estos ECSTA for Teles C5

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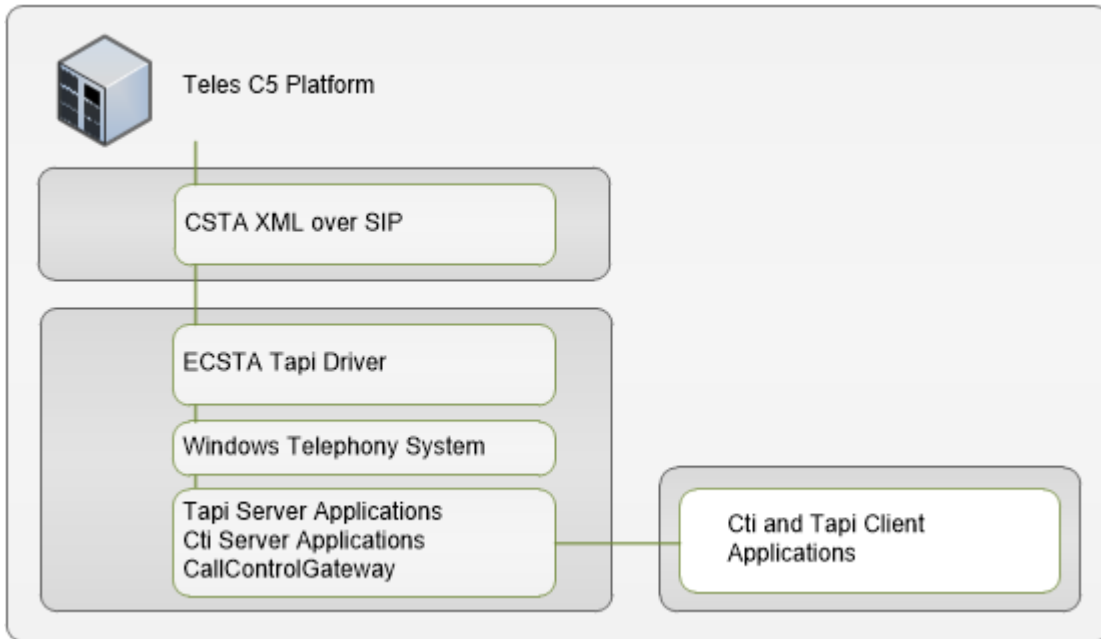
1 Einleitung

estos ECSTA for Teles C5 stellt einen Telephony Service Provider für Microsoft® Tapi 2.1 (auch 2.2 und 3.0) zur Verfügung. Dieser Tapi Treiber stellen eine zentrale Kommunikation zwischen einem PC (CTI Server) und der Telefonanlage her. Auf diesem CTI Server stehen alle Geräte der Telefonanlage als Tapi Leitungen zur Verfügung.
All estos ECSTA for Teles C5 drivers use the efficient interface CSTA in order to communicate with the telephone system.

For the installation and management of the driver see Driver Management.

Supported Telephone Systems

PBX	Driver
Teles C5	ECSTA for Teles C5

Using the driver in the network
After installing the driver, you may use all configured line devices on the server as TAPI-lines. If you are using a server based CTI Software, you may install it now. To have the TAPI-devices available on all workstations, the TAPI-driver must be distributed in the network. There are the following options:

1. estos UCServer
   The estos UCServer is a CTI/UCC server software which distributes the telephony information across the network using a graphical client or a multi-line TAPI driver. Workgroups, domains, Active Directory® and Terminal Server are supported.
2. estos CallControlGateway
   The estos CallControlGateway for Lync/OCS is a gateway that connects the TAPI-lines with the Lync/OCS server. This enables the Lync/OCS client to use traditional telephone devices via Remote Call Control (RCC).

3. Windows® Telephony Server
   The Windows® Telephony Server is a component of Windows® server operating systems since Windows® NT. You will need a domain. The service is limited to domain users.

