



Avaya Solution & Interoperability Test Lab

Application Notes for MedTel Services OMNIWorks with Avaya IP Office 9.0 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for MedTel Services OMNIWorks to interoperate with Avaya IP Office 9.0. MedTel Services OMNIWorks is a multimedia contact center solution.

In the compliance testing, MedTel Services OMNIWorks used TAPI 2 from Avaya IP Office to provide routing of incoming calls to available agents and call control from the agent desktops.

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 MedTel Services OMNIWorks to interoperate with Avaya IP Office 9.0. MedTel Services OMNIWorks is a multimedia contact center solution.

In the compliance testing, MedTel Services OMNIWorks used TAPI 2 from Avaya IP Office to provide routing of incoming calls to available agents and call control from the agent desktops.

The TAPI 2 in third party mode interface was used by the MedTel Services OMNIWorks server to monitor groups and agent users on Avaya IP Office. Incoming calls were redirected by MedTel Services OMNIWorks to available agents using the TAPI line redirect capability.

The agents were configured as users on Avaya IP Office, with ACD functionality provided by MedTel Services OMNIWorks. The agents have desktop computers running the MedTel Services OMNIWorks Agent Console client application, which used the TAPI 2 in first party mode to provide call control.

2. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the OMNIWorks server and client applications, the applications automatically requested monitoring of devices.

For the manual part of the testing, incoming calls were made to the ACD groups. The OMNIWorks server used the TAPI event messages to track agent states, and redirected calls to available agents. Manual call controls from both the agent desktops and agent telephones were exercised where applicable to verify remaining features such as answering and dropping of calls.

The serviceability test cases were performed manually by disconnecting and reconnecting the Ethernet connection to OMNIWorks.

The verification of tests included human checking of proper states at the agent desktops and telephones, and of reviewing the TAPI log from IP Office.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following from OMNIWorks:

- Use of TAPI functions from the server to monitor groups and users, and redirect incoming ACD calls.
- Use of TAPI functions from the clients to monitor users, and support of call control.
- Proper handling of call scenarios including incoming calls to the ACD groups, answer, hold/reconnect, drop, blind/attended transfer, blind/attended conference, queue, voicemail, outgoing call, multiple agents, and multiple calls.

The serviceability testing focused on verifying the ability of OMNIWorks to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet connection to the OMNIWorks server and to the OMNIWorks Agent Console.

2.2. Test Results

All test cases were executed and verified. The following were observations on OMNIWorks from the compliance testing:

- The agent PC clock needs to be synced with the OMNIWorks server clock down to the second level, or else the Oldest and Queue statistics displayed on the Agent Console may be off.
- Conference-from agent was placed into the Wrap state as soon as the conference complete action took place.
- When the agent was active on an ACD call and a personal call came in, the Agent Console was updated with actions applicable to the personal call, and the agent has to use the telephone to control the ACD call at this point.
- This release of Agent Console does not support mixed use of desktop and telephone for the transfer and conference scenarios.
- After an agent in the manual answer mode handled an ACD call, a personal call to the agent will be displayed with the calling party number from the previous ACD call. The workaround is to consult the display on the agent telephone.
- Input of DTMF for account codes is not supported by Agent Console, and therefore needs to be entered from the agent telephone.
- If a call is in process of being redirected to an agent that's experiencing an Ethernet disruption, then the call can get stuck in the queue. This can be managed by configuring voicemail or overflow treatment for the group.

2.3. Support

Technical support on OMNIWorks can be obtained through the following:

- **Phone:** (800) 444-7434
- **Email:** techsupport@medtelservices.com
- **Web:** www.medtelservices.com

3. Reference Configuration

OMNIWorks can be configured on a single server or with components distributed across multiple servers. The compliance test configuration used a single server configuration.

The detailed administration of general contact center devices such as agent and supervisor users are assumed to be in place, and are not covered in these Application Notes.

In the compliance testing, the OMNIWorks Agent Console application was running on the agent desktops.

