TechNote

Avaya Aura Session Manager 6.0

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www.te-systems.de





Introduction

This document is intended to support you with the integration of the XCAPI Version 3.3.161 into an existing environment of the Avaya Aura Session Manager. Though being based on version 6.0 of the Avaya Aura environment it should be applicable to lower versions, given a few adjustments.

In the following sections we describe the essential steps of configuration to allow for optimal cooperation of the XCAPI and the Avaya Aura Session Manager by using the SIP protocol stack via TLS and SRTP for media encryption. This configuration example can be easily adapted to plain SIP trunking via TCP.

At this point we suppose that the Avaya Aura Session Manager and Avaya Communication Manager, the hardware the XCAPI is running on, and both the XCAPI and your CAPI applications are already installed properly. For some extended information on installation procedures please refer to the respective manuals. A short installation manual for the XCAPI is available at the XCAPI Website.

XCAPI Configuration

Please start up the XCAPI configuration to create a new controller assigned to the Avaya Aura Session Manager. If you've just installed the XCAPI and start the configuration tool for the first time, the XCAPI Controller Wizard will pop up automatically. This will also happen if there's no controller configured at all. To start up the XCAPI Controller Wizard on your own, just click the hyperlink labelled Click here to add a controller on the main page of the XCAPI configuration tool. On the first page of the Controller Wizard please select the Add Voice-over-IP controller (VoIP) option and continue by clicking on the Next button.





2.1 Network Interface

On this page of the XCAPI Controller Wizard you can select the network adapter you want to bind to the XCAPI controller.

on to the voice-over-ip nic) with a link to this

2.2 Voice-over-IP 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. Please select the Avaya SES (Session Manager is not implemented yet) option here.

	Select the environment for the new controller to operate in. If the list belo	w does
V Type of controller	not contain your PBX you should select a compatible or one of the generic environments.	
W-ID		
User information	Aastra OpenCom 1000	
Avaya SES Address	Alcatel-Lucent OmniPCX Enterprise (OXE) Alcatel-Lucent OmniPCX Office (OXO)	
Description and channels	AudioCodes Mediant	
Confirmation	Avaya Communication Manager Avaya I55 Avaya IP Office 3.0 Avaya IP Office 4.0	
	Avaya SES haro #the Sarian	
	brekeke SIP Server/brekeke PBX	



2.3 User Information

No user information is necessary for setting up the XCAPI as Trusted Host within the Avaya Aura Session Manager configuration.

Controller Wizard Add new controller Provide SIP user informa	tion	×
Type of controller Volker Volker	The remote device requires an u appropriate user information. If possible to communicate with th	ser to authenticate herself. Thus please provide the you enter wrong information it probably won't be e remote device.
User information Avava SES Address	Username (SIP-ID) Password (SIP-PASSWORD)	
Description and channels	Displayname Organization	
	Organization	
		< Back Next > Cancel

2.4 IP Address of the Session Manager

In the dialog Network Address please provide the IP address of the SM-100 interface of your Avaya Aura Session Manager.







2.5 Description and Channels

Next, please enter how many simultaneous connections the XCAPI should handle when communicating with the Session Manager.

Controller Wizard		
Add new controller Provide a description and	l select the number of channels	
✓ Type of controller ✓ Network interface	Please enter a meaningful desc channels should be available fo number of available channels d	ription for the new controller and decide how many r applications. Please consider that the effective epend on the installed licence.
VoIP environment User information	Description	Avaya Aura Session Manager
 Avaya SES Address Description and channels 	Lines	120
Confirmation		
		< Back Next > Cancel

2.6 Confirmation

The final dialog of the Controller Wizard 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.

Type of controller	Click Pinish to add the new controller with the configuration you have had m	aue.
Network interface		
VoIP environment		
User information		
Avaya SES Address		
Description and channels		
Confirmation		



The controller you've just created now will appear on the main page of the XCAPI configuration. As we're now finished with all XCAPI-related configuration tasks, please save the changes you've made and exit the configuration tool.





You need to restart the bound CAPI applications to take effect on any controller changes.





System Manager Configuration

In order to establish the communication between the XCAPI and the Avaya Aura Session Manager using the SIP protocol, you need to add the XCAPI as SIP Entity with all its according configurations.

The configuration of this examples communication manager part is not described at all. We assume that the related trunk and routing configuration harmonize to your VoIP environment.

3.1 Domains

This Session Manager environment uses the SIP domain te-systems.de for allowing domain-based routings.

AVAYA	Avaya Aura™ System I	Manager 6.0	
Home / Routing / Domains			
 Elements Events Groups & Roles 	Domain Management	ore Actions 🝷	
Licenses	1 Item Refresh		Filter: Enable
* Routing	Name	Type Defau	t Notes
Locations Adaptations SIP Entities Entity Links Time Ranges Routing Policies Dial Patterns Regular Expressions Defaults > Security > System Manager Data > Users	Select : All, None	эµ Ц	



3.2 Locations

The location for this example is named Laboratory Test Location.

Home / Routing / Locations		
▶ Elements	Location	
▶ Events	Edit New Drubicate Delete More Actions	
Groups & Roles	Eale new Dapitate Delete Nore Actions	
Licenses	1 Item Refresh	Filter: Enable
▼ Routing	☐ Name Notes	;
Domains	Laboratory Test Location	
Locations	Solart - All Nona	
Adaptations	Select All, None	
SIP Entities		
Entity Links		
Time Ranges		
Routing Policies		
Dial Patterns		
Regular Expressions		
Defaults		
➢ Security		
System Manager Data		
▶ Users		

The location details are used with their default values.

Home / Routing / Locations / Location [Details	
Elements Events	Location Details	
 Groups & Roles 	General	
Licenses	* Name: Laboratory Test Location	
▼ Routing	Notes:	
Domains		
Locations	Managed Bandwidth: Kbit/sec 💌	
Adaptations	* Average Bandwidth per Call: 80 Kbit/sec 🔻	
SIP Entities		
Entity Links	Location Dattom	
Time Ranges	Eocation Pattern	
Routing Policies	Add Remove	Filter: Fashla
Dial Patterns	IP Address Pattern	Notes
Regular Expressions	-	
Defaults	* Input Required	
▶ Security	Input requires	
System Manager Data		
▶ Users		



3.3 Adaptations

The adaptations for these environment SIP entities are used as shown next.

