Avaya Solution & Interoperability Test Lab

Application Notes for Telcomp IpOps and Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Telcomp IpOps to successfully interoperate with the Avaya IP Office. Telcomp IpOps is an application for the telephone user who is hearing or sight impaired. For the sight impaired, Telcomp IpOps provides information about a user's telephone display and lamp status through the user's PC speakers. For the hearing impaired, audio indicators such as ringing are replaced by visual indicators. Telcomp IpOps is designed to meet the requirements outlined in Section 508 of the federal Rehabilitation Act which requires access to electronic and information technology by the Federal government to individuals with disabilities. However, these Application Notes makes no judgment as to whether Telcomp IpOps is compliant with Section 508. The compliance testing discussed in these Application Notes was designed to verify the interoperation between Telcomp IpOps and Avaya IP Office.

Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes describe the compliance-tested configuration utilizing the Avaya IP Office and Telcomp IpOps. IpOps is a client middleware application which uses TAPI 1st party call control to provide information about a user's telephone display and lamp status through the user's PC speakers.

Telcomp IpOps and Avaya TAPI are installed on the PC of the user whose phone is to be monitored. Information about the phone is passed from the Avaya IP Office to the IpOps via the TAPI connection established between the two. Information of the sort typically conveyed to sighted users by LEDs (Light Emitting Diodes) is presented automatically by voice through the PC's speakers, for example "Line three is on hold," "You have new voicemail," and "Line three has disconnected." Text information on the telephone's display, such as the caller ID information, is voiced out automatically but can be stopped by hitting the assigned Hot Key. Telcomp IpOps has visual notification options as well but was not included in the compliance testing.

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

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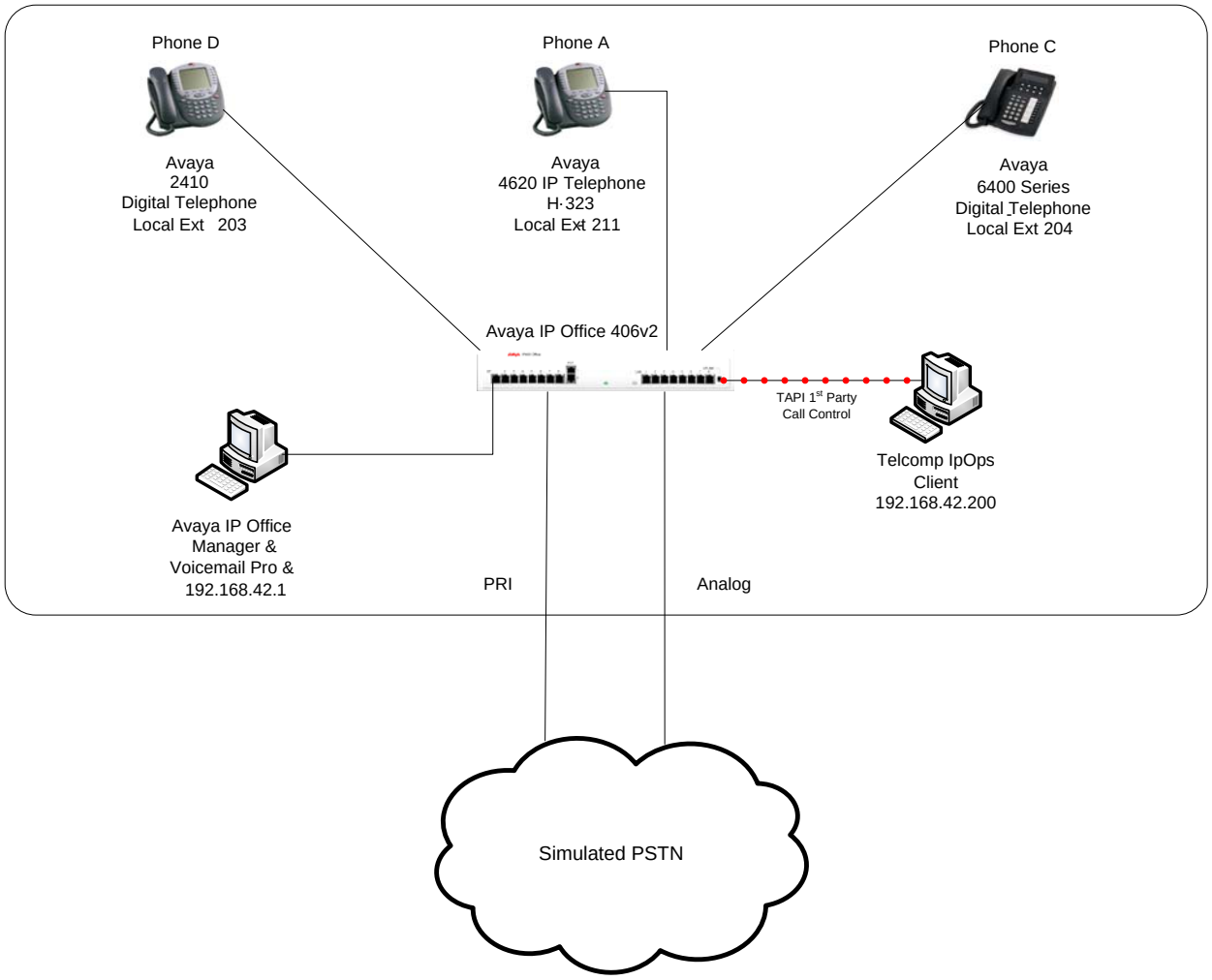