Device Type	Extension
Supervisor User	20035
Agent Users	20031, 20032

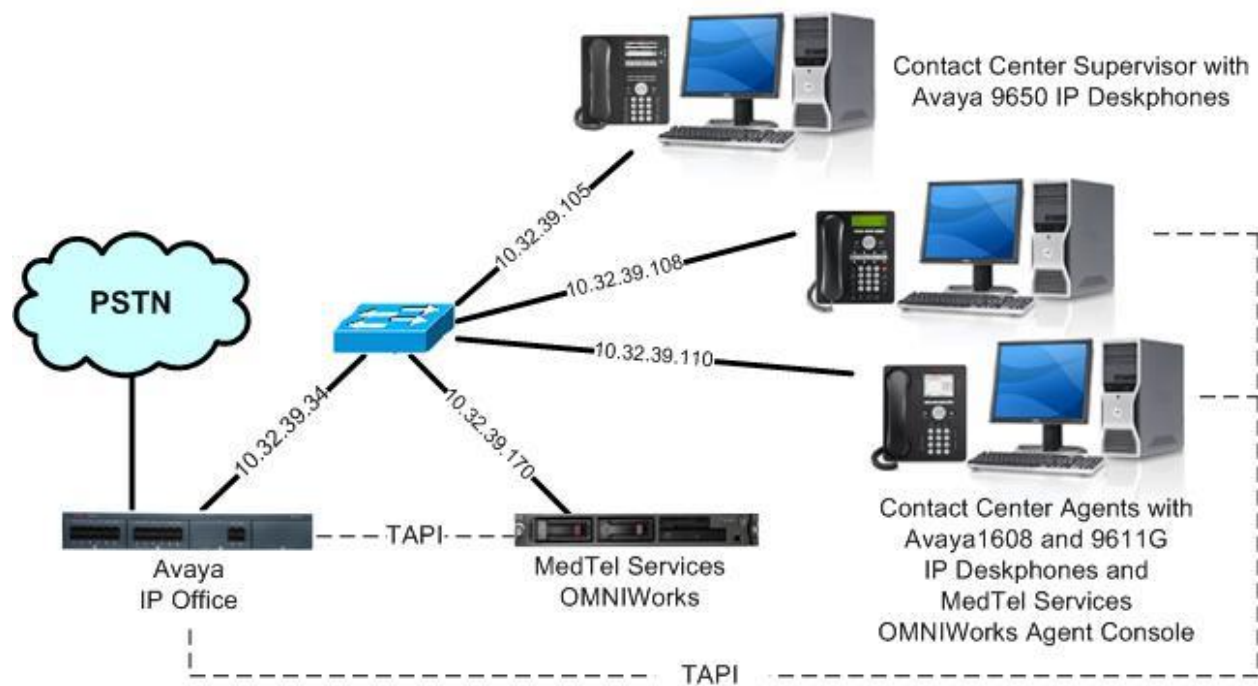


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office on IP500V2	9.0 SP1 (9.0.100.845)
Avaya 1616 IP Deskphone (H.323)	1.343A
Avaya 9611G IP Deskphone (H.323)	6.3037
Avaya 9650 IP Deskphone (H.323)	3.212A
MedTel Services OMNIWorks on Windows 2012 R2 Standard <ul style="list-style-type: none">OWAvayaProviderAvaya IP Office TAPI2 Driver (tspi2w_64)	7.1.0.28 1.0.3.0 1.0.0.38
MedTel Services OMNIWorks Agent Console on Windows 7 Enterprise <ul style="list-style-type: none">Avaya IP Office TAPI2 Driver (tspi2w_64)	7.1.0.35 SP1 1.0.0.38

Testing was performed with IP Office 500 V2 R9.0, but it also applies to IP Office Server Edition R9.0. Note that IP Office Server Edition requires an Expansion IP Office 500 V2 R9.0 to support analog or digital endpoints or trunks. IP Office Server Edition does not support TAPI Wave or Group Voicemail.

5. Configure Avaya IP Office

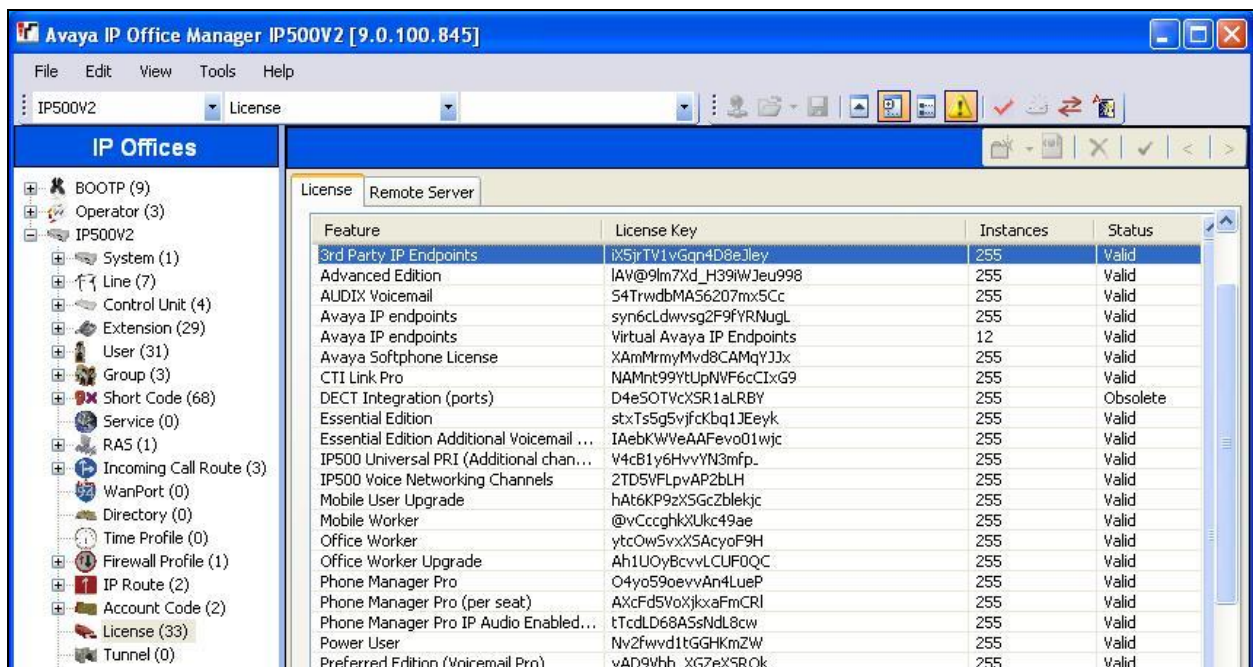
This section provides the procedures for configuring IP Office. The procedures include the following areas:

- Verify license
- Administer group
- Obtain user information

5.1. Verify License

From a PC running the IP Office Manager application, select **Start → All Programs → IP Office → Manager** to launch the application. Select the proper IP Office system, and log in with the appropriate credentials.

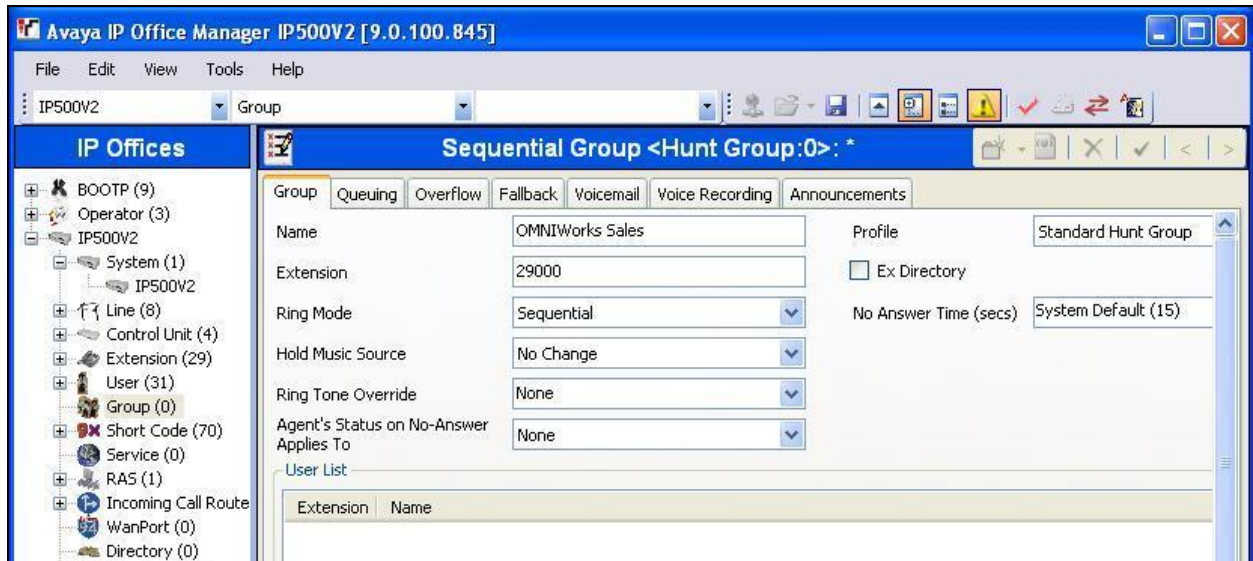
The **Avaya IP Office Manager** screen is displayed. From the configuration tree in the left pane, select **License** to display the licenses in the right pane. Verify that the **License Status** for **CTI Link Pro** is “Valid”, as shown below.



Feature	License Key	Instances	Status
3rd Party IP Endpoints	ix5irTV1vGpn4D8eJley	255	Valid
Advanced Edition	IAV@9lm7Xd_H39WJeu998	255	Valid
AUDIX Voicemail	54TrwdbMA56207mx5Cc	255	Valid
Avaya IP endpoints	syn6cLdwvsq2F9fYRNugL	255	Valid
Avaya IP endpoints	Virtual Avaya IP Endpoints	12	Valid
Avaya Softphone License	XAmMrmyMvd8CAMqYJJx	255	Valid
CTI Link Pro	NAMnt99YtUpNWF6cCIxG9	255	Valid
DECT Integration (ports)	D4eSOTVcXSR1aLRBY	255	Obsolete
Essential Edition	stxTs5g5vjfckbq1JEeyk	255	Valid
Essential Edition Additional Voicemail ...	IAebKWVeAAFevo01wjc	255	Valid
IP500 Universal PRI (Additional chan...	V4cB1y6HvvYN3mfp.	255	Valid
IP500 Voice Networking Channels	2TD5VFLpvAP2bLH	255	Valid
Mobile User Upgrade	hAt6KP9zXSGcZblekjc	255	Valid
Mobile Worker	@vCccghkXUkc49ae	255	Valid
Office Worker	ytCOW5vxXSAcyoF9H	255	Valid
Office Worker Upgrade	Ah1UOyBcvvLCUFQOC	255	Valid
Phone Manager Pro	O4yo59oevvAn4LueP	255	Valid
Phone Manager Pro (per seat)	AXcFd5VoXjxxaFmCRI	255	Valid
Phone Manager Pro IP Audio Enabled...	tTcdLD68ASsNdL8cw	255	Valid
Power User	Nv2fwvd1tGGHkmZW	255	Valid
Preferred Edition (Voicemail Pro)	yAD9vbn XGZeXSROk	255	Valid

