

Kofax Communication Server

TC/SPI-MX Technical Manual

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The KOFAX logo is rendered in a bold, blue, sans-serif typeface. The letters are thick and closely spaced, with a consistent weight throughout the word.

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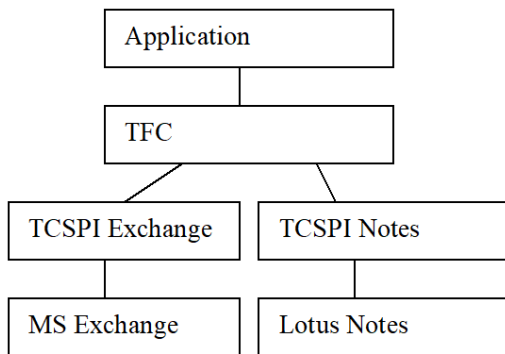
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Chapter 1

Preface

The product is an in-process COM server (single threaded apartment). It is used as an add-on for the TC Foundation Classes (TFC) and allows access to messages, user profiles and addresses stored on an Exchange server.



Any application using TFC has thus access to objects on the Exchange server via the standard TFC interface. Only TFC internally serves the TCSPI Exchange interface.

Chapter 2

Functionality

TCSPI Exchange may be used in 2 different operation modes:

- Server mode:

Called by a server application like e.g. the EMAIL Reader Application to access a user's mailbox. In this mode, the application object logs on to Exchange via an Administrator profile and accesses the user's mailbox via a special API.

As the application does not execute on the client, any information stored on the user's PC (e.g. local address books, private stores) is NOT available.

- Client mode:

Called by a client application like e.g. TC/Dialer, in order to access the user's address book or contacts folder. In this mode, a client application (e.g. MS Outlook) already has an Exchange session, and the SPI functions use the existing session.

Note The Client mode is not part of this project.

The operation mode is stored as a configuration parameter in the registry.

Interface

A detailed interface description can be found in the TFC Reference Manual.

Installation

Please refer to the *Voice Platform Technical Manual* for installation instructions.

Registry Values

The SPI Exchange software uses a subkey SPI\Exchange below the registry subkey of the calling application. All registry keys in the table below are relative to this subkey.

Name	Type	Default	Description
OperationMode	SZ	Server	Server: server mode Client: client mode
ExAddrTypeEX	SZ	EX	Exchange address type for accessing Exchange mailboxes.

Name	Type	Default	Description
ExAddrTypeFAX	SZ	FAXTC	Exchange address type for FAX (from TC/LINK-MX configuration)
ExAddrTypeTLX	SZ	ATX	Exchange address type for TELEX (from TC/LINK-MX configuration)
ExAddrTypeTC	SZ	TC	Exchange address type for TC addresses (from TC/LINK-MX configuration)
ExAddrTypeFREE	SZ	FREE	Exchange address type for FREE addresses (from TC/LINK-MX configuration)
ExAddrTypeNOTES	SZ	ANOTES	Exchange address type for Lotus Notes (from TC/LINK-MX configuration)
ExAddrTypeVOICE	SZ	VOICE	Exchange address type for VOICE addresses (from TC/LINK-MX configuration).
ExAddrTypeSMS	SZ	SMS	Exchange address type for SMS (from TC/LINK-MX configuration)
ExMailbox	SZ	TCSPI_MBA	Exchange mailbox for TCSPIMX
ExServer	SZ		Home server of the mailbox
ServerUrl	SZ		The default <i>URL</i> for <i>EWS</i> to connect Exchange Server
ExVersion	SZ	2007	Exchange version. Possible values are 2007, 2010, 2013, 2013 (EWS), 2016 (EWS) and 2019 (EWS).
ExSiteDN	SZ		Home site of the mailbox
ExProfile	SZ	TCSPI_MBA	Prefix for temporary MAPI profile (used in server mode only)
TempDir	SZ	C:\TEMP	Directory for temporary files
UseWasteBasket	DWORD	1	Move deleted messages to "Deleted Items" folder ?
UseVoiceMail	DWORD	1	If set to 1, TCSPIMX uses standard message classes for Voice and Fax If set to 0, TCSPIMX uses the message classes defined in registry values ExFaxMsgClass and ExVoiceMsgClass.
ExFaxMsgClass	SZ	IPM.NOTE.TCMMSG.FAX	Exchange message class for new faxes
ExFaxMsgClassOpen	SZ		Exchange message class for read faxes
ExVoiceMsgClass	SZ	IPM.NOTE.TCMMSG.VOICE	Exchange message class for new Voice messages
ExVoiceMsgClassOpen	SZ		Exchange message class for read Voice messages