2   Teles C5

When setting up the driver, follow these steps:

1. Check network connection
   Check the availability of the Teles C5 CSTA SIP Server (ping hostname / IP address).
2. Enable CSTA functionality for the devices.
   You must enable the CSTA feature in the Teles C5 configuration.
3. Driver installation
   See also Settings

2.1   General Settings

Connection
The connection to the Teles C5 platform is established using SIP/TCP.
Enter the IP address of the CSTA SIP server. The Default Port for the SIP connection is 5075.

Login
Enter the user name and password for the login to the CSTA SIP Server. The user name should be entered without domain.
Enter the service domain. This is for example: teles.at

2.2   Advanced Settings

Snapshot for active calls
The driver can validate existing calls. This prevents that calls are displayed on the PC that do no more exist in the PBX system.
The higher this value the longer it takes for the driver to detect a hanging call. The lower this value the higher is the load on the PBX.
Enter a time interval in seconds.

Retry MonitorStart
In the event that the driver cannot start monitoring an extension because, for example, the extension has not been connected to the PBX, the driver will attempt to start monitoring at periodic intervals.
Enter a time interval in seconds.

2.3   TAPI Lines

Geben Sie hier die Leitungen an, die der Treiber zur Verfügung stellen soll. Die Nummern entsprechen den internen Rufnummern, die Geräte-ID der MAC Adresse der Telefone, der angegebene Name wird zur Darstellung der Leitungen verwendet. Optional kann jede Leitung auch die weiteren Leitungstasten eines Telefons als Tapi Adressen abbilden. Die Leitungstasten werden als Strichpunkt getrennte Liste von Rufnummern abgegeben (z.B. 9011;9012;9013)

Phone Number Format
Die Leitungen müssen kanonisch z.B. *+493012345123* angegeben werden.
In the dialogue Location You can configure the country code, area code and local dialing prefix.

Menü Extras
In diesem Menü finden Sie weitere Aktionen, die im folgenden beschrieben sind.

Load Lines
Die verfügbaren Leitungen können aus der Platform ausgelesen werden. Bei dieser Abfrage werden die

Teilnehmer eines von Ihnen angegebenen Rufnummernraums ausgelesen. Geben Sie dazu den Präfix für alle Rufnummern (z.B. +4989444) und den Bereich der Teilnehmer Rufnummer (z.B. 100 - 200) ein.

Manual addition of a line
Geben Sie die internationale Rufnummer des Telefons an (z.B. +4989444100. Optional kann auch ein Name angegeben werden.

Import text
Sie können eine Liste von Leitungen aus einer Text Datei importieren. Jede Zeile muss dazu die Rufnummer,Name enthalten.

Export text
You may export the actual line configuration to a text file.

Attention
After the installation of the driver it may be necessary to restart the computer.

2.4 Settings

- General Settings
- Location Settings
- TAPI Lines
- Advanced Settings
- Settings Licenses
- Phone Number Format

2.5 Licenses

You can test the driver for 45 days with 25 lines without a license and without other limitations. Once the trial period has expired, the lines will automatically be removed. You can purchase licenses codes and activate the driver permanently with them. To purchase licenses, please contact your dealer.

As many lines as desired may be configured in the driver. Opening a line requires a license. Once the existing licenses have been assigned to lines, opening more lines will not be allowed.

If you have added multiple driver instances, all instances will share the license specified. You can distribute the lines to any instance as you desire.

3 Location Settings

The phone numbers of the telephone system are defined in the Location Settings

Exension Range
Geben Sie hier an, welche internen Rufnummern in der Telefonanlage existieren. Diese Information wird benutzt, um interne Gespräche zu erkennen.

Location
Indicate here which international phone numbers precede the internal extension numbers.
The input of this location information should only be carried out if you use several driver instances and have connected several telephone systems. This location information can only be configured when the option Use Location is switched on. If you enter a location here, all extension phone numbers are entered fully international.
Example: With location information '49(89)1234' the extension '100' is formatted as '49(89)1234-100'.

Phone Number Format
The phone number registered from the driver at the application can be changed with rules. Moreover, you can also change phone numbers sent by the PC to the telephone system. See Phone number formatting.

