

December 3, 2018





Introduction

This document is intended to support you with the integration of the latest XCAPI version into an existing environment of the 3CX Phone System.

Though being based on the 3CX Phone System V15 series, it is applicable to other versions given a few adjustments.

In the following sections we describe the essential configuration steps to allow optimal interworking of both the XCAPI and the 3CX Phone System. At this point we suppose that the VoIP environment is in operation which means that the 3CX Phone System, XCAPI and CAPI applications are properly installed.

For XCAPI basics please refer to the document **XCAPI TechNote (en) - Quick Start Guide.pdf**, which is available for registered users within our community download area. We also recommend to visit our **YouTube channel** for additional information and hints around XCAPI.

XCAPI Configuration

Please start up the XCAPI configuration to create a new controller assigned to the 3CX Phone System. If you've just installed the XCAPI and start the configuration tool for the first time or no controller is available at all, the XCAPI controller wizard will pop up automatically.

However, to start up the XCAPI controller wizard manually, the hyperlink labeled **Click here to** add a controller on the main page has to be clicked.

🚿 XCAPI Config	guration	-		\times
File View Help				
8 28	0			
		TE-S	VGTE	MS
	API	competi	ence in e-comr	nunications.
voice	eoverIP			
Lice	NDFOF			
	TE-SYSTEMS GmbH - 500 Channels + Fax (incl. V.34) + 500 G.729 + 500 XSSA			
C	Channels: 500 (H.323: 500, SIP: 500), G.729: 500, T.38: 500, and Soltfax: 500			
Click	here to manage licenses			
Cor	stroller			
201				
	Currently there is no controller configured.			
	5~			
Click	here to add a controller			
Tra	ce			
F	Disabled			
	3			
Click	here to start the trace			
l.				



2.1 Type of Controller

On the first page of the controller wizard please select **PBX or other VoIP System** and continue with the **Next** button.

Controller Wizard	X
Add new controller Welcome to the XCA	PI Controller Wizard
✓ Type of controller	Welcome to the XCAPI Controller Wizard
VoIP environment	
	The XCAPI controller wizard will support you when setting up a new Voice-over-IP controller.
	Please select one of the options below and click "Next" to continue, or "Cancel" to exit the Wizard.
	SIP Provider Choose a predefined profile for a SIP provider
<u>G</u>	PBX or other VoIP System Choose a predefined profile for a PBX or enter the H.323 or SIP connection parameters manually
	< Back Next > Cancel

2.2 VoIP Environment

The next dialog of the configuration tool shows a list of some common Voice-over-IP environments. Selecting one of those will configure the XCAPI with a selection of near-optimal presets for the kind of environment you have, sparing you quite a lot of manual configuration.







VoiceoverIP

When the VoIP environment was selected, the next dialog allows to set a meaningful description for the controller. Also the number of channels that the new controller will be able to provide can be set. So please enter how many simultaneous connections the XCAPI controller should handle when communicating with the 3CX Phone System and the CAPI application.

Controller Wizard	×
Add new controller Provide a description	and select the number of channels
 ✓ Type of controller ✓ VoIP environment 	Please enter a meaningful description for the new controller and decide how many channels should be available for applications. Please consider that the effective number of available channels depend on the installed license.
Description and channels	
User information Registrar/Proxy	Description 3CX Phone System
3CX Phone System	Channels
Network Interface	10
Port Allocation	
	< <u>Back</u> <u>Next</u> <u>Cancel</u>

2.4 SIP User Information

Next, please provide the SIP user information for the user you are about to create in the following 3CX configuration. The according 3CX user configuration will be shown in the chapter **3CX Configuration** starting on page 8.

Controller Wizard	×
Add new controller Provide SIP user info	mation
Type of controller VoIP environment Description and channels	The remote device requires an user to authenticate herself. Thus please provide the appropriate user information. If you enter wrong information it probably won't be possible to communicate with the remote device.
✓ User information	Username (SIP-ID)
Registrar/Proxy 3CX Phone System Network Interface Port Allocation Confirmation	887 Password (SIP-PASSWORD)
	< <u>Back</u> <u>Next</u> > <u>Cancel</u>



2.5 SIP Registrar and Proxy information

In this dialog the 3CX Phone System referring SIP registrar and proxy must be specified as IP address or host name. Please note, port 5060 is used as default for SIP via UDP or TCP which can be changed on demand. Also the local listening port is always set to port 5060 for UDP/TCP which can be changed after the controller wizard configuration steps.

