estos ECSTA for Aastra MX-ONE BusinessPhone

4.0.7.3683

1 Introduction

estos ECSTA for Aastra MX-ONE BusinessPhone makes available several Telephony Service Providers for Microsoft Tapi 2.1 (also 2.2 and 3.0). These Tapi drivers produce a central communication between a PC (CTI Server) and the telephone system. On this CTI server all devices on the telephone system are available as Tapi lines.

All estos ECSTA for Aastra MX-ONE BusinessPhone 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.
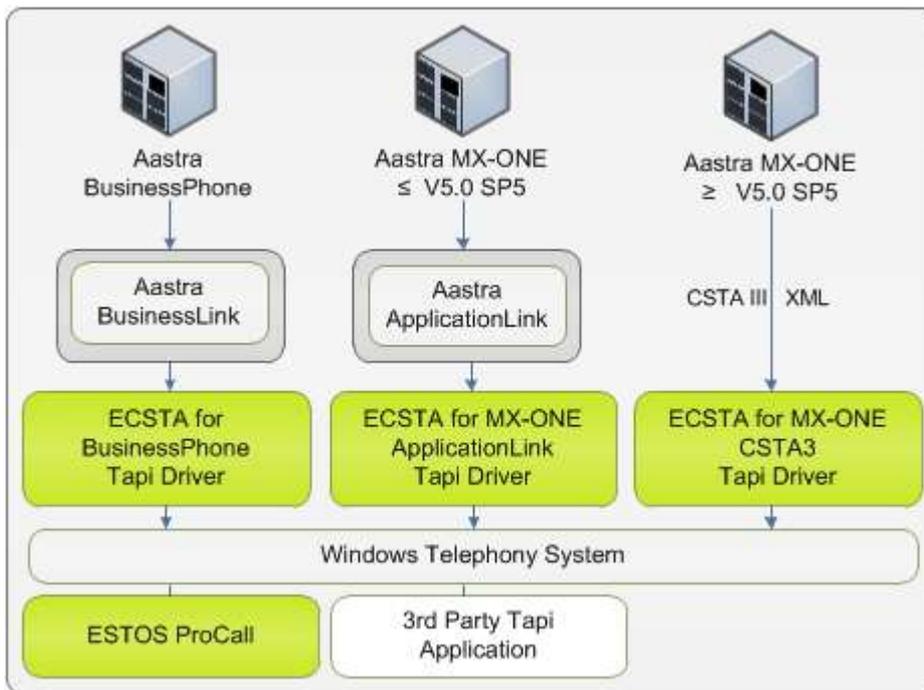
Supported Telephone Systems

Driver	PBX
ECSTA for Aastra MX-ONE CSTA3 XML	Aastra MX-ONE from V5.0 SP5
ECSTA for Aastra MX-ONE CSTA3 XML	Aastra 700 from V5.0 SP5
ECSTA for Aastra MX-ONE ApplicationLink	Aastra MX-ONE
ECSTA for Aastra MX-ONE ApplicationLink	Ericsson MX-ONE
ECSTA for Aastra MX-ONE ApplicationLink	Ericsson MD110
ECSTA for Aastra BusinessPhone	Ericsson BusinessPhone

ECSTA for Aastra BusinessPhone	Aastra BusinessPhone

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   Aastra MX-ONE ApplicationLink

When setting up the driver, follow these steps:

1. Setup of the Aastra ApplicationLink / Open Application Server (OAS)
   Install ApplicationLink / Open Application Server (OAS).
   Remeber the server port (default 2555).
2. Check network connection
   If the connection is established using TCP/IP, check if you can reach the PBX system (ping hostname)
3. Driver installation
   See also Settings

2.1   General Settings

The connection to the PBX system is established with the Aastra ApplicationLink server or the Open Application Server (OAS) using TCP/IP.

Connection using a network (TCP/IP)
Enter the host name or the IP address of the Aastra ApplicationLink server or the Open Application Server (OAS). The default TCP port for the CSTA connection is 2555.

