

TeamCall Express 2: Installation and Configuration

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1. Introduction

This document provides instructions for installing ilink TeamCall Express. TeamCall Express is a Windows program that can communicate with telephone switches (PBXs) using TAPI functions serving as a middleware component for client applications.

TeamCall Express must be installed on a computer connected to the PBX via network cable or USB. Because TeamCall Express is not a resource intensive program, it must not be run on the latest hardware.

The TeamCall Express installation package is shipped as a ZIP file.

In addition to this document, you can also use the Windows Help function of TeamCall Express. The help function opens by clicking on the “Help” button in the “Team Call Express - Settings”.

2. Preparations

Requirements

Installing ilink TeamCall Express requires the following:

Windows PC

ilink TeamCall Express must be installed on a PC running Windows 2000 Professional SP 4, XP, 2003 Server or 2008 Server that is capable of running around the clock and is protected against being inadvertently turned off. This computer must be attached to the network and reachable by all client computers on the network.

Telephone switch (PBX or PABX)

- The phone system must be TAPI capable with multiline TAPI support. Multiline TAPI is also known as 3rd party TAPI or LAN-TAPI. Consult your hardware provider if necessary.
- Up-to-date multiline TAPI driver from the PBX manufacturer’s web site.
- The firmware of your phone system should be up-to-date, or you should be aware of this as a possible source of problems. It is not necessary to update the firmware preemptively if no issues arise.

Additional preparations

Connecting the Windows computer with the phone system

Most phone systems (PBXs) include a serial or USB cable for connecting to a PC. Larger phone systems can be directly connected to the network. If you have questions ab-

out which method is right for you, consult your PBX dealer.

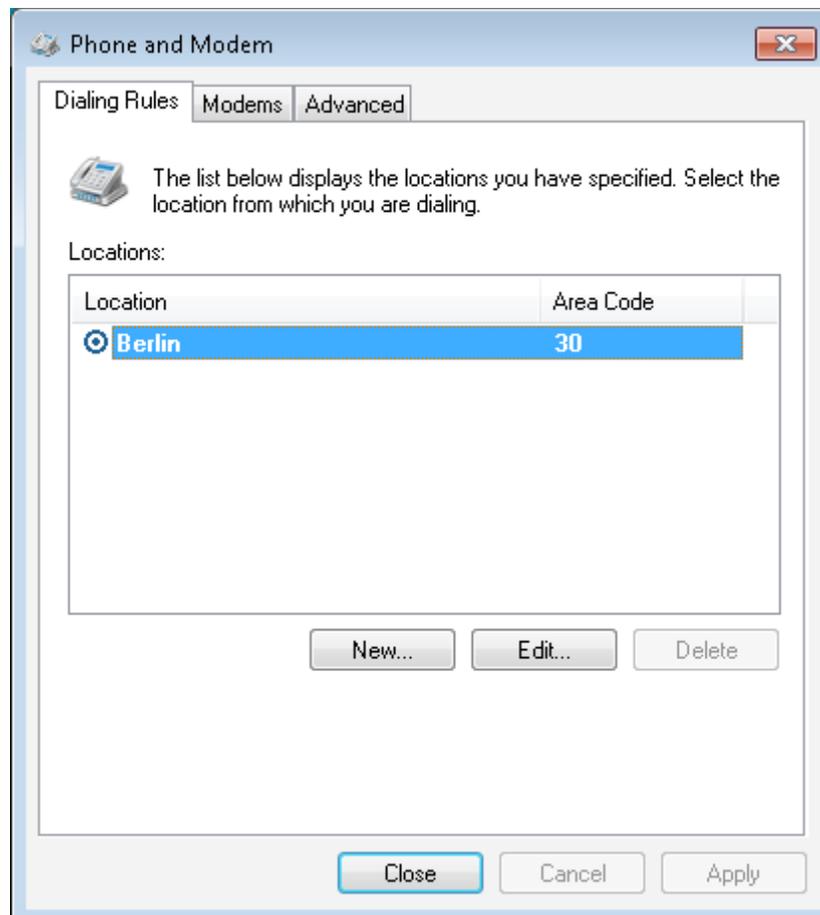
Checking if a TAPI driver is installed

Just as every printer requires a special driver, controlling a phone system also requires a driver, in this case a TAPI driver. You can find installed TAPI drivers under **Start | Control Panel | Phone and Modem**.

We strongly recommend installing the newest TAPI driver for your phone system. Drivers included on the manufacturer's CD are often out-of-date. For smaller phone systems you can usually find driver updates on the manufacturer's website, or through your dealer. For some phone systems, it may be necessary to configure individual telephones in the driver settings after installation. If you aren't familiar with your phone system, seek advice from the manufacturer or your dealer.

