



IP Office CTI Link

Installation Manual

Contents

Introduction	3
Overview	3
IP Office CTI Link Lite.....	3
IP Office CTI Link Pro.....	3
Installation and Configuration	4
Overview	4
Installing TAPILink and DevLink	4
Installing the Wave Driver	5
Windows 2000.....	5
Windows NT4.....	5
Installing the CTI TAPILink Pro and Wave Licenses	6
Configuring the TAPI Driver.....	7
Single User Mode.....	8
Third Party Mode.....	8
Configuring IP Office for TAPI	8
Glossary.....	9

Introduction

Overview

The IP Office CTI Link is available in Lite and Pro versions, which provide run-time interfaces for applications to use. The Software Development Kit (SDK) provides documentation on both Lite and Pro interfaces for software developers.

Both the Lite and Pro offerings are the same program. The additional functionality provided by IP Office CTI Link Pro is enabled when the CTI Link Pro licence key is installed (see page 6).

IP Office CTI Link Lite

IP Office CTI Link Lite is a free of charge offering, and contains the following component:

- *TAPILink Lite*

This component implements Microsoft TAPI, and allows programs to control one telephone line per PC. It provides simple CTI, including answer, hangup, make-call, transfer, and screen-popping functionality. Please see the *TAPILink Developers Guide* for more details on *TAPILink Lite* and *TAPILink Pro*.

IP Office CTI Link Pro

IP Office CTI Link Pro includes all of the Lite functionality. It contains the following components:

- *TAPILink Pro*

This component provides both first-party and third-party TAPI control of telephony devices. In addition to the functionality provided by *TAPILink Lite*, it also adds the ability to receive information on ACD queues, hunt groups, and provides additional advanced functionality. Please see the *TAPILink Developers Guide* for more details on *TAPILink Lite* and *TAPILink Pro*.

- *DevLink Pro*

This component provides a real-time event stream. The real-time event stream provides information on telephone activity as and when that activity occurs, and also provides information on trunk activity.

Installation and Configuration

Overview

The IP Office CTI Link installation primarily concerns the installation and configuration of the TAPI driver, both of which are detailed in the following paragraphs. Installation of the DevLink files is also detailed. For programming details, refer to the TAPI Link Developer's Guide and the DevLink Programmer's Guide respectively.

Installing TAPILink and DevLink

The IP Office TAPI Service Provider and the DevLink files are both installed from the IP Office User CD.

Perform the following:

1. Insert IP Office User CD (self installing).
2. The *Workstation Installation Wizard - Welcome* screen displayed.
3. Click on **Next** and *Identifying Your Unit* screen displayed.
4. Enter both your *User Name* (or select from existing) and *User Password*. Click on **Next**.
5. The *Ready to Install* screen displayed. Click on **Finish**.
6. A progress bar is displayed and on completion the *Welcome to the InstallShield Wizard for IP Office User Suite* screen is displayed. Click **Next**.
7. The *Choose Destination* screen displayed.
8. Either accept default or click **Browse** and select your own destination folder. Click **Next**.
9. On the *Select Components* screen tick the *TAPI* box and, if required, the *DevLink* box (see **Notes** below).
Do not change any other setting.
10. The *Select Program Folder* screen is displayed.
11. Either accept default or enter a new folder name. Click **Next**.
12. A progress bar is displayed and on completion the *InstallShield Wizard Complete* screen is displayed.
13. Click **Finish** to exit from install routine.

Note: DevLink is installed and used in conjunction with 3rd party applications, e.g. Call Costing software. For more information please refer to the IP Office CTI Link DevLink Programmer's Guide.

Installing the Wave Driver

The IP400 wave driver is called "nawave32.drv". It is in the "wave32" directory on the User CD. It is a 32bit WAVE driver, and therefore only works on Windows NT and Windows 2000. Windows XP is not yet supported.

It is not plug-and-play as there is not actually any hardware associated. It is a soft emulation. You therefore need to install it manually.

Windows 2000

In the control panel select Add/Remove Hardware. You have to wait for your PC to do a Search for new Devices, which takes about 30 seconds, and does not actually achieve anything.