2.2   Advanced Settings

Suppress transmission of Caller ID
Here you can configure a FeatureCode for the suppression of Caller ID (e.g. *42#). The Featurecode is dialed before the desired phone number. If the Featurecode is configured then the driver gives the performance feature on the TAPI level. All telephone calls carried out with activated Caller ID suppression are registered by the driver as "phone number suppressed", independent as to whether the number was actually suppressed (e.g. in internal calls).

Trunk provides COLP
If the trunk line supports 'Connected Line Identification Presentation' (COLP), the option must be checked. It is required to correctly format the 'ConnectedID'.
If this option is enabled, the trunk access code is added in front of the 'ConnectedID' for outbound calls.
If the connected phone number (ConnectedID) contains a multiple trunk access codes, this option must be disabled. If there the trunk access code is missing the option must be enabled.

Trunk access code
This trunk access code is set for outgoing calls when activating COLP. Default is '0'.

Recognition of existing calls
If enabled, the phone system can recognize existing call while opening the line. Please note that not all call parameters are discovered!

Node numbers
If your PBX system is using node numbers you can enter these numbers semicolon seperated. These node numbers are removed from numbers presented by the pbx.

Emulate blind transfer
If the PBX system does not offer blind transfer the driver can emulate this feature. The driver will setup a consultation transfer which is merged as soon as the called destiation is rings.

Blind transfer timeout
Timeout for the blind transfer emulation. The consultation call must be answered within this timeout.
Otherwise the consultation call is canceled and the intial call is retrieved.

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.
Enter a time interval in seconds.
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.

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

Enter the lines that the driver should make available through TAPI. The numbers are the internal phone numbers for your devices. The names will be used to display the TAPI lines.

Phone Number Format
The lines can optionally be indicated as an internal phone number, for example *123* or canonical, for example
You should use canonical phone numbers if you use several instances of Tapi driver and thus switch on several telephone systems at the same time. A canonical phone number consists as follows:
+Country code (prefix) Local prefix-extension
In the dialogue Location You can configure the country code, area code and local dialing prefix.

Load Lines
The available lines are determined automatically from the telephone system. Thereby all phone numbers are requested that are configured under Location in the extension area.

Manual addition of a line
Give the internal phone number of the phone. Optionally, a name can also be given.

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.

2.4   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 transfer²	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
Remove from conference	TSPI_lineRemoveFromConference
Callback busy	TSPI_lineCompleteCall (LINECALLFEATURE2_COMPLCALLBACK)
Intrude call	TSPI_lineCompleteCall (LINECALLFEATURE2_COMPLINTRUDE)
Pickup	TSPI_linePickup
DTMF dialing	TSPI_lineGenerateDigits
Dial in dial tone mode	TSPI_lineDial
Forwarding	TSPI_lineForward TSPI_lineGetAddressStatus • LINEFORWARDMODE_UNCOND • LINEFORWARDMODE_BUSY • LINEFORWARDMODE_NOANSW
Do not disturb	TSPI_lineForward TSPI_lineGetAddressStatus

² Emulated by the driver (System does not natively support this feature)

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

3 Settings

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

4   Aastra BusinessPhone

When setting up the driver, follow these steps:

1. Setup of the Aastra BusinessLink
   Install BusinessLink.
   Remeber the server port (default 2555).
   Optionally enter the list of extensions (allows a better readout of the existing devices).
2. Check network connection
   If the connection is established using TCP/IP, check if you can reach the PBX system (ping hostname)
3. Driver installation
   See also Settings

4.1   General Settings

The connection to the PBX system is established with the Aastra BusinessLink server using TCP/IP.

Connection using a network (TCP/IP)
Enter the host name or IP address of the Aastra BusinessLink server. The default TCP port for the CSTA connection is 2555.

4.2   Advanced Settings

Suppress transmission of Caller ID
Here you can configure a FeatureCode for the suppression of Caller ID (e.g. *42#). The Featurecode is dialed before the desired phone number. If the Featurecode is configured then the driver gives the performance feature on the TAPI level. All telephone calls carried out with activated Caller ID suppression are registered by the driver as "phone number suppressed", independent as to whether the number was actually suppressed (e.g. in internal calls).