Location settings

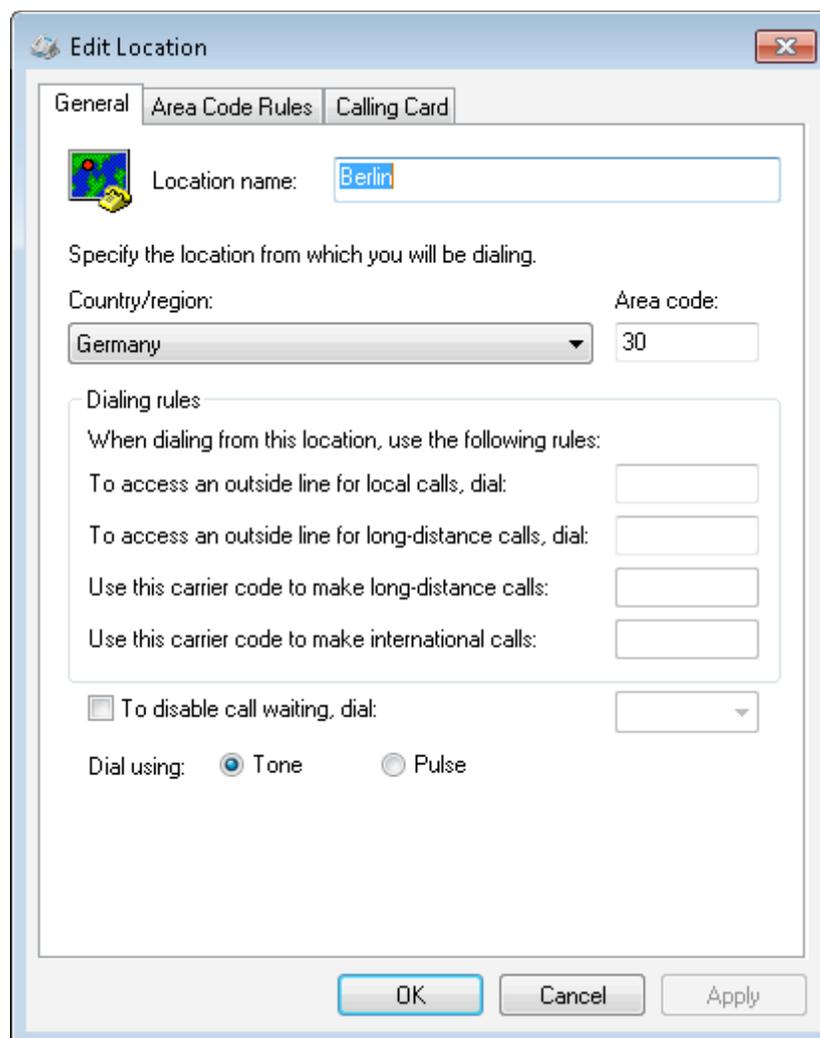
The location has to be added or configured on the "Dialing Rules" tab. To edit a location, select a location and click "Edit...". To add a location, click "New...".



Chose your country from the “Country/region” popup list, e.g Germany. Enter your area code without the leading “0”, e.g. “30” for Berlin, Germany.

When you need to dial “0” to get an outside line, enter “0” in the first two fields of the dialing rules, **To access an outside line for local calls, dial** and **To access an outside line for long-distance calls, dial**.

You can find additional information regarding the transformation of telephone numbers by different software components below under “Transformation of telephone numbers”.



Transformation of telephone numbers

Telephone numbers can be altered by a number of components, e.g. the PBX, the dialing rule set in the Windows Phone and Modem settings, the TAPI settings of TeamCall Express and by the client application.

There are two types of signaling that have to be differentiated: signaling **from** the PBX, called **events** and signaling **to** the PBX, called **requests**.

Events and requests are handled in various ways and pass through different components, each of those each can alter the telephone number.

Events

When a telephone number is signaled **by** the PBX, it goes through the following components where each of which can change the number:

1. **PBX** configuration
2. **TAPI driver settings**
3. **TeamCall Express TAPI settings**. See below under “4. Configuring TeamCall Express”.
4. The **TeamCall Express Dialplan** settings. See below under “4. Configuring TeamCall Express”.
5. The **CTI client**

Note: The Windows “Dialing Rules” settings of the “Phone and Modem” configuration Control Panel are **not used** in case of events.