Figure 1: Telcomp IpOps and Avaya IP Office Configuration

1.1 Features Supported

IpOps provides call status information to the user as well as feature status information including

- Incoming Call
- Caller ID
- Do Not Disturb
- Forwarding
- Off hook
- Lines on hold
- Conferencing
- Transfer
- Voicemail, including the number of new and saved messages

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2. Equipment and Software Validated

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

Hardware Component	Software Version
Avaya IP Office 406 v2	3.2(17)
Avaya 4600 Series IP Telephones	2.3
Avaya IP Office User Suite	3.2(12)
Avaya Voicemail Pro	3.2(15)
Avaya IP Office TAPI driver	1.0.0.27
Avaya 2400 Series Digital Telephones	N/A
Avaya 6400 Series Digital Telephones	N/A
Telcomp IpOps	IpOps 1.05a
PC used for the Telcomp IpOps	XP Windows Professional, Service Pack 2
PC used for Avaya IP Office Manager, Avaya Voicemail Pro	Windows 2003 Server Edition

3. Configure Avaya IP Office

No Telcomp IpOps specific configuration is required on Avaya IP Office to support this solution. For all other provisioning information such as provisioning of the trunks, call coverage, and extensions, please refer to the Avaya IP Office product documentation.

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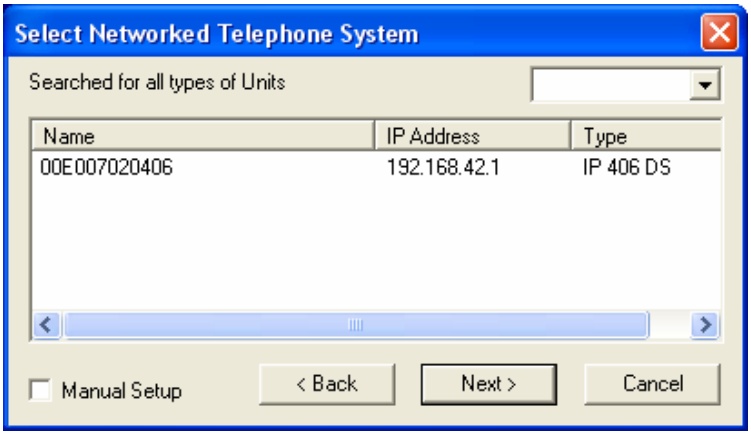
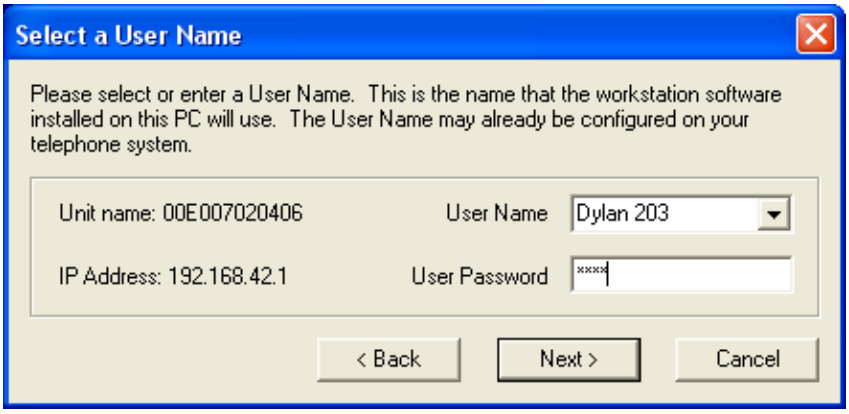
4. Install Avaya TAPI interface

This section addresses the installation of the TAPI interface onto the user's PC.

Install the TAPI interface from the Avaya IP Office User Suite CD onto the user's PC. If you do not have the CD, you can download the latest version from http://support.avaya.com/.