Home / Routing / Adaptations						
▶ Elements	Adapt	ations				
▶ Events▶ Groups & Roles	Edit	New Dup	licate Delete	More Actions 🔹		
Licenses	2 Iter	ns Refresh				Filter: Enable
▼ Routing		Name	Module name		Egress URI Parameters	Notes
Domains		ACMG450	DigitConv	ersionAdapter_te-systems.de		
Locations		XSSA	XSSAAda	pter_te-systems.de		
Adaptations	Selec					
SIP Entities	belee	c r Aightoric				
Entity Links						
Time Ranges						
Routing Policies						
Dial Patterns						
Regular Expressions						
Defaults						
▹ Security						
System Manager Data						
→ Users						

The digit conversion for incoming and outgoing calls from/to the Session Manager is used as follows. The Matching Pattern 1 is related to the clients of the communication manager whilst the Matching Pattern 77 is used for matching the application.

Adapt	ation Details									Commit Can
Gene	eral									
		1	* Adapta	tion name	: ACMG450					
			Мос	dule name	: DigitConversio	nAdapter_te-syste	ms.de 💌			
			Module p	oarameter	:					
	E	gre	ss URI Pa	arameters	:					
				Notos						
Digit Add	Conversion for	Inc	oming(Calls to	SM					
Digit Add 1 Iten	Conversion for Remove	Inc	oming	Calls to	SM	1				Filter: Ena
Add 1 Iten	Conversion for Remove n Refresh Matching Pattern	Inc	oming (Calls to	SM Delete Digits	Insert Digits	Address to	modify	Notes	Filter: Ena
Add 1 Iten	Conversion for Remove n Refresh Matching Pattern * 1	Inc	oming (Min * 3	Calls to Max * 3	SM Delete Digits	Insert Digits	Address to	modify •	Notes	Filter: Ena
Digit Add 1 Iten Select Digit Add	Conversion for Remove n Refresh Matching Pattern • 1 t : All, None Conversion for Remove	Inc Inc	Min *3	Max *3	SM Delete Digits *0 m SM	Insert Digits	Address to both	modify •	Notes	Filter: Ena
Digit Add 1 Iten Select Digit Add 1 Iten	Conversion for Remove m Refresh Matching Pattern * 1 t : All, None Conversion for Remove m Refresh	Inc Inc Out	Min *3 tgoing (Max *3	SM Delete Digits *0 m SM	Insert Digits	Address to	modify •	Notes	Filter: Ena
Digit Add 1 Iten Select Digit Add 1 Iten	Conversion for Remove Matching Pattern *1 t : All, None Conversion for Remove n Refresh Matching Pattern	Inc Inc Inc Inc Inc Inc Inc Inc	Min *3 tgoing (Min	Max *3 Calls from Max	SM Delete Digits *0 m SM Delete Digits	Insert Digits	Address to	modify ⊻ modify	Notes	Filter: Ena



Adapta	ation Details							Commit Can
Gene	eral							
		* Adapta	tion name:	XSSA				
		Mo	dule name:	: XSSAAdapter	te-systems.de	•		
		Module I	parameter:		- ·			
	For	ess liRT P	arameters			\neg		
	L91	coo ola li		•				
			BLOTOCI					
Digit Add	Conversion for In	coming	Calls to S	SM				
Digit Add 1 Item	Conversion for In Remove	coming	Calls to S	SM	1			Filter: Ena
Digit Add 1 Item	Conversion for In Remove 1 Refresh Matching Pattern	Min	Calls to S	SM Delete Digits	Insert Digits	Address to modify	Notes	Filter: Ena
Add 1 Item	Conversion for In Remove Refresh Matching Pattern * 77	Min * 3	Calls to S	Delete Digits	Insert Digits	Address to modify both	Notes	Filter: Enal
Add 1 Item	Conversion for In Remove Refresh Matching Pattern * 77	Min * 3	Calls to S	SM Delete Digits * 0	Insert Digits	Address to modify both •	Notes	Filter: Ena
Add 1 Item 5elect	Conversion for In Remove Refresh Matching Pattern * 77 : All, None	Min * 3	Max * 3	Delete Digits	Insert Digits	Address to modify both	Notes	Filter: Enal
Add 1 Item Select	Conversion for In Remove Refresh Matching Pattern (* 77 :: All, None	Min * 3	Max * 3	Delete Digits	Insert Digits	Address to modify both	Notes	Filter: Ena
Digit Add 1 Item Select Digit	Conversion for In Remove Refresh Matching Pattern * 77 :: All, None Conversion for On	Min *3	Max *3	SM Delete Digits +0 m SM	Insert Digits	Address to modify both	Notes	Filter: Ena
Digit Add 1 Item Select Digit Add	Conversion for Im Remove Refresh Matching Pattern * 77 :: All, None Conversion for On Remove	Min *3 utgoing	Max *3	SM Delete Digits *0 m SM	Insert Digits	Address to modify both	Notes	Filter: Ena
Digit Add 1 Item Select Digit Add 1 Item	Conversion for Im Remove Refresh Matching Pattern * 77 :: All, None Conversion for Of Remove Remove	Min *3	Max * 3 Calls from	SM Delete Digits +0 n SM	Insert Digits	Address to modify both	Notes	Filter: Ena
Digit Add 1 Item Select Digit Add 1 Item	Conversion for In Remove Refresh Matching Pattern * [77] : All, None Conversion for Or Remove Remove Refresh Matching Pattern	Min *3 utgoing (Min	Max Calls to S *3 Calls fror Max	SM Delete Digits *0 m SM Delete Digits	Insert Digits	Address to modify both 💌	Notes	Filter: Enal

3.4 SIP Entities

This example's SIP Entities (Communication Manager, Session Manager and the XCAPI/XSSA) are used as shown next.

Home / Routing / SIP Entities				
Elements	SIP Entities			
▶ Events				
Groups & Roles	Edit New Duplicate	Delete More Actions •		
Licenses	4 Items Refresh			Filter: En:
▼ Routing	□ Name	FQDN or IP Address	Туре	Notes
Domains	ACMG450	192.168.1.126	CM	
Locations	ASM	192.168.1.199	Session Manager	
Adaptations		192.168.1.61	Other	
SIP Entities	Select : All None			
Entity Links	Select . All, None			
Time Ranges				
Routing Policies				
Dial Patterns				
Regular Expressions				
Defaults				
> Security				
System Manager Data				
> Users				





