User Manual

Asterisk Telephony Service Provider

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Change Log

Version	Date	Changes
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1 Introduction

This manual describes the installation and configuration process of the *Asterisk Telephony Service Provider* (*Asterisk TSP*) in combination with Microsoft TAPI-enabled software.

1.1 Files

The Asterisk Telephony Service Provider is shipped via CD or as an electronically distributed Download-Version. Each set consists of the following files:

File	Description
Autorun.inf	Autostarts the installation process
Asterisk.tsp	Asterisk Telephony Service Provider (Asterisk TSP)
AsteriskHandbuch.pdf	User Manual in German
AsteriskManual.pdf	User Manual in English
SetupAsterisk.exe	Setup-Routine for Asterisk TAPI

1.2 System Requirements

Please check the following system requirements prior to installing the Asterisk TSP onto your computer.

- Network interface bound to TCP/IP to communicate with the *Asterisk Server*
- Microsoft Windows 2000 or Microsoft Windows XP as client operating system.
- Asterisk based PBX with modified Extensions.conf.
- AstMan Proxy (Open Source) if more than 3 phones are connected

Please consult your pbx administrator or your authorized dealer in case you have any questions regarding the system requirements.

1.3 Explanation of Terms

The following terms are part of this User Manual:

Term	Description
Asterisk	Linux-based open source pbx
Asterisk Manager API	Interface to communicate via TCP/IP with the *Asterisk Server*
Asterisk Server	Linux-based server which runs Asterisk
Asterisk TSP	*Telephony Service Provider* (*TSP*) which communicates with the *Asterisk Server* via *Asterisk Manager API*
Caller ID	Caller ID of the connected phone
Caller Name	User name of the connected phone in plaintext
Channel	Channel name of the connected phone
Extension	Extension of the connected phone
Proxy Server	Software to handle many simultaneous connections on the *Asterisk Server* via TCP/IP
TAPI	Telephony Application Programming Interface, which enables computers running Microsoft Windows to use telephone services
TCP/IP	Network protocol (Transmission Control Protocol / Internet Protocol)
Telephony Service Provider	Device driver within the TAPI-Stack to integrate phone systems into Microsoft Windows clients
TSP	Abbreviation of *Telephony Service Provider*

2 Installation

This chapter explains the installation process of the Asterisk Telephony Service Provider. Please note the system requirements. During the installation process all necessary files will be copied to your hard drive and your system and the TAPI-TSP will be configured and tested. At the end the product can be licensed online. All steps are described in detail below.

2.1 Requirements

Please be sure to have all necessary files handy prior to starting the installation process. These files can be found in the download package or on the supplied product CD. The installation can be run from any directory on your system or directly from CD.

For correct installation please provide the following information. This information can be obtained from your pbx administrator.

- *IP address or DNS name of your Asterisk Server*
- *TCP/IP port number on which the TSP can communicate with the Asterisk Manager API (directly or via proxy)*
- *User name to log into the Asterisk Manager API.*
- *User password to log into the Asterisk Manager API.*
- *Channel name of the connected phone.*
- *Extension of the connected phone*
- *Caller ID of the connected phone*
- *Caller Name of the connected phone*
- *Context to initiate outgoing calls within the Asterisk Server*

Please check the required information prior to the installation. Also ensure that your computer system can communicate with the Asterisk pbx via TCP/IP.