Name	Type	Default	Description
LeaveProfile	DWORD	0	0: TCSPIMX uses temporary MAPI profiles that are deleted after logon 1: The MAPI profiles are not deleted. Use for troubleshooting purposes only! See next section for details.
RpcProxyServerFlags	DWORD	1	This value is a bit field, the following bit masks are defined: 0x1 - enable usage of RPC via HTTP 0x2 - enable SSL 0x10 - ignore certificate errors
RpcProxyServerAuth	DWORD	0x10	This value describes the authentication scheme to use for RPC over HTTP. Possible values: 0x01 (RPC_C_HTTP_AUTHN_SCHEME_BASIC) 0x02 (RPC_C_HTTP_AUTHN_SCHEME_NTLM) 0x10 (RPC_C_HTTP_AUTHN_SCHEME_NEGOTIATE)
RpcPacketAuth	DWORD	0x0A	This value describes the authentication scheme to use for RPC. Possible values: 0x0 (RPC_C_AUTHN_NONE) 0x09 (RPC_C_AUTHN_GSS_NEGOTIATE) 0x0A (RPC_C_AUTHN_WINNT)
SMTPDomain	SZ		For correct translation of SMTP addresses in the user's inbox. Set this value to the TC/LINK-MX7 domain (TCLSM\SMLinkDomain).
SMTPDomainOut	SZ		This affects new messages that TC/VoiceAccess creates. If this value is empty, the KCS specific address syntax is used. For example, FAXTC for Fax. If the SMTP syntax shall be used, set this value to the TC/LINK-MX7 domain (TCLSM\SMLinkDomain or Exchange\SmpDomainIn)

Error Handling

This section describes error handling.

Event Log

TCSPI Exchange logs problems in the Application Event Log:

Code	Text	Parameters	Actions	Severity
3000	Admin logon to Exchange via profile %1 failed	%1: profile name	Check configuration parameters ExServer, ExSiteDN and ExMailbox.	Error
3001	MAPI initialization failed: %1 (%2)	%1: MAPI error code %2: error description	See parameters	Error
3002	Error in memory allocation		Increase maximum swap file size, stop unused processes or add memory to the workstation	Error
3003	Exception in function %1 (mailbox %2, error %3: %4)	%1: interface function that caused the exception %2: mailbox name (if applicable) %3: MAPI error code (if available) %4: error description	See parameters	Warning
3004	Error accessing mailbox %1	%1: mailbox name	Try to logon to this mailbox via a client, maybe the home server is down.	Warning
3005	Error sending message (mailbox %1, error: %2, %3)	%1: mailbox name %2: error code %3: error description	See parameters	Warning
3006	Internal error in function %1 (mailbox %2, error %3: %4)	%1: interface function name %2: mailbox name %3: MAPI error code (if available) %4: error description	See parameters	Warning

Trace File

Events are automatically written to the trace file of the calling application.

During normal operation, TCSPi Exchange writes no other information to the trace file.

For debugging purposes, additional trace information can be enabled by creating a registry key *DebugTrace*(REG_DWORD) and setting it to 1.

MAPI Profile

Registry value *HKLM\Software\TOPCALL\TCECP\SPI\Exchange\LeaveProfile* (REG_DWORD, default 0) can be used for troubleshooting logon problems (to Exchange). If you set this key to 1, TCSPiMX does not delete its MAPI profile.

When you log on to the machine with the Windows account used by TCECP, you find the MAPI profiles below registry key *HKCU\Software\Microsoft\Windows NT\CurrentVersion\Windows Messaging Subsystem\Profiles*.

The profile name starts with the value configured in registry key *HKLM\Software\TOPCALL\TCECP\SPI\Exchange\ExProfile* (default: TCSPI_MBA).

You would investigate the profile if TCSPIMX is not able to log on to Exchange.

Logon problems may be caused by wrong configuration. The name of the Exchange server, the user account for SPIMX and other values are stored at several places below the profile registry key. The best way to locate the error would be to create an Outlook profile manually (for the same user) and compare the contents of both profiles (created via Outlook and TCSPIMX), - looking especially at registry values holding server name, account name or the name of the Exchange organization.

Important Only use this option for investigation of errors. Otherwise, TCSPIMX will create many profiles (one whenever connecting to the Exchange server).

Chapter 3

Compatibility

This software must be compatible with Kofax Communication Server and KCS Client Applications.

Note You should not use the Outlook client on the Voice server, especially if you have Exchange System Manager installed. Outlook recognizes the messaging components installed with ESM as “foreign modules” and offers to remove them. This leads to a situation where neither ESM nor TCSPIMX can be used any more.

Chapter 4

Performance with VoiceAccess

In the test environment a fast TCECP server (2x500MHZ) handled 30 concurrent lines as 'quick' as a single line .. statistically.

The problem of recommending a bandwidth for the SPI is that the messages are transferred from the mail server to the voice server in one rush. Depending on the size of the message peaks of ~500kB/sec and message for ~1 second can be measured on the network. If the message is already cached on the mail client, the transfer rate has a peak of ~200kB/sec. These peaks are only for the time, the voice server receives the message from the mail server. After that no noteworthy traffic can be measured.

A recommendation is at least 100kB/s for 1-10 Users, 200kB/s for 11-20 Users and so on...

Note If the voice server uses LS1 or Cisco, additional bandwidth is used for the outgoing stream of the call. See *Voice Platform Technical Manual*.

Chapter 5

Possible Future Enhancements

A future version of TCSPI Exchange may be used by gateways (links) to mail systems.

Chapter 6

Further Documents

TFC Release Description 1.04.00 or higher contains a description of the SPI interface.