Step	Description
1.	Log into the user's PC with administrative privileges and launch the Avaya IP Office User Suite setup from the CD.
2.	Click **Next** in the InstallShield Wizard. The Program will search for the IP Office on the local network. If the IP Office is not listed, press the **Manual Setup** button and follow the instructions. Press the **Next** button. 
3.	Use the pull down arrow and find the correct **User Name**. Enter the **User Password**, which is the password field on the User tab of the User form in Avaya IP Office Manager. Press the **Next** button. 

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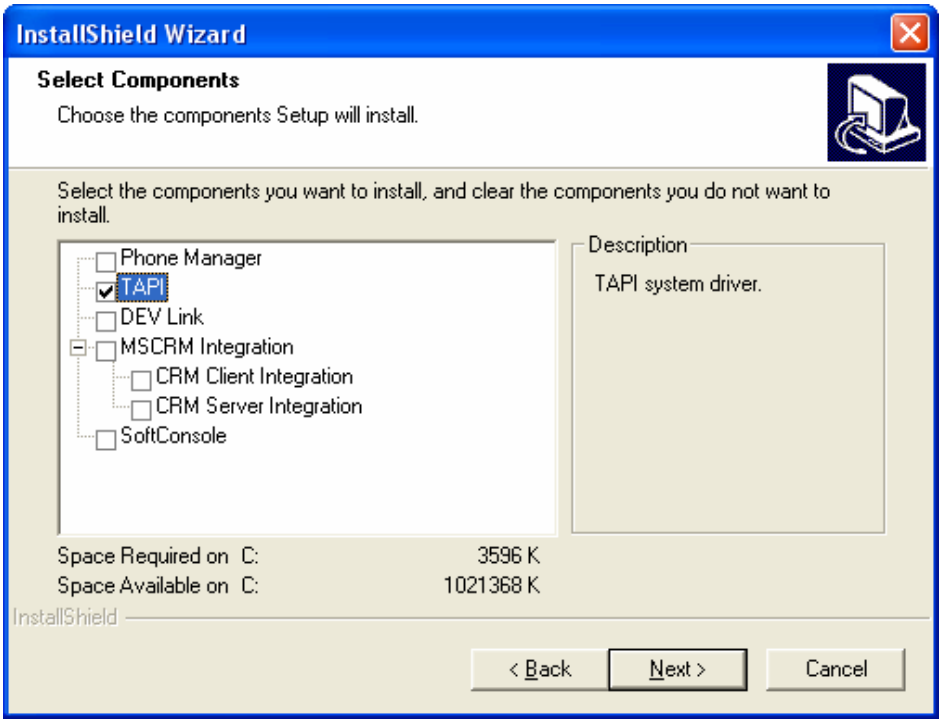
Step	Description
4.	A **Select Components** window appears. Check the **TAPI** box and press **Next**. Reboot the PC. Note: All deselected items will be uninstalled. 

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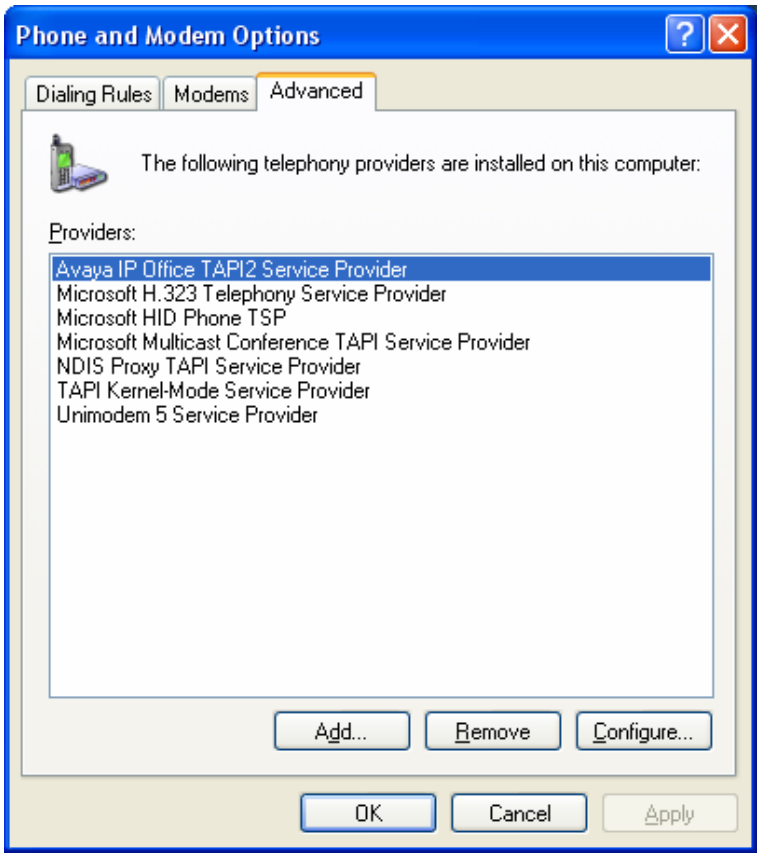
4.1. TAPI Setup and information verification

Step	Description
1.	Once the PC reboots, open the control panel. Open “Phone And Modem Options”. Select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** option. Press the **Configure** button. 

