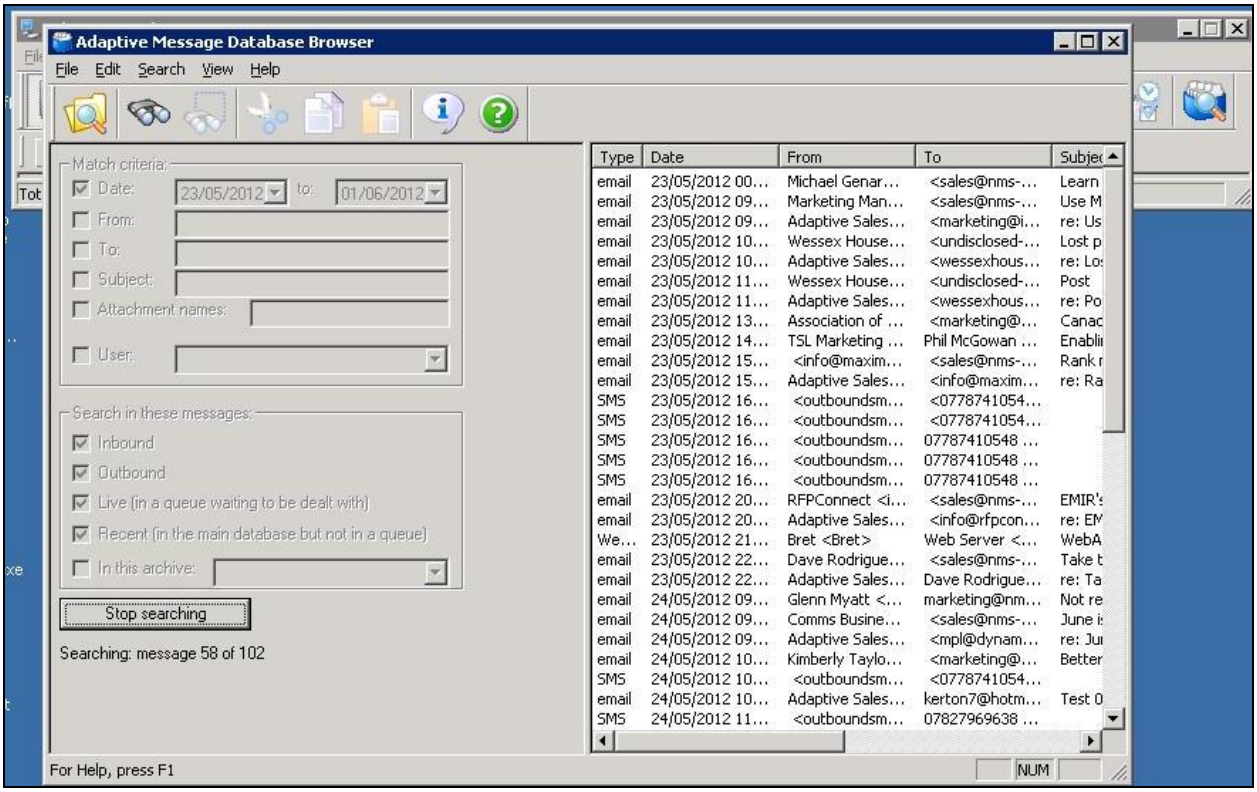
From the Adaptive Desktop click on **Message Database** icon highlighted below. A list of emails that was sent/received by that user can be observed and will confirm that Adaptive Desktop is working correctly.



Below is an example of emails and SMS that were sent/received by an NMS Adaptive Desktop user.



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9. Conclusion

Illustrated in these Application Notes is the procedure for configuring NMS Adaptive Messaging to interoperate with Avaya IP Office R8.0. Using the configuration described in these Application Notes, various emails were sent and received. Agents were placed in "Do not Disturb" mode while reading and replying to each email so as calls would not arrive at the agent's deskphone during this period. During compliance testing, all test cases were completed successfully, any observations are outlined in **Section 2.2**.

10. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com.

[1] *TAPI Link installation Doc # 15-601034 Issue 11d*
[2] *TAPI Link Doc # 15-601035 Issue 11f*
[3] *IP Office R8 Doc library*

The following NMS Adaptive product documentation can be found at http://nms-adaptive.com/downloads/

[1] *Adaptive Software Suite – User Guide*

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