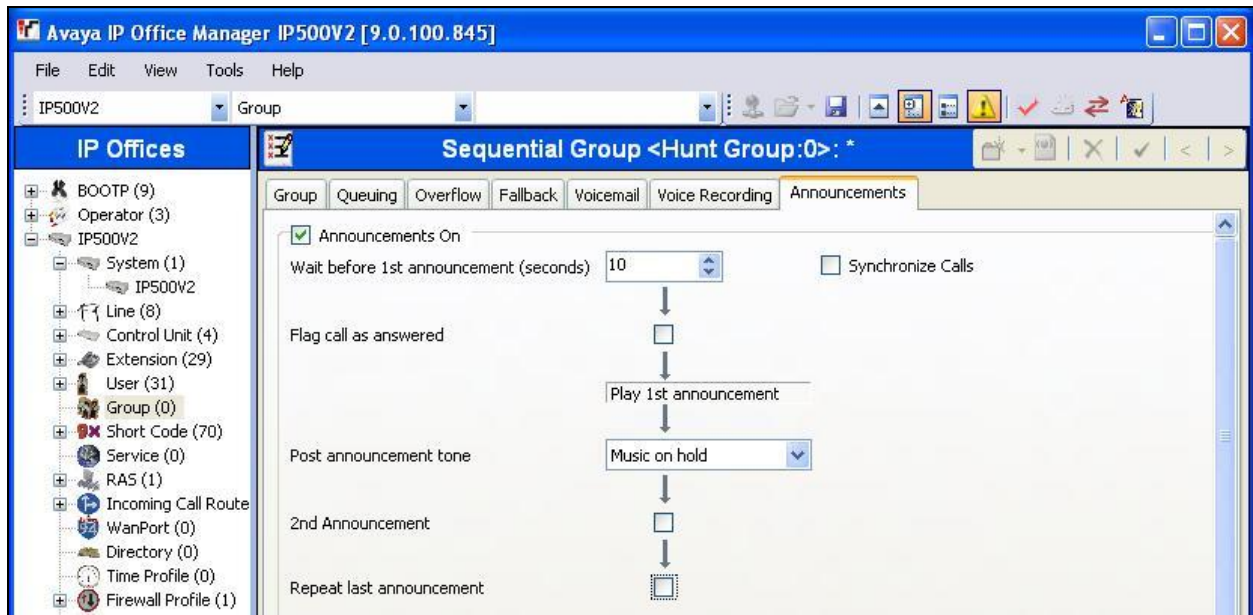
5.2. Administer Group

From the configuration tree in the left pane, right-click on **Group** and select **New** from the pop-up list to add a new group. Enter desired values for **Name** and **Extension**. Do not add any user to this group, and retain the default values in the remaining fields



Select the **Announcements** tab, and configure announcement treatments as desired. Below are the settings used in the compliance testing.

Repeat this section to create the desired number of groups. In the compliance testing, two groups with extensions of “29000” and “29001” were configured.



5.3. Obtain User Information

From the configuration tree in the left pane, select the first agent user, in this case “20031”. Make a note of the **Name**, **Password**, and **Extension** field values, which will be used later to configure OMNIWorks.

Repeat this for all agent users from **Section 3**.

The screenshot displays the Avaya IP Office Manager IP500V2 [9.0.100.845] interface. The left pane, titled 'IP Offices', shows a tree structure with various office configurations. The '20031 Extn20031' entry is selected. The right pane, titled 'Ext20031: 20031', shows the configuration form for this user. The form includes the following fields and values:

Field	Value
Name	Extn20031
Password	
Confirm Password	
Account Status	Enabled
Full Name	
Extension	20031
Email Address	
Locale	
Priority	5
System Phone Rights	None
Profile	Basic User
Receptionist	<input type="checkbox"/>