Iome / Routing / SIP Entities / SIP Entity Details SIP Entity Details Commit Cancel Elements Events General Groups & Roles Licenses * Name: ASM * FQDN or IP Address: 192.168.1.199 Routing Type: Session Manager 💌 Domains Notes: Locations Adaptations Location: Laboratory Test Location 💌 **SIP Entities** Outbound Proxy: **Entity Links** • Time Zone: Europe/Berlin Time Ranges **Routing Policies** Credential name: Dial Patterns **Regular Expressions SIP Link Monitoring** SIP Link Monitoring: Use Session Manager Configuration 💌 Defaults Security System Manager Data Entity Links Add Remove Users 3 Items | Refresh Help Filter: Enable SIP Entity 1 Protocol Port SIP Entity 2 Port Trusted Help for SIP Entity Details fields 2 Help for Committing configuration ASM -TLS 🔹 * 5061 ACMG450 -* 5061 changes • ASM -TLS 💽 * 5061 XSSA 🔹 * 5061 Select : All, None Port Add Remove

2 Iten	2 Items Refresh Filt												
	Port 🔺	Protocol	Default Domain	Notes									
	5061	TLS •	te-systems.de 💌										
Select	: All, None												



Elements	SIP Entity Details					Commit Cance
Events	General					
Groups & Roles		* Name:	ACMG450		7	
Licenses	* FORM M		102 102 1 120]	
▼ Routing	* FQDN OF IF	Address:	192.108.1.120			
Domains		Type:	CM	T		
Locations		Notes:				
Adaptations						
SIP Entities	A	daptation:	ACMG450			
Entity Links		Location:	Laboratory Test L	ocation 💌		
Time Ranges	т	ime Zone:	Europe/Berlin		•	
Routing Policies	Override Port & Transpor	rt with DNS	5			
Dial Patterns		SRV:				
Regular Expressions	* SIP Timer B/F (in	seconds):	4			
Defaults	Creden	tial name:				
Security	Call Detail F	Recording:	both 💌			
System Manager Data						
Vsers	SIP Link Monitoring					
	SIP Link M	lonitoring:	Use Session Man	ager Configuratior	n 💌	
Help						
Help for SIP Entity Details fields						
Help for Committing configuration	Entity Links					
changes	Add Remove					
	1 Item Refresh					Filter: Enab
	SIP Entity 1	Protocol	Port	SIP Entity 2	Port	Trusted
	ASM -	TLS 🔹	* 5061	ACMG450 -	* 5061	V

* Input Required

Commit Cancel



Home / Routing / SIP Entities / SIP Er	ntity Details					
▶ Elements	SIP Entity Details					Commit Cancel
▶ Events	General					
▶ Groups & Roles	General	* Namo:	VCCA			
Licenses		Name.	ASSA]	
▼ Routing	* FQDN or IP	Address:	192.168.1.61			
Domains		Type:	Other	Ŧ		
Locations		Notes:]	
Adaptations						
SIP Entities	Ad	laptation:	XCAPI 💌			
Entity Links		Location:	Laboratory Test L	ocation 💌		
Time Ranges	Ti	me Zone:	Europe/Berlin		•	
Routing Policies	Override Port & Transpor	t with DN	s 🗆			
Dial Patterns	CID Times D (F (in	SKV.	•			
Regular Expressions	* SIP Timer B/F (in s	seconds):	4			
Defaults	Credent	ial name:				
▶ Security	Call Detail R	ecording:	none 💌			
▹ System Manager Data	CTD Link Monitoring					
▶ Users	SIP LINK MONILORING	onitoring:	Use Session Mana	ager Configuration	•	
Help						
Usia fas CID Datila Dataila Galda						
Help for SIP Entity Details fields	Entity Links					
changes	Add Remove					
	1 Item Refresh					Filter: Enable
	SIP Entity 1 P	rotocol	Port	SIP Entity 2	Port	Trusted
		LS 🔹	* 5061	XSSA -	* 5061	
	Select : All, None					



For running plain SIP trunks via TCP, please use the SIP protocol stack with its default port (5060) for the Entity Links.





3.5 Entity Links

The Entity Links, one for the communication manager and the other for the XCAPI/XSSA, are related to the TLS protocol with its default port 5061.

Home / Routing / Entity Links									
Elements	Entity	Links							
Events									
Groups & Roles	Edit	New Duplicate Delete	More Actio	ons 🔹					
Licenses	3 Itom	Refrech						Filto	r: Enal
* Routing		Name	SIP Entity	Protocol	Port	SIP Entity 2	Port	Trusted	Note
Domains		ASM ACMG450 5061 TLS	ASM	TIS	5061	ACMG450	5061	V	
Locations		YCCA	ASM	TIE	5061	VEEA	5061	V	
Adaptations		ASSA	ASM	115	5001	ASSA	5001		
SIP Entities	Select	: All, None							
Entity Links									
Time Ranges									
Routing Policies									
Dial Patterns									
Regular Expressions									
Defaults									
Security									
System Manager Data									
▶ Users									

For running plain SIP trunks via TCP, please use the SIP protocol stack with its default port (5060) for the Entity Links.





3.6 Time Ranges

The ${\tt Time}\ {\tt Ranges}\ are\ used\ with\ their\ default\ settings.$

Home / Routing / Time Ranges												
▶ Elements	Time R	anges										
▶ Events	Edit	New	Duplic	ate	Delete	Mo	re Actio	ins •				
▶ Groups & Roles	Luic	New	Dupile		Delete	1101	C Accio					
Licenses	1 Item	Refresh										Filter: Enable
Routing		Name	Мо	Tu	We	Th	Fr	Sa	Su	Start Time	End Time	Notes
Domains		24/7	~	~	~	~	~	~	~	00:00	23:59	Time Range 24/7
Locations												
Adaptations	Select	: All, Non	2									
SIP Entities												
Entity Links												
Time Ranges												
Routing Policies												
Dial Patterns												
Regular Expressions												
Defaults												
▶ Security												
▹ System Manager Data												
→ Users												

3.7 Routing Policies

The Routing Policies are used as shown next.