Controller Wizard		×
Add new controller Provide information a	about the SIP registrar and proxy	
✓ Type of controller ✓ VoIP environment	If you want to use a SIP registrar and/or a SIP proxy p checkbox and enter the hostname or IP address.	please activate the respective
 Description and channels 	Persister	
 User information 	172 18 1 211	Default
Registrar/Proxy	1/2.10.1.211	
3CX Phone System	Proxy	
Network Interface	172.18.1.211	Default 🗸
Port Allocation		
Confirmation		
	< <u>B</u> ack	<u>N</u> ext > <u>C</u> ancel

2.6 SIP Domain / 3CX Phone System

Afterwards the appropriate IP address or host name of the 3CX Phone System must be set which is the XCAPI controllers used local SIP domain.

Controller Wizard	×
Add new controller Provide the hostname	or the ip address of the voice-over-ip remote peer
 ✓ Type of controller ✓ VoIP environment 	Please provide the hostname or the ip address of the voice-over-ip remote peer (pbx) that should be used.
Veer information Registrar/Proxy 200 Phase Strategy	3CX Phone System 172.18.1.211
Vetwork Interface Port Allocation	
	< Back Next > Cancel



2.7 Network Interface

Next, select the network interface that will be used for the inbound and outbound communication for this controller.

Controller Wizard		×
Add new controller Select the network in	terface	
 Type of controller VoIP environment Description and channels 	Since each terminal a network, your system network. Please selec	and gateway requires a physical connection to the voice-over-ip n needs a network-interface-controller (nic) with a link to this t a certain nic from the list below.
✓ User information	Device	Comment
Registrar/Proxy	172.16.0.153	Ethernet [B8-AE-ED-22-33-C3]
✓ 3CX Phone System	U9 :1	Loopback Pseudo-Interface 1
✓ Network Interface	127.0.0.1	Loopback Pseudo-Interface 1
Port Allocation		
Confirmation		
		< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel

2.8 Port Allocation

On demand and in the case of any router or firewall restrictions for UDP (RTP/T.38) a port range can be specified. In this example no range will be set which is using a random port range between 1024 and 65535.





2.9 Confirmation

The final wizard dialog performs some checks on the configuration parameters you've made. If any errors are detected here, you can go back to the respective dialogs and correct the necessary input. If everything is correct please use the **Finish** button in order to finally create the new controller.

Controller Wizard		×
Add new controller Confirm that the pro	vided information is correct	
Type of controller VoIP environment Description and channels User information Registrar/Proxy	Click Finish to add the new controller with the co	onfiguration you have had made.
 3CX Phone System Network Interface Port Allocation 		
Commination		
	< <u>B</u> at	:k <u>E</u> inish <u>C</u> ancel

Now, the new created XCAPI controller appears on the main page of the configuration tool. As all XCAPI related configuration tasks are finished now, please save the changes and exit the configuration tool.

🕅 XCAPI Configuration – 🗆	×
File View Help	
	TEMS communications.
Licenses	
TE-SYSTEMS GmbH - 500 Channels + Fax (incl. V.34) + 500 G.729 + 500 XSSA Channels: 500 (H.323: 500, SIP: 500), G.729: 500, T.38: 500, and Softfax: 500	
Click here to manage licenses	
Controller	
3CX Phone System (172.16.0.153) 10 channels with ITU G.711 A-Law (64 kbit) (8000 Hz), ITU G.711 µ-Law (64 kbit) (8000 Hz), ETSI GSM 6.10, ITU G.729, T.38 - UDP, and Telephone-Event (RFC 2833) using at 3CX Phone System using sip-registrar "887@172.18.1.211" and sip-proxy "887@172.18.1.211" at domain "172.18.1.211" — Disable & Remove A Move down	Softfax
Click here to add a controller	
Тгасе	
Disabled Currently not collecting diagnostic information.	
Click here to start the trace	



You always need to restart the bound CAPI application, in meaning of its services, for the changes to take effect. Restarting any XCAPI related services won't help at all.