2.2 Begin Installation

In most cases the installation process will start automatically after inserting the product CD into your CD-ROM drive. If autorun is disabled or when using the downloaded version, please start the installation by double clicking *SetupAsterisk.exe.*
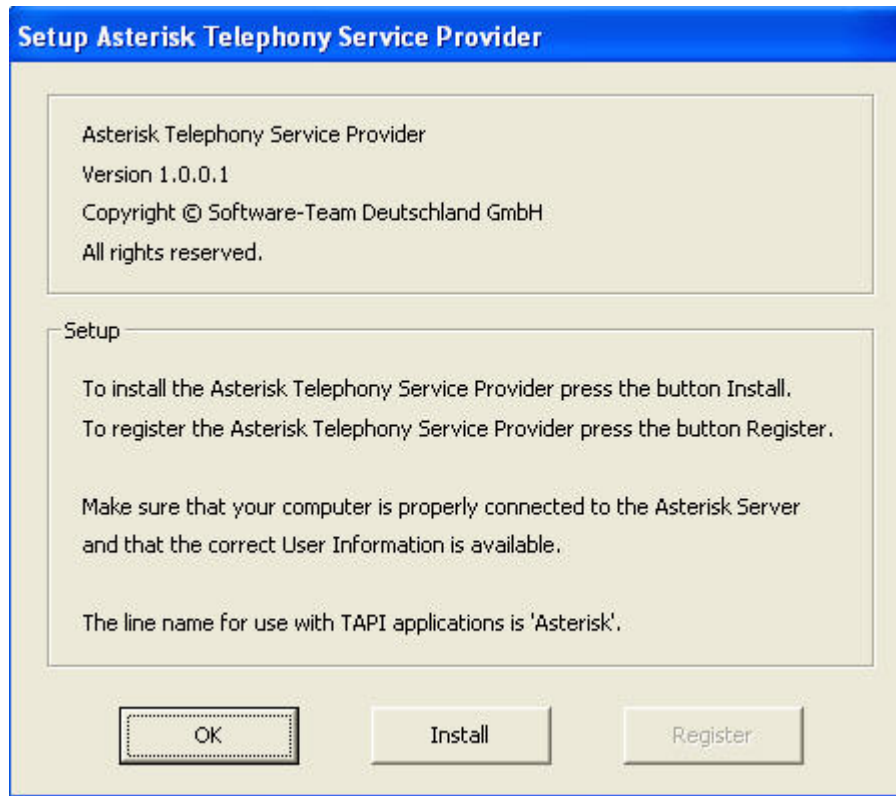
Press *Install* to start the installation process. Choose *Register* to register and activate your product. Use *OK* to cancel the installation.

2.3 Installation Process

At the beginning of the installation process your system will be checked for existing versions. In case an older version is found on your computer, the following information will be displayed:
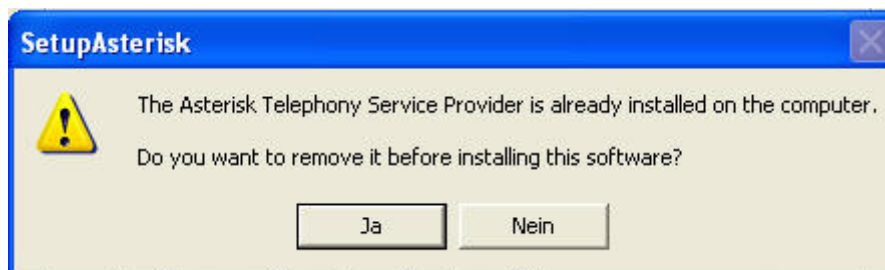
By pressing *NO* the installation process will be terminated at this point. No changes will be made to your computer. By choosing *YES* the existing version will be removed from your system and the installation process will continue as follows:
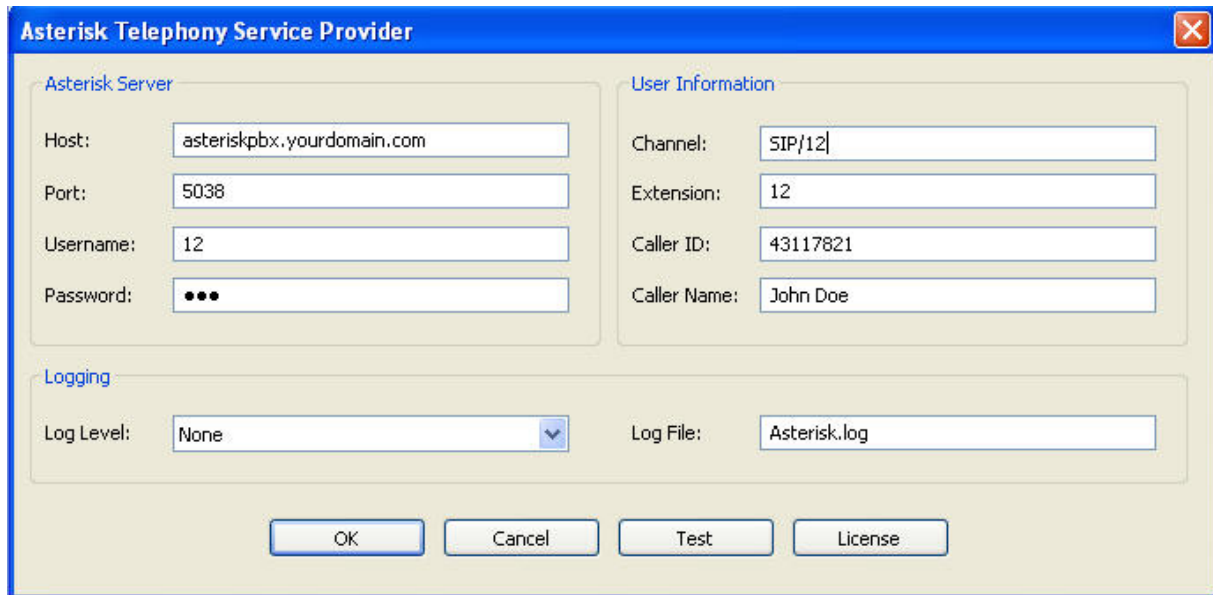
- If the product has been registered before, your licence will remain valid.