Select "Add New Device", then "No I want to select hardware from a list", then "Sound, video and game controllers". Press the "Have Disk" button. Navigate to the "wave32" directory on the CDROM. Select the oemsetup.inf file.

Once the wave driver is installed, you must ensure that it is only used by TAPI! Otherwise, the system will start using it inappropriately, like playing "ding.wav" when you receive e-mail. This will cause problems.

From the Control Panel, Select "Sounds and Multimedia". Ensure that no preferred devices use the WIDWOD32 driver.

This is not sufficient on it's own, however. You need to prevent its use explicitly.

Go to: **"Sounds and Multimedia Properties/Hardware/IP400 32 bit WIDWOD Driver/ Properties/Properties"**

Check the box labelled "Do not map through this device".

Windows NT4

In the Control Panel select Multimedia/Devices/Audio Devices. Press **Add**. Select **Unlisted or Updated Driver**. Browse to the "wave32" directory on the User CD. Press **OK** to add the "IP400 32 bit WIDWOD driver".

Once the wave driver is installed, you must ensure that it is only used by TAPI! Otherwise, the system will start using it inappropriately, like playing "ding.wav" when you receive e-mail. This will cause problems.

From the Control Panel, Select "Multimedia". Ensure that no preferred devices use the WIDWOD32 driver.

This is not sufficient on it's own, however. You need to prevent its use explicitly.

Go to: **"Multimedia/Devices/Audio Devices/Audio for IP400 32 bit WIDWOD driver /Properties"**

Check the box labelled "Do not map through this device".

Installing the CTI TAPILink Pro and Wave Licenses

You do not need a license in order to use the TAPI driver, but the license provides the following additional functionality:

- Third Party mode
- ACD Queue monitoring
- lineDevSpecific function enabled

These are described in “Configuring the TAPI Driver” on page 7.

In addition, to use the Wave functionality you need to install a *Wave User's Licence* for each Wave user.

To install the TAPI licenses, proceed as follows:

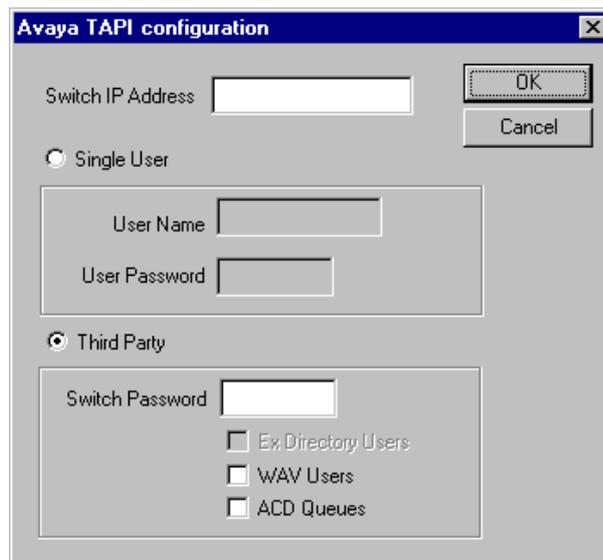
1. Run the IP Office Manager. This is installed from the IP Office Admin CD.
2. Load the configuration file for your IP Office.
3. Select **License** on the tree in the left hand window.
4. Right-click in the right hand window and select **New**.
5. Type in the 32 character license key.
6. The IP Office Manager will indicate whether the license is valid or not.

Configuring the TAPI Driver

TAPI Service Providers are configured using a Windows Control Panel applet. The name of the applet is not the same across all versions of Windows. The following table indicates the name of the applet and the tab that must be selected within the applet:

Windows Version	Control Panel Applet	Tab
XP Pro	Network and Internet Connections, Phone and Modem Options	Advanced
2000	Phone and Modem Options	Advanced
ME	Telephony	Telephony Drivers
98	Telephony	Telephony Drivers
NT4	Telephony	Telephony Drivers
95	Telephony Note: TAPI 2.1 must be installed on Windows 95. After installing IP Office TAPI, TAPI 2.1 installation, tapi2195.exe, can be found in the IP Office installation directory, e.g. Program File/Avaya/IP Office/TAPI/Win95.	Telephony Drivers

Run the appropriate applet for your version of Windows and select the tab indicated above. You will be presented with the list of TAPI Service Providers that you have installed. The IP Office TAPI Service Provider will be in the list of installed TAPI Service Providers. Select **Avaya IP Office TAPI Service Provider** and press **Configure**. You will be presented with the **Avaya TAPI Configuration** menu screen.