3CX Configuration

Currently it's not possible to get an appropriate numbering and routing behavior by setting up a 3CX SIP Trunk or as 3CX Bridge. So it's recommended to create a 3CX SIP extension which the XCAPI controller is registering for.

As a workaround XCAPI could be directly connected to the 3CX related media gateway or SIP provider or anynode, our session border controller, could do the routing decision in front of the 3CX Phone System. For such a workaround, please check our interoperability list and our community if any specific TechNotes are available.

3.1 XCAPI as Extension

According to the XCAPI controller configuration, the SIP extension with using number **887** will be used for appropriate authentication. Note that irrelevant dialogs (Voicemail, BLF, Rights and Integration) are not shown here and will be used with their defaults.

3							Updates 👻	English 👻	z
di	Dashboard	887 Fax	Noice Ext	ension XCAPI	OK	ancel			
8	Phones	oorrax	, voice Ext		UK C	ancer			
1	Extensions	General	Voicemail	Forwarding Rules	Phone Provisioning	BLF Options	Rights	Integration	
	Groups	User Inf	ormation						
1	Contacts	Extensio	on						
0	SIP Trunks	887							
ŧ	Inbound Rules	First Na	me						
t	Outbound Rules	Fax/Vo	pice Extension						
ନ	Digital Receptionist	Last Nar	me						
225	Ring Groups	XCAPI							
**	Call Queues	Email Ad	ddress						
*	Bridges	fax@t	e-systems.de						
B	FAX Extensions	Mobile N	Number						
i	FXS/DECT	Mobil	e Number						
-	Pacardings	Outbou	nd Caller ID						
	Recordings	887							
	Backup and Restore	Authent	tication						
	Call Log								
	Call Reports	Authent	tication details u	sed by phones & client	. Reprovision after a chan	ge			
۶	Settings	ID							
		001							
		Passwor	rd						
		••••	•••••					۲	
		Direct li	nbound Dialing	(DID)					
		Optiona	Ily assign a DID 1	to receive calls directly	to this extension				
		Add a D	DID/DDI 🗱 Delet	te					



Ensure that **Accept multiple calls** is enabled within the **Forwarding Rules** to allow more than one connection at once.

		Por warding Kut	es Phone Provi	sioning BLF	Options	Rights	Integration
Statuse	5						
If in this	status, forward	l calls as follows					
Avail	able						
Interna	l Calls						
If I do n	ot answer calls	within: 20 🚥	seconds. Forward	d internal calls to:			
Forw	ard to Voice Ma	il					
If I am b	ousy or my phor	ne is unregistered,	orward calls to:				
Forw	ard to Voice Ma	il					
After tim	neout forward e	external calls to: il					
FOIW							
If I am b	ousy or my phor	ne is unregistered, i	forward calls to:				
If I am b	ousy or my phor vard to Voice Ma	ne is unregistered, i il	forward calls to:				
If I am b Forw Options	ousy or my phor rard to Voice Ma s	ne is unregistered, i	orward calls to:				
If I am b Forw Options	ousy or my phor rard to Voice Ma s g my mobile sir	ne is unregistered, i il nultaneously	orward calls to:				
If I am b Forw Options Rin	ausy or my phor rard to Voice Ma s g my mobile sin sept multiple ca	ne is unregistered, i il nultaneously lls	iorward calls to:				
If I am b Forw Options Rin Acc	ousy or my phor rard to Voice Ma s g my mobile sir sept multiple ca g out from queu	ne is unregistered, il nultaneously lls	ionward calls to:				
If I am b Forw Options Rin Acco	susy or my phor rard to Voice Ma s g my mobile sin sept multiple ca g out from queu sept calls from F	ne is unregistered, il nultaneously Ils ies Ring Groups	forward calls to:				



For the **Phone Provisioning** settings, the codecs can be restricted to G.711 (a- and u-law) only. 3CX specific options must be disabled.