Requests

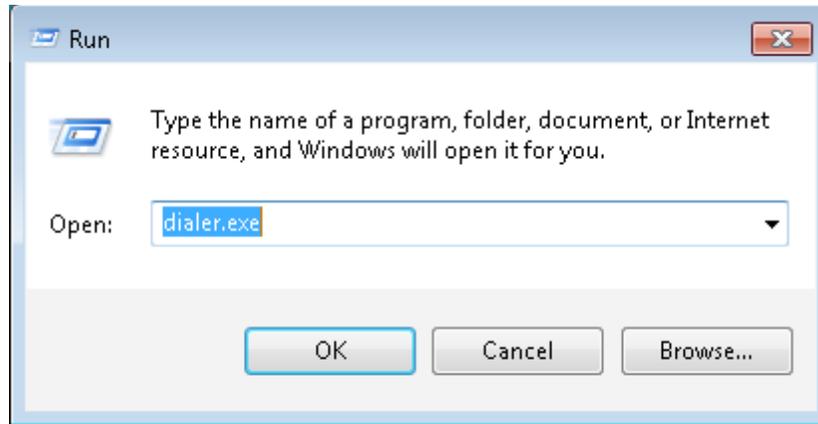
When a telephone number is signaled **to** the PBX, it goes through the the following components where each of which can change the number:

1. The **CTI client**
2. The **TeamCall Express Dialplan** settings. See below under “4. Configuring TeamCall Express”.
3. TeamCall Express itself uses a Windows telephone number conversion function based on the Windows “Dialing Rules” settings of the “Phone and Modem” configuration Control Panel based on the activated location.
4. **TAPI driver settings**
5. **PBX** configuration

Note: TeamCall Express TAPI settings are not used in case of requests.

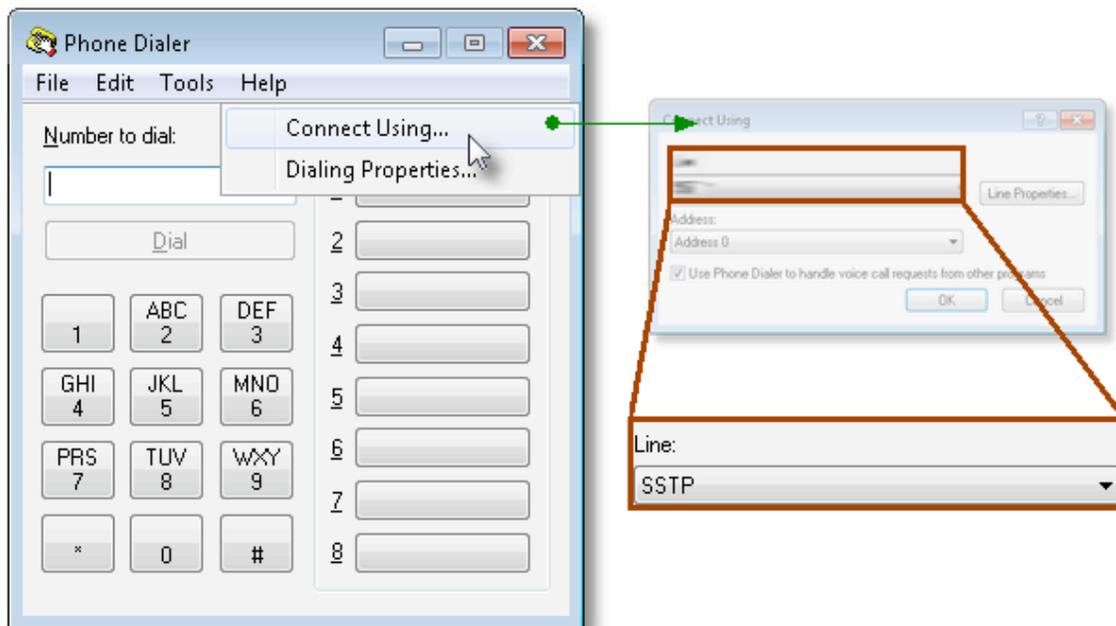
Testing the TAPI driver using the “Phone Dialer” application

You should place a test call after installing the TAPI driver, just as you would print a test page after installing a new printer. Do this with the Windows program “Phone Dialer”. To launch “Phone Dialer”, choose **Start | Run...**, type “dialer.exe” and click on “OK”.



Configure the line

Phone Dialer needs to know which telephone to use for the test call. To configure the TAPI line, go to **Tools | Connect Using...**. There you will find a selection box with phone lines to choose from. To configure the TAPI phone line,

