

# ALE Application Partner Program **Inter-Working Report**

Partner: AudioCodes Application type: Session Border Controler Application name: CloudBond365<sup>™</sup> Enterprise Box Edition Alcatel-Lucent Enterprise Platform: **OmniPCX Enterprise™** and **OpenTouch™** 





The product and release listed have been tested with the Alcatel-Lucent Enterprise Communication Platform and the release specified hereinafter. The tests concern only the inter-working between the AAPP member's product and the Alcatel-Lucent Enterprise Communication Platform. The inter-working report is valid until the AAPP member's product issues a new major release of such product (incorporating new features or functionality), or until ALE International issues a new major release of such Alcatel-Lucent Enterprise product (incorporating new features or functionalities), whichever first occurs.

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Certification overview

Date of the certification	June 2016

ALE International representative	Claire Dechristé
AAPP member representative	Serge Leclercq

Alcatel-Lucent Enterprise	OmniPCX Enterprise		
Communication Platform	OpenTouch BE/MS		
Alcatel-Lucent Enterprise	OXE R11.2		
Communication Platform release	OTMS R2.2		
	AudioCodes CloudBond 365		
AAI I member application release	V5.0		
Application Catagony	SBC		
Application Category	Collaboration & UC		

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**Revision History** 

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Test results						
Passed	Refused	Postponed				
Passed with restrictions						
Refer to the section 6 for a summary of the test results.						

IWR	validity	extensior
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None



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# Alcatel-Lucent

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# 1 Introduction

This document is the result of the certification tests performed between the AAPP member's application and Alcatel-Lucent Enterprise's platform.

It certifies proper inter-working with the AAPP member's application.

Information contained in this document is believed to be accurate and reliable at the time of printing. However, due to ongoing product improvements and revisions, ALE International cannot guarantee accuracy of printed material after the date of certification nor can it accept responsibility for errors or omissions. Updates to this document can be viewed on:

- the Technical Support page of the Enterprise Business Portal (<u>https://businessportal.alcatel-lucent.com</u>) in the Application Partner Interworking Reports corner (restricted to Business Partners)
- the Application Partner portal (<u>https://applicationpartner.alcatel-lucent.com</u>) with free access.

Acronym	Meaning
OXE	OmniPCX Enterprise
OT	OpenTouch
Transferee	The party being transferred to the transfer target
Transferor	The party initiating the transfer
Transfer target	The new party being introduced into a call with the transferee
Blind or semi-attended transfer	The transferor having a session in hold state with the transferee and initiating the transfer by a consultation call to the target performs the transfer while the target is in ringing state
Attended transfer or transfer on conversation	The transferor waits to be in conversation state with the target before completing the transfer
МоН	Music On Hold
PSTN(analogique card on the OXE)	Public Switched Telephone Network
SBC	Session Border Controller
FE	Lync Front End server

## 1.1 Glossary



# 2 Validity of the InterWorking Report

This InterWorking report specifies the products and releases which have been certified.

This inter-working report is valid unless specified until the AAPP member issues a new major release of such product (incorporating new features or functionalities), or until ALE International issues a new major release of such Alcatel-Lucent Enterprise product (incorporating new features or functionalities), whichever first occurs.

A new release is identified as following:

a "Major Release" is any x. enumerated release. Example Product 1.0 is a major product release. a "Minor Release" is any x.y enumerated release. Example Product 1.1 is a minor product release

The validity of the InterWorking report can be extended to upper major releases, if for example the interface didn't evolve, or to other products of the same family range. Please refer to the "IWR validity extension" chapter at the beginning of the report.

**Note:** The InterWorking report becomes automatically obsolete when the mentioned product releases are end of life.



# 3 Limits of the Technical support

For certified AAPP applications, Technical support will be provided within the scope of the features which have been certified in the InterWorking report. The scope is defined by the InterWorking report via the tests cases which have been performed, the conditions and the perimeter of the testing and identified limitations. All those details are documented in the IWR. The Business Partner must verify an InterWorking Report (see above "Validity of the InterWorking Report) is valid and that the deployment follows all recommendations and prerequisites described in the InterWorking Report.

The certification does not verify the functional achievement of the AAPP member's application as well as it does not cover load capacity checks, race conditions and generally speaking any real customer's site conditions.

Any possible issue will require first to be addressed and analyzed by the AAPP member before being escalated to ALE International. Access to technical support by the Business Partner requires a valid ALE maintenance contract

For details on all cases (3<sup>rd</sup> party application certified or not, request outside the scope of this IWR, etc.), please refer to Appendix F "AAPP Escalation Process".

# 3.1 Case of additional Third party applications

In case at a customer site an additional third party application NOT provided by ALE International is included in the solution between the certified Alcatel-Lucent Enterprise and AAPP member products such as a Session Border Controller or a firewall for example, ALE International will consider that situation as to that where no IWR exists. ALE International will handle this situation accordingly (for more details, please refer to Appendix F "AAPP Escalation Process").



# 4 Application information

Application commercial name:	Microsoft Lync 2013 (5.0.8308)
	Audiocodes SBC 7.00A.029.005
Interface type:	SIP

#### Brief application description:

AudioCodes CloudBond 365 is a complete Skype for Business enterprise voice solution for Office 365 customers. It provides connectivity to the cloud on the one hand and to the PSTN on the other.

As Office 365 Skype for Business Online does not currently provide Enterprise Voice, PSTN access or PBX replacement features, a user who need these capabilities must be registered into an On-premises Skype for Business server (like CloudBond 365)



CloudBond 365:

- Enables the migration to Skype for Business enterprise voice providing the option to have full PBX features or be homed in Cloud PBX
- Offers a complete Skype for Business solution that integrates the connectivity and management tools in one package
- Comes in different box edition sizes, as a virtualized appliance, or as a management pack and can adapt to different architectures and business models
- Delivers special management interfaces for Office 365 and the corporate Active Directory, which automate the Hybrid or Cloud PBX connection
- > Supports new user management capability to simplify user policy management
- Offers backup and restore support
- Includes desk phone management capabilites



Enterprise

A Skype for Business on-premises deployment, such as CloudBond 365, can take advantage of several features of Office 365:

- 1. Office 365 can provide the Exchange Unified Messaging component to Skype for Business, allowing voicemail facilities, and some Automated Attendant facilities.
- Office 365 can provide the Outlook Client for Skype for Business, showing Skype for Business presence information for contacts, for calendar items, and allowing the scheduling of Conferences.
- 3. Skype for Business Online and Skype for Business On-premises can share a SIP domain, allowing users who do not require Enterprise Voice features to be hosted entirely in the cloud, while still being part of your larger Skype for Business environment.

O365 licences:

FFICE 365 ENTERPRISE SUITES	E1	E3	E5
Features office 365 services	\$8	\$20	\$35
Business Class Email and Calendars exchange online	50 GB	Unlimited	Unlimited
Social, Video, Sites, Task Management varmer, 0365 Video, sharePoint Online, Planner	New	New	•
IM, Online Meetings, Meeting Broadcast skype for Business	New	New	•
File Storage, Sharing, Information Discovery oneDrive for Business, Delive	•	•	•
Office Online	•	•	•
Office Client Apps office 365 ProPlus		•	•
Archiving, Rights Management, Data Loss Prevention, Encryption		New	•
Equivio Analytics for eDiscovery, Secure Attachments and URLs, Access Control			•
End User and Organizational Analytics Power BI Pro, Delve Analytics			•
Cloud PBX stype for Business			•
PSTN Conferencing* Skype for Business			•
Enterprise Plan Add-ons			
PSTN Calling** Skype for Business			+\$24
CRM Online Professional Dynamics			+\$50

For more information, refer to Audiocodes Cloudbond documentation.