ieneral	Voicemail	Forwarding Ru	les P	hone Provisioning	BLF	Options	Rights	Integration
Phone F	Provisioning							
+ Add								
Your ph	ones							
3CX (lient							✓ X Delete
Networ	k							
Network	k interface for re	egistration and pro	ovisioning					
172.1	8.1.211							
SIP Tran	sport							
UDP								
RTP Mo	de							Г
Norm	nal							
DTMF M	ode							Г
RFC2	833							
Ena	ble PUSH for sr provision phon	nartphones e on Startup	oos /2014	lient only)				
Re-	ble PUSH for sr provision phon : 3CX Tunnel for	nartphones e on Startup remote connectio	ons (3CX C	lient only)				
Prefere	ible PUSH for sr provision phon 3CX Tunnel for nces	nartphones e on Startup remote connectio	ons (3CX C	lient only)				
Ena Ena Re- Use Prefere Call Cor	ble PUSH for sr provision phon 3CX Tunnel for nces	nartphones e on Startup r remote connectio	ons (3CX C	lient only)				
Ena Re- Use Prefere Call Cor Softp	ible PUSH for sr provision phon 3CX Tunnel for nces ntrol: hone	nartphones e on Startup r remote connectio	ons (3CX C	lient only)				
Ena Ena Re- Use Vse Call Cor Softp	ble PUSH for sr provision phon 3CX Tunnel for nces hone	nartphones e on Startup r remote connectio	ons (3CX C	lient only)				
Ena Ena Prefere Call Cor Softp Access Blo	ible PUSH for sr provision phon 3 3CX Tunnel for nces hone ck use of 3CX CI	nartphones e on Startup r remote connectio	ons (3CX C	lient only)				
Ena	ible PUSH for sr provision phon 3 2X Tunnel for nces htrol: hone ck use of 3CX Cl e Forwarding R	nartphones e on Startup remote connectio	ons (3CX C	lient only)				
Ena Re Use Call Corr Softp Access Blo Hid Shc	ible PUSH for sr provision phon 3 3CX Tunnel for nces atrol: hone ck use of 3CX Cl e Forwarding R ow Call Recordin	nartphones e on Startup r remote connection i ent ules 185	ons (3CX C	lient only)				
Ena Re- Use Call Cor Softp Access Blo Hid Shc A	ble PUSH for sr provision phon 3CX Tunnel for nces hone ck use of 3CX Cl e Forwarding R ww Call Recordin sllow Deletion of	nartphones e on Startup r remote connection i ent ules 1gs of Recordings	ons (3CX C	lient only)				
Ena Re- Prefere Call Cor Softp Access Blo Hid Ki A Codecs	ible PUSH for sr provision phon 3 3CX Tunnel for atrol: hone ck use of 3CX Cl e Forwarding R ww Call Recordin Allow Deletion of	e on Startup e on Startup ir remote connectio lient ules 1g5 of Recordings	ons (3CX C	lient only)				
Ena Ena Prefere Call Cor Softp Access Blo Hid Shc Access Codecs	ble PUSH for sr provision phon 3CX Tunnel for nces htrol: hone ck use of 3CX CI e Forwarding R ww Call Recordin Allow Deletion of codecs up or dow codecs * 200	e on Startup e on Startup remote connectio ient ules of Recordings wn to prioritize th ete	nem. 3CX C	lient only)	op codecs:	first.		



The **Options** parameters are used as shown next. The **SIP ID** is here set to the international number **+4953638195887**. The SIP ID depends of the connected provider or gateway and what is delivered from the 3CX towards XCAPI. You may have to use the 3CX DID or another numbering format (for example 887, 004953638195887, 53638195887).

Ensure that this extension is available and the option **Disable Extension** is not set.

It's recommended to enable the parameter **Support Re-Invites** and to disable the **Support Replaces header**. Disable **PBX Delivers Audio** if possible. If enabled the UDP (RTP/T.38) data will be always streamed through the 3CX server.

Fax/\	/oice Extei	nsion XCAPI					
eneral	Voicemail	Forwarding Rules	Phone Provisioning	BLF	Options	Rights	Integration
Restrict	tions						
Disa	able Extension						
Disa	able External Ca	lls					
Enal	ble PIN Protect	For 0 second	ds				
Disa	allow use of exte	ension outside the LAN					
Blo	ck Remote Tunn	el Connections					
Blo	ck Outbound ca	lls outside of Office Ho	urs				
Options	;						
Rec	ord all calls						
Scre	een Calls by requ	uesting caller name usi	ing an IVR				
Sen	d email notificat	tion on missed call					
Do	not show extens	sion in 3CX company pl	honebook				
Allo	ow user to organ	ize 3CX Webmeeting Vi	ideo Conferences				
SIP ID	629105997						
.+533							
Trouble	shooting						
Potentia	ally overcome co	ompatibility issues with	n old/incompatible phon	es with th	ese options		
PBX	(Delivers Audio						
Sup	port Re-Invites						
Sup	port 'Replaces'	header					



The registration state of the XCAPI controller can be reviewed in the 3CX **Extensions** or **Phones** dialog or even in the 3CX **Event log**.