4 Phone Number Format

You may enter rules for formatting the phone numbers.

The phone numbers that are reported from the PBX system to the PC and the numbers that are send from the PC to the PBX system may be modified with a Search and Replace function.

The phone numbers that are sent from the Tapi Application to the PBX (make call) may be modified as well.

Each line in the list contains an option if direct text compare or a regular expression is used.

The Search and Replace function uses regular expressions. If a search pattern matches, the result from replace with will be used as output. It the search pattern does not match, the original number will be reported unchanged. The entries in the list are processed one after each other. If one match is found the remaining enties will be ignored.

There are three categories:

- Incoming
  This section is for phone number from incoming calls that are reported from the PBX system to the PC.
- Outgoing
  This section is for phone number from outgoing calls that are reported from the PBX system to the PC.
- PC Dialing
  This section is for phone numbers that are dialed on the PC and send to the PBX system

Search for:
Enter the regular expression that will be used to find a phone number.
Hint: The caret (^) can be found on the upper left key of a keyboard with German layout.
An overview of allowed expressions:

Character	Description
^	The beginning of the phone number. The expression "^0" matches '0' only at the beginning of a phone number.
^	The caret (^) immediately following the left-bracket ([) has a different meaning. It is used to exclude the remaining characters within brackets from matching the target string. The expression "[^0-8]" indicates that the target character should not be 0
$	The dollar sign ($) will match the end of the string. The expression "152$" will match the sub-string "152" only if it is at the end of the string.
|	The alternation character (|) allows either expression on its side to match the target string. The expression "8|9" will match '8' as well as '9'.
.	The dot (.) allows any character (or any number).

*	The asterix (*) indicates that the character to the left of the asterix in the expression should match 0 or more times.
+	The plus (+) is similar to asterix but there should be at least one match of the character to the left of the + sign in the expression.
?	The question mark (?) matches the character to its left 0 or 1 times.
()	The parenthesis affects the order of pattern evaluation and also serves as a tagged expression that can be used when replacing the matched sub-string with another expression.
[]	The corner brackets ([and]) indicates the amount of signs that are permitted at this point.

Replace with:
Enter the expression that defines how the number is to be formatted.
\1 represents the first matched expression enclosed by parentheses '( )' from the *search pattern* field.
\2 the second …

Check:
You may check your expressions right here by entering a phone number in the indicate field. The resulting output will be displayed. If the expression from the search pattern is not found, the phone number will be send to the outpout without modification.

Examples:

Result	Search for	Replace with
Remove a leading 0 from the phone number	^0(.*)	\1
Replace a leading 80 at the beginning of the phone number by a 0	^80(.*)	0\1
Remove a private pin number that may be identified by a 50 followed by a 3 digit pin.	^50[0-9][0-9][0-9](.*)	\1
Suppress all internal numbers having a 3-digit extension.	^[0-9][0-9][0-9]$	
Add an access code (leading 0) to all numbers with more than 3 digits (e.g. all external numbers).	^([0-9][0-9][0-9].+)	0\1
Add the PBX system root number (03012345) to all internal numbers (with 1 to 3 digits)	^([0-9][0-9]?[0-9]?)$	03012345\1
Adding an area code to all numbers not beginning with 0 and containing at least 4 digits (thus not internal).	^([^0][0-9][0-9][0-9].*)	08151\1

See also location.

5   Driver Management

Installation
The driver is installed on the system with the Windows® Installer (msi) package. If the set-up package contains several drivers, you can select which drivers should be installed during the set-up.

Driver instance
The driver can be used to connect one or several phone systems. For this purpose one or several driver instances are registered in Windows® Tapi System.

Register at Tapi System
During the installation, an instance from the selected driver is already registered at the Tapi system. Thereby, you select the necessary data in a Wizard in order to connect the driver with the telephone system.

Configuration of Driver instance
The configuration of the driver instances takes place either over *Telephone and Modem option* in the Control Panel or over the standard program *Advanced Telephone Driver option*that can be found in the Control Panel or in the Start Menu.