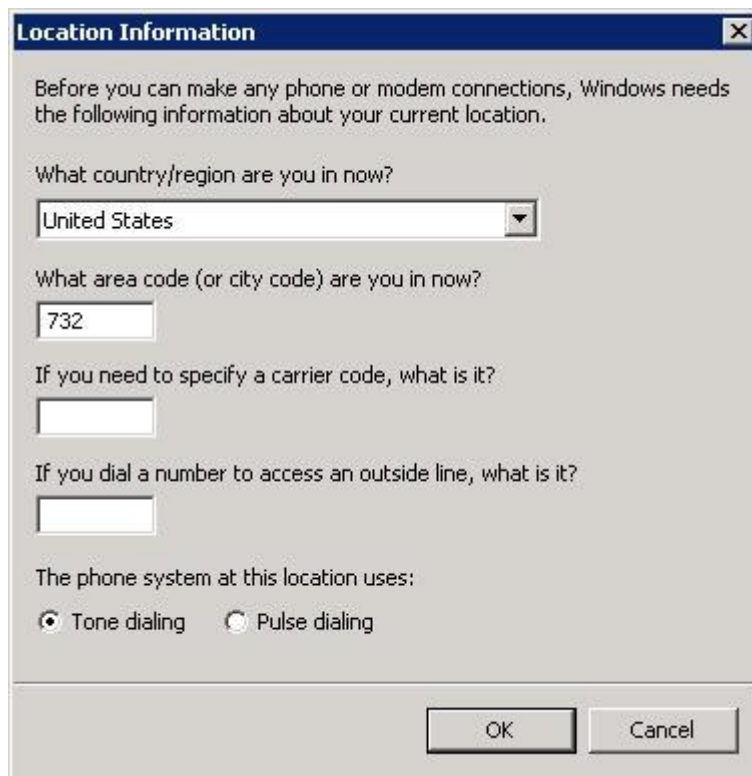
6. Configure MedTel Services OMNIWorks Server

This section provides the procedures for configuring the OMNIWorks server. The procedures include the following areas:

- Administer TAPI driver
- Launch Manager
- Verify license
- Administer hunt group
- Administer user

6.1. Administer TAPI Driver

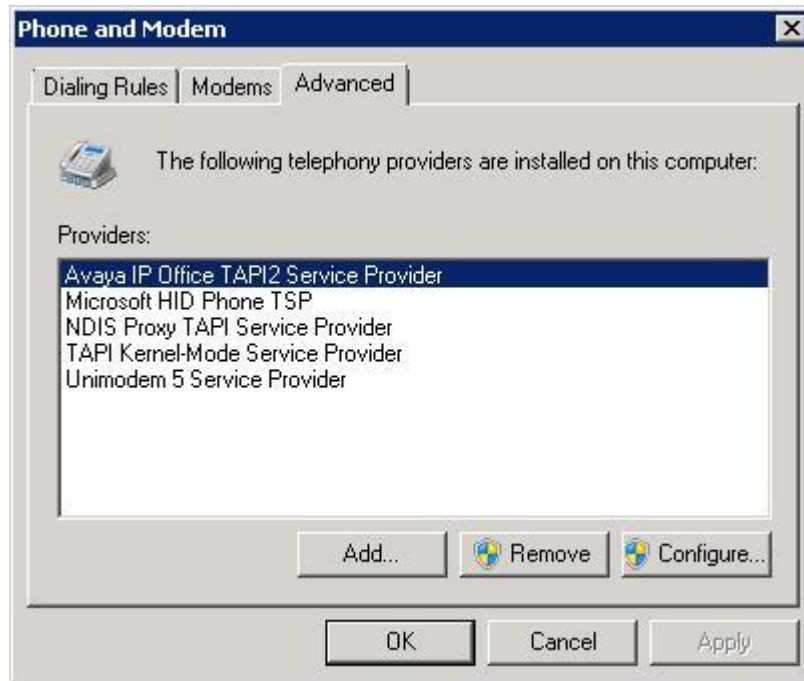
From the OMNIWorks server, select **Start → Control Panel → Phone and Modem**, to display the **Location Information** screen below. Enter the proper area code and any other pertinent data.



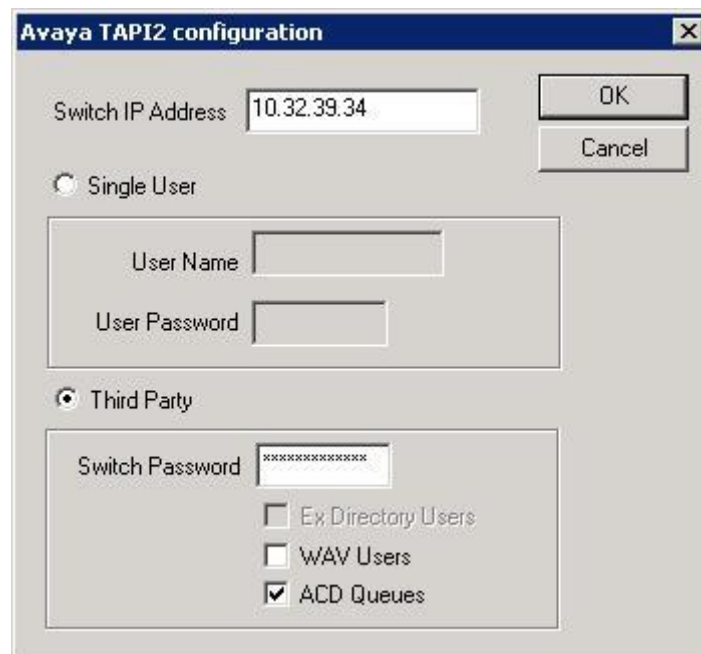
The image shows a Windows-style dialog box titled "Location Information". It contains the following fields and options:

- A text box with the label "What country/region are you in now?" containing the text "United States".
- A text box with the label "What area code (or city code) are you in now?" containing the text "732".
- A text box with the label "If you need to specify a carrier code, what is it?".
- A text box with the label "If you dial a number to access an outside line, what is it?".
- Two radio buttons under the label "The phone system at this location uses:". The first is "Tone dialing" (selected) and the second is "Pulse dialing".
- At the bottom right are "OK" and "Cancel" buttons.