- The file Asterisk.tsp will be copied into your System32 directory.

- The file Asterisk.tsp will be registered as a new TSP and named as "Asterisk Telephony Service Provider"

The installation will be continued by showing the following configuration box, which is also displayed when installing the product manually via the Telephony Control Panel.

To change any properties after the installation please access the Telephony Control Panel and select the *Asterisk Telephony Service Provider*. To configure the settings, please press *Configure*.

2.4 Configuration

The following configuration dialog will be display after successfully copying the files:

The configuration is divided into the groups *Asterisk Server*, *User Information* and *Logging*. All necessary information can be obtained from your pbx administrator.

Asterisk Server defines all parameters, used to communicate with the asterisk pbx:

- *Host: hostname or IP-address of the Asterisk Server.*
- *Port: TCP/IP port number of Asterisk Manager API on the Asterisk Server. Typically Port 5038 is used, when using a Proxy Server Port 5040. This may vary, depending on your system.*
- *Username: User name to log into the Asterisk Manager API*
- *Password: User password to log into the Asterisk Manager API.*

User Information defines the configuration parameters of the connected phone:

- *Channel: defines the communication channel, typically this consists of a prefix such as SIP, ZAP or SCCP, a slash and the extension (e.g. SIP/11)*
- *Extension: Extension of the connected phone*
- *Caller ID of the connected phone*
- *Caller Name: User name of connected phone in plaintext*
- *Context: context to initiate outgoing calls*

Logging defines your options to obtain debugging-information in case problems occur:

- *Log Level: Usually None should be selected here. For debugging purposes you can select Error, Info or Debug.*
- *Log File:* Name of the file in which the logging data is stored. This file will be placed in your Windows directory. Typically Asterisk.log is being used.

Please test the configuration before finishing the installation by pressing *OK.* The product can be licensed at this point by pressing *License.*

By pressing Cancel you can cancel the installation process and return to your Windows desktop. No changes will be made to your computer.

2.5 Testing

After entering the configuration parameters, you should test the communication between the TSP and your Asterisk server by pressing *Test*.

After starting the testing process, a TCP/IP connection to the *Asterisk* server will be initiated. If an error occurs at this stage, typically the problem can be found in wrong IP address/hostname or within a wrong port. Other causes could be a network error or an offline *Asterisk server*.