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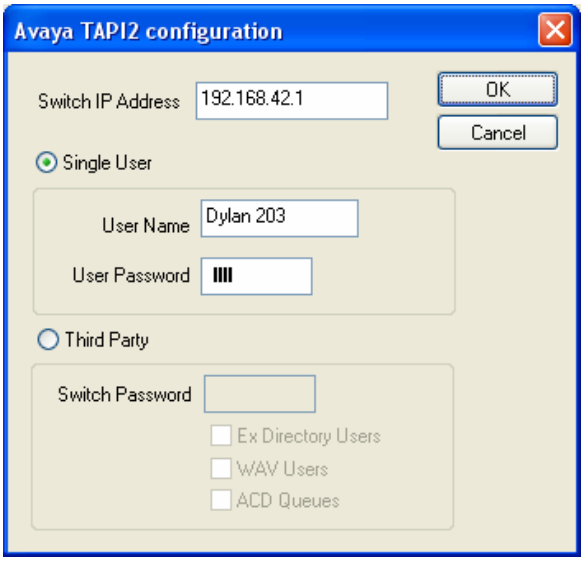
Step	Description
2.	The information entered in Steps 2 and 3 of Section 4 is displayed. If it is not, manually enter the information. Press the **OK** button. 

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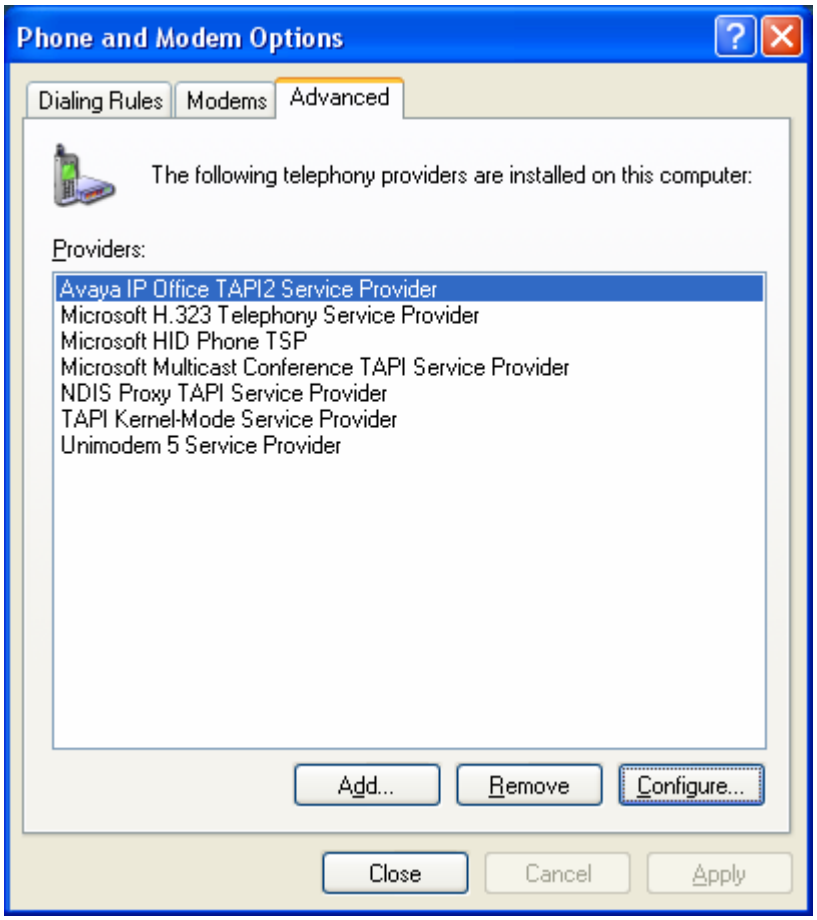
Step	Description
3.	Press the **Close** button to exit the Phone and Modem Options window. 