Microsoft Lync 2013 server connects to the SBC which is connected to the OXE system via an ISDN SIP Trunk.



# 5 Test environment

# 5.1 General architecture

The tests are performed on the Alcatel-Lucent Etesting platform in the following environment:

Alcatel-Lucent Communication Platform: **name**: etesting9.etesting.lab **IP address**: CPU A: 10.1.20.1

AudioCodes CloudBond 365: **domain**: ac-onebox.com Domain Controller IP address: 10.1.2.60 SBC IP address: 10.1.2.63

Microsoft Lync 2013:

Domain: ac-onebox.com Default SIP domain: aapp-etesting.com Simple's URL: <u>https://meet.aapp-etesting.com/dialin</u>, <u>https://meet.aapp-etesting.com/meet</u> Lync Front End FQDN: UC-FE.ac-onebox.com Lync Front End IP address: 10.1.2.61 FE External web services: ewslync.aapp-etesting.com Lync Edge FQDN: UC-Edge.ac-onebox.com Lync Edge internal IP address: 10.1.2.62 Edge Pool: sip.aapp-etesting.com





Enterprise

The Mediant 800 from the CloudBond box is used in SBC mode as a SIP/SIP gateway between the OmniPCX Enterprise and the Microsoft Lync server. It is needed to adapt OXE SIP implementation to Lync SIP specificities and vice-versa. It is declared on the OmniPCX Enterprise as an external SIP Gateway. An ISDN SIP trunk connects the OXE and the Mediant E-SBC (see section Appendix C : Lync 2013 Configuration).

On Microsoft Lync 2013, the SBC is seen as a PSTN gateway and the connection is done through a public SIP trunk (see Appendix B : )

# 5.2 Hardware configuration

#### Alcatel-Lucent Communication Platform:

Opentouch : HP Proliant DL380p Gen8 OXE : HP Proliant DL120 G6

AudioCodes Cloudbond (formerly Onebox 365) Server hosting Windows Lync server:

Max. OneBox capacity	Up to 500 Users
Topology	Mid scale server-based appliance with Software SBC
Including preinstalled:	<ul> <li>Lync Server Standard/Enterprise* Edition:         <ul> <li>Front End Server</li> <li>Mediation Server</li> <li>Monitoring Server</li> <li>Edge Server</li> </ul> </li> <li>Dedicated Connection Tools         <ul> <li>Active Directory Connector</li> <li>Office 365 Connector</li> </ul> </li> <li>Windows Server 2012 R2 Emb (x5)</li> <li>SQL Server Std 2012 Emb</li> <li>Reverse Proxy</li> <li>Software Session Border Controller (SBC)</li> <li>Management and Configuration application</li> <li>Additional virtual machines</li> </ul>
Telephony Connectivity Options	<ul> <li>SBC Only (up to 150 sessions can be ordered)</li> <li>External Media Gateway can be added (not included)</li> </ul>
Server Spec	32GB RAM, 6 Core Processor, Dual Power Supply, 2HDD with RAID 1

# 5.3 Software configuration

#### Alcatel-Lucent Communication Platform:

OmniPCX Enterprise R11.2 l2.300.29.a OTMS 11.0.017.004

AudioCodes Plateform : Mediant 800 SBC version 7.00A.029.005 Server application: Windows Server 2012 R2 Standard edition Application platform: Microsoft Lync 2013 5.0.8308.726



# 6 Summary of test results

# 6.1 Summary of main functions supported for OXE

Feature	N/A	ОК	NOK
Outgoing call	·		
Call to free user		$\square$	
Call to forwarded user			
Call to busy user	$\square$		
Call to user in dnd			
Missed call feature	$\square$		
Secret identity		$\square$	
Incoming call			
Call to free user		$\square$	
Call to forwarded user			
Call to busy user			
Call to user in dnd			
Missed call feature			
Features during conversation			
Hold/Resume			
Consultation call			
Iransfer			_
Transfer unattended			
Transfer on ringing			
I ranster on conversation			
Conference			
Three party conference			
Voicemail			
Lync user forwarded to Exchange voicemail	$\square$		
Call to OXE user forwarded to voicemail		$\square$	
Attendant			
Lync call to Attendant		$\square$	
Attendant transfers lync user to OXE user		$\square$	
Attendant transfers OXE user to lync user		$\square$	
Attendant transfers external user (T2) to Lync user	$\square$		
Attendant transfers lync user to External user (T2)	$\square$		
OXE switchover			
Call continuity during switchover (OXE spatial redundancy)			
Call state change after switchover			
New call after switchover			



# 6.2 Summary of main functions supported for OT

Featur	e	N/A	ОК	NOK
Outgoi	ng call			
	Call to free user		$\square$	
	Call to forwarded user		$\overline{\boxtimes}$	
	Call to busy user	$\square$		
	Call to user in dnd		$\square$	
	Missed call feature	$\square$		
	Secret identity			
Incomi	ng call			
	Call to free user		$\square$	
	Call to forwarded user		$\square$	
	Call to forwarded user (->to Lync number)	$\square$		
	Call to busy user		$\square$	
	Call to user in dnd	$\square$		
	Missed call feature			
Featur	es during conversation			
	Hold/Resume		$\square$	
	Consultation call		$\boxtimes$	
	Broker call		$\square$	
Transf	er			
	Transfer unattended	$\square$		
	Transfer on ringing			
	Transfer on conversation		$\square$	
Confer	ence			
	Three party conference		$\square$	
Voicer	nail			
	Lync user forwarded to Exchange voicemail	$\square$		
	Call to OXE user forwarded to voicemail		$\square$	
Attend	ant			
	Lync call to Attendant	$\square$		
	Attendant transfers lync user to OT user			
	Attendant transfers OT user to lync user			
	Attendant transfers external user (T2) to Lync user	$\square$		
	Attendant transfers lync user to External user (T2)	$\square$		

# 6.3 Summary of problems

6.3.1 OXE

None

#### 6.3.2 Audiocodes/Lync

None

## 6.3.3 OT

 SR 1-192855375/crqms00199160: AAPP: semi-attended transfer OT-OT-Lync does not work.
 OXE sends a 404 not found when the transfer is done by OT user

# 6.4 Summary of limitations

6.4.1 OXE

None

- 6.4.2 Lync
  - Calls from Lync to OXE/OT users: Lync doesn't display the calling name, only the number despite the name of OXE user is available in the "from" or PAI field.
  - Calls from OXE/OT users to Lync: The called Lync number is displayed, not the called name because Lync does not send the user name to AudioCodes SBC (only the number).
  - Transfers from Lync: Lync doesn't update transferee information after a transfer (semi attended or attended transfer).
  - Semi attended or attended transfers from OXE: OXE sends the user information to AudioCodes gateway (in REFER or REINVITE messages). However Lync display is not updated. Transfer is OK.
  - o In Lync client, missed call list and conversation history tabs are empty.
  - After an OXE CPU swichover to the standby CPU, an existing call cannot evolve (state changed to "on hold", "transferred"...)