3CX	亘	Support 🕶 Updates 🕶 English 🖛 🦨 A 🖛
🚹 Dashboard	Extensions	
Phones		
L Extensions	Extensions	
	+ Add ✓ Edit X Delete ▲ Import ▲ Export Ф Passwort	d 🛛 Regenerate 🍽 Send Welcome Email 🔍 Status
	887	
	Ext First Last Email	Password Mobile Caller ID Phones
	887 Fax/Voice Extension XCAPI fax@te-system	s.de ***** 887 1 💌





Appendix

The appendix gives several information and configuration hints as well as some considerations. If using the XCAPI controller wizard with its 3CX template most of the next shown settings are used by default.

The next topics and the shown configurations must be reviewed, checked and tested, especially with the participating 3CX extensions, the VoIP gateway and the SIP provider.

4.1 Recommendations, Considerations and Restrictions

- There is no 3CX support available for SIP trunk or SIP Bridge connections. The routing and numbering behavior can be restricted in that case and may not meet the requirements. Workarounds might be possible if XCAPI will be used directly with the involved VoIP Gateway, SIP Provider or even with anynode our Session Border Controller. An example will be given in the according anynode TechNote.
- Check if the 3CX Phone System numbering behavior and the required supplementary services are meeting the expectations for the bound CAPI 2.0 application.
- It's recommended to connect XCAPI as SIP extension to the 3CX Phone System.
- Check the overall interworking with the 3CX extensions, the 3CX bound media gateway, SIP provider and in the case of other bridged 3CX Phone Systems. The numbering and supplementary services just had been tested internally, directly between XCAPI and the 3CX with its extensions.
- Ensure conform voice and fax codec configurations for appropriate interworking between all 3CX Phone System SIP instances.
- Check the according TechNotes (XCAPI TechNote (en) VMware Virtual Machines or XCAPI TechNote (en) Microsoft Hyper-V) if XCAPI will be used in a virtual environment.
- It's strictly recommended to check the fax reliability before the XCAPI and the CAPI application will be used in production.
- Check the 3CX Phone System event log for troubleshooting.
- XCAPI doesn't support the Remote-Party-ID SIP header as this is no SIP standard which was replaced with the P-Asserted-Identity header.
- The 3CX Phone System seems not supporting any redirection number via Diversion header or History-Info recently.



Page 14

4.2 Fax

Ensure that the fax method (Softfax – G.711 fax pass through or T.38) is configured conform for all participating instances (the XCAPI controller and the SIP gateway or SIP provider trunk).



Please check closely about the interoperability in combination with the connected SIP provider, especially for fax transmission. The 3CX supported and preferred providers are listed here https://www.3cx.com/partners/sip-trunks/. If fax is not supported between 3CX and specific SIP providers you have to think about using a workaround (for e.g. connecting XCAPI directly with the SIP provider if possible, bypassing the 3CX through a Session Border controller.) for enabling fax interoperability.



4.2.1 Softfax (G.711 fax pass through)

With the Softfax mode, the XCAPI simulates an analogue Fax device by transmitting modulated Fax-signals modem-like through the established G.711 audio channels. For enabling **Softfax** (G.711 fax pass through) it must be set as Fax Method as shown next.