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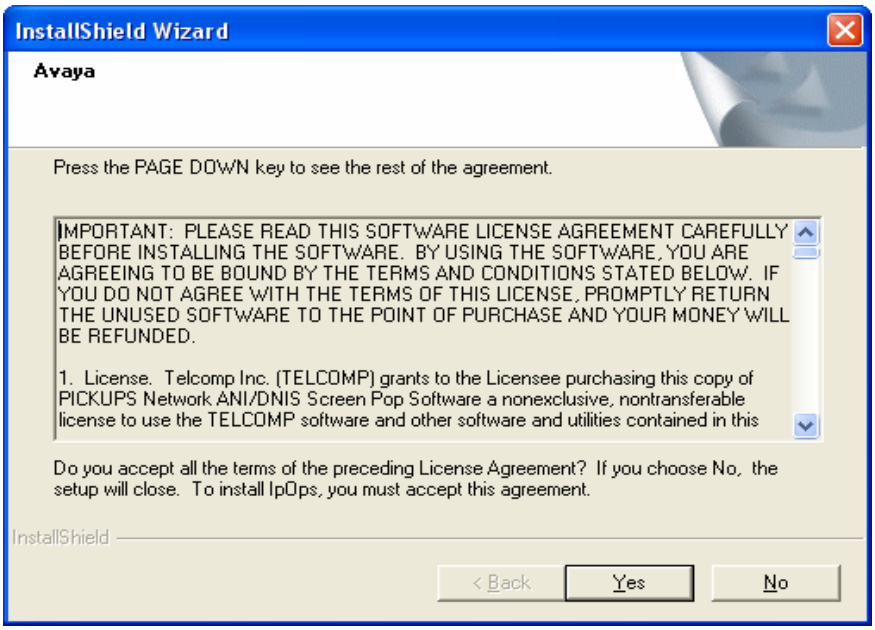
5. Install and Configure Telcomp IpOps 1.05a.

Step	Description
1.	Install Telcomp IpOps from the CD that is part of the accessibility package (Part # 700411184). Double click on the Setup.exe file and go through the install setup. Press the **Yes** Button. 

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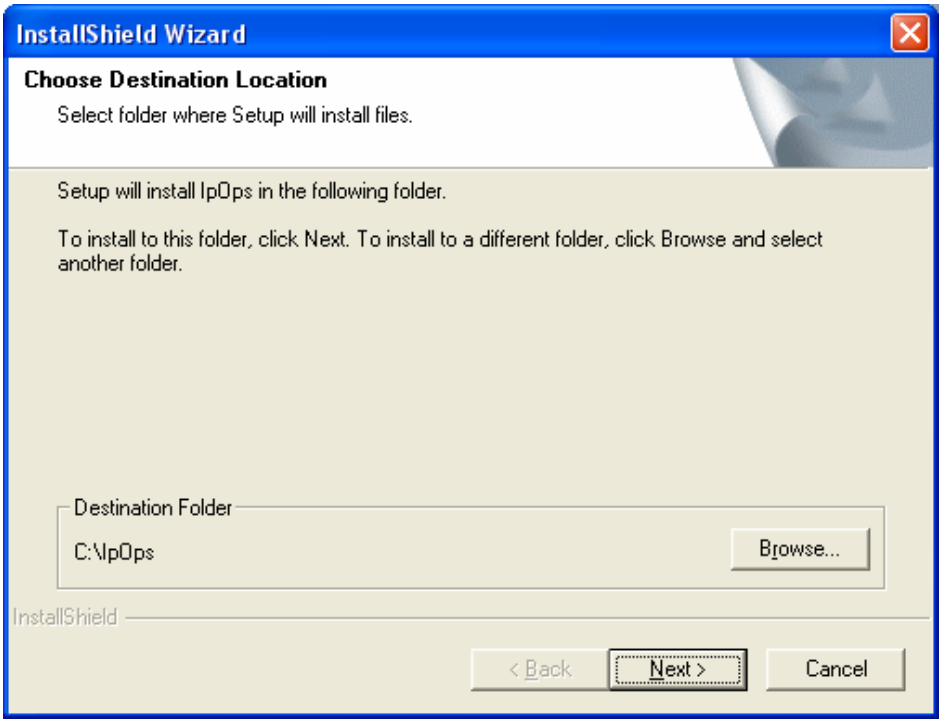
Step	Description
2.	Press **Next** to create the IpOps directory: A pop-up dialogue box will appear, Click on the **Finish** button to complete the installation. 
3.	An icon on appears on the desktop. Copy the icon to the system startup folder to have the program start when the PC starts Windows.