#### 6.4.3 OT

 Forward to Lync phone is forbidden on conversation users (OT): "Error: User destination is not valid in the routing profile" on 8088



#### 6.4.4 Audiocodes

After an OXE CPU swichover to a standby CPU resolved by spatial redundancy mechanism, a call cannot be established with the new main call server before the next DNS request. These DNS requests are configured to be sent every 10 seconds on the SBC (parameter PROXYIPLISTREFRESHTIME=10).

DNS requests are not issued by Audiocodes E-SBC for every message when TTL value is set to 0. This can lead to communication troubles during the time of the CPU switchover. As a workaround, it is advised to set the parameter Proxy IP List Refresh Time to 10s on SBC to refresh dns cache every 10s.

# 6.5 Notes, remarks

- Media anchoring is used on SBC (SBC direct Media disabled), all media streams are going through the SBC
- Media bypass is not enabled on lync server, all media streams are going through lync server
- o On Lync server side, G729 cannot be used, only G711
- Case of Exchange voicemail (from O365 or on premises) for Lync users has not been tested
- o No Lync on-line (O365) user have been used in this interworking report



# 7 Test Result Template

The results are presented as indicated in the example below:

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Test case 1 Action Expected result				
2	Test case 2 Action Expected result				The application waits for PBX timer or phone set hangs up
3	Test case 3 Action Expected result				Relevant only if the CTI interface is a direct CSTA link
4	Test case 4 Action Expected result				No indication, no error message

**Test Case Id**: a feature testing may comprise multiple steps depending on its complexity. Each step has to be completed successfully in order to conform to the test.

Test Case: describes the test case with the detail of the main steps to be executed the <u>and the</u> <u>expected result</u>

 $\ensuremath{\text{N/A}}\xspace$  when checked, means the test case is not applicable in the scope of the application

 $\ensuremath{\text{OK}}\xspace$  : when checked, means the test case performs as expected

In yellow, there is a small limitation found during the test

In green 100% OK

**NOK**: when checked, means the test case has failed. In that case, describe in the field "Comment" the reason for the failure and the reference number of the issue either on ALE International side or on AAPP member side

**Comment**: to be filled in with any relevant comment. Mandatory in case a test has failed especially the reference number of the issue.



# 8 Test Results

In next sections, users A, B, C are OXE or OT users. Test devices are iptouch 40x8/80x8 phones or 8012 SIP phones, but could be replaced by analog 40x9/80x8 series, SIP or DECT phones.

# 8.1 Outgoing calls: OXE/OT users to Lync

### 8.1.1 Test Objectives

The calls are generated to several numbers corresponding to users on the Lync platform. Called party can be in different states: free, busy, Out of service, do not disturb. Points to be checked: tones, voice during the conversation, display (on caller and called party), hang-up phase.

Note: dialing will be based on direct dialling number but also using programming numbers on the phone.

#### 8.1.2 OXE Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Call to free user		$\boxtimes$		
2	Call to wrong number		$\boxtimes$		403 forbidden sent by Lync
3	Call in conversation; DTMF reception ; Calling / caller line identity ; display				Outgoing calls: On OXE phone, the called number is displayed, not the called name. Lync does not send the user name to AudioCodes SBC (only the number).
4	Call to busy user (mono-line / multi- line)				Lync user is never in busy mode
5	Call to user in "Out of Service" state				"no answer" display on caller: SIP 480 "Temporary Unavailable" sent by Lync
6	Call to user in "Do not Disturb" state				"no answer" display on caller: SIP 480 "Temporary Unavailable" sent by Lync
7	Call to forwarded user (locally) (immediate forward) OXE user1 call Lync user1 who is in immediate forward to Lync user2.				Same display issue as step 3 And there is no display update on OXE set after the forward. Lync user 1 number is still displayed.
8	Missed call feature : OXE user1 call Lync user1 and hung up. Lync user1 can press call back to call OXE user1 from the missed call list				No missed calls on Lync client Test needs to be done using the missed call details of the outlook client



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	Litterprise							
9	No answer of the called party (Forward no reply) OXE phone calls Lync user1 and Lync user does not take the call and after some minute the call is forwarded to another Lync user2				Same display issue as step 3 And there is no display update on OXE set after the forward. Lync user 1 number is still displayed. (Configured via "Call forwarding" > "Unanswered call will go to" option)			
10	Call from UA/TDM to Lync user	$\boxtimes$			Test done with a digital phone connected			
11	Oxe Phone calls Lync user after activating secret identity feature (prefix 409)				Anonymous is displayed on the Lync phone			

# 8.1.3 OT Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Call to free user		$\boxtimes$		
2	Call to wrong number				403 forbidden sent by Lync
3	Call in conversation; DTMF reception ; Calling / caller line identity ; display				Outgoing calls: On OT phone, the called number is displayed, not the called name. Lync does not send the user name to AudioCodes SBC (only the number).
					DTMF sent using RFC2833 OK
4	Call to busy user (mono-line / multi- line)	$\square$			Lync user is never in busy mode
5	Call to user in "Out of Service" state				"Callee temporarily unavailable" is displayed on caller: SIP 480 "Temporary Unavailable" in the trace
6	Call to user in "Do not Disturb" state				"Callee temporarily unavailable" is displayed on caller: SIP 480 "Temporary Unavailable" in the trace
7	Call to forwarded user (locally) (immediate forward) OT user1 call Lync user1 who is in immediate forward to Lync user2.				Same display issue as step 3 And there is no display update on OT set after the forward. Lync user 1 number is still displayed.
8	Missed call feature : OT user1 call Lync user1 and hung up. Lync user1 can press call back to call OT user1 from the missed call list				No missed calls on Lync client Test needs to be done using the missed call details of the outlook client
9	No answer of the called party (Forward no reply) OT phone calls Lync user1 and Lync user does not take the call and after some minute the call is forwarded to another Lync user2				Same display issue as step 3 And there is no display update on OT set after the forward. Lync user 1 number is still displayed. (Configured via "Call forwarding" > "Unanswered call will go to" option)

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10	Call from UA/TDM to Lync user	$\boxtimes$					
11	OT Phone calls Lync user after activating secret identity feature						

# 8.2 Incoming calls: Lync => OXE/OT

### 8.2.1 Test Objectives

The calls are generated to several numbers corresponding to OXE or OT users. Called party can be in different states: free, busy, Out of service, do not disturb. Points to be checked: tones, voice during the conversation, display (on caller and called party), hang-up phase.

Call to unknown numbers must be rejected.