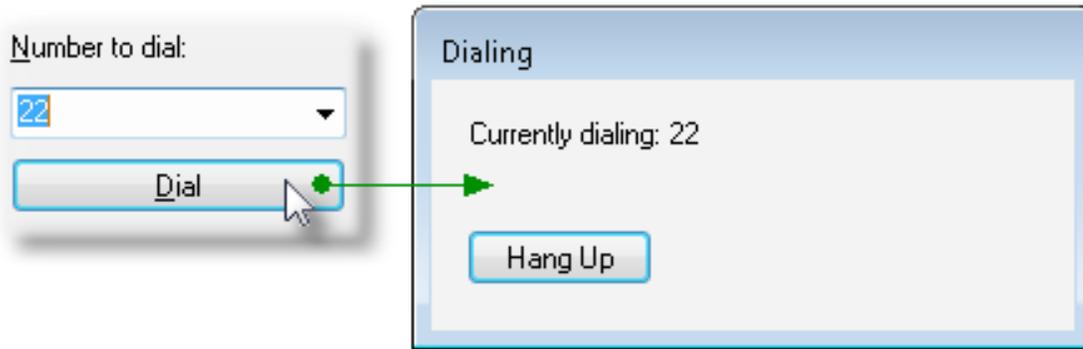


Place a test call

Click on the Dial button to open a dialog window. Enter the number you would like to dial. Remember, when dialing an outside extension you may have to add an additional digit to reach the outside line. Place test calls to both internal and external numbers. When

the call is connected (ringing) then the TAPI driver is functioning correctly.

Should any of your test calls fail, contact your phone system dealer or the phone system manufacturer. ilink TeamCall Express can only be successfully installed when the TAPI driver has been installed and is functioning properly. The driver is a part of the phone system and falls under the responsibility of the phone system dealer or the manufacturer.



3. Installing TeamCall Express

1. Disable anti-virus programs or set them to “learn” mode so they don’t interfere with the installation
2. Unpack the file TeamCallExpress.zip (e.g. by double clicking this file). This should create a new folder
3. Double-click on the .msi installer package. The TeamCall Express installer should start. Follow the instructions provided
4. Open the TeamCall Express settings under **Start | All Programs | TeamCall Express | TeamCall Express Settings**

Configure TeamCall Express as described below in the section “4. Configure TeamCall Express”. Proceed with step 5 after the configuration.

5. You can now restart / reactivate your anti-virus software and deactivate “learn” mode for your firewall
6. Restart the PC
7. Wait a few minutes after restarting the PC before using client applications. This ensures that TeamCall Express is able to completely synchronize itself with the TAPI driver.

4. Configure TeamCall Express

Settings for all available modules can be made by choosing the appropriate settings module on the left side of the Settings window. When clicking a module within the tree structure, its settings will show on the right side of the window.

The main module for the initial configuration is **Telephony I TAPI** to add a license and modify in- and outbound phone numbers if needed. The installation is usually done after having configured **Telephony I TAPI** and the installation can be continued at section “3. Installing TeamCall Express”.

Please note that changes will only be activated when clicking “Apply”.

