estos ECSTA for Broadsoft

4.0.10.4735

1 Introduction

estos ECSTA for Broadsoft delivers a Telephony Service Provider (TSP) for Microsoft® Tapi 2.1 (also 2.2 and 3.0). This Tapi driver establishes a central communication between a PC and the telephone system. estos ECSTA for Broadsoft uses the Broadsoft OCI-C and OCI-P protocol.

The driver can be used in a Workstation Mode to control one telephone set or in a Server Mode to control multiple telephones.

For the installation and management of the driver see Driver Management.
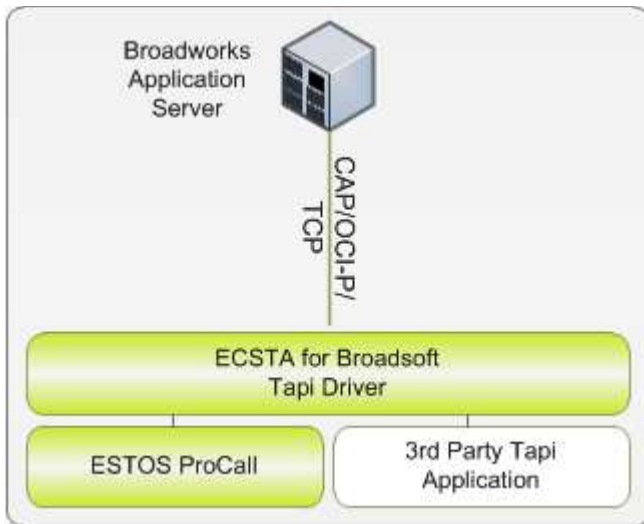
Use on a workstation
After installation in Workstation Mode the configures telephone set can be used as Tapi line device. You may not start using a CTI Software.

Using in the network
After installing the driver in server mode, 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 informations across the network using a graphical client or a multiline 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   Software requirements

The estos ECSTA for Broadsoft 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

3   Driver Management

Installation
Using the Windows® Installer (msi) packet, the driver will be installed on the system.

Driver instance
The driver may be used to connect to one or multiple PBX systems. Only one instance of the driver is used.
This driver instance can be used to control multiple phone devices from different servers.

System Service
During the installation a Windows® System Service with the name 'estos CSTA Server for Broadsoft' will be
installed. The Service must be started for operation of the Tapi driver.

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 using *Telephone and Modem options* in the
Control Panel or using the included program *Phone Driver Options Advanced* that can be found in the Control
Panel or in the Start Menu.

Updates
To install an Update, please run the Windows® Installer Package (msi).
If an instance of the driver is configured, it will be removed during the update process. It will be
automatically re-added afterwards.

Deinstallation
The deinstallation takes place via the Windows® Software Administration. During deinstallation, all instances
of the driver are removed from the Tapi system and the software will be uninstalled.

4 Broadsoft Broadworks

For installation and administration of the driver see Driver management.

When setting up the driver, follow these steps:

1. Run driver setup
   Start the ecstabroadsoft.msi (32 Bit systems) or ecstabroadsoft_x64.msi (64 Bit systems).
2. Workstation or Server Mode
   The driver may be used in a Workstation Mode to control one telephone set or in a Server Mode to control multiple telephones.
3. Line configuration
   Add the telephone devices, that the driver should use as Tapi lines.

4.1 Workstation Mode

On a workstation the driver can be used to control one telephone set.

Installation
During the installation choose the Workstation Mode. Enter you personal user name and passwort for the Broadsoft Web Portal. The credentials will be used to control your phone.

Prompt for entering a Password
The user may change his password for example using the Broadsoft Web Portal. As soon as estos ECSTA for Broadsoft determines that the configured password is no longer valid, the user is prompted to enter the new password.

4.2 Server Mode

On a server the driver can be used to control multiple telephones.

Installation
During the installation choose the Server Mode. Enter a user name and password of the Broadsoft Web Portal. These credentials are used to determin all telephone line devices from the addressbook of the user. During readout of the lines from the addressbook the lines are added without passwords.

Passwords entered by the Administrator
Each line device managed by the estos ECSTA for Broadsoft requires a user name and password. The Administrator may manually enter user name and password for each line device.

Passwords entered by the users
When using estos ProCall Enterprise 4.0, users are prompted by estos ProCall on the workstation for their password. This happens in case the password not not known for the users or in case a new password is required. The line device in estos ECSTA for Broadsoft are configured by the Administrator without passwords or automatically created from the phone book. This allows the Administrator to configure the line devices without knowing the users passwords.

4.3 Line Settings

Add the lines the Tapi driver should provide. The lines correspond to the phone devices of the users.

In Workstation Mode only one line device is available. The menu 'Extras', 'Query available lines', 'Import' and 'Export' are only available in Server Mode.

Server Name
Enter the name of the Broadworks server. You will get the server name from your service provider. The default port is 2208.
SSL may be used for encrypted connections. The default port for SSL connections is 2209.
Examples:

Provider	Server name	Port
QSC Germany	web-b.bmcag.com	2208

User
Enter the user name (login) of the phone user. You will get the user name from your service provider.

Password
Enter the password of the user. You will get the password from your service provider.

Phone Number
The phone number of the line device is normally generated automatically.
In case it is required to enter the phone number manually, use an international format (E.164) e.g. *+15551234567.*

Query available lines
After entering the user credentials all available line devices are created automatically from the phone book of the user. These line devices are created without passwords. See Server Mode.

Import text
You can import a list of lines from a text file. The file must begin every line with the phone number. Optionally, the name can also be split with a comma.

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.

4.4   Advanced Settings

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.

Advanced Parameters:

- Retry MonitorStart
  In case the driver cannot start the monitoring of an extension, for example because the extension is not connected to the PBX, the driver will retry the montoring at regular intervals.
  Enter a time interval in seconds.

5   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. If 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 Dialling
  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 search string (phone number). The expression "^0" matches '0' only at the beginning of the search string.
^	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 only the characters 0 to 8 are allowed.
$	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 "1|2" will match '1' as well as '2'.
.	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

5.1 Licenses

The driver can be tested without license for 45 days with 25 lines. After the trial period, the lines can no longer be controlled and monitored. You can purchase license keys that unlock the driver permanently. To purchase licenses, contact your dealer.

The driver can be configured any number of lines. Opening a line consumes a license. If the existing licenses are used up, opening further lines will fail.

If you have configured multiple driver instances, all instances share the licenses entered. You can consume licenses anywhere on different instances.

6   Software requirements

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6.1   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[2]	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
Message waiting	TSPI_lineSetLineDevStatus TSPI_lineGetLineDevStatus

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

Other exported functions:
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

7 Info about estos ECSTA for Broadsoft

estos ECSTA for Broadsoft 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.

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