After the connection has been established, the system tries to log into the Asterisk Manager API using the supplied username and password. In case of a misspelled password or username, an error might occur at this time. If a time-out error occurs, please check your *Asterisk Manager AP*, the manager.conf and sip.conf configuration files in your Asterisk directory on your pbx.

After successfully passing the test, *Test OK!* will be displayed within the status box. Please close the window by pressing *OK*.

2.6 Licensing

The Asterisk TSP is protected by a modern copy protection. By using individual system parameters to produce the license key, the software can only be used on the original sys-

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tem. This product may be tested for 30 days after installation without obtaining a license key. After 30 days the product has to be licensed.
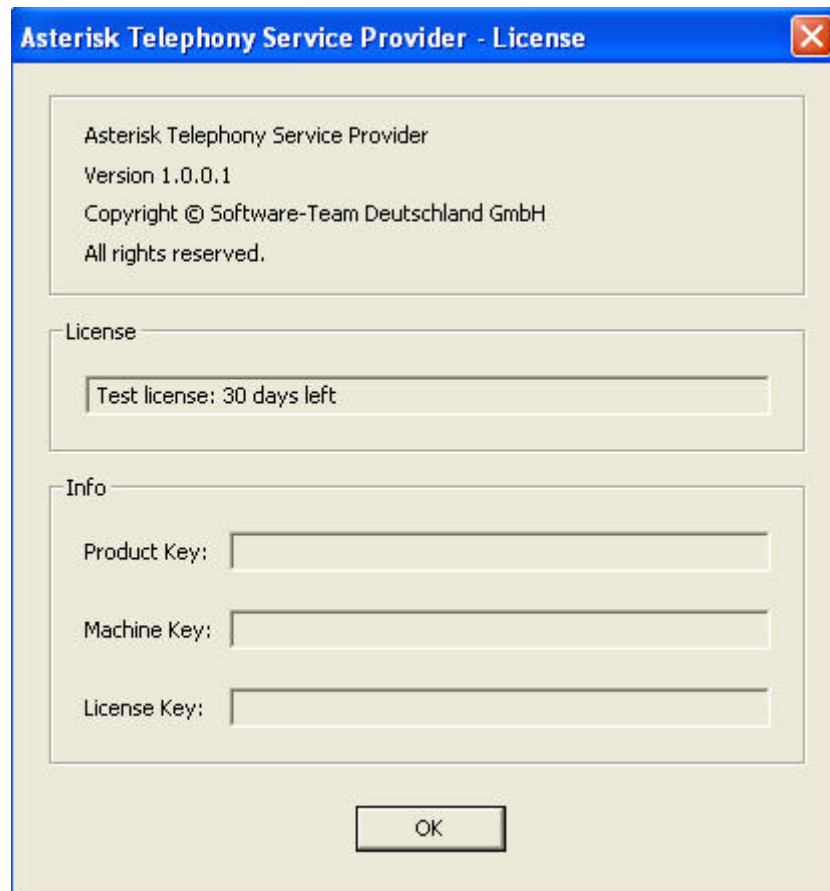
Together with the software product you received a product key from your authorized dealer. The license key looks like PK-xxxx-xxxx-xxxx-xxxx-xxxx-.txt. The x is a place holder for a number.

Within the license dialog the licence state will be displayed. To register the product, please use *SetupAsterisk.exe.* This can be done any time after installation.

2.7 Finishing Installation

The Asterisk TSP is now ready for use. Any TAPI compatible software can be used to interact with your phone system and control your connected phone.