The **Phone and Modem** screen is displayed. Select the **Advanced** tab, followed by **Avaya IP Office TAPI2 Service Provider**, and click **Configure**.



The **Avaya TAPI2 configuration** screen is displayed next. For **Switch IP Address**, enter the IP address of IP Office. Select the radio button for **Third Party**, enter the IP Office password into the **Switch Password** field, and check **ACD Queues**. Reboot the OMNIWorks server.



From the OMNIWorks server, select **Start → All Programs → OMNIWorks → Manager** to launch the Manager application. Log in using the appropriate credentials.

6.3. Verify License

The **OMNIWorks Manager** screen is displayed. Select **OMNIWorks → Provider → Avaya Provider** in the left pane, where **Avaya Provider** is the name of the provider configured as part of installation. Verify that the right pane shows a valid **Licenses** count.

[illegible]

6.4. Administer Hunt Group

The **Edit** screen is displayed. Select the **Configuration** tab, and click **New Hunt Group**.

The screenshot shows a window titled "Edit - Avaya Provider - Provider". It has a "Name" field with "Avaya Provider" and a "Description" field with "Avaya IP Office Provider". Below these are tabs for "Skills", "Point of Contact", "Scripts", and "Configuration" (which is selected). Under the "Configuration" tab, there is a section titled "Incoming Avaya IP Office Hunt Group (ACD) Extension(s):" followed by a table with three columns: "Hunt Group Extension", "Description", and "Point of Contact (POC)". The table is currently empty. At the bottom right of the table area are buttons for "New Hunt Group...", "Edit...", and "Delete". A "Close" button is located at the bottom right of the window.

Hunt Group Extension	Description	Point of Contact (POC)

In the pop-up screen, enter the first group extension and name from **Section 5.2**.

The screenshot shows a pop-up window titled "Avaya Provider Config". It has a section titled "IP Office Hunt Group (ACD)" with two fields: "Extension:" with the value "29000" and "Description:" with the value "OMNIWorks Sales". At the bottom are "OK" and "Cancel" buttons.

Repeat this section for all groups from **Section 5.2**. In the compliance testing, two hunt groups with extensions “29000” and “29001” were created, as shown below.

Note that the **Point of Contact (POC)** field values are generated automatically by OMNIWorks.

The screenshot shows a window titled "Edit - Avaya Provider - Provider". It has a "Name" field with "Avaya Provider" and a "Description" field with "Avaya IP Office Provider". Below these are tabs for "Skills", "Point of Contact", "Scripts", and "Configuration". The "Configuration" tab is active, showing a section titled "Incoming Avaya IP Office Hunt Group (ACD) Extension(s):". This section contains a table with three columns: "Hunt Group Extension", "Description", and "Point of Contact (POC)".

Hunt Group Extension	Description	Point of Contact (POC)
29000	OMNIWorks Sales	AVAYA_29000
29001	OMNIWorks Support	AVAYA_29001

Below the table are buttons for "New Hunt Group...", "Edit...", and "Delete". At the bottom right is a "Close" button.

6.5. Administer User

From the **OMNIWorks Manager** screen shown in **Section 6.3**, select **Add User** from the upper portion of the screen.

The **Add New User** pop-up screen is displayed. Enter a desired **Username** for the first agent user from **Section 3**.

The screenshot shows a small pop-up window titled "Add New User". It has a "Username" label and a text input field containing "agent20031". At the bottom are "OK" and "Cancel" buttons.

The **Edit** screen is displayed. Enter the desired **First** and **Last** name, and click **Add Skill**.

Edit - agent20031 - User

User: agent20031

First: Agent 1 Middle: Set Password

Last: OMNIWorks Team: [dropdown]

Assigned Skills | Provider User Data | Team Members

Skill	Description	Proficiency	Agent Priority	Provider
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Edit Remove Skill Add Skill Close

The **Select Skill** screen is displayed next. Check the desired skills for this agent.

Select Skill

Skill Name	Description	Priority	Provider	Provider Description
<input checked="" type="checkbox"/> AVAYA_29001	Avaya IP Office (Hunt ...	1	Avaya Provider	Avaya IP Office Provid...
<input checked="" type="checkbox"/> AVAYA_29000	Avaya IP Office (Hunt ...	1	Avaya Provider	Avaya IP Office Provid...

OK Cancel

The **Confirm** screen is displayed, as shown below.



The **Edit** screen is displayed next. For **Extension**, enter the first agent user extension from **Section 5.3**, and the **TAPI Device Name** will be populated automatically. Set **Auto Answer** as desired, and retain the default values in the remaining fields.

Repeat this section to administer all agent users from **Section 3**.