Support all types of call forwarding
Extended call forwarding types are only supported if "Support all types of call forwarding" is enabled. Please take care that administrative forwardings can be modified then. You should only enable this if users are allowed to see and modify administrative call forwards.

Trunk provides COLP
If the trunk line supports 'Connected Line Identification Presentation' (COLP), the option must be checked. It is required to correctly format the 'ConnectedID'.
If this option is enabled, the trunk access code is added in front of the 'ConnectedID' for outbound calls.
If the connected phone number (ConnectedID) contains a multiple trunk access codes, this option must be disabled. If there the trunk access code is missing the option must be enabled.

Trunk access code
The trunk access code is used to format the connected phone number (ConnectedID) on inbound calls. Default is '0'.
If the option 'Trunk provides COLP' is enabled, the Trunk access code is additionally added in front of the ConnectedID during outbound calls.

Ignore phone numbers beginning with 'b'
This setting suppresses phone numbers that start with a 'b'. These are typically external callers without caller id.

Recognition of existing calls
If enabled, the phone system can recognize existing call while opening the line. Please note that not all call parameters are discovered!

Node numbers
If your PBX system is using node numbers you can enter these numbers semicolon seperated. These node numbers are removed from numbers presented by the pbx.

Emulate blind transfer
If the PBX system does not offer blind transfer the driver can emulate this feature. The driver will setup a consultation transfer which is merged as soon as the called destiation is rings.

Blind transfer timeout
Timeout for the blind transfer emulation. The consultation call must be answered within this timeout. Otherwise the consultation call is canceled and the intial call is retrieved.

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.
Enter a time interval in seconds.
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.

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.

4.3   TAPI Lines

Enter the lines that the driver should make available through TAPI. The numbers are the internal phone numbers for your devices. The names will be used to display the TAPI lines.

Phone Number Format
The lines can optionally be indicated as an internal phone number, for example *123* or canonical, for example
You should use canonical phone numbers if you use several instances of Tapi driver and thus switch on several telephone systems at the same time. A canonical phone number consists as follows:
+Country code (prefix) Local prefix-extension
In the dialogue Location You can configure the country code, area code and local dialing prefix.

Load Lines
The available lines are determined automatically from the telephone system. Thereby all phone numbers are requested that are configured under Location in the extension area.

Manual addition of a line
Give the internal phone number of the phone. Optionally, a name can also be given.

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 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 transfer²	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
Remove from conference	TSPI_lineRemoveFromConference
Pickup	TSPI_linePickup
DTMF dialing	TSPI_lineGenerateDigits
Dial in dial tone mode	TSPI_lineDial
Forwarding	TSPI_lineForward TSPI_lineGetAddressStatus • LINEFORWARDMODE_UNCOND • LINEFORWARDMODE_UNCONDEXTERNAL³ • LINEFORWARDMODE_UNCONDINTERNAL³

	• LINEFORWARDMODE_BUSY[3] • LINEFORWARDMODE_BUSYEXTERNAL[3] • LINEFORWARDMODE_BUSYINTERNAL[3] • LINEFORWARDMODE_NOANSW[3] • LINEFORWARDMODE_NOANSWEXTERNAL[3] • LINEFORWARDMODE_NOANSWINTERNAL[3]	15
Message waiting	TSPI_lineSetLineDevStatus TSPI_lineGetLineDevStatus	

[2] Emulated by the driver (System does not natively support this feature)

[3] Extended call forwarding types are only supported if "Support all types of call forwarding" is enabled. Please take care that administrative forwardings can be modified then. You should only enable this if users are allowed to see and modify administrative call forwards.