# 8.2.2 OXE Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Call to free user (check Calling / caller line identity ; display, DTMF)				Both name and numbers are displayed on OXE and Lync users
2	Call to wrong number				
3	Call to busy user (mono-line / multi- line)(Local/Network)				"user is in another call" is displayed on Lync client
4	Call to user in "Out of Service" state (Local/Network)				"user is unavailable or may be offline" is displayed on Lync client
5	Call to user in "Do not Disturb" state (prefix 42)				"user is unavailable or may be offline" is displayed on Lync client
6	Call to forwarded user (immediate forward) Lync user1 call OXE user1 who is in immediate forward to OXE user2. (Local/Network)				Lync phone displays the forwarded OXE user information, not final OT destination. AudioCodes let the updated PAI (with final destination information) in 200 OK/SDP but it is not interpreted by Lync phone
7	Missed call feature Lync user1 call OXE user1 and hung up. OXE user1 can use the missed call list to call Lync user1				
8	Lync user 1 calls IP Phone which is on forward on busy to Lync user 2 (prefix 52) (Local/Network)				Lync user 1 displays the forwarded OXE user information, not the Lync user 2 destination. AudioCodes let the updated PAI (with final destination information) in 200 OK/SDP but it is not interpreted by Lync phone Lync client 2 displays the forwarded OXE user information, not Lync user 1 info.



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					OXE does not change the PAI or the from in the INVITE. Forwarded OXE user number is still sent.		
9	Lync user 1 calls IP Phone which is on forward on no reply to Lync user 2				Lync user 1 displays the forwarded OXE user information, not the Lync user 2 destination. AudioCodes let the updated PAI (with final destination information) in 200 OK/SDP but it is not interpreted by Lync phone Lync client 2 displays the forwarded OXE user information, not Lync user 1 info. OXE does not change the PAI or the from in the INVITE. Forwarded OXE user number is still sent.		
10	Lync user1 calls IP Phone which is in immediate forward mode to Lync user2 (51) (Local/Network)				Lync user 1 displays the forwarded OXE user information, not the Lync user 2 destination. AudioCodes let the updated PAI (with final destination information) in 200 OK/SDP but it is not interpreted by Lync phone Lync client 2 displays the forwarded OXE user information, not Lync user 1 info. OXE does not change the PAI or the from in the INVITE. Forwarded OXE user number is still sent.		
11	Lync user put OXE phone on hold				Local MoH or beep played from Lync client		

# 8.2.3 OT Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Call to free user (check Calling / caller line identity ; display, DTMF)				Both name and numbers are displayed on OT user and Lync client DTMF sent using RFC2833.
2	Call to wrong number		$\boxtimes$		
3	Call to busy user (mono-line / multi- line)(Local/Network)		$\boxtimes$		"user is in another call" is displayed on Lync client
4	Call to user in "Out of Service" state (Local/Network)		$\boxtimes$		"user is unavailable or may be offline" is displayed on Lync client
5	Call to user in "Do not Disturb" state	$\boxtimes$			Feature not available on 8088 business
6	Call to forwarded user (immediate forward)		$\boxtimes$		Lync phone displays the forwarded OT user information, not final OT destination.



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	Lync user1 call OT user1 who is in immediate forward to OT user2.			AudioCodes let the updated PAI (with final destination information) in 200 OK/SDP but it is not interpreted by Lync phone There is a missed call on OT user 1
7	Missed call feature Lync user1 call OT user1 and hung up. OXE user1 can use the misssed call list to call Lync user1			
8	Lync user 1 calls IP Phone which is on forward on busy to Lync user 2 (prefix 52)			It is not possible on OpenTouch to modify the routing profile of OT user with an external Lync number. Error: User destination is not valid in the routing profile
9	Lync user 1 calls IP Phone which is on forward on no reply to Lync user 2			It is not possible on OpenTouch to modify the routing profile of OT user with an external Lync number. Error: User destination is not valid in the routing profile
10	Lync user1 calls IP Phone which is in immediate forward mode to Lync user 2 (51)			It is not possible on OpenTouch to modify the routing profile of OT user with an external Lync number. Error: User destination is not valid in the routing profile
11	Lync user put OXE phone on hold			Local MoH or beep played from Lync client



# 8.3 Features during conversation

## 8.3.1 Hold, Consultation call and broker call

#### 8.3.1.1 Test objectives

During conversation, waiting and consultation call are provided and must be checked. In addition, a second call must be generated in order to check that right tones are generated on Lync user.

### 8.3.1.2 OXE Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	A=Lync user, B=IPPhone1, C=IPPhone2				
1.1	Hold state request Lync user->IPPhone1, Lync user on hold				
1.2	Consultation call request IPPhone1->IPPhone2		$\boxtimes$		
1.3	Broker request IPPhone1->Lync user, IPPhone2 on hold				
2	A=PSTN, B=IPPhone1, C=Lync user				
2.1	Hold state request PSTN->IPPhone1, PSTN on hold				
2.2	Consultation call request IPPhone1->Lync user				
2.3	Broker request IPPhone1->PSTN, Lync user on hold				
3	A=IPPhone1, B=IPPhone2, C=Lync user				
3.1	Hold state request IPPhone1->IPPhone2, IPPhone1 on hold				
3.2	Consultation call request IPPhone2->Lync user		$\boxtimes$		
3.3	Broker request IPPhone2->IPPhone1, Lync user on hold				
4	A=IPPhone1, B=Lync user, C=IPPhone2				
4.1	Hold state request IPPhone1->Lync user, IPPhone1 on hold		$\boxtimes$		

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4.2	Consultation call request Lync user->IPPhone2		$\boxtimes$									
4.3	Broker request Lync user->IPPhone1, IPPhone2 on hold											
5	A=Lync user1, B=IPPhone, C= Lync user2											
5.1	Hold state request Lync user1->IPPhone, Lync user1 on hold											
5.2	Consultation call request IPPhone->Lync user2		$\boxtimes$									
5.3	Broker request IPPhone->Lync user1, Lync user2 on hold				If IPPhone hooks on, Lync user 1 and Lync user 2 are in conversation If IPPhone ends the call with the soft key, it switches automatically to the other call							
6	A=IPPhone, B=Lync user1, C=Lync user2											
6.1	Hold state request IPPhone->Lync user1, IPPhone on hold											
6.2	Consultation call request Lync user1->Lync user2											
6.3	Broker request Lync user1->IPPhone, Lync user2 on hold											

# 8.3.1.3 OT Test Results

Test Case Id	Test Case	N/A	OK	NOK	Comment
1	A=Lync user, B=IPPhone1, C=IPPhone2				
1.1	Hold state request Lync user->IPPhone1, Lync user on hold				
1.2	Consultation call request IPPhone1->IPPhone2		$\boxtimes$		
1.3	Broker request IPPhone1->Lync user, IPPhone2 on hold				
2	A=PSTN, B=IPPhone1, C=Lync user				
2.1	Hold state request PSTN->IPPhone1, PSTN on hold				
2.2	Consultation call request IPPhone1->Lync user				

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2.3	Broker request IPPhone1->PSTN, Lync user on hold		$\boxtimes$							
3	A=IPPhone1, B=IPPhone2, C=Lync user									
3.1	Hold state request IPPhone1->IPPhone2, IPPhone1 on hold									
3.2	Consultation call request IPPhone2->Lync user		$\boxtimes$							
3.3	Broker request IPPhone2->IPPhone1, Lync user on hold									
4	A=IPPhone1, B=Lync user, C=IPPhone2									
4.1	Hold state request IPPhone1->Lync user, IPPhone1 on hold									
4.2	Consultation call request Lync user->IPPhone2		$\boxtimes$							
4.3	Broker request Lync user->IPPhone1, IPPhone2 on hold		$\boxtimes$							
5	A=Lync user1, B=IPPhone, C= Lync user2									
5.1	Hold state request Lync user1->IPPhone, Lync user1 on hold									
5.2	Consultation call request IPPhone->Lync user2		$\boxtimes$							
5.3	Broker request IPPhone->Lync user1, Lync user2 on hold									
6	A=IPPhone, B=Lync user1, C=Lync user2									
6.1	Hold state request IPPhone->Lync user1, IPPhone on hold									
6.2	Consultation call request Lync user1->Lync user2		$\boxtimes$							
6.3	Broker request Lync user1->IPPhone, Lync user2 on hold									

## 8.3.2 Transfer call

#### 8.3.2.1 Test objectives

During the consultation call step, the transfer service can be requested and must be tested. Several transfer services exist: blind transfer, supervised transfer and busy transfer. Audio, tones and display must be checked.