Home / Routing / Routing Policies				
Elements	Routing Policies			
Events				
Groups & Roles	Edit New Duplicate	Delete More Actions *		
Licenses	2 Itoms Pofrash			Filtor: Fr
▼ Routing	Name	Disabled	Destination	Notes
Domains	To-ACMG450		ACMG450	
Locations	To-XSSA		XSSA	
Adaptations				
SIP Entities	Select : All, None			
Entity Links				
Time Ranges				
Routing Policies				
Dial Patterns				
Regular Expressions				
Defaults				
Security				
System Manager Data				
Users				







				* Name: T	o-ACMG45	0			7							
				Disabled:]											
				Notes:												
ity as	Desti	ination														
			FQDN	l or IP Addre	55					Туре	N	lotes				
)			192.1	68.1.126						CM		Notes Filter: Enab Filter: Enab 59 Time Range 24/7				
efresh anking	1	Name	2	Mon Tue	Wed	Thu	Fri	Sat	Sun	Start Time	End Time	Filter: En				
Day																
anking	1	Name	2 🔺	Mon Tue	Wed	Thu	Fri	Sat	Sun	Start Time	End Time	Notes				
		24/7		V V	~	$\overline{\checkmark}$	V	~	V	00:00	23:59	Time Range 24/7				
terns terns																
Refresh			_									Filter: Ena				
ottern	A	Min	Max	Eme	ergency Ca		SIP Do	main		Originating Locat	ion	Notes				
		4	36				te-syste	ms.de		Laboratory Test Loc	ation	PSTN Calls				
		3	3				te-syste	ms.de		Laboratory Test Loc	ation	ACM Clients				
l, None Expre	essior	าร														
emove																
Refresh												Filter: Ena				
	ty as Day move fresh nking , None terns , None efresh ttern , None	ty as Dest	ty as Destination	ty as Destination FQDM 192.11 Day move View Gaps/Overlaps fresh nking 1_ 24/7 24/7 None 24/7 None 4 36 3 3 None Exerns None Exerns None Exerns None	ty as Destination FQDN or IP Addre 192.168.1.126 Day move View Gaps/Overlaps fresh nking 1_ Name 2_ 4 7 3 7 4 36 7 4 36 7 4 7 7 8 7 7 8 7 7 8 7 8 7 8 7 8 7 8 7	FQDN or IP Address IP2.168.1.126 Day move View Gaps/Overlaps IP2.168.1.126 Day move View Gaps/Overlaps Ifresh Tue Wed address Mon Tue Mon Tue Tue <th colspa="</td"><td>FQDN or 1P Address 192.168.1.126 Day move View Gaps/Overlaps Image: Separation (Separation (Separati</td><td>FQDN or IP Address 192.168.1.126 Day move View Gaps/Overlaps fresh Tue Wed Thu Fri 24/7 Image: Prior Prio</td><td>FQDH or IP Address FQDH or IP Address 192.168.1.126 Oay move View Gaps/Overlaps Image: Image:</td><td>FQDN or IP Address 192.168.1.126 Day move View Gaps/Overlaps If PAM Tue Wed Thu Fri Sat Sun Image: Sat Sun</td><td>ty as Destination Type Type 192.168.1.126 CM Day move View Gaps/Overlaps fresh 1 Name 2 24/7 Image Image 24 36 Image</td><td>Type Type Type Type 192.168.1.126 CM The move view Gaps/Overlaps Image: Segme Colspan="2">Image: Segme Colspan="2" Image: Segme Colspan="2" Image: Segme Colspan="2" Image: Segme Cols</td></th>	<td>FQDN or 1P Address 192.168.1.126 Day move View Gaps/Overlaps Image: Separation (Separation (Separati</td> <td>FQDN or IP Address 192.168.1.126 Day move View Gaps/Overlaps fresh Tue Wed Thu Fri 24/7 Image: Prior Prio</td> <td>FQDH or IP Address FQDH or IP Address 192.168.1.126 Oay move View Gaps/Overlaps Image: Image:</td> <td>FQDN or IP Address 192.168.1.126 Day move View Gaps/Overlaps If PAM Tue Wed Thu Fri Sat Sun Image: Sat Sun</td> <td>ty as Destination Type Type 192.168.1.126 CM Day move View Gaps/Overlaps fresh 1 Name 2 24/7 Image Image 24 36 Image</td> <td>Type Type Type Type 192.168.1.126 CM The move view Gaps/Overlaps Image: Segme Colspan="2">Image: Segme Colspan="2" Image: Segme Colspan="2" Image: Segme Colspan="2" Image: Segme Cols</td>	FQDN or 1P Address 192.168.1.126 Day move View Gaps/Overlaps Image: Separation (Separation (Separati	FQDN or IP Address 192.168.1.126 Day move View Gaps/Overlaps fresh Tue Wed Thu Fri 24/7 Image: Prior Prio	FQDH or IP Address FQDH or IP Address 192.168.1.126 Oay move View Gaps/Overlaps Image:	FQDN or IP Address 192.168.1.126 Day move View Gaps/Overlaps If PAM Tue Wed Thu Fri Sat Sun Image: Sat Sun	ty as Destination Type Type 192.168.1.126 CM Day move View Gaps/Overlaps fresh 1 Name 2 24/7 Image Image 24 36 Image	Type Type Type Type 192.168.1.126 CM The move view Gaps/Overlaps Image: Segme Colspan="2">Image: Segme Colspan="2" Image: Segme Colspan="2" Image: Segme Colspan="2" Image: Segme Cols			





Routin	g Policy D	etails												Commit	Cance
Gene	ral														
					* Na	me: To-	XSSA								
					Disab	led: 🗆									
					No	toc.					7				
STD F	ntity ac	Doct	tination												
51F C	litty as	Dest	unatio												
Select	4														
Nam	e		FQ	DN or I	P Addro	ess						Туре		Notes	
XSSA	к		19	2.168.1.6	1							Other			
	()														
Ime	of Day														
Add	Remove	View	/ Gaps/O	verlaps											
l Item	Refresh													Filter	: Enab
	Ranking	1	Name	2 🔺	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Start Time	End Tir	ne Notes	
	0		24/7		1	\checkmark	\checkmark	\checkmark	\checkmark	1	\checkmark	00:00	23:59	Time Range 2	24/7
elect	: All, None														
)ial F	Patterns														
Add	Remove														
l Item	Refresh													Filter	: Enab
	Pattern	-	Min	Max	1	Emergen	cy Call	SIP	Domai	n	Origina	ating Location		Notes	
	77		3	3		Γ		te-sy	stems.	le	Laborat	ory Test Location		XSSA via TLS/SRTP	•
Select	: All, None														
Regu	lar Expre	essio	ns												
Add	Remove														
) Item														Filter	·Enabl
s reem	a ricercon				_									incer.	- enabl





3.8 Dial Patterns

The Dial Patterns for this environment are used as follows. Pattern 0 is used for allowing PSTN calls while pattern 1 is related to the communication manager clients. The dial pattern 77 is related to the XSSA/XCAPI. Ensure that the dial pattern configuration is consistent with the routing of the communication manager(s).

