



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Telcomp Pickup and Avaya IP Office using TAPI - Issue 1.0

Abstract

These Application Notes describe the procedure for configuring Telcomp Pickup to interoperate with Avaya IP Office using a first party TAPI interface.

Telcomp Pickup provides CallerID number information via a single-line screen pop and/or a multi-line menu capability from the Avaya IP Office to a single computer, or to a network of computers. Pickup is offered in two configurations, a TAPI version as described in these Application Notes, and a Server based solution described separately in *Application Notes for Configuring Telcomp Pickup and Avaya IP Office using DevLink*.

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 procedure for configuring Telcomp Pickup to interoperate with Avaya IP Office using a first party TAPI interface.

Telcomp Pickup provides CallerID number information via a single-line screen pop and/or a multi-line menu capability from the Avaya IP Office to a single computer, or to a network of computers. Pickup is offered in two configurations, a TAPI version as described in these Application Notes, and a Server based solution described separately in *Application Notes for Configuring Telcomp Pickup and Avaya IP Office using DevLink*.

The TAPI version of Pickup described in these Application Notes uses the Avaya TAPI Service Provider for IP Office, and Microsoft TAPI to provide a link for delivery of Caller ID/ANI and DNIS/DID to applications running on a PC. With this information, a variety of tasks can be automated by inserting the information into application APIs. For example, Caller ID/ANI can be used in script to launch a web browser to a specific URL with the ANI being the key to a database lookup for a browser based CRM application.

The TAPI interface is generally referred to as a First Party CTI interface while the DevLink approach is generally considered a Third Party CTI interface. The difference is the TAPI approach exposes information pertaining to the specific call and phone associated with the PC the application is installed on, including caller name (if provided by the trunk service provider) while the DevLink approach exposes system wide views of activity on multiple trunk lines for example. Which approach is better suited to a given site will depend on a number of factors which a Telcomp engineer will review with a prospective customer.

Telcomp offers additional applications which are often installed together at a site. Among these includes a TAPI based Dialer application which is capable of interfacing with virtually any desktop software allowing phone numbers to be highlighted and a call initiated using a Hot-Key to invoke the TAPI interface to initiate a call. This solution is also separately described in *Application Notes for Configuring Telcomp Dialer and Avaya IP Office using TAPI*.

2. General Test Approach and Test Results

This interoperability compliance test included feature and functionality testing. Testing examined the ability of Telcomp Pickup to report incoming CallerID number information for inbound trunk calls to Avaya IP Office as well as for Telcomp Pickup clients to generate screen pops for calls answered at monitored extensions.

2.1. Interoperability Compliance Testing

The testing included a mix of endpoints supported in IP Office, including Digital, H.323 and SIP deskphones. Testing was performed manually on the Avaya IP Office configured with inbound trunk calls ringing at all extensions. SIP trunks from a PSTN Gateway were connected to the Avaya IP Office. The Telcomp Pickup application was configured to establish a TAPI connection to the

Avaya IP Office. The Pickup application was set up to monitor an extension and generate a screen pop when its assigned extension was ringing and/or answered.

When an inbound trunk call was answered at a particular extension, the Pickup client generated a screen pop with the incoming CallerID number, as well as information from a locally shared database associating the Caller ID with previously known information about the caller. Each Pickup client was configured through its macro-programming interface to send keystrokes to the PC operating system to launch a web page with a database lookup of the incoming caller ID. This was done to simulate interactions with a web based CRM type application. When the screen pop was acknowledged (by clicking OK), the Pickup client programming macro executed the web database lookup.

2.2. Test Results

The Telcomp Pickups functionality was successfully verified through the course of the compliance test.

2.3. Support

For technical support, contact Telcomp, Inc. at <http://telcomp.com> or (407) 889-7377.

3. Reference Configuration

The test environment used for the solution testing is shown in **Figure 1**.