Tests are performed using all possible combinations of legacy (IPPHONE) and Lync sets.

#### 8.3.2.2 Test Procedure

During the consultation call step, the transfer service can be requested and must be tested. Several transfer services exist: Unattended Transfer, Semi-Attended Transfer and Attended Transfer.

Audio, tones and display must be checked.

We use the following scenario, terminology and notation:

There are three actors in a given transfer event:

- A *Transferee:* the party being transferred to the Transfer Target.
- B Transferor: the party doing the transfer.
- C Transfer Target: the new party being introduced into a call with the Transferee.

#### There are three sorts of transfers in the SIP world:

**Unattended Transfer** or *Blind Transfer*. The Transferor provides the Transfer Target's contact to the Transferee. The Transferee attempts to establish a session using that contact and reports the results of that attempt to the Transferor.

Semi-Attended Transfer or Early Attended Transfer or Transfer on ringing:

A (Transferee) calls B (Transferor).

B (Transferor) calls C (Transfer Target). A is on hold during this phase. C is in ringing state (does not pick up the call).

B executes the transfer. B drops out of the communication. A is now in contact with C, in ringing state. When C picks up the call it is in conversation with A.

Attended Transfer or Consultative Transfer or Transfer in conversation:

A (Transferee) calls B (Transferor).

B (Transferor) calls C (Transfer Target). A is on hold during this phase. C picks up the call and goes in conversation with B.

B executes the transfer. B drops out of the communication. A is now in conversation with C.

Check the transfer for two configuration possibilities on Lync (with or without REFER). For blind transfer check that the transferred call can be taken back from the transferee in case of no answer or wrong number dialed.

#### 8.3.2.3 OXE Test Results

Unattended Transfer (Blind)

Te	st Action			Result	Comment
	A Transf eree	B Transf eror	C Transfer Target		
1	LYNC	OXE	OXE	OK_but	No display update after the transfer on Lync client A

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2	OXE	LYNC	OXE	N/A	Unattended transfers not available from the Lync client.
3	OXE	OXE	LYNC	N/A	Unattended transfers not available from an OXE user to an external Lync user
4	OXE	LYNC	LYNC	N/A	Unattended transfers not available from the Lync client.
5	LYNC	OXE	LYNC	N/A	Unattended transfers not available from an OXE user to an external Lync user
6	LYNC	LYNC	OXE	N/A	Unattended transfers not available from the Lync client.

Semi attended Transfer (On Ringing)

Test	Action			Result	Comment
	A Transf eree	B Transf eror	C Transfer Target		
1	LYNC	OXE	OXE	OK_but	No display update after the transfer on Lync client A
2	OXE	LYNC	OXE	OK_but	No display update after the transfer on the transferee (A) Need to unset SENDING REFER TO GATEWAY in Lync server
3	OXE	OXE	LYNC	OK_but	No display update after the transfer on Lync client C. The number is displayed on OXE set A.
4	OXE	LYNC	LYNC	OK_but	No display update after the transfer on the transferee (A)
5	LYNC	OXE	LYNC	OK_but	No display update after the transfer on the transferee (A) and transfer target C
6	LYNC	LYNC	OXE	OK	The number is displayed on Lync client A

Attended Transfer (in conversation)

Test	Action			Result	Comment
	A Transf eree	B Transf eror	C Transfer Target		
1	LYNC	OXE	OXE	OK_but	No display update after the transfer on Lync client A
2	OXE	LYNC	OXE	OK_but	No display update after the transfer on the transferee (A) and transfer target C. Lync number is still displayed on both sets.
3	OXE	OXE	LYNC	OK_but	No display update after the transfer on Lync client C. The number is displayed on OXE set A.
4	OXE	LYNC	LYNC	OK_but	No display update after the transfer on the transferee (A). Lync client only display the number, not the name.
5	LYNC	OXE	LYNC	OK_but	No display update after the transfer on Lync clients (A and C)
6	LYNC	LYNC	OXE	OK_but	No display update after the transfer on OXE set. Lync client only display the number, not the name.

#### 8.3.2.4 OT Test Results

Unattended Transfer (Blind)

Test	Action			Result	Comment
	A Transf eree	B Transf eror	C Transfer Target		
1	LYNC	от	ОТ	N/A	Unattended transfers not available from the OT client.
2	от	LYNC	ОТ	N/A	Unattended transfers not available from the Lync client.
3	от	от	LYNC	N/A	Unattended transfers not available from the OT client.
4	OXE	LYNC	LYNC	N/A	Unattended transfers not available from the Lync client.
5	LYNC	от	LYNC	N/A	Unattended transfers not available from the OT client.
6	LYNC	LYNC	ОТ	N/A	Unattended transfers not available from the Lync client.

Semi attended Transfer (On Ringing)

Test	Action			Result	Comment
	A Transf eree	B Transf eror	C Transfer Target		
1	LYNC	ОТ	ОТ	OK_but	No display update after the transfer on Lync client A
2	ОТ	LYNC	ОТ	OK_but	No display update after the transfer on the transferee (A)
3	от	от	LYNC	NOK	« Wrong number » displayed on transferee OT issue: SR 1-192855375 crqms00199160
4	ОТ	LYNC	LYNC	OK_but	No display update after the transfer on the transferee (A)
5	LYNC	от	LYNC	OK_but	No display update after the transfer on transferee (A) and transfer target C OXE number is displayed on both lync clients
6	LYNC	LYNC	OT	OK	The number is displayed on Lync client A

Attended Transfer (in conversation)

Test	Action			Result	Comment
	A Trans feree	B Transf eror	C Transfer Target		
1	LYNC	от	ОТ	OK_but	No display update after the transfer on Lync client A Only the number is displayed on user C
2	ОТ	LYNC	от	OK_but	No display update after the transfer on OT user A and user C. Lync number is displayed on both sets.
3	ОТ	от	LYNC	OK_but	No display update after the transfer on Lync client (C)

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				Enterprise	
4	ОТ	LYNC	LYNC	OK_but	No display update after the transfer on the transferee (A).
5	LYNC	от	LYNC	OK_but	No display update after the transfer on Lync clients (A and C)
6	LYNC	LYNC	ОТ	OK_but	No display update after the transfer on OXE set. Lync client only display the number, not the name.