Home / Routing / Dial Patterns							
▶ Elements	Dial P	atterns					
▶ Events							
▶ Groups & Roles	Edit	New	Duplicate	Delete	More Actions *		
Licenses	4 Iten	ns Refresh					Filter: Enable
Routing		Pattern	Min	Max	Emergency Call	SIP Domain	Notes
Domains		<u>0</u>	4	36		te-systems.de	PSTN Calls
Locations		1	3	3		te-systems.de	ACM Clients
Adaptations		77	3	3		te-systems de	XSSA via TI S/SPTP
SIP Entities		<u></u>	5	5		te systemside	
Entity Links	Select	: All, None					
Time Ranges							
Routing Policies							
Dial Patterns							
Regular Expressions							
Defaults							
▶ Security							
System Manager Data							
) licore							

Home / Routing / Dial Patterns / Dia	ial Pattern	Details							
▶ Elements	Dial P	attern Details							Commit Cancel
▶ Events									
Groups & Roles	Gene	eral							
Licenses		* p	attern:	0					
▼ Routing			* Min:	4					
Domains			* Max:	36					
Locations		Emergen	cy Call:						
Adaptations		SID	omain.	to-system	s do 💌				
SIP Entities		SIFE	, omain.	ce-system	5.de				
Entity Links			Notes:	PSTN Call	5				
Time Ranges									
Routing Policies	Origi	nating Locations and Routi	ng Pol	icies					
Dial Patterns	Add	Remove							
Regular Expressions	1 Item	Refresh					Douting		Filter: Enable
Defaults		Originating Location Name 1 $_$	Origina Locatio	ating on Notes	Routing Policy Name	Rank 2 🔔	Policy Disabled	Routing Policy Destination	Policy Notes
▶ Security		Laboratory Test Location			To-ACMG450	0	Γ	ACMG450	
🕨 System Manager Data					10 /10/000				
▶ Users	Select	: All, None							
	Denie	ed Originating Locations							
	Add	Remove							
	0 Item	is Refresh							Filter: Enable
		Originating Location						Notes	



Home / Routing / Dial Patterns / Dia	al Patteri	n Details						
Flements	Dial P	attern Details						Commit Cancel
 Events 								
 Groups & Roles 	Gene	eral						
Licenses		* p	attern: 1					
▼ Routing			* Min: 3					
Domains			* May: 2					
Locations		_	Max. 5					
Adaptations		Emergen	cy Call:					
SIP Entities		SIP D	omain: te-system	s.de 💌				
Entity Links			Notes: ACM Clien	ts				
Time Ranges								
Routing Policies	Origi	nating Locations and Routi	ng Policies					
Dial Patterns	Add	Remove						
Regular Expressions	1 Iten	n Refresh						Filter: Enable
Defaults		Originating Location Name 1 $_{\scriptscriptstyle \rm A}$	Originating Location Notes	Routing Policy Name	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
▶ Security		Laboratory Test Location		To-ACMG450	0		ACMG450	
System Manager Data	_			10 110100				
▶ Users	Select	t : All, None						
	Deni	ed Originating Locations						
	Δdd	Remove						
	0 Iten	ns Refresh						Filter: Enable
		Originating Location					Notes	
Home / Routing / Dial Patterns / Dia	al Patteri	n Details						
▶ Elements	Dial P	attern Details						Commit Cancel
▶ Events	i –							
▶ Groups & Roles	Gene	eral						
Licenses		* p	attern: 77					
▼ Routing			* Min: 3					
Domains	1		* Max: 3					
Locations		Emorgon						
Adaptations		Emergen						
SIP Entities		SIP D	omain: te-system	s.de 💌				
Entity Links			Notes: XSSA via	TLS/SRTP				
Time Ranges								
Routing Policies		and the second second second						
Dial Patterns	Origi	nating Locations and Routi	ng Policies					
	Origi Add	Remove	ng Policies					
Regular Expressions	Add 1 Iten	Remove Refresh	ng Policies					Filter: Enable
Regular Expressions Defaults	Origi Add 1 Iten	Remove	ng Policies	Routing Policy	Rank 2	Routing Policy	Routing Policy	Filter: Enable Routing Policy
Regular Expressions Defaults Executive	Add 1 Iten	Remove n Refresh Originating Location Name 1	ng Policies Originating Location Notes	Routing Policy Name	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data	Add 1 Iten	Remove n Refresh Originating Location Name 1 Laboratory Test Location	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 _	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data > Users	Add 1 Iten	Remove n Refresh Originating Location Name 1 Laboratory Test Location	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data > Users	Add 1 Iten	Remove Refresh Originating Location Name 1 Laboratory Test Location t : All, None	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data > Users	Origi Add 1 Iten Select	Remove Refresh Originating Location Name 1 Laboratory Test Location t : All, None	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data > Users	Origi Add 1 Iten Select	Remove Refresh Originating Location Name 1 Laboratory Test Location t : All, None ed Originating Locations	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data > Users	Origi Add 1 Iten Select Denic Add	Remove Remove Remove Refresh Refresh Refresh Refresh Remove Remov	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes
Regular Expressions Defaults > Security > System Manager Data > Users	Origi	Remove Remove Refresh Originating Location Name 1 Laboratory Test Location t : All, None ed Originating Locations Remove ns Refresh Originating Location	ng Policies Originating Location Notes	Routing Policy Name To-XSSA	Rank 2 🔔	Routing Policy Disabled	Routing Policy Destination XSSA	Filter: Enable Routing Policy Notes





Transport Layer Security

TLS (Transport Layer Security) is supported from XCAPI version 3.3.129. You can freely skip this chapter if run plain SIP trunk within your VoIP environment. The requirements and configuration procedure will be described in the next sections.

4.1 XCAPI SIP Security Additions

For using XCAPI SIP Security Additions (XSSA) it is necessary to run the XSSA installer, currently xssa-1.2.10-r2438, on the application/XCAPI server.

It is also possible to use the XCAPI SIP Security Additions (XSSA) application for generating RSA keys, self-signed certificates and certificate signing requests.

Please note that those RSA keys will be generated within the folder where the $\tt xssa-ldr$ executable is called.

RSA Keys

For this example the XSSA-loader (xssa-ldr) is used to generate a 2048 bit RSA key via the command line interface. The private key is stored as 192.168.1.61-private.pem whilst the 192.168.1.61-public.pem filename is used for the public key.

The command line for this is used as follows:

C:\>xssa-ldr crytool generate rsa --bits=2048 --private=192.168.1.61-private.pem --public=192.168.1.61-public.pem

CA-Signed Certificate

The private key can also be used to generate a CSR (Certificate Signing Request) file for requesting a CA-signed certificate. Please set the values for the parameters cn and idn to the IP address of your XCAPI server.