Add further driver instances
If you want to connect the computer with a further telephone system, you must add a further instance of the driver to the Tapi system. This takes place with Help in the standard program *Advanced Telephone Driver options* that can be found in the Control Panel or in the Start Menu.

Updates
To install an Update start the Windows® Installer Package (msi).
If a driver instance is configured, this is deleted during the Update and is automatically added again after the Update is completed. If several driver instances are configured, the computer must be restarted after the Update.

De-installation
The Deinstallation takes place via the Windows® Software Administration. In the Deinstallation, all instances of the driver are removed from the Tapi system and the software uninstalled.

6 Software Voraussetzungen

The estos ECSTA for Teles C5 can be installed on all Windows® systems that support Microsoft® TAPI 2.0 or higher. The following systems are supported in 32- as well as in 64-bit versions.

- Windows® 7
- Windows® 8
- Windows® 8.1
- Windows® 10
- Windows Server® 2008
- Windows Server® 2008 R2
- Windows Server® 2012
- Windows Server® 2012 R2

7 Supported TAPI operations

The driver offers the following TAPI call control operations.

Action:	Corresponding TAPI function:
Dial	TSPI_lineMakecall
Hang up	TSPI_lineDrop
Answer call	TSPI_lineAnswer
Hold call	TSPI_lineHold
Retrieve call	TSPI_lineUnhold
Redirect call	TSPI_lineRedirect
Blind transfer	TSPI_lineBlindTransfer
Setup transfer	TSPI_lineSetupTransfer
Swap hold	TSPI_lineSwapHold
Complete transfer	TSPI_lineCompleteTransfer (LINETRANSFERMODE_TRANSFER)
Create conference	TSPI_lineCompleteTransfer (LINETRANSFERMODE_CONFERENCE)
Add to conference	TSPI_lineAddToConference
Dial in dial tone mode	TSPI_lineDial
Forwarding	TSPI_lineForward TSPI_lineGetAddressStatus • LINEFORWARDMODE_UNCOND
Do Not Disturb	TSPI_lineForward TSPI_lineGetAddressStatus

The following TAPI functions are implemented due to requirements of the TAPI subsystem.

Other functions exported by the driver:
TSPI_lineSendUserUserInfo

TSPI_lineClose

TSPI_lineCloseCall

TSPI_lineConditionalMediaDetection

TSPI_lineDevSpecific

TSPI_lineDevSpecificFeature

TSPI_lineGetDevConfig

TSPI_lineSetDevConfig

TSPI_lineGetAddressCaps

TSPI_lineGetAddressStatus

TSPI_lineGetAddressID

TSPI_lineGetCallAddressID

TSPI_lineGetCallInfo

TSPI_lineGetCallStatus

TSPI_lineGetDevCaps

TSPI_lineGetExtensionID

TSPI_lineGetIcon

TSPI_lineGetID

TSPI_lineGetNumAddressIDs

TSPI_lineNegotiateExtVersion

TSPI_lineNegotiateTSPIVersion

TSPI_lineOpen

TSPI_lineSelectExtVersion

TSPI_lineSetDefaultMediaDetection
TSPI_lineSetStatusMessages
TSPI_lineSetAppSpecific
TSPI_lineSetCallData
TSPI_providerCreateLineDevice
TSPI_providerEnumDevices
TSPI_providerFreeDialogInstance
TSPI_providerGenericDialogData
TSPI_providerInit
TSPI_providerShutdown
TSPI_providerUIIdentify
TSPI_lineGetCallIDs
TUISPI_lineConfigDialog
TUISPI_lineConfigDialogEdit
TUISPI_providerConfig
TUISPI_providerInstall
TUISPI_providerRemove
TUISPI_providerGenericDialog
TUISPI_providerGenericDialogData

8 Info about estos ECSTA for Teles C5

estos ECSTA for Teles C5 is a product of estos GmbH.

Product updates can be found under http://www.estos.de.

Frequently asked questions and answers, as well as support, can be found under
https://www.estos.de/service.

Logging
Zur Fehlersuche können Logdateien erstellt werden. Diese werden im angegebenen Pfad abgelegt.

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