# 8.3.3 Conference

### 8.3.3.1 Test objectives

During the consultation call step, the conference is provided and must be tested. Programmed conference and 3 steps conferences have to be checked by analyzing the audio and display on each user.

### 8.3.3.2 Test procedure

We use the following scenario, terminology and notation:

We start with A in conversation with B. (A->B)

A places B on hold. B should hear hold tone.

A calls C while B is on hold. C rings and goes off-hook.

A activates conference.

A, B, C should be in communication now.

## 8.3.3.3 OXE Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	3 steps conference request PSTN ->IPPhone->Lync user				The conference is initiated by the IPPhone
					Only the trunk name is displayed on IPPhone
1.1	PSTN leaves the conference		$\boxtimes$		
1.2	Lync user leaves the conference				
1.3	IPPhone leaves the conference				PSTN and Lync are still in communication
	3 steps conference request Lync user 1->IPPhone-> Lync user				The conference is initiated by the IPPhone
2	2				Only the trunk name is displayed on IPPhone instead of Lync user 2
					Only the number is displayed on Lync user 1
2.1	Lync user 1 leaves the conference		$\boxtimes$		
2.2	Lync user 2 leaves the conference		$\boxtimes$		
2.3	IPPhone leaves the conference		$\boxtimes$		
2.4	Stay in a conference for long period to check keep alive mechanisms.				
2	3 steps conference request IPPhone1 ->Lync->IPPhone2				Conference is set up from lync client (add a participant)
3					Only the number of Lync user and trunk name is displayed on IPPhone1. Only the



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					trunk name is displayed on IPPhone 2			
					On Lync only the number is displayed for IPPhone 2			
					The last user in the conference must end the call			
3.1	IPPhone1 leaves the conference		$\boxtimes$					
3.2	Lync user leaves the conference							
3.3	IPPhone2 leaves the conference		$\boxtimes$					

#### 8.3.3.4 OT Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
	3 steps conference request PSTN ->IPPhone->Lync user				The conference is initiated by the IPPhone
1					Only the number is displayed on IPPhone (lync user 2 number) and Lync (IPPhone number)
1.1	PSTN leaves the conference		$\boxtimes$		
1.2	Lync user leaves the conference		$\boxtimes$		
1.3	IPPhone leaves the conference				
	3 steps conference request Lync user 1->IPPhone-> Lync user				The conference is initiated by the IPPhone
2	2				Only the number is displayed on IPPhone (lync user 2 number) and Lync (IPPhone number)
2.1	Lync user 1 leaves the conference				
2.2	Lync user 2 leaves the conference				
2.3	IPPhone leaves the conference				
2.4	Stay in a conference for long period to check keep alive mechanisms.				
2	3 steps conference request IPPhone1 ->Lync->IPPhone2				Conference is set up from lync client (add a participant) Only the trunk name is displayed on
3					Only the number is displayed on IPPhone 1 Only the number is displayed on lync client for IPPhone 2



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					The last user in the conference must end the call			
3.1	IPPhone1 leaves the conference		$\boxtimes$					
3.2	Lync user leaves the conference		$\boxtimes$					
3.3	IPPhone2 leaves the conference		$\boxtimes$					

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# 8.3.3.5 Mixed scenario OT/OXE/Lync Test Results

Test Case Id	Test Case	N/A	OK	NOK	Comment
1	3 steps conference request Lync ->OT user->OXE user				
1.1	Lync leaves the conference		$\boxtimes$		
1.2	OXE user leaves the conference		$\boxtimes$		
1.3	OT leaves the conference				
2	3 steps conference request OXE user ->OT user->Lync user				
2.1	OXE leaves the conference		$\boxtimes$		
2.2	Lync user leaves the conference				
2.3	OT leaves the conference				
3	3 steps conference request Lync ->OXE user->OT user				
3.1	Lync leaves the conference				
3.2	OT user leaves the conference		$\boxtimes$		
3.3	OXE leaves the conference		$\boxtimes$		
3	3 steps conference request OT user ->OXE user->Lync user				
3.1	OT user leaves the conference		$\boxtimes$		
3.2	Lync user leaves the conference				
3.3	OXE leaves the conference				
3	3 steps conference request OT user ->Lync user->OXE user				

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3.1	OT user leaves the conference						
3.2	OXE user leaves the conference						
3.3	Lync user leaves the conference						
3	3 steps conference request OXE user ->Lync user->OT user						
3.1	OXE user leaves the conference						
3.2	OT user leaves the conference						
3.3	Lync user leaves the conference						

### 8.3.4 Voicemail

#### Test objectives

Note: It has to be defined which Voicemail system is used for the interoperability tests:

Option 1: Voice mail is Exchange 2O13 for all users: Not tested Option 2: Each system is served by its own Voice Mail: OK

Voice Mail notification, consultation and password modification must be checked. MWI (Message Waiting Indication) has to be checked.

#### 8.3.4.1 OXE Test Results

Test Case Id	Test Case	N/A	OK	NOK	Comment
1	Lync user forwarded to VoiceMail				No Exchange voicemail available
1.1	IPTouch phone leaves a voice message for the Lync user.				No Exchange voicemail available
1.2	Message consultation by Lync user				No Exchange voicemail available
1.3	Password modification by Lync user	$\boxtimes$			No Exchange voicemail available
2	OXE user forwarded to VoiceMail				
2.1	Lync user call to a OXE user forwarded to Voice Mail		$\boxtimes$		
2.2	Message consultation by OXE user		$\boxtimes$		



### 8.3.4.2 OT Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Lync user forwarded to VoiceMail				No Exchange voicemail available
1.1	OT phone leaves a voice message for the Lync user.				No Exchange voicemail available
	Check that MWI is OK on Lync user				
1.2	Message consultation by Lync user				No Exchange voicemail available
1.3	Password modification by Lync user	$\boxtimes$			No Exchange voicemail available
2	OT user forwarded to VoiceMail				
2.1	Lync user call to a OT user forwarded to Voice Mail		$\boxtimes$		
2.2	Message consultation by OT user				

# 8.4 Attendant

# 8.4.1 Test Objectives

An attendant console is defined on the system. Call going to and coming from the attendant console are tested.

# 8.4.2 OXE Test Results

Tes t Cas e Id	Test Case	N/A	ОК	NO K	Comment
1	Lync user calls attendant number		$\boxtimes$		
2	Attendant calls Lync user		$\boxtimes$		
3	Attendant calls Lync user then Attendant calls OXE user Attendant transfer Lync user To OXE user				the display on Lync user is not updated after the transfer
4	Lync user calls attendant , attendant transfers on ringing to OXE set.		$\boxtimes$		the display on Lync user is not updated after the transfer
5	Lync user calls attendant ,attendant transfers in conversation to OXE set,		$\boxtimes$		the display on Lync user is not updated after the transfer.
6	OXE set calls to attendant (using attendant call prefix "9"), attendant transfers during ringing to Lync user.		$\boxtimes$		On Lync user, only the number is displayed, not the name



7	OXE set calls to attendant (using attendant call prefix "9"), attendant transfers in conversation to Lync user.		the display on Lync user is not updated after the transfer.
8	External user(T2) calls Attendant Attendant calls Lync user Attendant transfer on ringing External user(T2) to Lync user		
9	Lync user calls Attendant Attendant calls External user(T2) Attendant transfer on conversation Lync user to External user(T2)		

# 8.5 Defense / Recovery

### 8.5.1 Test Objectives

Test the robustness in case of a PBX reboot, switch-over or link failure.