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

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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

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TUISPI_providerConfig	
TUISPI_providerInstall	
TUISPI_providerRemove	
TUISPI_providerGenericDialog	
TUISPI_providerGenericDialogData	

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6 Aastra MX-ONE CSTA3

When setting up the driver, follow these steps:

1. Check the version of the PBX Firmware
   The Firmware of the MX-ONE must be greater or equal to 5.0 SP5.
2. Setup the CSTA server in the Aastra MX-ONE
   Open the configuration pages 'Services/CSTA Server'. Configure a CSTA Server and use the following settings:

Protocol	XML
Port	8882
Heartbeat Option	Heartbeat support by external application
By-pass Option	No by-pass
Diversion Option	Allow diversion after deflect
Dialed Number Presentation Option	Do not replace dialed number
Connection View Option	Fixed View

3. Check network connection
   If the connection is established using TCP/IP, check if you can reach the PBX system (ping hostname)
4. Driver installation
   See also Settings

6.1 General Settings

The connection will be established directly to the CSTA server in the PBX system using TCP/IP. The connection uses the CSTA Phase 3 XML protocol.

Connection using a network (TCP/IP)
Enter the host name or IP Address of the Aastra MX-ONE. The TCP port for the CSTA connection must match the CSTA server configuration.

6.2 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.
Enter a time interval in seconds.
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.

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.

6.3 TAPI Lines

Enter the lines that the driver should make available through TAPI. The numbers are the internal phone numbers for your devices. The names will be used to display the TAPI lines.

Phone Number Format
The lines can optionally be indicated as an internal phone number, for example *123* or canonical, for example
You should use canonical phone numbers if you use several instances of Tapi driver and thus switch on several telephone systems at the same time. A canonical phone number consists as follows:
+Country code (prefix) Local prefix-extension
In the dialogue Location You can configure the country code, area code and local dialing prefix.

Load Lines
The available lines are determined automatically from the telephone system. Thereby all phone numbers are requested that are configured under Location in the extension area.

Manual addition of a line
Give the internal phone number of the phone. Optionally, a name can also be given.

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.

6.4 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
Remove from conference	TSPI_lineRemoveFromConference
Callback busy	TSPI_lineCompleteCall (LINECALLFEATURE2_COMPLCALLBACK)
Intrude call	TSPI_lineCompleteCall (LINECALLFEATURE2_COMPLINTRUDE)
DTMF dialing	TSPI_lineGenerateDigits
Dial in dial tone mode	TSPI_lineDial
Forwarding	TSPI_lineForward TSPI_lineGetAddressStatus • LINEFORWARDMODE_UNCOND

[2] Emulated by the driver (System does not natively support this feature)

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

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TUISPI_providerGenericDialogData

7   Settings

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7.1   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.

8   Location Settings

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

Exension Range
Indicate here which internal phone numbers exist in the phone system. This information is used to determine the available lines from the phone system.

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.

9 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.

10 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.

11 PBX systems

Driver	PBX
ECSTA for Aastra MX-ONE CSTA3	Aastra MX-ONE from V5.0 SP5
ECSTA for Aastra MX-ONE CSTA3	Aastra 700 from V5.0 SP5
ECSTA for Aastra MX-ONE ApplicationLink	Aastra MX-ONE
ECSTA for Aastra MX-ONE ApplicationLink	Ericsson MX-ONE
ECSTA for Aastra MX-ONE ApplicationLink	Ericsson MD110
ECSTA for Aastra BusinessPhone	Ericsson BusinessPhone
ECSTA for Aastra BusinessPhone	Aastra BusinessPhone

12 Software requirements

The estos ECSTA for Aastra MX-ONE BusinessPhone 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 Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

13 FAQ

Q0069: I just installed a Tapi driver, but the connections are not yet available. I cannot select the new lines using the windows phone dialer. What can I do?

If connections are not available after a tapi driver being installed, you have to restart your PC. The reason for that is another software using the Windows Tapi system (probably the Internet Auto Connection Manager).

Q0107: I get the message: You do not have permission to change the settings. Please contact your Administrator.

Reason: The user does not have the required rights to run the setup. Solution: Install the driver as Administrator.

14 Info about estos ECSTA for Aastra MX-ONE BusinessPhone

estos ECSTA for Aastra MX-ONE BusinessPhone is a product of estos GmbH.

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

Frequently asked questions and answers, as well as support, can be found under http://www.estos.com/help/support.