2.8 Registration

The product can be registered using *SetupAsterisk.exe* and selecting *Register* within the dialog.
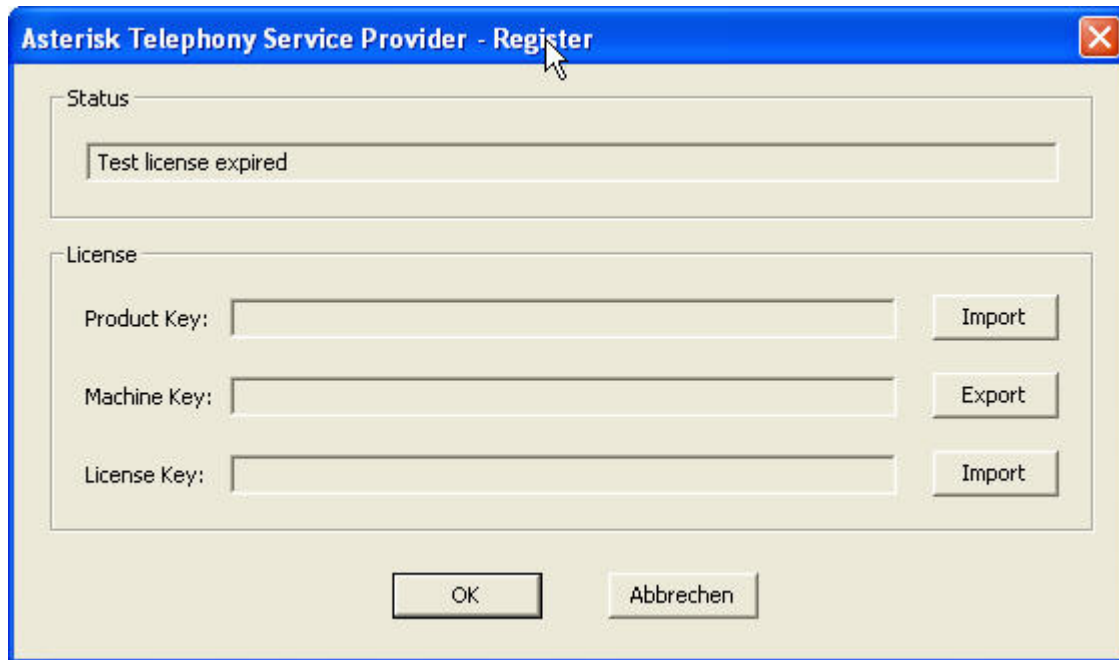
As long as you are using an unregistered version, the status field displays the remaining time before the key expires. After licensing, *Registered License* will be displayed.

Please start the registration process by pressing *Import*. The following dialog will be displayed. Please select the appropriate product key, you received from your authorized distributor:
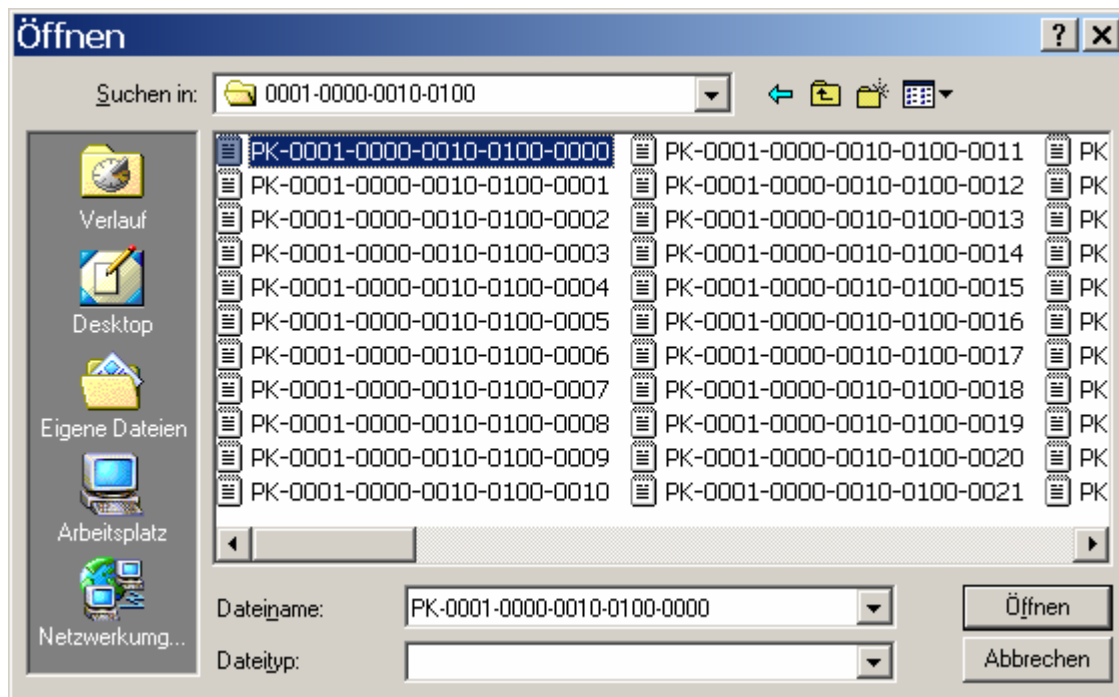
The selected product key will be verified. If the key is valid, it will be displayed within the field *Product Key.* Please press *Export* to generate the associated *Machine Key.* Please save the file with the suggested name onto your hard drive. Your email client should generate a new message. Please send this message without modifications. As soon as the email has been sent, the dialog will display the *Machine Key.*