### 8.5.2 Test Results

Test Case Id	Test Case	N/A	ОК	NOK	Comment
1	Temporary Data Network Link down with the PBX and Mediant SBC		$\boxtimes$		Existing calls are stopped. Establishing new call is possible when the link is reestablished.
2	Spatial redundancy IP Method : CPU switchover with SIP communication	$\boxtimes$			
3	Spatial redundancy DNS method (delegation on a third party DNS server) : CPU switchover without SIP communication				A call cannot be established after the switchover with the new main call server before the next DNS request. These DNS requests are configured to be sent every 10 seconds on the SBC (parameter PROXYIPLISTREFRESHTIME).
4	Spatial redundancy DNS method : CPU switchover with SIP communication				Current call is OK, but it cannot evolve (state changed to on hold, transferred). If this is done, the communication is cut on Lync client. A second call cannot be established after the switchover with the new main call server before the next DNS request. These DNS request are configured to be sent every 10 seconds on the SBC (parameter PROXYIPLISTREFRESHTIME). See note
5	Switchover to Passive Call Server (PCS). (IP link to main/stdby OXE call servers down)	$\boxtimes$			
6	Switchover to a backup AudioCodes gateway. Stop the main AudioCodes gateway; verify that a call is possible with the backup AudioCodes gateway.				

Note: DNS requests are not issued by Audiocodes SBC for every message when TTL value is set to 0. This can lead to communication troubles during the time of the CPU switchover. As a workaround, it is advised to set the parameter Proxy IP List Refresh Time to 10s on SBC to refresh dns cache every 10s.
# 9 Appendix A : AudioCodes SBC Configuration

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## 9.1 Getting Started

This section describes how to navigate in the Mediant E-SBC Web server navigation tree.

When navigating in the Navigation tree, you can view listed menus and submenus in either an expanded or contracted view. This is relevant when using the configuration tabs (**Configuration**, **Maintenance**, and **Status & Diagnostics**) on the Navigation bar.

The Navigation tree menu can be displayed in one of two views:

- Basic: displays only commonly used menus
- **Full:** displays all the menus pertaining to a configuration tab.

The advantage of the Basic view is that it prevents "cluttering" the Navigation tree with menus that may not be required. Therefore, a Basic view allows you to easily locate the required menus.

#### > To toggle between Full and Basic view:

Select the **Basic** option (located below the Navigation bar) to display a reduced menu tree; select the **Full** option to display all the menus. By default, the **Basic** option is selected.





For more information, see the Mediant E-SBC User's manual.

# 9.2 Configuration Procedure

This section describes the Mediant SBC Configuration procedure.



### 9.2.1 Configure IP Address

#### **To configure IP-Address:**

**Open the 'IP Settings' page (**Configuration **tab** > VoIP **menu** > Network > IP Interfaces Table).



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elected Ro Index: Interface M	<b>vw #0</b> Vame: 1 Type:	0 V0	ice	je 🚹 of 1 🔛	Prefix Length: Default Gatewa Primary DNS:	1 y: 11 1	Vie 6 0.1.255.254 0.1.2.15	w 1 - 1 o
elected Ro Index: Interface M Application Interface M	<b>xw #0</b> Vame: 1 Type: Mode:	0 Vo 04 IP	ice MP + Media + Co v4 Manual	je 🚹 of 1 🔛	Prefix Length: Default Gatewa Primary DNS: Secondary DNS	14 y: 11 11 5: 0.	Vie 6 0.1.255.254 0.1.2.15 .0.0.0	w 1 - 1 o

Set the following parameters: IP-Address: <Gateway IP-Address> (e.g., 10.1.2.63). Prefix Length: The Subnet Mask in bits (e.g., 16 for 255.255.254.0). Gateway: <Gateway Default Gateway> (e.g., 10.1.2.254). DNS server : <Primary DNS Server IP Address> (e.g 10.1.2.15)

### 9.2.2 Enable the SBC Application



#### SBC Application: 'Enable'.



### 9.2.3 Media Realm

	abie					111
Add +	dit 🧭 Delete	e 📷	▼ All	Search in table		Search 🔎
Show / Hide	0					
Index 💠	Name	IPv4 Interface Name	Port Range Start	Number Of Media Session	Port Range End	Default Medi Realm
1	OneBox365	Voice	6000	200	7990	Yes
		14 (44)	Page 1 of 1	10 🔻		View 1 - 1 o
elected Row	#1	14 - 14	Page 🚹 of 1	10 🔻		View 1 - 1 o

Name:	OneBox365	Default Media	Yes	
IPv4 Interface Name:	Voice	Realm:		
Port Range Start:	6000	QoE Profile:	None	
Number Of Media Session Legs:	200	BW Profile:	None	

# 9.2.4 SRD Tables

Index 🚖	Name	Sharing Policy	SBC Operation Mode	SBC Routing Policy	Max. Number of Registered Users	Block Unregistere Users
1	OneBox365 (#1)	Shared	B2BUA	Default_SBCRouting	-1	No
2	OXE (#2)	Shared	B2BUA	Default_SBCRouting	-1	No
		114 44	Page 🚺 of 1 🛌	⊨i 10 ¥		View 1 - 2 of
elected Row #1		14 44	Page 👔 of 1 🛌	► 10 ¥		View 1 - 2 of
elected Row #1	1	Max. N	Page 1 of 1	d Users: -1		View 1 - 2 of
<mark>elected Row #1</mark> Index: Name:	1 OneBox365	Max. N Block	Page ] of 1	d Users: -1		View 1 - 2 of
elected Row #1 Index: Name: Sharing Policy:	1 ■ OneBox365 Shared	Max. M Block Enable	Page ] of 1	d Users: -1 No Registrations: Ena	ble	View 1 - 2 of
elected Row #1 Index: Name: Sharing Policy: SBC Operation	1 ■ OneBox365 Shared B2BUA	Max. N Block Enable Used E	Page of 1	d Users: -1 No registrations: Ena Not	ble Used	View 1 - 2 of

#### 9.2.5 SIP Interface Table

Open the 'Sip Interface Table page (**Configuration** tab > **VoIP** menu > **VoIP** Network >SIP Interface Table).