The next example shows how to create the 192.168.1.61-csr.pem file which is used for requesting a CA-signed certificate.

C:\>xssa-ldr crytool generate csr --private=192.168.1.61-private.pem --cn=192.168.1.61--idn=192.168.1.61 --csr=192.168.1.61-csr.pem



4.2 Add End Entity

Add a new End Entity using the predefined INBOUND_OUTBOUND_TLS profile and define a new username and password. The CN, Common Name field has to match the IP address of the XCAPI server. The value Certificate Profile has to be set to ID_CLIENT_SERVER. Select PEM file as value for the Token field and click Add End Entity to create the new user profile.

The username and password values will be used in the next step, enrolling a server certificate for the XSSA.

Home / Security / Certificates	s / Certificate Authority	
CA Functions	Add End Entity	
Basic Functions		
Edit Certificate Profiles		Required
Edit Publishers	Username XSSA-TLS	\checkmark
Edit Certificate Authorities	Password ••••••	
RA Functions	Confirm Password	
Edit User Data Sources	Email	
Edit End Entity Profiles	Subject DN Fields	_
Add End Entity	CN, Common Name 192.168.1.61	V
List/Edit End Entities	CN, Common Name	
List/Edit End Endlies	OU, Organization Unit SDP	
Supervision Functions	O, Organization AVAYA	
Approve Actions	C, Country (ISO 3166) US	
View Log		
System Functions	Certificate Profile ID_CLIENT_SERVER	
System Configuration	CA tmdefaultca 💌	$\overline{\vee}$
Edit Services	Token PEM file	
Public Web	Add End Entity Reset	



Enroll the server certificate for the XSSA with the content from the CSR file generated in step 4.1, CA-signed Certificate.

EJBCA		
Enroll Create Browser Certificate Create Server Certificate Create Keystore Retrieve Fetch CA & OCSP Certificates Fetch CA CRLs Fetch User's Latest Certificate Viscelly Servers	Enroll For Server Certificate Please give your username and password, paste the PEM-formated PKCS10 certification request inte field below and click OK to fetch your certificate. A PEM-formatted request is a BASE64 encoded PKCS10 request starting withemp centrickie Regress	o the
Miscellaneous • List User's Certificates • Check Certificate Status • Administration	Enroll Username XSSA-TLS Password XSSA-TLS	
	BEGIN CERTIFICATE REQUEST MIIChTCCANOCADAXMEUVEWYDVQDEwwxOTLUMTY4LjEuNjEwggEIMAOGCSqGSIb3 DQEBAQUAA HIBDWAwgEKAOIBAQDF92EeuleWuTCmg27EJ93yrkDVPESIIUEIKvs E7hpSfyPryV4C261YK7/g0YbH9K2vvbolvUFCyYPAzvSmKdM3dezlkhJC3LlgIt9 TKrKh/R3noARpDjJgSUB3apypJYMExyOmSGlupohYOhIHvuBG409GoM3Xb4qXDld 6LfK4C4JSF+j032YEKa+ak2xgcYEDcfNHSIo3YVN/9BhAc0d5/AA31JC02ZqW 9sFJ1d8Md64k0Rx0PK0EWKKR77NLBrwGYHKgyp66+tR2cf/8witNFqXUAAG3Mo8 So2yAp19sUjCaH=6MPpaxFmogNKuChtCef0NLGUWXKVF7AWBAAGKXjABdkq hkiG9w0BCQ4xGzAZMBcGAlUdEQQQMA6CDDESMi4xNjguMS42MTANBgkqhkiG9w0B AQUFAAOCAQEAI4d8Cb0g3gUuZSYKKBU844N/0dfas6Jcd83FN0F+hNTKEppaJF rg0hq/bzJNKc02DPm070B5KtafDpo35gV00BBgrxfIyFf+swf51CMY6MsJJe 66VJjLAUI4jAh72LRNbjxoLc517YeMTFJoyX4BjJA4nvsKVRNODLI8Ka3KGNMDr c5kl2JVHQ2DicySrlQf#AH2p0MLIWACkcT4uzk7Ivh51vqh1kVUZDIB1ZZAFSp S0UrrqK4JMK6+sq1PRFaJZHOwRf591qhZah7bya6p09Yy2bHzZdFpLvUqJY17IRS I+20L8mmaDgNP5UZ2Ze6sgWBd2+04/19fg=END CERTIFICATE REQUEST <u>R</u> esult type PEM Centificate ▼ OK	

4.3 Preparing the XSSA CA Certificate

Save the file with the generated XSSA certificate to your local system and open the file with a text editor. Copy and paste the part of the private key and certificate and store them to separate .pem files.