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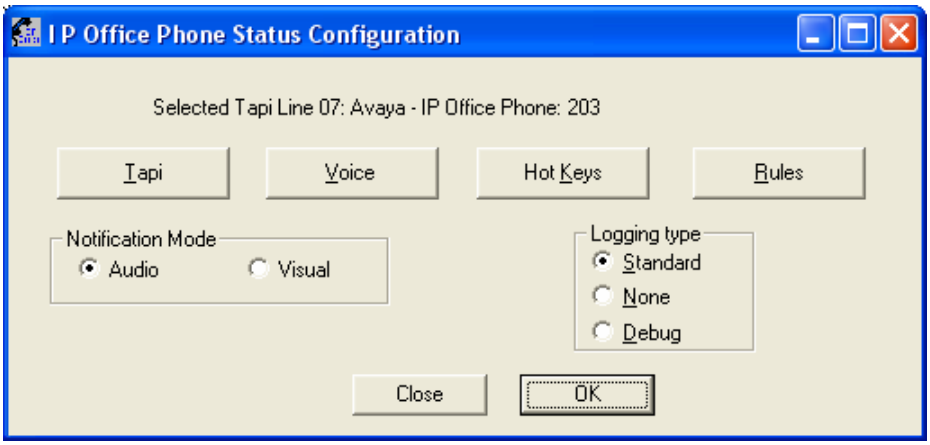
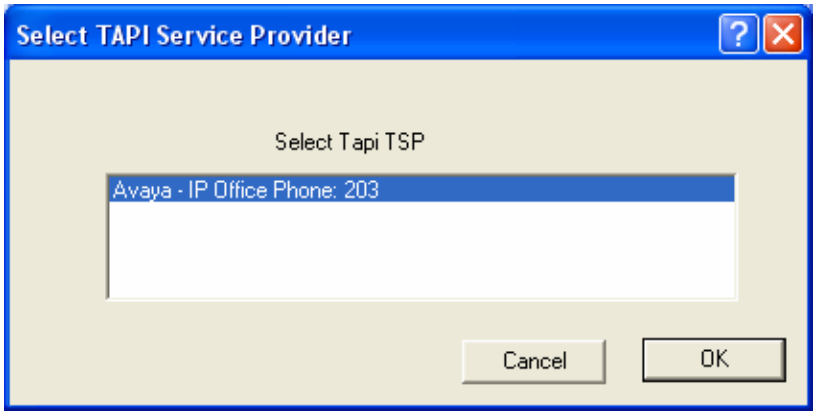
Step	Description
4.	Start Telcomp IpOps by selecting **Start→Programs→IpOps** from the Windows Start Menu or clicking on the desktop icon. A status message is played when the application starts. Verify **Notification Mode** is set to Audio. 
5.	Verify the TAPI connection. From the screen in Step 4 of this section, press the **Tapi** button. Check that the extension displayed is the same as Step 3 in Section 4. Press the **OK** button to continue. 

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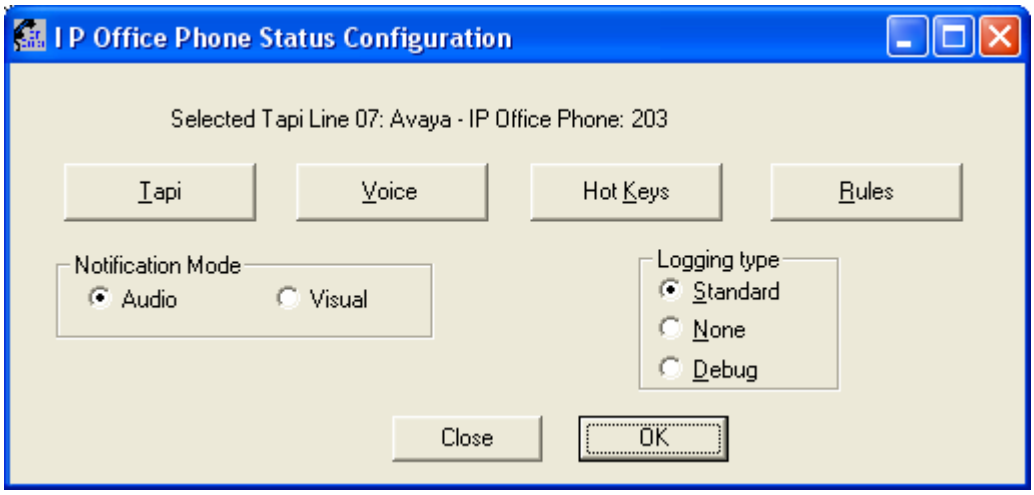
5.1. Configure Hot Keys

Set the function keys which provide phone status information.

Step	Description
1.	Open the Telcomp IpOps configuration window by selecting **Start→Programs→IpOps** from the Windows Start Menu or clicking on the **desktop icon**. Click on the **Hot Keys** button. 
2.	The Computer Keyboard shortcuts window appears. To configure the Play Current hot key, click on the **Play Curr** button.

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Step	Description
3.	Set the Hot Key for Play Current. Check the box next to the choice for **Modifier key**. Then, enter a value for the single character to follow the modifier key. Press the **OK** button to continue. For the compliance testing, Alt F2 was used as the hot key.
4.	The Computer Keyboard shortcuts window appears. To configure the Play Last hot key, click on the **Play Last** button.