Your authorized distributor will supply you with a license key. Please save the license file onto your hard drive and import it by pressing *Import.* After successfully importing the file, you can close the dialog. The product is now ready for use.

3 Customization

Outgoing calls can be intiated by the provided Asterisk TSP, as long as your Asterisk context is set to *„out"*. To use the TSP, you can use Microsoft Outlook or the Phone Dialer applet *"dialer.exe"* which is included in any Microsoft Windows Installation.

To handle incoming calls, a TAPI 3.0 compatible software has to be installed. This can be your CRM system, TapiCall for Outlook or the above mentioned Phone Dialer applet. For installation and handling instructions please check with your systems administrator.

Additionally the extension.conf on your *Asterisk Server* has to be modified.

3.1 Asterisk extension.conf

Please consult your pbx administrator or manufacturer of your pbx system if you need assistance with these modifications.
All pbx systems listed in section 4 of this manual can be used with the Asterisk TSP without changes.

Please add the following expression to your Extension.conf:

```
exten => _X,32,Userevent(TAPI|DATA: CHAN-
NEL=${mychannel},EXTEN=${EXTEN},CALLERIDNUM=${CALLERIDNUM})
```

This context has to be added only once. Typically this can be found before executing the DIAL command.

Examplary DIAL command execution within the Extension.conf

```
[extensions]
    . . .
    exten => _X,2,Userevent(TAPI|DATA: CHAN-
    NEL=${mychannel},EXTEN=${EXTEN},CALLERIDNUM=${CALLERIDNUM})
    exten => _X,3,Dial(${mychannel},${dialtimeout})
    . . .

    or:
    . . .
    exten => _Z.,2,Userevent(TAPI|DATA: CHAN-
    NEL=${mychannel},EXTEN=${EXTEN},CALLERIDNUM=${CALLERIDNUM})
    exten => _Z.,3,Dial(${mychannel},${dialtimeout})
    . . .
```

4 Combatible Asterisk-PBXs

All VoIP systems listed below are based on Asterisk and can be used with the Asterisk TAPI TSP without changes.

- Astimax®   any AS-1, AS-2 IP pbx system

In case your system is not listed, please check with the manufacturer of your pbx. We will be happy to list any system, as soon as compatibility has been proven. You can contact us at tapi@addix.net.

4.1 Proxy Software

We recommend using an Asterisk Proxy in addition to your existing Asterisk Installation. The proxy listens on the specified port, usually 5040 TCP, and handles any communication between the *Asterisk Server* and the TAPI clients.

The proxy relieves the Asterisk Server and stabilizes your communication system.

You can download an open source Proxy from www.voip-info.org or www.asterisktapi.eu.

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