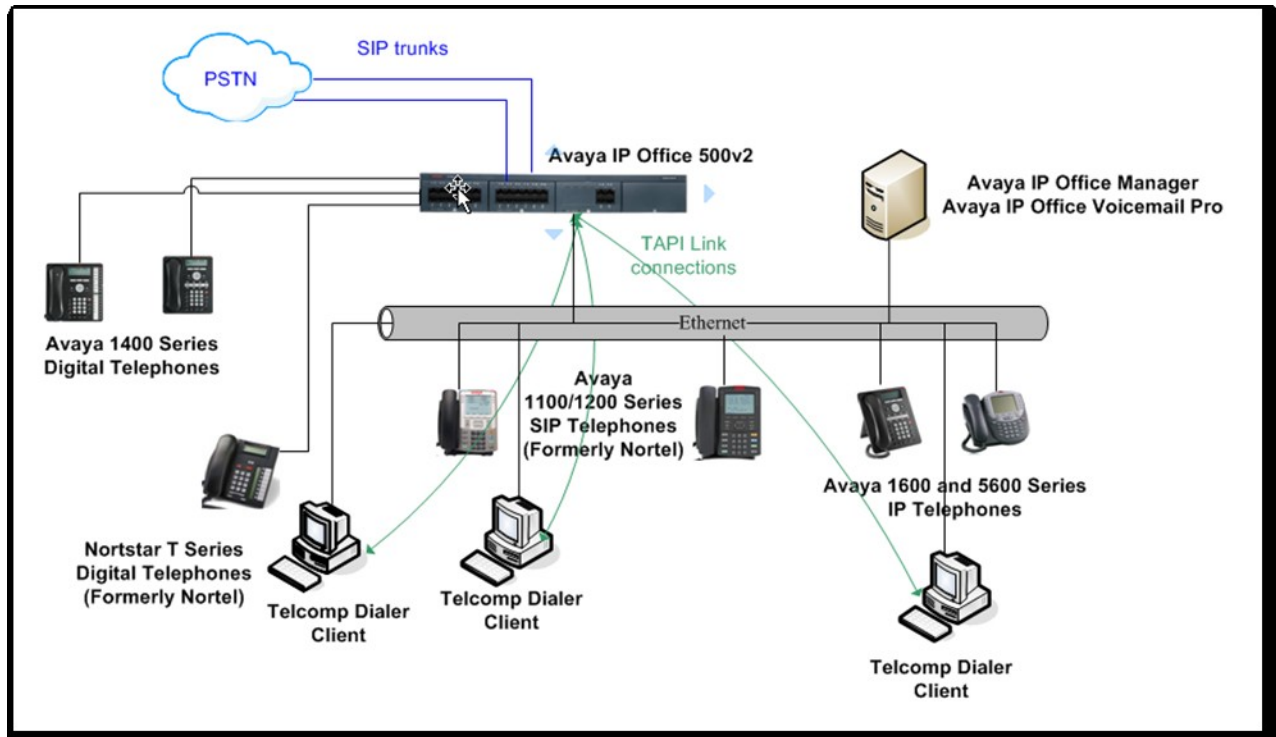


Figure 1: Telcomp IP Office TAPI Pickup Test Configuration

4. Equipment and Software Validated

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

Equipment	Software/Firmware
IP Office 500 V2 Control Unit	7.0 (12)
IP Office Manager on Windows XP PC	9.0 (12)
Avaya 1408/1416 Digital Phones	-
Avaya 1616 IP Phone	ha1616ua1_300B.bin
Avaya 5610 IP Phone	x10d01a2_9_1.bin
Avaya T7208 Norstar Digital Phone	-
Avaya 1140E IP Phone	4.01.13 SIP
Avaya 1230 IP Phone	4.01.13 SIP
Windows XP PC with : Telcomp Pickup Avaya IP Office TAPI 3 Service Provider	9.12z Q1 Maintenance 2011 Release
Windows 7 PC with : Telcomp Pickup Avaya IP Office TAPI 3 Service Provider	9.12z Q1 Maintenance 2011 Release

5. Configure Avaya IP Office


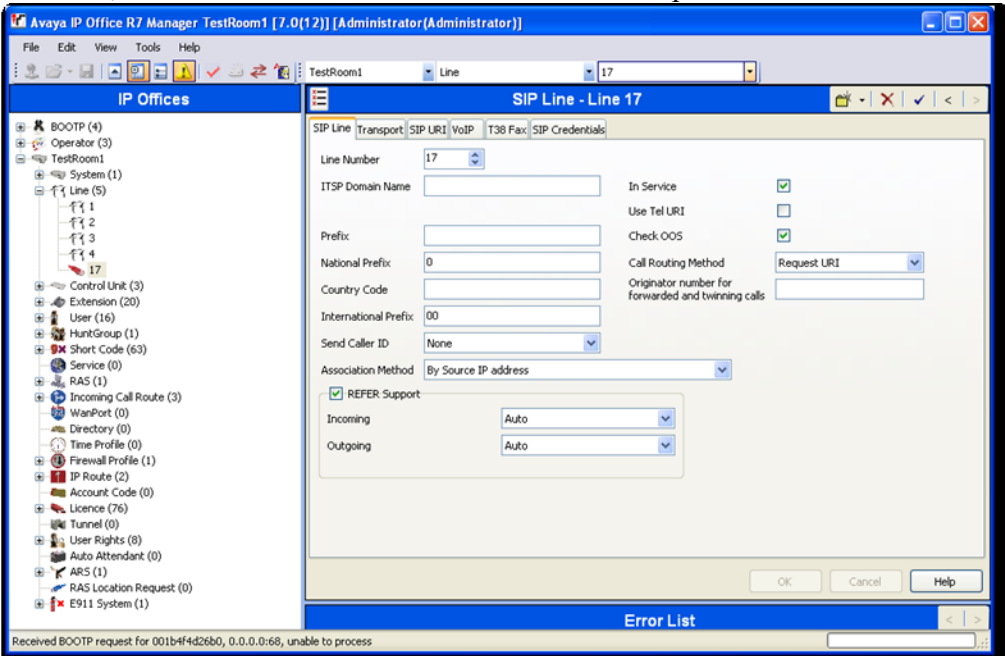
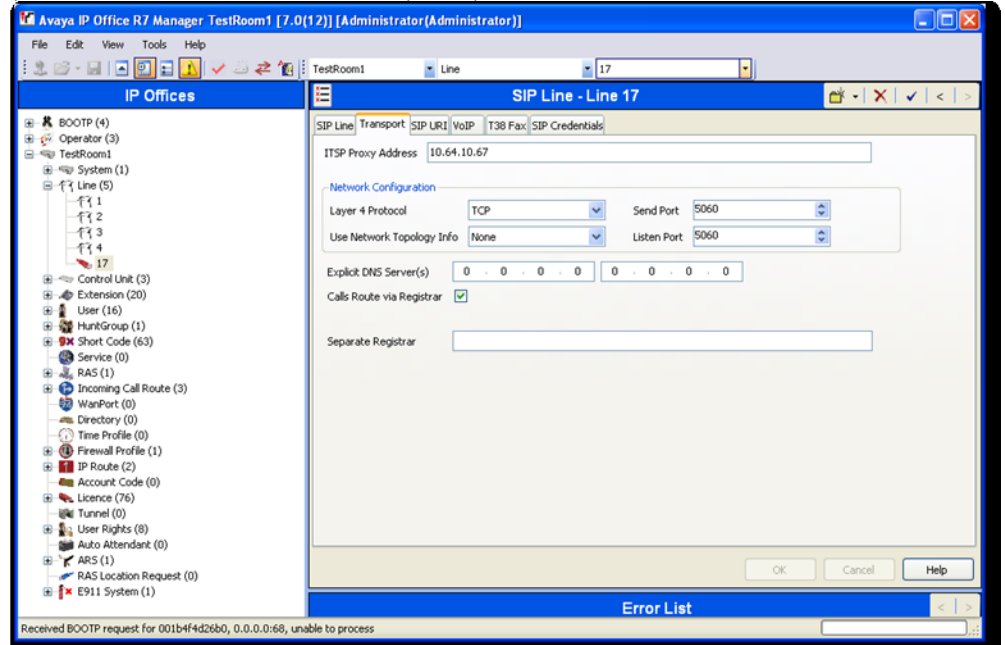
The configuration of Avaya IP Office involved establishing Trunks (Lines) and routing to connect to the external PSTN, and to confirm proper CTI licenses were in place on the IP Office system.