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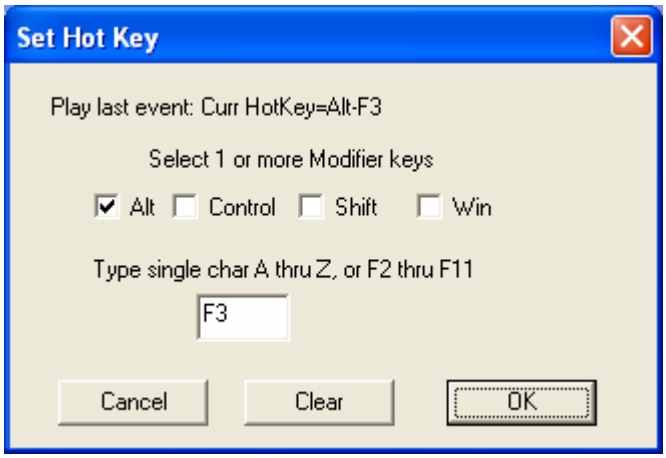
Step	Description
5.	Set the Hot Key for Play Last. Check the box next to the choice for **Modifier key**. Then, enter a value for the single character to follow the modifier key. Press the **OK** button to continue. For the compliance testing, Alt F3 was used as the hot key. 
6.	The Computer Keyboard shortcuts window appears. To configure the Stop Play hot key, click on the **Stop Play** button.

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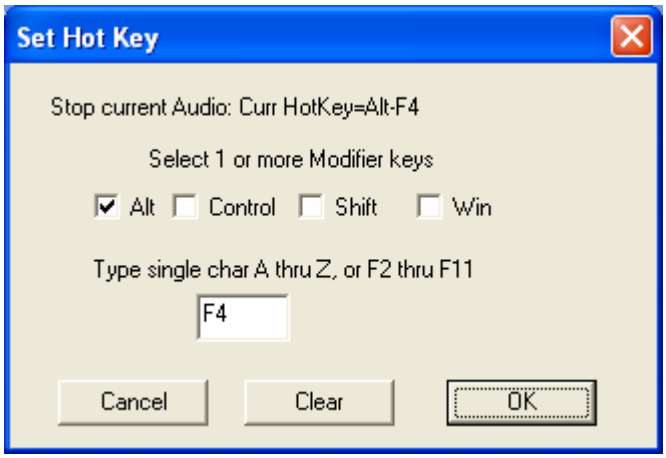
Step	Description
7.	Set the Hot Key for Stop Play. Check the box next to the choice for **Modifier key**. Then, enter a value for the single character to follow the modifier key. Press the **OK** button to continue. For the compliance testing, Alt F4 was used as the hot key. 