Bag Attributes
friendlyName: 192.168.1.61
BEGIN PRIVATE KEY
MIICdqIBADANBqkqhkiG9w0BAQEFAASCAmAwqqJcAqEAAoGBAIkGKe2GUU42vwMe
jL4tL7BAI+dA4VoJXTIMQ3kIz6+GTF4kjV7e07t2vtqNNQTOH7QjoCFzFydjh792
AK6EW/oGXi9r/iQtDqzlqRPbbPV3oU8Qpal6IqIvAX1PtoQNVoCBv7YBG8TTFSwt
B2tzkgjXRxMrc5Gv7ggMryjvPLg5AgMBAAECgYBbaMk/s4M58jurEQ5DMFHH+oH5
G8c6EVUithus+rvSFH2NsES/LVeCfHRcHTNpaTitK7b/mY+wry04BLifs5zHSq2U
iSoDhWJvAti5H0qCuLJJIdggPa0YKM9JEkO496xHsmVYMPG1IM1IgaVGCku4pNnJ
Sqc7oz9cbaxeor10A0JBANn1U9RAOL/tTNwyT3/1d43Wg/mP1XFwN7HNVNkVRerx
m8Kf4Ilqn7soHjRL6fvWA/Y+VhXD8/k8rzkGU0hmVMECQQCg/Gckg+Ze5t7/jFfS
LWZkxiUlaauJ5JUBij7YdTzZhYwUWZ+nqiwPFPUsmeu2HqeE0QuRiYrSOB4m0zIV
EAv5AkA8tdzJqqtNLnz/zTTBWdo2tu9GlW76EF400BWv9nFoqLDR2WJW21Lh/qeL
wqsK8/JepbeukM51XzcjGFQUFA8BAkAnUJzL0R6AjLdnB1onLQk1kSJfOaq328f8
AUwJxs/ee3vTOHQCD4s8/6xEgS6MYn4cj2Xg3As3/ZZ3VbuMY0fZAkEAzK7EL6j0
s/vWWkKIU+ADETLuT71Bk949wTuv+q2WU1fpM5enhqfRdnUP4V4mn2Nf589HdXZu
kJh8PZMNsy2Q0Q==
END PRIVATE KEY
Bag Attributes
friendlyName: 192.168.1.61
subject=/CN=sascha.te-systems.de/CN=
192.168.1.61/OU=SDP/O=AVAYA/C=US
issuer=/CN=default/OU=MGMT/O=AVAYA
BEGIN CERTIFICATE
MIICjjCCAfegAwIBAgIIBH2FOptlduUwDQYJKoZIhvcNAQEFBQAwMTEQMA4GA1UE
AwwH2GVmYXVsdDENMAsGA1UECwwETUdNVDEOMAwGA1UECgwFQV2BWUEwHhcNMTAx
MTAzMDkzNDIxWhcNMTIxMTAyMDkzNDIxWjBhMR0wGwYDVQQDDBRzYXNjaGEudGUt
c3lzdGVtcy5kZTEVMBMGA1UEAwwMMTkyLjE20C4xLjYxMQwwCgYDVQQLDANTRFAx
DjAMBgNVBAoMBUFWQV1BMQswCQYDVQQGEwJVUzCBnzANBgkqhkiG9w0BAQEFAAOB
jQAwgYkCgYEAiQYp7YZRTja/Ax6Mvi0vsEAj50DhWgldMgxDeQjPr4ZMXiSNXt7T
ulm+2A01BM4ftCOgIXMXJ2OHv3YAroRb+gZeL2v+JC00rOWBE9ts9XehTxClqXoi
Ai8BfU+2hA1WgIG/tgEbxNMVLC0Ha3OSCNdHEytzka/uCAyvKPI8urkCAwEAAaN/
MH0wHQYDVR00BBYEFBnU4cR9qCvaGy87CLBo+TABdqmPMAwGA1UdEwEB/wQCMAAw
HwYDVR0jBBgwFoAU978lTnegzn2HfDStTK6+tTVX5ukwDgYDVR0PAQH/BAQDAgP4
MB0GA1UdJQQWMBQGCCsGAQUFBwMBBggrBgEFBQcDAjANBgkqhkiG9w0BAQUFAAOB
gQAO9zMXhX8jilMpzii8r8EJEg5obO+I8G2ximWcWu4CgDG7f92M9HGn8L/iOqLo
cJFuKd85eTxVq7yUDQH+UCQkZ2rmptcv2zvIPi+HrlAA3ycpShHce+W7d05rkitm
gMsB649tXv7WdKV4N9Pza2pIJaE8hafphCSXeTm0RoMxdQ==
END CERTIFICATE
Bag Attributes
IntendiyName: default
subject-/CN-default/OU-MGMT/O-AVAYA
1ssuer=/CN=default/OU=MGMT/O=AVAYA
BEGIN CERTIFICATE
MITCOJCCAAUGAWIBAGIIVNIMEZ/WITWDQIDONZINCCAAQEFBQAWMTEQMA4GATOE
AWWA2GVIIIIXVSDENMASGAIOECWWEIOUNVDEUMAWGAIOECGWEZV2DWOEWAIICNMTAX
MDIIMDGWN2Q2WICHMJAXHDIYMDGWN2Q2WJAXHRAWDGIDVQQDDAGAZWAHGWX0MQ0W
CWIDYQYDARWOIOWQYWDAIDYQXDAYDYNE QICDIIZANDGYIIXID WDAQUIAROD
DwSCEDIafab0Dt DoMoNOBULa7x1L0w3SaOYCaacutW.DomDaBdatWD0o7x6val01v
X+ZVB5sMSfPWB0GCFCdLgziCnl0g296PiJJJZzKnneOdBh0Rw/FJ2NwbC2wF2AsNi
MGEWHOYDVR00BBYEEPE/JU530M59b3w0rHuuvrH1V+bpMA8GA1HdEwEB/w0EMAMB
Af8wHwYDVR0jBBgwFoAU9781Tnegzn2HfDStTK6+tTVX5ukwDgVDVP0PAOH/BAOD
AggGMA0gCSagSTb3D0FBB0UAA4GBATw980tiS1FvztUKU7geDVkop91K884/rd0g
KBv/924awMtBig27609cw]58cX/x7wlXmLLut700kxBVCBixh+DpeM2/frB8/30f
WLJxiAdxlLrv6KiHVvKmziAjcu2bLdtpUAnRw2t/eV3XvsuE7frdVn+fCm2v516F
Plcua/BE
END CERTIFICATE

Import the certificate that has been signed by the System Manager CA and its private key into the XCAPI configuration.

Download the required Avaya Aura Session Manager CA certificate from /opt/Avaya/asset/packages/active-version/etc/cert/ca.

Make a backup of this file, rename it by your needs (session-manager-ca.pem) and change the file type to .pem for importing the file as trusted certificate into the XCAPI controller.

🗲 XCAPI Configuration	
File View Help	
Configuration	Certificate Options Trusted Certificates During TLS connection establishment a remote peer is authenticated using the certificate presented by this peer. Information avaya development team Avaya Cardinate CA Avaya Product Root CA SCCAN Server Root CA Avaya Cal Server SIP Product Certificate Authority SIP Product Certificate Authority

The Do not validate any certificate presented by a remote peer should NOT be enabled.

4.4 XCAPI Controller - Configuring TLS/SRTP

Review the XCAPI controller settings for enabling TLS/SRTP capabilities.

The setting Use XCAPI SIP Security Additions for this controller must be enabled for using TLS and SRTP.

The Default SIP Domain must be equivalent to your environment. For this example the SIP domain is used as shown in the chapter Domains on page 7.

nnfiguration CAPI 2.0 Options CAPI 2.0 Options Fax CAPI 2.0 Options Fax CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 CAPI 2.0 SUPT weaks SIP Tweeks SIP Tweeks	SIP Options Proxies Protocol Timer Overlap sending Fallover and Overflow Information These information are required to establish a connection and are used to authorize the user at the registra and/or provy as well. The low part is the low part of the low part is the low part of the contact header replacing the default. Username

The proxy is related to the Avaya Aura Session Manager's SM-100 interface.

🛠 XCAPI Configuration		
File View Help		
Configuration Configuration Configuration Configuration CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options Tace CAPI 2.0 Options CAPI 2.0 Options	SIP Options Proxies Protocol Timer Overlap sending Failover and Overflow Please enter the hostname or IP address of your SIP Proxy below. Automatic failover is supported if the lat contains multiple SIP Proxes.	× 🗍
1		

The protocol settings should be used with their default values.