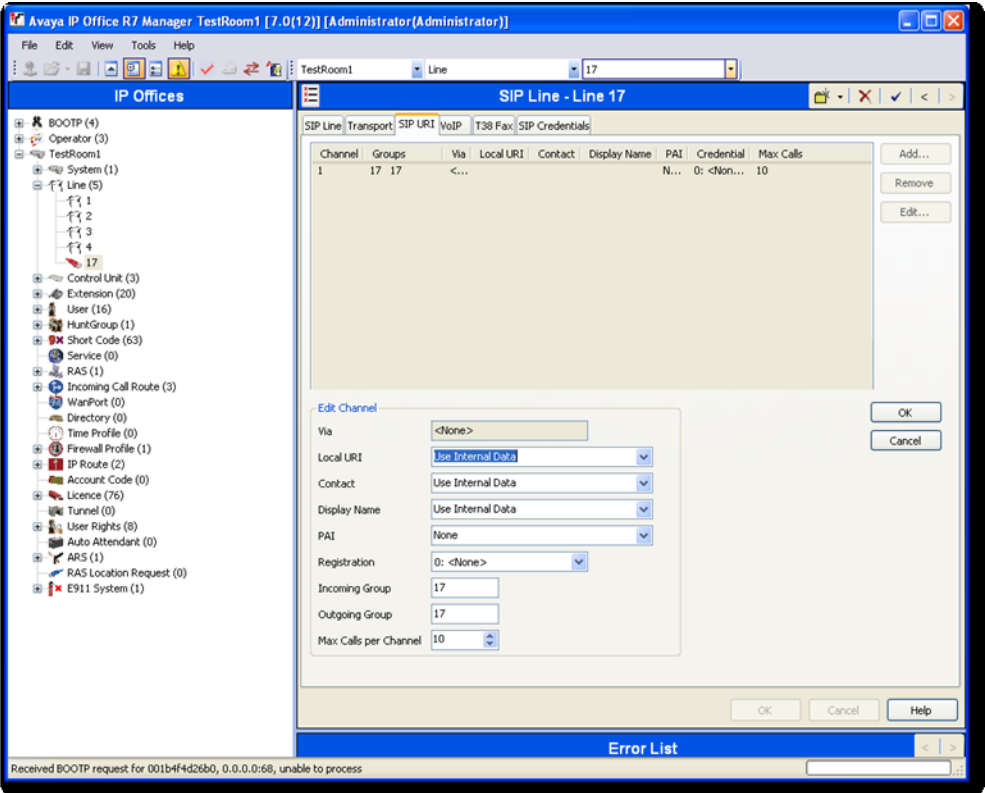
5.1. Configuration Details for IP Office