A Windows-style dialog box titled "Edit - Avaya Provider" with a close button (X) in the top right corner. The dialog contains a group box labeled "Avaya IP Office". Inside this group box are four labels with corresponding text input fields: "Extension:" with the value "20031", "TAPI Device Name:" with the value "IP Office Phone: 20031", "Login Name:" with an empty field, and "Login Password:" with an empty field. Below these fields is a checkbox labeled "Auto Answer" which is checked. At the bottom of the dialog are two buttons: "OK" and "Cancel".

7. Configure MedTel Services OMNIWorks Client

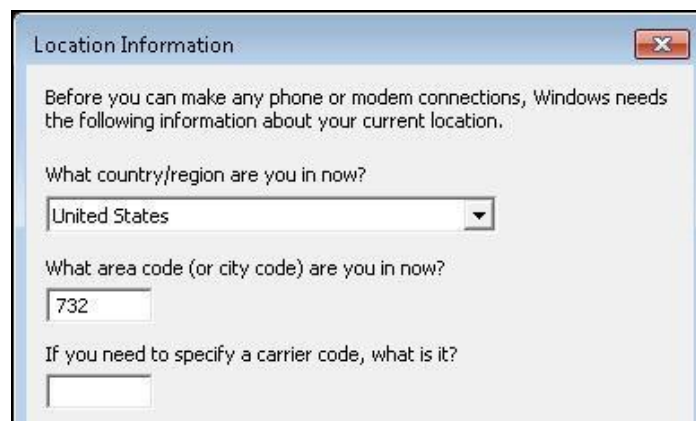
This section provides the procedures for administering each OMNIWorks client. The procedures include the following areas:

- Administer TAPI driver
- Administer TAPI device

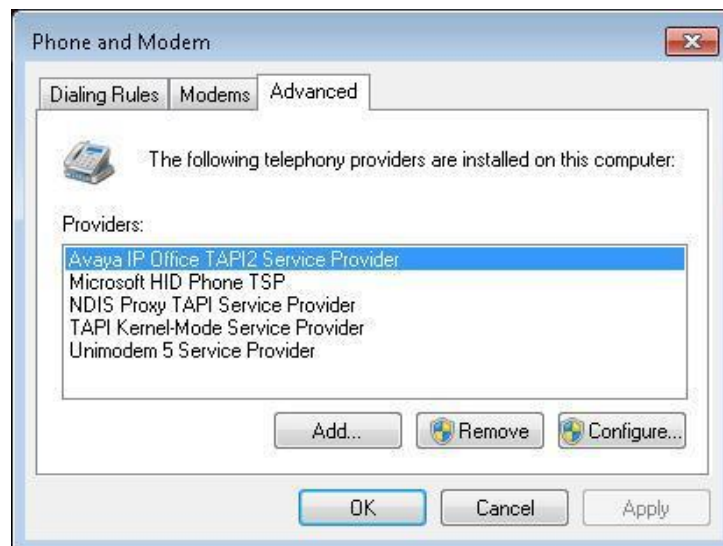
Repeat this section for all OMNIWorks clients.

7.1. Administer TAPI Driver

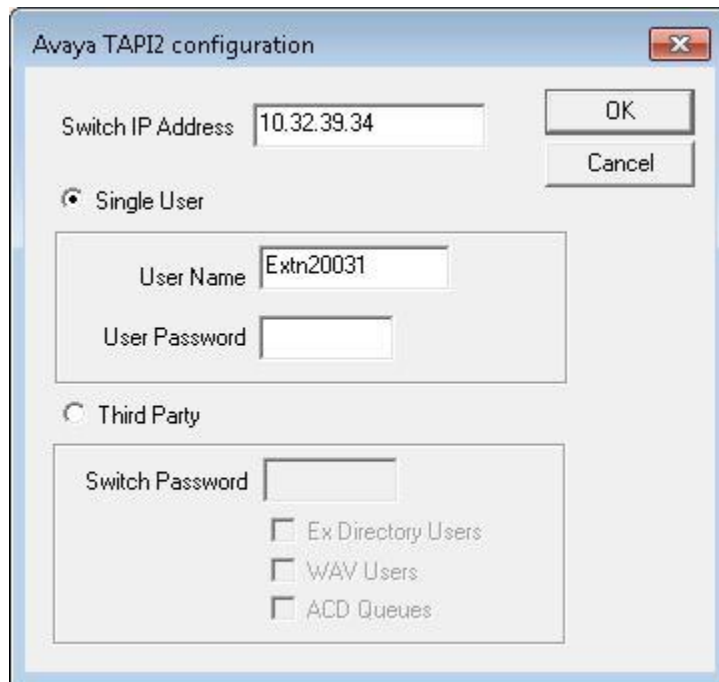
From the OMNIWorks client PC, select **Start → Control Panel → Phone and Modem**, to display the **Location Information** screen below. Enter the proper area code and any other pertinent data.



The **Phone and Modem** screen is displayed next. Select the **Advanced** tab, followed by **Avaya IP Office TAPI2 Service Provider**, and click **Configure**.



The **Avaya TAPI2 configuration** screen is displayed. For **Switch IP Address**, enter the IP address of IP Office. Select the radio button for **Single User**. Enter the applicable user name and password from **Section 5.3**. Reboot the OMNIWorks client.