🜠 XCAPI Configuration	
File View Help	
Configuration	SIP Options Proxies Protocol Timer Overlap sending Failover and Overflow
Information ⊕ Ucences (XCAPI 1000 Lines + Fax) ⊕ Or CAPI 2.0 Options + ∰ Trace - ∰ Controller - ∰ Controller - ∰ Trace - ∰ Trace - ∰ Controller - ∰ Trace - ∰ Controller - ∰ Trace - ∰ Controller - ∰ Trace - ∰ Controller - ∰ Controller - ∰ Trace - ∰ Controller - ∰ Trace - ∰ Trac	SIP specific options These options control several options of the SIP protocol. It is recommended not to change the these options until problems arise. Preferred Transport prefer TCP over LDP Local port for UDP/TCP 5060 Local port for TLS 5061 Max Forwards 70 TCP Policy Message Diversion Handling First Diversion Header If Max applications to set the calling-number Send Seport Aleved Padetts Send Keep -Aleve Padetts If Don's send Record-Route Header
B SP Tweaks	Authentication Please select the allowed authentication scheme. Since the username and password won't be encrypted in the basic authentication scheme, it is not recommended to use the basic authentication scheme. I Allow Basic Authentication I Allow Digest Authentication

The Session Expiration timer must be equivalent with the values of the session and communication manager.

XCAPI Configuration		×
File View Help		
Configuration Co	SIP Options Proxies Protocol Timer Timer These timeouts in seconds determine how long the system waits for certain events before a default behaviour is spolled or an error is reported. The value "0" means that the default timeout should be used. Call retention 0 Retransmit on no response 0 Final response 0 Alert 0 Ack 0 STUN Keep-Alive 0 Study Regration 3500 TCP Connect 0	
	TCP Disconnect 0 TCP Retention (Message) 0	
	TCP Retention (Trunk) 0 TCP Retention (Call) 0	
]	

Please ensure that the XCAPI controller tweak XSSA_MCTTP_Profile is valued with 0 for enabling TLS/SRTP interoperability between the XSSA and the Avaya Aura Session Manager.

🕅 XCAPI Configuration	
File View Help	
Configuration Thromation CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 Options CAPI 2.0 CAPI 2.0 C	Tweaks Tweaks are used to alter the behaviour of the system in conjunction with certain terminals. Using tweaks it is possible to adjust the system to the peculiarities of some terminals. XSSA_MCTTP_PROFILE 0 Name Value REINVITE_UNSUPPORTED 1 MSSA_MCTTP_PROFILE 0

Secure Real-Time Transport Protocol

For running SRTP, which is necessary when using XSSA proxy with enabled transport layer security, you have to ensure that the SIP entities, SIP clients and media gateways are using the correct media encryption values.

Beside of the communication managers IP codec set(s), it is also important to enable the according media encryption for all involved session manager SIP clients within the 46xxsettings.txt configuration file.

For XSSA/TLS/SRTP interoperability, the media encryption value must be used with 1-srtp-aescm128-hmac80. For plain SIP trunking via TCP, please set the media encryption values to none.

SIP Trunking without TLS/SRTP

If using the SIP via TCP protocol method between the communication manager, the session manager and the XCAPI/XSSA you have to ensure that the according protocol settings for the SIP Entities, SIP Links and, if needed, the communication managers Signaling Group is related to the SIP/TCP transport method and the default port value 5060. Further, any media encryption has to be disabled for the communication manager(s) IP codec set(s) and the session manager(s) SIP clients.

Ensure that the XCAPI SIP controller option Disable TLS/SRTP is active.

🛠 XCAPI Configuration	
File View Help	
Configuration	SIP Options Proxics Protocol Time Overlap sending Fallover and Overflow XCAPI SIP Security Additions You have installed the XCAPI SIP Security Additions. Please decide if these should be enabled for this specific controller. If enabled all features that cannot be secured according to current technical standards won't be available. If Use XCAPI SIP Security Additions for this controller If Use XCAPI SIP Security Additions for this controller If Use XCAPI SIP Security Additions for this controller

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Fax Services

In this chapter, we are going to describe the necessary configuration for using Fax services in meaning of T.38 and Softfax.

7.1 Software Fax

With the software fax mode, the XCAPI simulates an analogue Fax device by transmitting modulated Fax-signals modem-like over the established audio channels. To configure the software fax mode, please open the XCAPI configuration utility and select in the advanced configuration mode the SIP controller assigned to the gateway.

Open the configuration tab labeled Features. Enable the Softfax mode by setting the Always use software fax over audio channels option and save the changes to the XCAPI controller configuration.

🗭 XCAPI Configuration	
File View Help	
Configuration	Controller Features Smulate ECT In cases where the environment does not support call-transfer operations it is possible to sinulate call-transfer by call-tromboning (line-interconnect). Smulate ECT by call-tromboning (line-interconnect) Notify destination Tornel signaling information to destination Trun path replacement Hold/Retrieve relay Software Codecs These features affect the behaviour of the system in some situations and will be applied to each connection of this controller. Always use software fax over audio channels Always use software modem over audio channels

Please review the XCAPI controller tweaks and ensure that the REINVITE_UNSUPPORTED tweak is enabled (valued by 1) for interoperability reasons. This tweak will suppress any further SIP invites for refreshing the current SIP session.

🜠 XCAPI Configuration		×
File View Help		
8 5 8 0		
Configuration Configuration Characteristics Configuration Characteristics Controller Con	Tweaks Tweaks are used to alter the behaviour of the system in conjunction with certain terminals. Using tweaks it is possible to adjust the system to the peculiarities of some terminals. REINVITE_UNSUPPORTED 1 Name Value REINVITE_UNSUPPORTED 1 Value Value REINVITE_UNSUPPORTED 1 Value 0	

A

You have to use Software Fax for facsimile interoperability within TLS/SRTP environments. Ensure that all T.38-related settings within the IP codec set(s) are disabled.

7.2 T.38 Fax

Please ensure that T.38 is enabled and capable for the involved media gateway(s).

When using T.38 it is mandatory that T.38 – UDP Codec is enabled within the XCAPI controller configuration.

The option Always use software fax over audio channels has to be disabled within the XCAPI controller's Features tab configuration.

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Please note that T.38 is not supported within TLS/SRTP environments.

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This product includes source code derived from the RSA Data Security, Inc. MD2, MD4 and MD5 Message Digest Algorithms.

This product includes source code derived from the RFC 4634 Secure Hash Algorithm software.

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