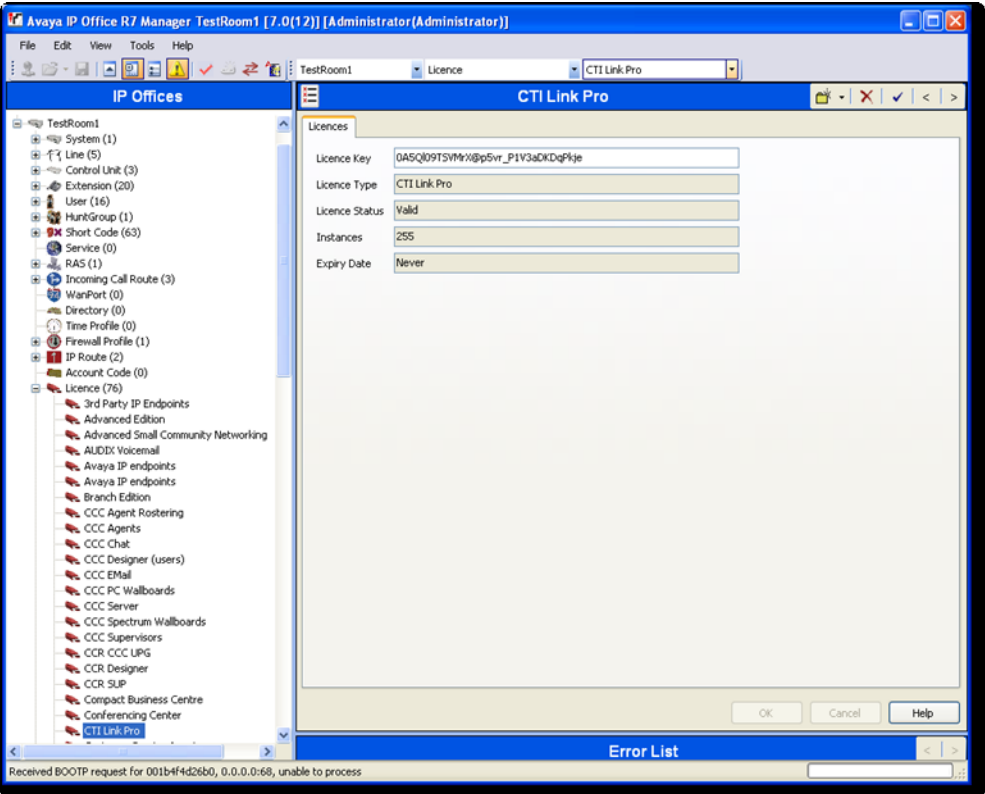
The following configuration of IP Office was performed using the IP Office Manager application.


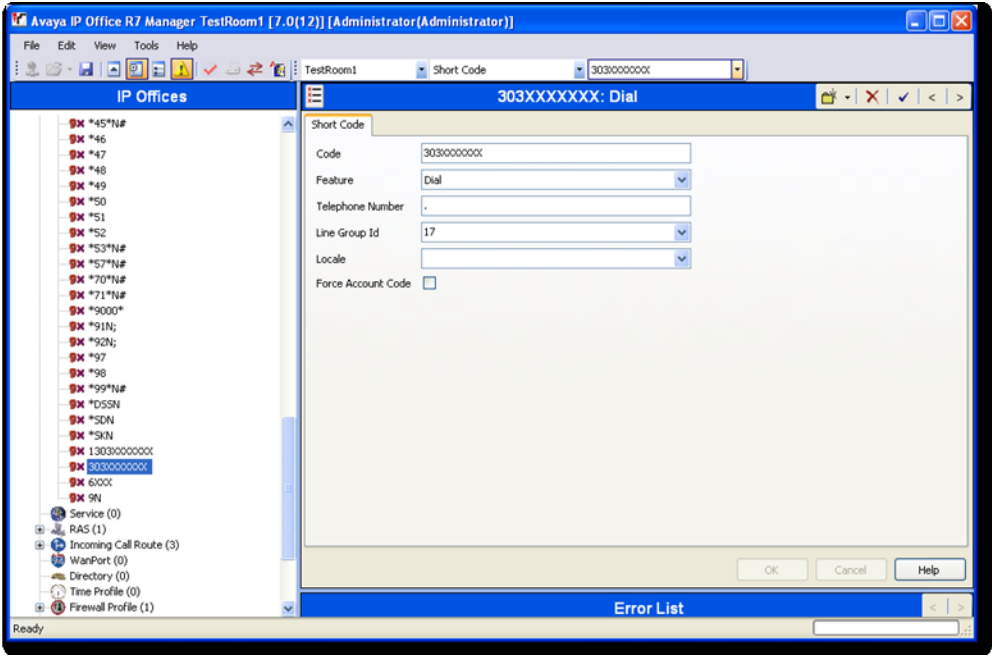

The changes made were:

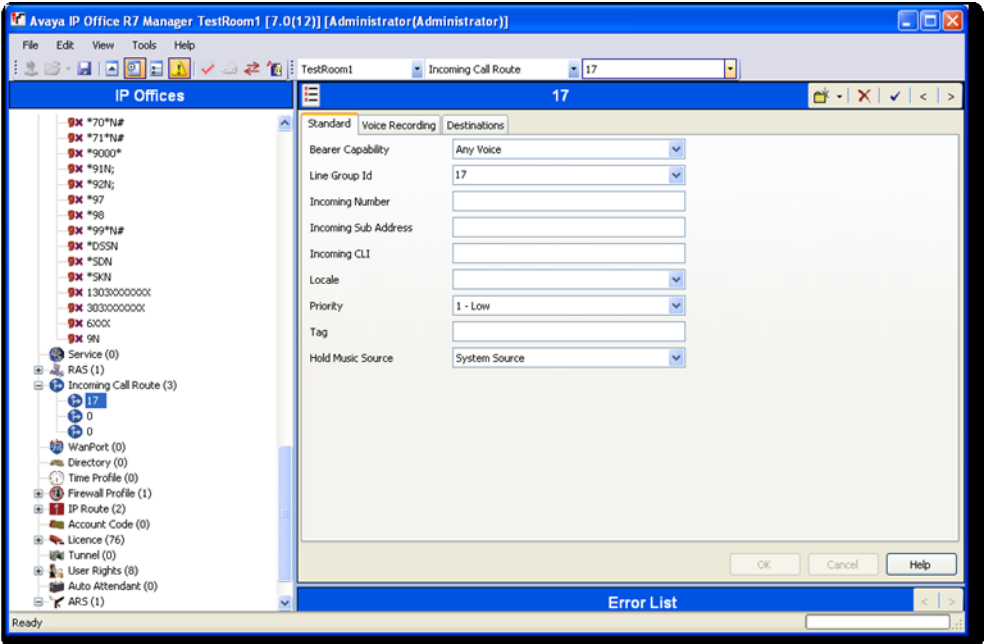
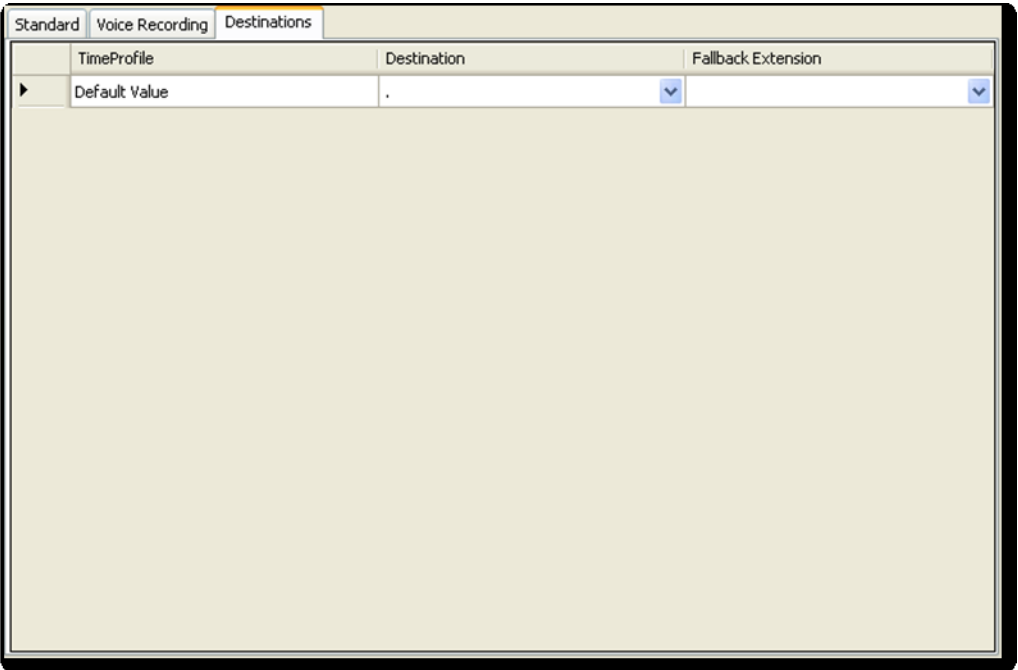
- Configure SIP Trunks (Lines) to the PSTN
- Confirm Licenses
- Configure Short Codes for Routing
- Configure Inbound Routing

Step	Description
1.	<p>Configure SIP Trunks (Lines) to the PSTN</p> <p>In the tested configuration, a SIP Trunk was used for routing PSTN traffic to and from the IP Office system. In order to create a SIP Line, select the Line object in the IP Office Manager and click the New icon  and select SIP Line (not shown). On the SIP Line tab, select an available Line Number and accept all other defaults.</p> 
	<p>On the Transport tab, enter the ITSP Proxy Address of the other end of the SIP Line, in this case an Avaya Aura® Communication Manager, enter the Layer 4 Protocol (TCP), and Send and Listen Ports (5060).</p> 

Step	Description
	<p>Configure SIP Trunks (Lines) to the PSTN (Continued)</p> <p>On the SIP URI tab, Click Add to create a new record containing the URI specifications, accept all defaults and enter the Incoming and Outgoing Group (Line 17 configured above), and the Max Calls per Channel which relates to the number of trunk group members in Communication Manager in this test, or number of concurrent sessions from a SIP Service Provider. Click OK to save the entries in the Edit Channel section, then click OK at the bottom of the screen to save all changes to the Line configuration.</p> 

Step	Description										
2.	<p>Confirm Licenses</p> <p>Navigate to License>CTI Link Pro to confirm that an adequate quantity of Instances are enabled for each endpoint that will use Pickups to be able to connect.</p>  <p>The screenshot shows the Avaya IP Office R7 Manager interface. The main window is titled 'Avaya IP Office R7 Manager TestRoom1 [7.0(12)] [Administrator/Administrator]'. The left pane shows a tree view of the system configuration, with 'CTI Link Pro' selected under the 'Licence' category. The right pane shows the 'CTI Link Pro' license configuration window. The 'Licences' tab is active, displaying the following information:</p> <table border="1"> <tr> <td>Licence Key</td> <td>0ASQ09TSVMxW@p5vr_P1V3aDKdRkJe</td> </tr> <tr> <td>Licence Type</td> <td>CTI Link Pro</td> </tr> <tr> <td>Licence Status</td> <td>Valid</td> </tr> <tr> <td>Instances</td> <td>255</td> </tr> <tr> <td>Expiry Date</td> <td>Never</td> </tr> </table> <p>At the bottom of the window, there is an 'Error List' section with a message: 'Received BOOTP request for 001b4f4d26b0, 0.0.0.0:68, unable to process'.</p>	Licence Key	0ASQ09TSVMxW@p5vr_P1V3aDKdRkJe	Licence Type	CTI Link Pro	Licence Status	Valid	Instances	255	Expiry Date	Never
Licence Key	0ASQ09TSVMxW@p5vr_P1V3aDKdRkJe										
Licence Type	CTI Link Pro										
Licence Status	Valid										
Instances	255										
Expiry Date	Never										