XCAPI Configuration		- 0	>
ile View Help			
onfiguration ② Licenses (TE-SYSTEMS GmbH - 500 Channels + Fax ③ CAPI 2.0 Options 응 Trace ④ Fax ④ CAVI 2.20 Phone System	Options Fax Method Select whether the XCAPI should tran- signalling encoded in the audio chan any configured fax codecs. Fax Method V.34 Fax Support Enabled	isfer fax messages via T.38 signalling or via T.30 nel (Softfax). Selecting Disabled will also remov Softfax (G.711 fax pass through)	re V
SIP ETLS Fax CAPI2.0	Fax Calling Tone/Fax Called Tone Depending on direction fax transmiss whether these shall be transmitted be	ions start with a CED or CNG signal tone. Selec fore or after T.38 negotiation.	t
	Transmit CED signal tone	after T.38 negotiation	\sim
>	Transmit CNG signal tone	after T.38 negotiation	\sim
>	Transmit CNG signal tone timeout	Default	~
 Audioports H.323 Tweaks SIP Tweaks 			

4.2.2 T.38

Ensure that T.38 is supported by the 3CX remote peer (media gateway or SIP provider). For XCAPI, please ensure that **T.38** is selected as **Fax Method** in the according **Fax** dialog.

ile View Help			
Configuration Information Join Carlos (TE-SYSTEMS GmbH - 500 Channels + Far Join Carlos Options Jian Fax Information Fax Information Jian Carlos (Jian Ca	Options Fax Method Select whether the XCAPI should transignalling encoded in the audio chan any configured fax codecs. Fax Method	nsfer fax messages via T.38 signalling o nnel (Softfax). Selecting Disabled will a T.38	or via T.30 Iso remove ~
v IIII SICX Phone System IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	V.34 Fax Support Enabled	sions start with a CED or CNG signal to	ne Select
✓ ■ SIX Phone System □	□ V.34 Fax Support Enabled Fax Calling Tone/Fax Called Tone Depending on direction fax transmiss whether these shall be transmitted by Transmit CED signal tone	sions start with a CED or CNG signal to efore or after T.38 negotiation. after T.38 negotiation	one. Select
✓ ■ 3CX Phone System SIP ■ SIP ■ SIP ■ SIP ■ TLS ■ Fax □ CAPI 2.0 ↓ ▲ Network ↓ → Supplementary Services	V.34 Fax Support Enabled Fax Calling Tone/Fax Called Tone Depending on direction fax transmiss whether these shall be transmitted by Transmit CED signal tone Transmit CNG signal tone	sions start with a CED or CNG signal to efore or after T.38 negotiation. after T.38 negotiation after T.38 negotiation	one. Select ~



Page 16

4.3 Call Transfer

The **Simulated ECT by call-tromboning (line-interconnect)** parameter within the XCAPI controller **Features** tab must be disabled for enabling call transfer via **SIP REFER**.

XCAPI Configuration	- 🗆 X				
XCAPI Configuration File View Help Configuration Configuration Superson TC-SYSTEMS GmbH - 500 Channels + Fax Grant Controller Fax Superson Controller Superson Controler Superson Controller Superson Controller Superson Co	Controller Features Simulate ECT In cases where the environment does not support call-transfer operations it is possible to simulate call-transfer by call-tromboning (line-interconnect). Simulate ECT by call-tromboning (line-interconnect) Notify destination Tunnel signaling information to destination Tup path replacement Kbd/d/fittine aday:				
→ TLS → Fax - C CAP 12.0 - Audio > Wetwork > Supplementary Services > Codecs - Telephone-number-filter > Tweaks > H-323 Tweaks > SIP Tweaks	Hold/Retrieve relay DTMF relay Software Codecs These features affect the behaviour of the system in some situations and will be applied to each connection of this controller. Use software fax over audio channels Try native fax first Use software modem over audio channels				
<					

4.4 Message Waiting Indication

If required, ensure that the MWI support via SIP Notify is enabled. Please check if MWI is operable with the SIP phones and SIP extensions that are connected to the 3CX Phone System.

XCAPI Configuration	- 0	×
File View Help		
Configuration	MWI-Protocol Options	
Information Information Icenses (TE-SYSTEMS GmbH - 500 Channels + Fax ICAPU 20 options Fax If CAPU 20 options SP SP SP SP SP SP TLS Fax C CAPU 20 CAPU 20 CAPU 20 SVPtementary Services Supplementary Services Supplementary Services So MWI (Message Waiting Indication) SE Caleboone number, filter	MWI-Protocol Select the protocol that is used to signale message-waiting-indications (MWI) in your environment.]
Supersonal and a strength of the second		

4.5 Multiple XCAPI Controller

It's possible to use up to 127 XCAPI controllers at once. So multiple SIP extensions could be created, and each XCAPI controller registers as such extension. In this case each of the XCAPI controllers bound Ethernet interface must be related to a unique local listening SIP port (UDP and TCP) and IP address combination. That means, the same local listening port for SIP (by default port 5060) can be used with different NICs (physical or virtual) or different ports must be set for the same NIC.