Telephony: TAPI

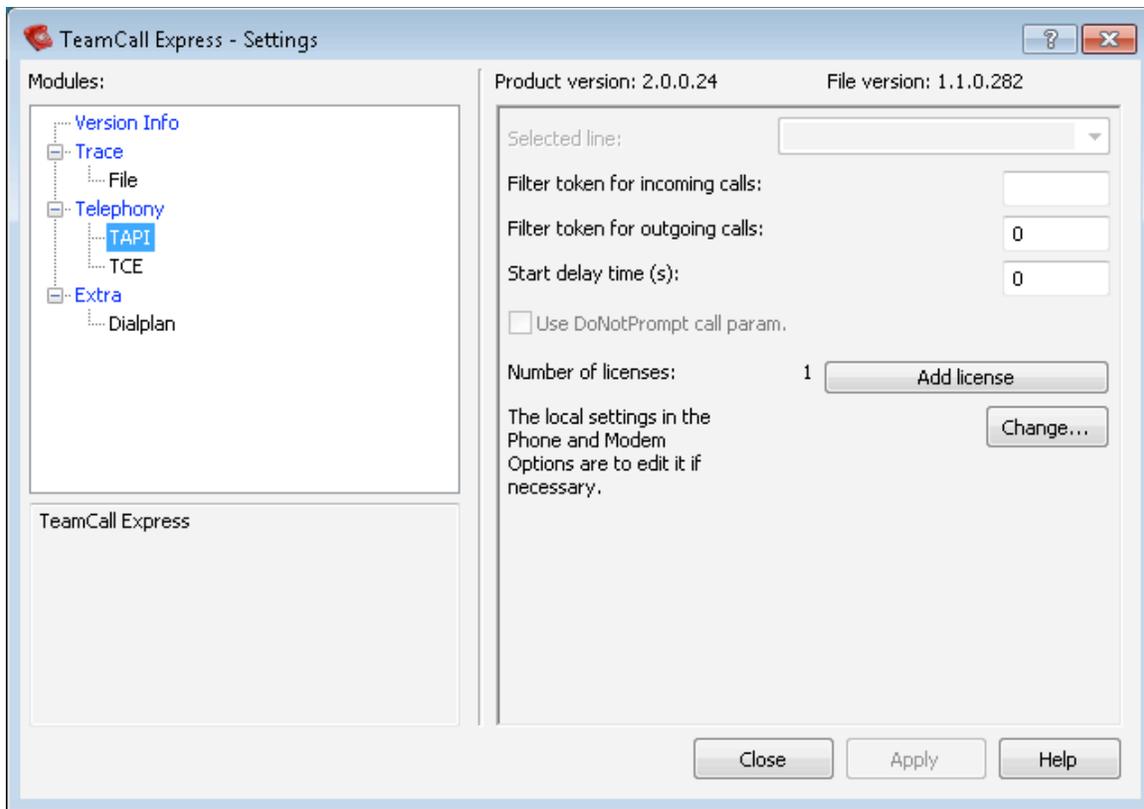
License

To add a license, click “Add license” and select the license file (TeamCall...ilinklicense) in the file browser and click “Open”.

The license file can also be installed by copying it to the installation folder of TeamCall Express.

In either case, it takes up to 5 minutes for TeamCall Express to activate the new licenses. When restarting TeamCall Express, the new licenses will be activated immediately. How to restart the TeamCall Express service is described below under “Starting and stopping TeamCall Express”.

The number of installed licenses is displayed after “Number of licenses:”



Filter for calls

Most callers today transmit their caller IDs. Some PBXs add a leading “0” to incoming numbers and signal the number as an event. Thus there can be differences between how incoming and outgoing calls are handled. You can remove added inbound numbers by entering the numbers in the “Filter token for incoming calls” text field. You can also remove unwanted added leading numbers to external numbers by entering the numbers in the “Filter token for outgoing calls” text field.

The digits that are entered in these fields are cut off at the beginning of the phone number.

Example in case of incoming calls: Incoming phone numbers are signaled by the PBX with a leading unwanted zero. This zero can be removed from the phone number by entering “0” in the field “Filter token for incoming calls”.

Normally, however, these fields can be left blank.

For detailed information on the transformation of phone numbers see above in the chapter “Preparations”.

Changes will be activated when clicking “Apply”.

Start delay time

In order to delay the startup of TeamCall Express, enter the desired number of seconds in the field “Start delay time (s):”. This might be only needed in the rare case when TeamCall Express starts faster than the TAPI driver which would prevent a synchronisation of the two.

Changes will be activated when clicking “Apply”.

Selected line (grayed out)

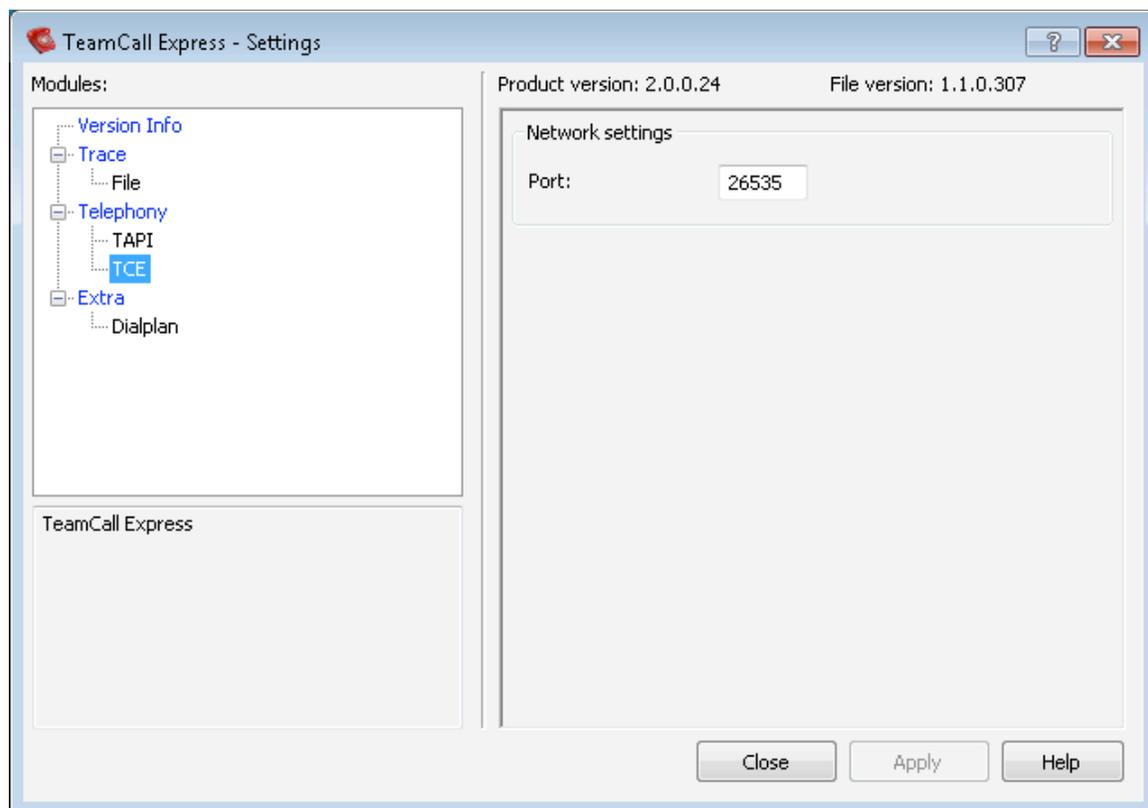
No specific TAPI line can be selected because TeamCall Express uses all available TAPI lines.