Step	Description
3.	<p>Configure Short Codes for Routing</p> <p>Select the Short Code object in the IP Office Manager, and click the New icon  to create routing instructions for calls to the PSTN via Line 17. In the example below, calls to 303 area code with 10 digits used the Dial feature and Line Group Id 17 to reach the PSTN. The Telephone Number '.' Was used to instruct IP Office to send the dialed digits from the phone without modification. Repeat this for all permitted dial patterns, or use a broader pattern to encompass all area codes as required. In this system, the 9N pattern (not shown) which is a default pattern was also configured to use Line Group Id 17 enabling calling to 11 digit numbers starting with 9. Click OK to save any changes.</p>  <p>At this point, click the System Save icon  in the toolbar and save all of the changes and allow the system to reboot to read and apply the new settings (not shown).</p>

Step	Description
4.	<p>Configure Inbound Routing Create a new Inbound Call Route by clicking the New icon when the Incoming Call Route object is selected in IP Office Manager. Set the Line Group ID to 17 for this routing rule on the Standard tab.</p>  <p>On the Destinations tab, enter ‘.’ in the Destination field to route calls to the dialed number. If a specific destination is required such as an auto attendant number, enter that here instead.</p> 

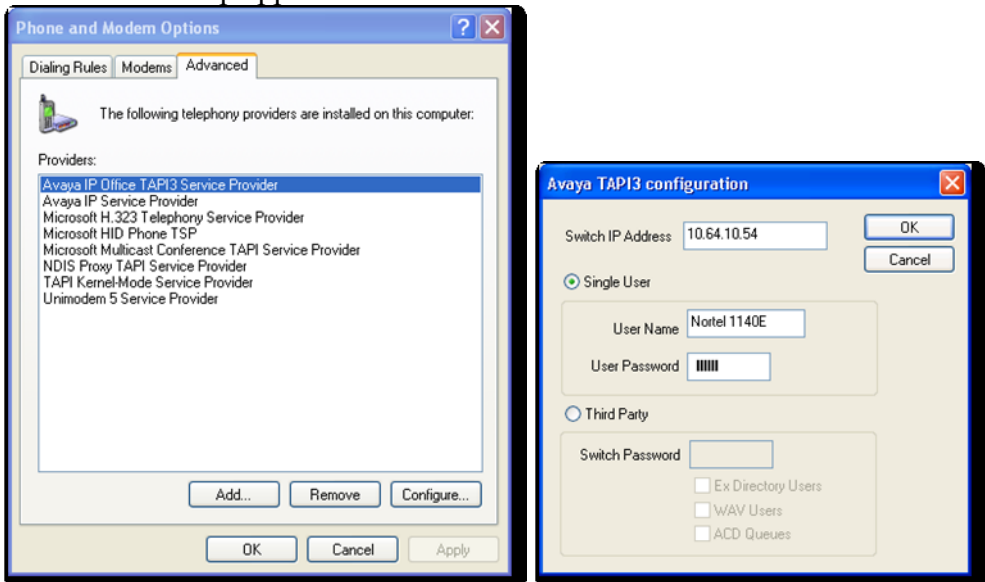
6. Configure Telcomp Pickup on PCs

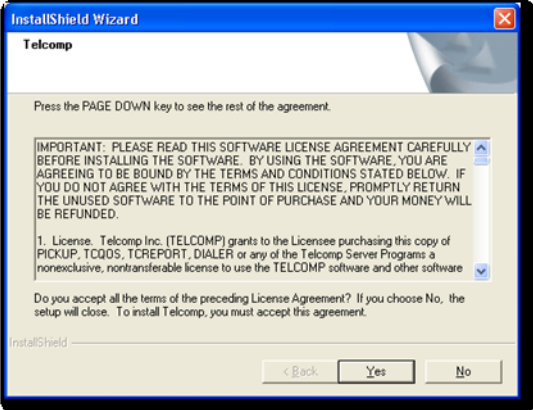
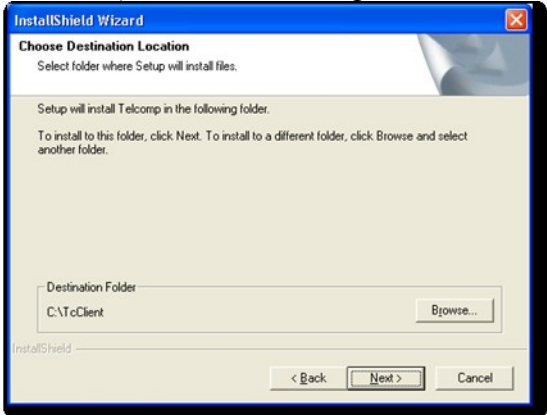
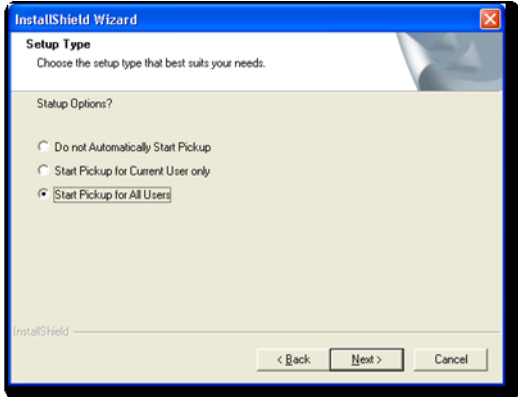
This section covers the configuration of Telcomp Pickup on PCs, and is illustrated on a Windows XP machine. The steps are similar on Windows 7 or any other supported Windows OS, though the screens might look a bit different.