The image shows a Windows-style dialog box titled "Avaya TAPI2 configuration". It has a close button (X) in the top right corner. Inside the dialog, there is a text field for "Switch IP Address" containing the value "10.32.39.34". To the right of this field are "OK" and "Cancel" buttons. Below the IP address field, there are two radio buttons. The first is labeled "Single User" and is selected. The second is labeled "Third Party" and is not selected. Under the "Single User" section, there is a "User Name" field containing "Extn20031" and an empty "User Password" field. Under the "Third Party" section, there is a "Switch Password" field and three unchecked checkboxes labeled "Ex Directory Users", "WAV Users", and "ACD Queues".

7.2. Administer TAPI Device

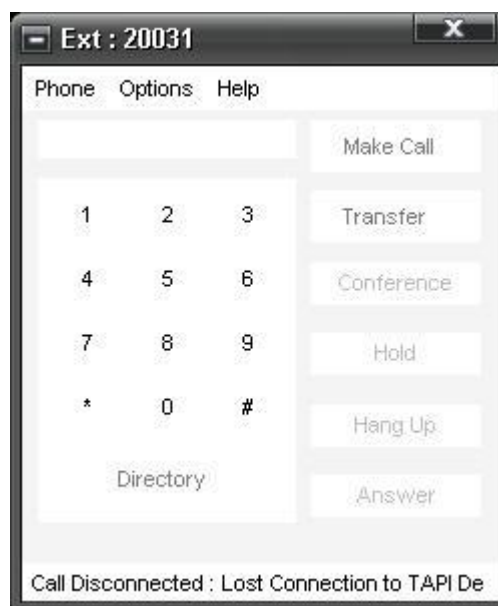
After the reboot, select **Start → All Programs → OMNIWorks → Agent Console** to launch the application, and log in using the applicable credentials from **Section 6.5**.

The image shows a dialog box titled "Agent Login". It has a close button (X) in the top right corner. Inside the dialog, there is a user icon (a person) to the left of the "User Name" field, which contains the text "agent20031". Below the "User Name" field is an empty "Password" field. At the bottom of the dialog, there are three buttons: "Configure", "Log In", and "Cancel".

The screen below is displayed. Upon initial log in to the application, select **Services → Avaya Provider** from the top menu.



In the subsequent screen, select **Options → TAPI Device**.



The **Select TAPI Device** screen is displayed. Select the **IP Office Phone** entry shown below.



8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of IP Office and OMNIWorks.

From the agent user PC, follow the procedures in **Section 7.2** to launch the OMNIWorks Agent Console application and log in using the applicable credentials.



The screen below is displayed next. Verify the lower right corner of the screen reflects the correct number of skills configured for the agent from **Section 6.5**. Click **Ready** to make the agent available to receive ACD calls.

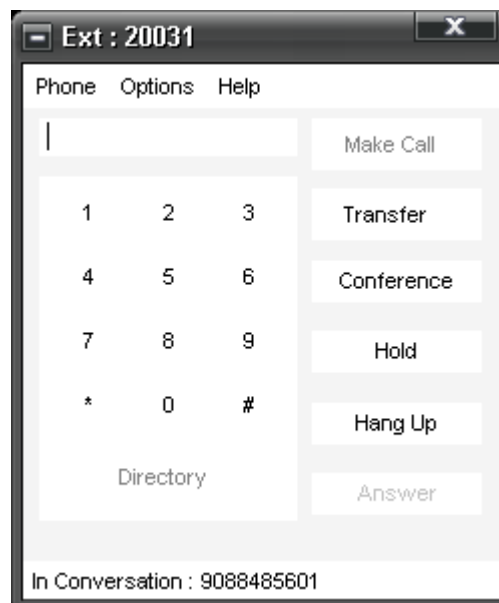


Verify the screen is updated to reflect agent in the **Ready** and **Connected** states, as shown below.



Make an incoming ACD call from the PSTN. Verify that the call is delivered to the agent, and automatically answered by the application with two-way talk paths.

Verify that an additional screen is popped up, that the agent state is **Working**, and that the screens reflect the proper calling party and called group information, as shown below.



9. Conclusion

These Application Notes describe the configuration steps required for MedTel Services OMNIWorks to successfully interoperate with Avaya IP Office 9.0. All feature and serviceability test cases were completed with observation noted in **Section 2.2**.

10. Additional References

This section references the product documentation relevant to these Application Notes.

1. *Avaya IP Office Manager*, Release 9.0, Issue 9.01, September 2013, Document Number 15-601011, available at <http://support.avaya.com>.
2. *OMNIWorks® 7 Administration & Maintenance Manual*, Part Number 610-0000-0791 Rev D, available on the OMNIWorks installation media.
3. *OMNIWorks® 7 Agent Console User's Guide*, Part Number 610-0000-0561 Rev E, available on the OMNIWorks installation media.
4. *OMNIWorks Avaya IP Office Provider*, available on the OMNIWorks installation media.

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