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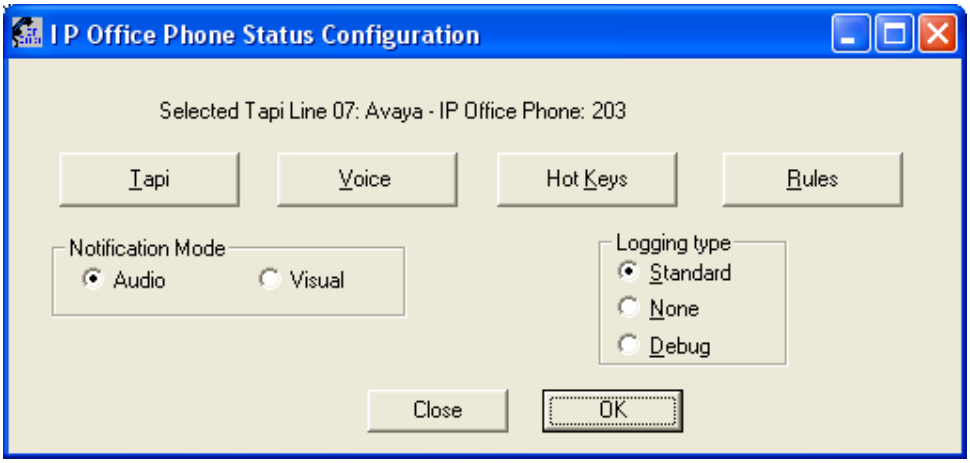
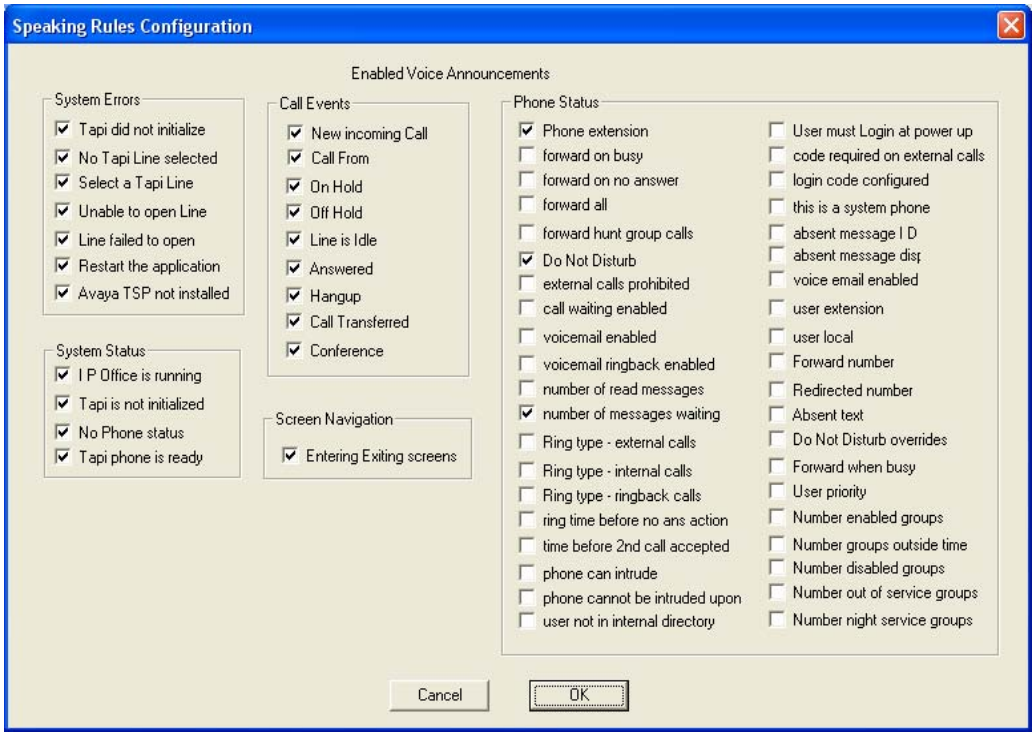
5.2. Configure Rules

Most of the rules are set but you can make changes to accommodate a user's preference.

Step	Description
1.	Open the Telcomp IpOps configuration window and press the **Rules** button. 
2.	Check the boxes to enable voice announcements for any of the listed feature or functions. Press the **OK** button. 

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6. Interoperability Compliance Testing

This interoperability compliance test included feature and functionality testing. Feature and functionality testing examined the ability of Telcomp IpOps to report the status of the user's phone.

6.1. General Test Approach

Feature and functionality testing was performed manually on the Avaya IP Office configured with inbound trunk calls ringing at the user's phone. Analog and PRI trunks from the central office were connected to the Avaya IP Office. The Avaya TAPI interface on the users PC was configured to monitor Avaya IP Office for information about the user's phone. The basic functions of Telcomp IpOps were tested by calling the user's phone from different source points (i.e., internal and external calls).

6.2. Test Notes and Observations

The following notes and observations regarding this solution were made during compliance testing.

- For internal calls, if the Telcomp IpOps user hangs up, the user will not hear a message that the line was closed.

- Line Appearance buttons are not supported.

6.3. Test Results

Telcomp IpOps successfully passed compliance testing. All observations noted during testing were presented in section 5.2.

During compliance testing, it was verified that IpOps provided call status information for the following features:

- Incoming Call
- Caller ID
- Do Not Disturb
- Forwarding
- Off hook
- Lines on hold
- Conferencing
- Transfer
- Voicemail, including the number of new and saved messages

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7. Verification Steps

The following steps can be used to verify system operation after a field installation:

- To verify that Telcomp IpOps returns the phone status, press the user configured hot key. Verify there is an audible message giving phone status information (i.e., available lines, how many messages waiting).

- Place an inbound call to the user's phone. Verify there is an audible message indicating an incoming call and what line it is coming in on.

- As the phone is ringing, get status by pressing the phone status hot key. Verify there is an audible message giving caller ID information (i.e., Name, Phone number).

8. Support

For technical support on Telcomp IpOps, contact the Telcomp Customer Service Center at (407) 889-7377. Technical support email can be sent to larry@telcomp.com.

9. Conclusion

These Application Notes describe the configuration steps required for Telcomp IpOps to successfully interoperate with Avaya IP Office. Features and functionality were successfully validated with observations as noted in section 5.2.

10. Additional References

[1] Avaya IP Office 3.1 Installation Manual, http://support.avaya.com/
[2] Telcomp IpOps Help File (included with the product, http://www.telcomp.com/)

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