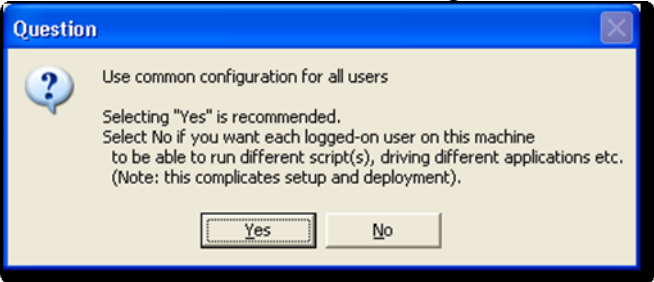
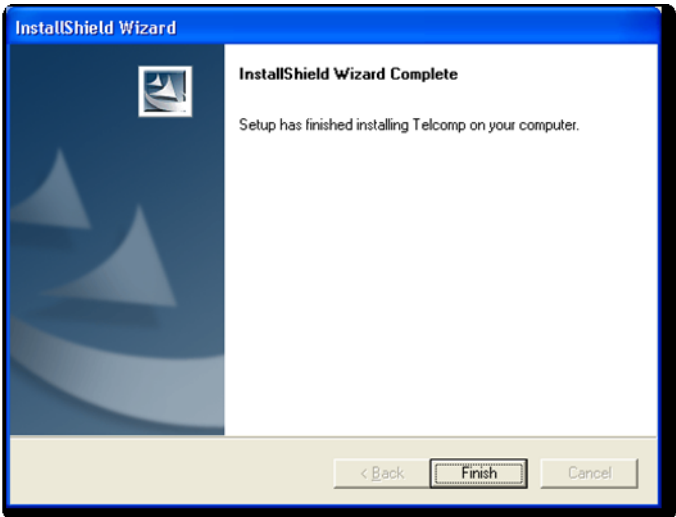
6.1. Configuration Details for Telcomp Pickup


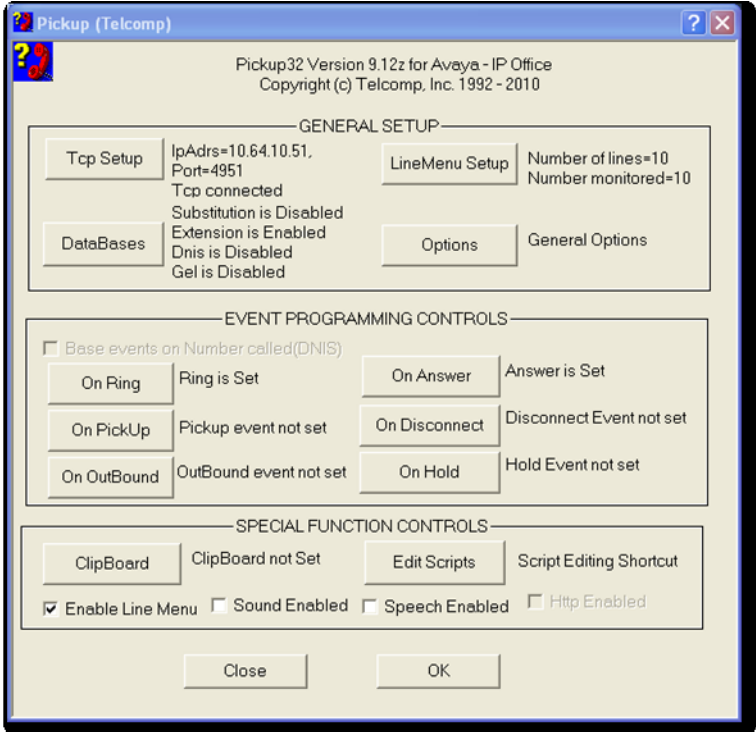
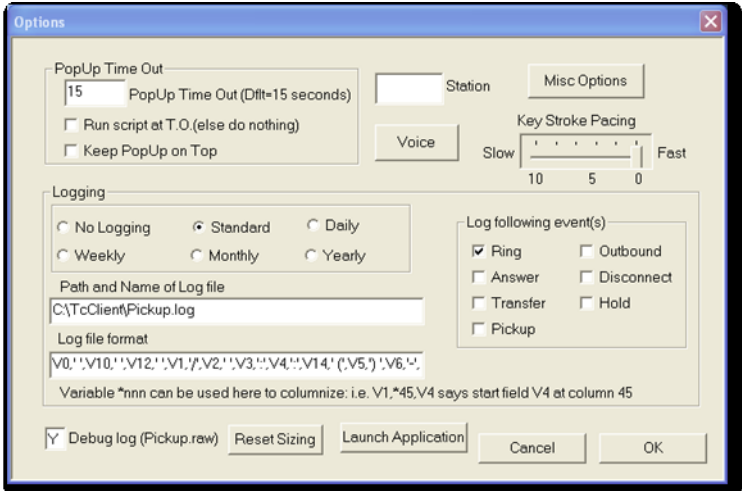
The Avaya IP Office TAPI3 Service Provider must be installed and configured on each PC that will have the Telcomp Pickup application installed on. Installation of the TAPI Service Provider follows standard software installation process and is not covered in these Application Notes. The steps at each PC are as follows:

- Configure the Avaya IP Office TAPI Service Provider
- Install the Telcomp Pickup Client
- Configure the Telcomp Pickup Client