Please note that TAPI lines might have to be unlocked in the PBX or TAPI driver in order to be available for TeamCall Express.

Phone and Modem Control Panel

To open the Windows Phone and Modem Control Panel, click “Open...” under “Control Panel “Phone and Modem””.

Telephony: TCE

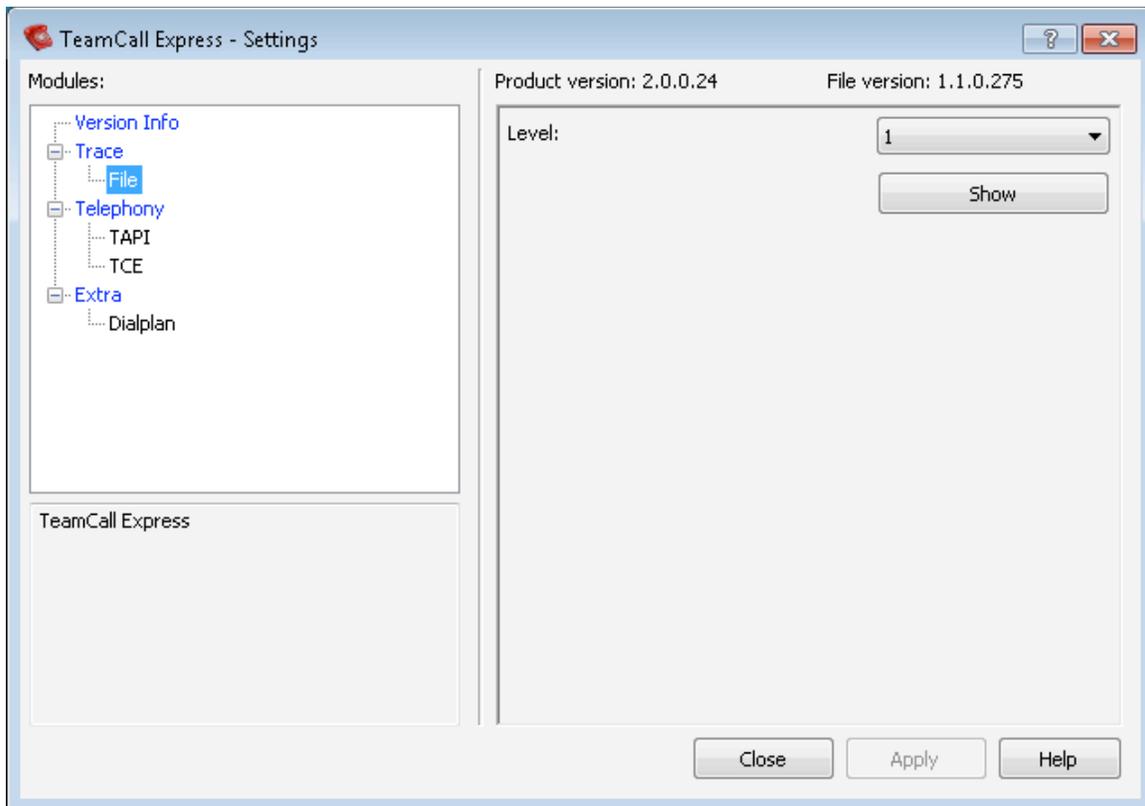


Network setting

TeamCall Express must open a port to communicate with direct. TeamCall Express automatically suggests “26535” as standard port. In most cases, this will work and should only be altered in exceptional cases. Remember, anti-virus software must be deactivated / TeamCall Express must be registered as trustworthy for the installation to work.

The change will be activated immediately when clicking “Apply”.