The IP Office TAPI Service Provider can operate in Single User mode or Third Party mode. A license must be purchased to enable the Third Party mode. Note that the unlicensed version will not prevent you from selecting this option but it will not work. Single User mode means that the TAPI application can control and/or monitor a single telephony device. Third Party mode means that the TAPI application can control and/or monitor all telephony devices on a particular IP Office unit.

Note that on some versions of Windows it will be necessary to reboot the PC (or just restart the telephony service) in order for configuration changes to take effect.

Single User Mode

Enter the IP address of the IP Office unit in the box labelled **Switch IP Address**. Select the **Single User** option. Enter the user name and password for the extension that is to be monitored and/or controlled by TAPI. Normally, the user name will be the name of a person associated with a physical telephone extension.

Third Party Mode

Enter the IP address of the IP Office unit in the box labelled **Switch IP Address**. Select the **Third Party** option. Enter the password for the switch. This is the same password that is entered in Manager when loading the configuration of the switch.

By default, Third Party mode will provide a TAPI line for every physical extension attached to the IP Office. The checkboxes associated with Third Party mode enable additional entities to be monitored and/or controlled by TAPI.

WAV Users

If you are using the Wave Driver in Third Party mode then you will need to check the WAV User checkbox to provide access to the TAPI lines associated with WAV Users.

ACD Queues

The IP Office can be configured to queue incoming calls that are being presented to a group of internal users. For example, if your IP Office was configured with a group of call center agents, you would want to queue an incoming call until an agent becomes available to take the call.

Checking the ACD Queues checkbox provides lines to monitor and/or control the queue of calls against a group.

Configuring IP Office for TAPI

This section describes the configuration of the IP Office using the Manager application. There are two ways in which you can use TAPI with IP:

1. If your application monitors telephones but does not control them, then there is no configuration necessary.
2. If your application controls telephones, you should configure all users that will be controlled as an **off-hook station**. This will cause the user's phone to return to the idle state when a call is hung up using TAPI. Without this option set, the phone will remain in a disconnected state until the phone is hung up manually. The off-hook station checkbox can be found on the Telephony tab of the User's setting in Manager.

Glossary

This section contains the list of all abbreviations and acronyms used in this document.

ACD	Automated Call Distributor
CD	Compact Disk
ID	Identifier
I/O	Input / Output
IP	Internet Protocol
ISDN	Integrated Standard Digital Network
ME	Millennium Edition (Windows)
MSDN	Microsoft Developer Network
PSTN	Public Switched Telephone Network
SDK	Software Developer's Kit
TAPI	Telephony Applications Programming Interface
TSP	Telephony Service Provider
TSPI	Telephony Service Provider Interface
UUI	User-to-User Information

Performance figures and data quoted in this document are typical, and must be specifically confirmed in writing by Avaya before they become applicable to any particular order or contract. The company reserves the right to make alterations or amendments to the detailed specifications at its discretion. The publication of information in this document does not imply freedom from patent or other protective rights of Avaya, or others.

Intellectual property related to this product (including trademarks) and registered to Lucent Technologies has been transferred or licensed to Avaya.

All trademarks identified by the ® or ™ are registered trademarks or trademerk, repecively, of Avaya Inc. All other trademarks are the property of their respective owners.

This document contains proprietary information of Avaya and is not to be disclosed or used except in accordance with applicable agreements.

Any comments or suggestions regarding this document should be sent to wgctechpubs@avaya.com.

© 2002 Avaya Inc. All rights reserved.

Avaya SMBS
Sterling Court
15 - 21 Mundells
Welwyn Garden City
Hertfordshire
AL7 1LZ
England

Tel: +44 (0) 1707 392200

Fax: +44 (0) 1707 376933

Email: contact@avaya.com

Web: <http://www.avaya.com>.