Please ensure that the multiple controller usage is supported by the bound CAPI 2.0 application and that the network bandwidth is sufficient.

The next screenshot give two examples. One for multiple controllers with using the same NIC and different local listening ports, and another one for using multiple controllers with the same local listening ports and different NICs.



Please note that the XCAPI configuration gives a warning in the case of any IP and port conflicts as shown below.

XCAPI Configuration					-		×
File View Help							
Configuration	🔽 Warning	g: The conf	igured port	is used by another controller.			
Information > ♥ Licenses (TE-SYSTEMS GmbH - 500 Channels + Fax > O CAPI 2.0 Options	Controller Descript Assignir This fiel	Features ions ng a meani d is import	ngful name ant only in t	to this controller will help to identi his application so it may be left bla	ify this control ank.	ler later.	
> B 3CX - SIP Extension FAX 886	Description		3CX - SIP Extension FAX	887			
 Audioports Audioports Audioports SIP Tweaks SIP Tweaks 	Channel This cor Conside Channe	s ttroller pro r that the e ls	vides the nu	mber of channels that are configu ount of channels depends on the i	red here to apj nstalled license	plications es.	
< >							



4.6 Running XCAPI on the 3CX Server

It's possible to use XCAPI with its bound CAPI 2.0 application directly on the Microsoft Windows based 3CX Server. In that case, the XCAPI controllers must be set to a local listening SIP port that is not used by the 3CX Phone System or other applications or services. In addition a separate Ethernet interface must be used or at least a second IP address must be set for the available Ethernet controller which has to be related to the XCAPI controller. Using the same interface and ports cause unavoidable conflicts.

It must be ensured that enough bandwidth, CPU and Memory resources are granted for the 3CX Phone System.

The next screenshot shows an example where the 3CX uses IP address 172.18.1.211 with port 5060 SIP. The IP address 172.18.1.219 was added to the NIC and the according Ethernet entry was selected for the XCAPI controller. Ensure that the relevant 3CX IP address 172.18.1.211 (or hostname) must be used as SIP Domain, SIP Proxy and SIP Registrar for the XCAPI controller configuration.

🖉 XCAPI Configuration File View Help 8 - 8 0 Configuration Network Address Information Network Address Construction V Licenses (TE-SYSTEMS GmbH - 500 Channels + Fax 다 CAPI 2.0 Options 북용 Trace 제 En-You may change the network address of the current controller if it has changed 🗃 Fax WiFi [C0-38-96-25-35-11] - 169.254.59.193 Controller Controller ~ 3CX Phone System - 172.18.1.219 User defined IP address SIP SIP SIP SIP TLS Fax CAPI 2.0 Bethernet 3CX [B8-AE-ED-22-33-33] - 172.18.1.211 Loopback Pseudo-Interface 1 - ::1 Loopback Pseudo-Interface 1 - 127.0.0.1 Audio 🚿 XCAPI Configurati Network Supplementary Services Codecs Telephone-number-filter File View Help 8 7 8 0 Configuration Options Proxies Registrations Protocol Timer Overlap sending Failover and Overflow SIP Audioports Information
 Iticenses (TE-SYSTEMS GmbH - 500 Channels + Fax
 GAPI 2.0 Options SIP Specific Options SIP Tweaks These options control several options of the SIP protocol. It is recommended not to change the these options until problems arise. H Trace - 🗐 Fax a Fax ■ Controller ■ 3CX Phone System - 172.18.1.219 ■ SIP ■ TLS ■ Fax Preferred Transport Prefer UDP over TCP Local port for UDP/TCP 5099 Local port for TLS 70 Max Forwards CAPI 2.0 TCP Policy Trunk Diversion Handling First Diversion/History Info Heade Supplementary Services
 Generation Allow applications to set the calling-number Send Short Headers Telephone-number-filter Send User Agent Send Keep-Alive Packets Audioports 🖗 H.323 Tweaks Don't send Record-Route Header Disallow Routing Record Update 🍓 SIP Tweaks Send SDP in Progress Send SDP in Ringing Terminate on Progress with Reason Header







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