Trace: File



Level

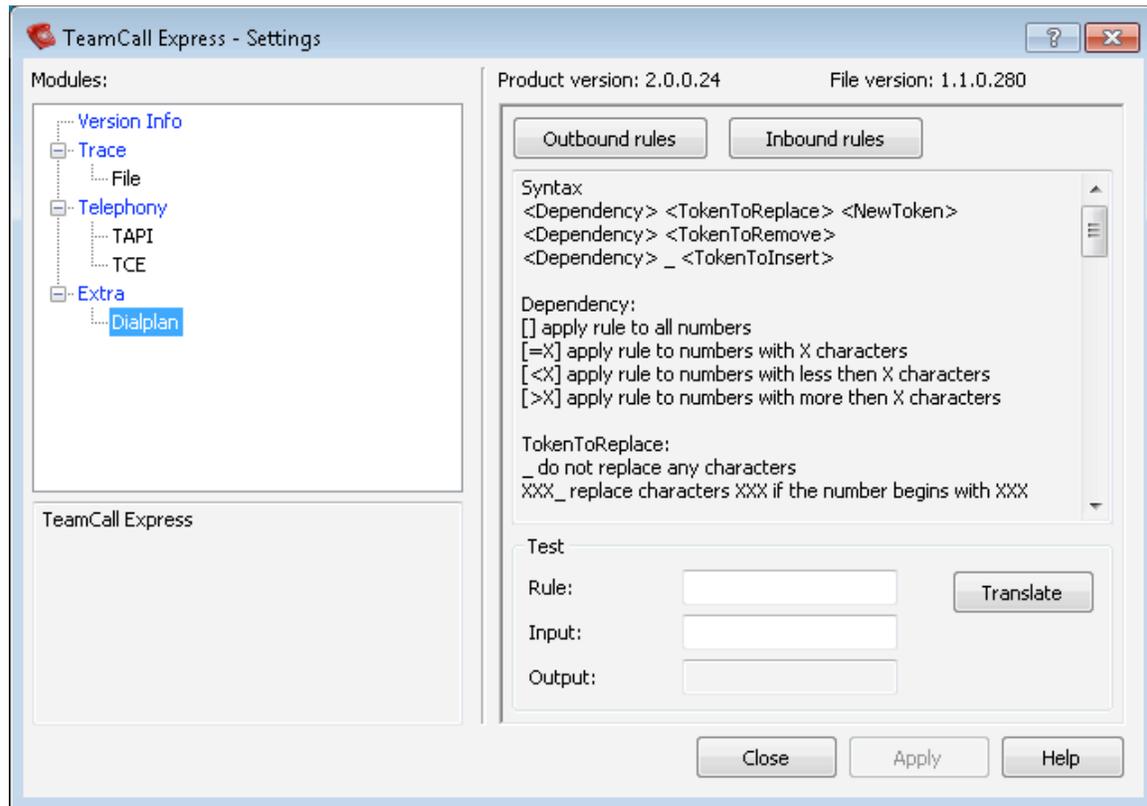
TeamCall Express can produce a log file, when desired. Set the level of detail appropriate to your needs. Log level settings are cumulative. For example, the setting “0” logs nothing and “5” logs everything. The setting “5” enables the collection of maximum information to help in diagnosing problems. For productive use we recommend the setting “1”.

Click “Show” to open a Windows Explorer window showing the folder that contains all TeamCall Express log files. All log files have the “.LOG” ending and will be numbered. In a support case we will usually ask you to send us the log files with the highest numbers

by e-mail to support@ilink.de.

Changes will only be activated when clicking “Apply” and restarting the TeamCall Express service. How to restart the TeamCall Express service is described below under “Starting and stopping TeamCall Express”.

Extra: Dialplan



The settings under “Dialplan” allow the creation of complex substitution rules for telephone numbers that are only needed in extremely rare cases.

For detailed information on the transformation of phone numbers in addition to the “Dialplan” settings see above in the chapter “Preparations”.

The “Dialplan” module converts telephone numbers and can be used in cases where the telephone number has to be converted before signaling it to the PBX or in cases where the PBX does not signal telephone numbers correctly.

The “Dialplan” module works on the basis of user-defined rules for the conversion of telephone numbers. There are two types of rules:

1. **Outbound** rules that are signaled to the **PBX**

2. **Inbound** rules that modify telephone numbers that are signaled **by the PBX**

The rules are each saved in a text file, one for outbound and one for inbound rules. Each line contains one rule, lines are separated by CRLF (Carriage Return / Line Feed). Rules can be combined and will be executed one by one in order. Each result acts as the input for the next rule.

The syntax is laid out in the description of the "Dialplan" module. Rules can be tested using the text fields "Rule" and "Input". On loading the "Dialplan" module, a self test is conducted; errors will be logged to the log file.