Step	Description
1.	<p>Configure the Avaya IP Office TAPI Service Provider</p> <p>The latest TSP can be found on the support.avaya.com downloads page for IP Office and follows a standard Windows installation method (not shown). To configure, select Phone and Modem Options from the Windows Control Panel and navigate to the Advanced tab. Highlight the Avaya IP Office TAPI3 Service Provider and click Configure. On the Avaya TAPI3 configuration dialog, enter the IP Office Control Unit IP Address in the Switch IP Address field, select Single User, and enter the User Name and User Password assigned to the phone at the workstation being configured. Click OK on both dialog boxes to save the changes. Repeat this at each workstation that will use the Pickup application.</p> 

Step	Description
2.	<p>Install Pickup Client</p> <p>Use an account with administrative privileges to install the software. Run the SETUP program from the Tinstall file location (if installed online), CD or USB Stick (if purchased with media). Please read and agree to the software license. Click YES to continue.</p>  <p>The install will then display the Drive and Folder Installation Destination. The default installation folder for the PICKUP program is C:\TcCLIENT. If this is not the intended installation directory, click on the Browse button and select an alternate installation location (not shown). Click NEXT to proceed.</p>  <p>Choose the startup option for the computer. Generally Start PICKUP for All Users is selected.</p> 

Step	Description
	<p>Install Pickup Client (Continued)</p> <p>The installer will then confirm the selection. Selecting YES is used for most occasions.</p>  <p>The Installer will eventually confirm that installation is complete. Click Finish to close the installer.</p> 

Step	Description
3.	<p>Configure the Pickup Client</p> <p>Start the Pickup program by clicking on the desktop Icon as shown below.</p>  <p>Pickup 9.11a (IpOffice).ICO</p> <p>The following setup selection screen will appear.</p>  <p>Click on the Options button. Enter the extension number of the phone that will be used by the operator of the computer into the Station box. Up to 6 extensions numbers separated by commas can be entered if the PICKUP program needs to respond to multiple extensions.</p> 

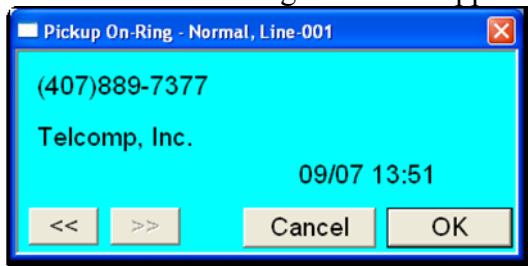
Step	Description
	<p>Configure the Pickup Client (Continued)</p> <p>The remainder of the configuration will vary for each customer. For example, from the Launch Screen (shown on the previous page), click the DataBases button to configure substitution information that will appear on screen pops. In the illustration below, a name can be associated with internal extensions by clicking Enable and the Edit button and completing information for the extension(s). Other databases include DNIS (such as Sales if calls to a particular number are for Sales). For more details, consult with a Telcomp engineer.</p> <div data-bbox="397 472 1344 1054"> <p>The 'Databases' window contains four sections:</p> <ul style="list-style-type: none"> Substitution Db does Not Exist: Includes a text field for 'Enter Full path and name of Substitution Database' (C:\TcClient\SubDb.dat), an 'Enable' checkbox, and buttons for 'Create', 'Import', 'Export', 'Edit', and 'Edit DrpDown'. Dnis Db does not exist: Includes a text field for 'Enter Full path and name of Dnis Database' (C:\TcClient\DnisDb.txt) and an 'Edit' button. Gel Db does Not Exist: Includes a text field for 'Enter Full path to GelDb.dat' (C:\TcClient), an 'Enable' checkbox, and an 'Edit' button. Extensions file Db does exist: Includes a text field for 'Enter Full path and name of Extensions File' (C:\TcClient\Extensions.txt), an 'Enable' checkbox (checked), and an 'Edit' button. <p>The 'Extensions' window contains:</p> <ul style="list-style-type: none"> A list box labeled 'Extensions' with values '00000214' and '00000220'. Fields for 'Enter Extension Number' and 'Description'. 'Add', 'Update', and 'Delete' buttons. A 'Delimiter' checkbox and 'Cancel'/'OK' buttons. </div> <p>In the Event Programming Controls and Special Functions Controls (on the Launch Screen shown on the previous page), rules and behaviors can be defined to control screen pop and scripts to execute when call activity like Ring or Answer occur. These Application Notes will not cover the details of configuring these options as each site will be configured by a Telcomp Engineer based on requirements.</p>

7.

8. Verification Steps

The following steps may be used to verify the configuration:

- From a PC configured with the Telcomp Pickup application, launch the Pickup client and receive a call and confirm that the screen pop activates and populates with the Caller ID/ANI and any database substitution information configured in the application.



9. Conclusion

These Application Notes describe the procedure for configuring Telcomp Pickup to interoperate with Avaya IP Office using a TAPI interface. All tests were successfully completed including custom scripts used to launch a browser based CRM application interface using Caller ID/ANI.

10. Additional References

Avaya

- [1] *Avaya IP Office Release 7.0 Manager 9.0*, Doc # 15-601011, Issue 26h, May 2011
- [2] *Avaya IP Office DevLink Guide*, Doc # 15-601034, Issue 12d, December, 2009
- [3] *Avaya IP Office TAPILink*, Doc # 15-6010354, Issue 11f, December, 2009

Product documentation for Avaya products may be found at <http://support.avaya.com>.

Product documentation for Telcomp products may be found at <http://telcomp.com/>

©2011 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.