Using the module

Syntax

```
<Dependency> <TokenToReplace> <NewToken>  
<Dependency> <TokenToRemove>  
<Dependency> _ <TokenToInsert>
```

Dependency:

```
[] apply rule to all numbers  
[=X] apply rule to numbers with X characters  
[<X] apply rule to numbers with less then X characters  
[>X] apply rule to numbers with more then X characters
```

TokenToReplace:

```
_ do not replace any characters  
XXX_ replace characters XXX if the number begins with XXX  
_XXX replace characters XXX if the number ends with XXX
```

NewToken:

```
(not empty) replace with the given text  
(empty) replace with empty string
```

TokenToRemove:

```
_ do not remove any characters  
XXX_ remove characters XXX if the number begins with XXX  
_XXX remove characters XXX if the number ends with XXX
```

TokenToInsert:

(empty) do not insert anything

XXX_ insert characters XXX as prefix

_XXX insert characters XXX as suffix

Examples:

Insert characters

[] _ _ 0 // insert a 0 suffix in all numbers (e.g. 1111 -> 11110)

[=3] _ _ 0 // insert a 0 suffix in all numbers with 3 characters
(e.g. 111 -> 1110 but 2222 -> 2222)

[>3] _ 0 _ // insert a 0 prefix in all numbers with more than 3
characters (e.g. 03028526555 -> 003028526555 but 111 -> 111)

Remove characters

[<5] 0 _ // remove a 0 prefix if the number has less than 5 charac-
ters (e.g. 0201 -> 201 but 03028526555 -> 03028526555)

[] + _ // remove all + prefixes (e.g. +4933201 -> 4933201)

Replace characters

[>4] + _ 00 // replace a + prefix in all numbers with more than 4
characters (e.g. +493028526555 -> 00493028526555)

[>3] +49 _ 0 // replace a +49 prefix in all numbers with more than
3 characters (e.g. +493028526555 -> 03028526555)

[>4] _ 0 XXX // replace a 0 suffix in all numbers with more than 4
characters (e.g. +4930285260 -> +493028526XXX)

The rules can be combined. They are applied in order of specifica-
tion. Each rule's output is used as input for the following rule.

Example:

[] +49 _ 0 // replace the german prefix with 0

[>4] _ 0 _ // insert a 0 prefix for all numbers longer than 4
characters

Results:

+493028526555 -> 003028526555

Changes will only be activated when clicking “Apply” and restarting the TeamCall Express service. How to restart the TeamCall Express service is described below under “Starting and stopping TeamCall Express”.

Starting and stopping TeamCall Express

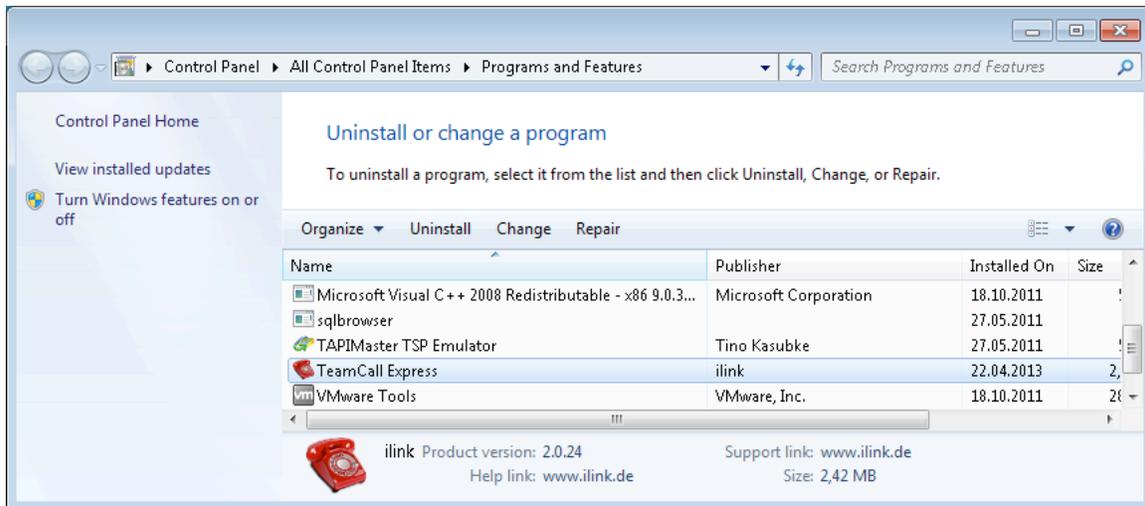
TeamCall Express runs as a Windows service that is automatically started during the Windows startup.

To restart the TeamCall Express service, open the Windows Services application by typing “services.msc” into the **Start | Run...** “Open:” textbox and click OK. In the services overview table right click “TeamCall Express” and click “Restart”.

5. Uninstalling TeamCall Express

The uninstall process varies slightly between Windows Versions. The following description is based upon Windows 7.

Under **Start | Control Panel | Programs and Features** you can view a list of the software installed on the computer. To uninstall TeamCall Express, first find TeamCall Express in the list, select the entry and then click “Uninstall”.



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