Add a SIP Interface for OXE

Add +	Edit 🖌 🛛 🛛	elete 🝵 Sho	w / Hide 🕒		- 1	All Sea	Irch in table		Search /
Index 🚖	Name	SRD	Network Interface	Application Type	UDP Port	TCP Port	TLS Port	Encapsulatin Protocol	Media Realm
1	Lync2013	OneBox36	Voice	SBC	0	5060	5061	No encapsula	OneBox36
2	OXE	OXE (#2)	Voice	SBC	5060	0	0	No encapsula	None
3	Onebox-G	N 📕 OneBox36	Voice	GW	5070	5070	5071	No encapsula	OneBox36
loctod D	. # 7								
lected Row	<u>1 #2</u>								
ndex:	<u>ı #2</u>	2	ΤL	S Context Nan	ne:	d	lefault		
ndex: ndex:	<u>ı #2</u>	2 OXE	TL TL	S Context Nan S Mutual Autho	ne: entication:	d	lefault		
ndex: Name: SRD;	<u>ı #2</u>	2 OXE OXE	TL TL En	S Context Nan S Mutual Autho able TCP Keep	ne: entication: palive:	d	lefault Disable		
ndex: Name: SRD; Network Inte	<u>1 #2</u> erface:	2 OXE OXE Voice	TL TL En Cla	S Context Nan S Mutual Autho able TCP Keep assification Fai	ne: entication: palive: lure Response	d E e Type: S	lefault Disable 100		
Index: Name: SRD: Network Inte	rface: ype:	2 OXE OXE Voice SBC	TL TL En Cla Pr	S Context Nan S Mutual Autho able TCP Keep assification Fai e-classification	ne: entication: balive: lure Response Manipulation	d E e Type: 5 Set ID: -	lefault Disable 100 1		
Index: Name: SRD: Network Inte Application T	rface: ype:	2 OXE OXE Voice SBC 5060	TL TL En Cla Pr SE	S Context Nan S Mutual Autho able TCP Keep assification Fai e-classification IC Direct Media	ne: entication: palive: lure Respons Manipulation a:	d E e Type: S Set ID: - E	lefault Disable 100 Disable		
Index: Name: SRD: Network Inte Application T JDP Port: TCP Port:	<b>γ#2</b> rface: γpe:	2 OXE OXE Voice SBC 5060 0	TL En Cla Pr SE Blu	S Context Nan S Mutual Autho able TCP Keep assification Fai e-classification G Direct Media ock Unregister	ne: entication: palive: lure Response Manipulation a: ed Users:	d E Type: S Set ID: - I M	lefault Disable 100 Disable Iot Configured		
Index: Name: SRD: Network Inte Application T JDP Port: TCP Port: TLS Port:	rface: Type:	2 OXE OXE Voice SBC 5060 0 0	TL TL Cli Pr SE Bli Ma	S Context Nan S Mutual Auth able TCP Keep assification Fai e-classification C Direct Media ock Unregister ix. Number of	ne: entication: balive: lure Response Manipulation a: ed Users: Registered Users	c E Type: 5 Set ID: - D Sers: -	lefault Disable 100 Disable Iot Configured 1		
Index: Name: SRD: Network Inte Application T JDP Port: FCP Port: FLS Port: Encapsulatin dedia Realm	rface: Type: g Protocol:	2 OXE OXE Voice SBC 5060 0 0 No encapsulatio	TL TL En Cla Pr SE Bl Ma n En	S Context Nan S Mutual Auth able TCP Keep assification Fai e-classification IC Direct Media ock Unregister IX, Number of able Un-Authe	ne: entication: balive: lure Response Manipulation a: ed Users: Registered Us nticated Regi Server:	c E Type: 5 Set ID: - E Sers: - strations: N	lefault Disable 100 Disable Jot Configured 1 Iot configured		

SBC Direct Media : Disable

➔ All media streams go through the SBC

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#### Add a SIP Interface for Lync:

Addition	eaco (	Deline of Cha			free a	A 11			Carach D
Add +	Euit	Delete 👜 Sho	w/ Hide 🕒			All	earch in table		Search 2
Index 🚖	Name	SRD	Network Interface	Application Type	UDP Port	TCP Po	rt TLS Port	Encapsulatin Protocol	Media Realm
1	Lync2013	OneBox36	Voice	SBC	0	5060	5061	No encapsula	OneBox365
2	OXE	OXE (#2)	Voice	SBC	5060	0	0	No encapsula	None
3	Onebox-G	W 📕 OneBox36	Voice	GW	5070	5070	5071	No encapsula	OneBox365
			17	Page 1	of 1 Prove	10 🔻		VI	ew 1 - 3 of 3
elected Row	<u>/ #1</u>								
Index:		1	TL	S Context Nan	ne:		default		
Name:		Lync2013	TL	S Mutual Auth	entication:				
SRD:		OneBox365	En	able TCP Keep	alive:		Disable		
Network Inte	erface:	Voice	Cla	assification Fai	lure Respons	e Type:	500		
Application T	ype:	SBC	Pre	e-classification	Manipulation	Set ID:	-1		
UDP Port:		0	SB	C Direct Media	a:		Disable		
TCP Port:		5060	Blo	ock Unregister	ed Users:		Not Configured		
TLS Port:		5061	Ma	x. Number of	Registered U	sers:	-1		
Encapsulatin	g Protocol:	No encapsulatio	n En	able Un-Authe	nticated Regi	strations:	Not configured		
Media Realm	11	OneBox365	Us	ed By Routing	Server:		Not Used		
		Version							

#### SBC Direct Media : Disable

→ All media streams go through the SBC

# 9.2.6 Proxy Sets Table

Open the 'Proxy Sets Table' page (**Configuration** tab > **VoIP** menu > **VoIP** Network > Proxy Sets Table).

Create 2 entries in the table one for Lync FE server, the other for OXE :

Lync FE proxy:

roxy Sets Table	E.				11	
Add + Edi	t 🧨 🛛 Delete 🍵	Show / Hide 🗅		- A	Search in	table
Index 👆	Name	SRD	Gateway IPv4 SIP	SBC IPv4 SIP	Proxy Keep-Alive	Redundancy
1	Onebox	OneBox365 (#1	None	Lync2013	60	mode
2	OXE	OXE (#2)	None	OXE	60	
3	Onebox-GW	OneBox365 (#1	Onebox-GW	Lync2013	60	
			Is a Page 1	of 1 (PS) (P) 10 •		
elected Row #	1		Page 1	of 1 ( ) ( ) 10 •	]	
elected Row #	1		Page 1	of 1		
elected Row #	1	1	Page 1	of 1 1 10 1		Enable
elected Row # Index: Name:	1	1 Onebox	Page 1	of 1 1 10 1 Proxy Hot Swap Proxy Keep-Aliv	: e:	Enable Using OPTION
elected Row # Index: Name: SRD: Gateway IPud S	1	1 Onebox ■ OneBox365	Page 1	of 1 Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala Classification In	: e: ncing Method:	Enable Using OPTION Disable IP Address on
elected Row #: Index: Name: SRD: Gateway IPv4 S BC IPv4 SIP Ir	1 IP Interface:	1 Onebox ■ OneBox365 None Lvnc2013	Page 1	of 1 1 10 1 Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala Classification Inj TLS Context Nar	: e: ncing Method: put: me:	Enable Using OPTION Disable IP Address on None
elected Row #: Index: Name: SRD: Gateway IPv4 S SBC IPv4 SIP Ir Proxy Keep-Aliv	1 IP Interface: nterface: re Time [sec]:	1 Onebox ■ OneBox365 None Lync2013 60	Page 1	of 1 1 10 Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala Classification Inj TLS Context Nar DNS Resolve Me	: e: ncing Method: put: ne: thod:	Enable Using OPTION Disable IP Address on None

Additional Configuration Proxy Address Table [contains 1 entries] #0 - uc-fe.ac-onebox.com:5060 (TCP )

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OXE	Proxy:
-----	--------

Add + Ed	it 🧭 🛛 Delete 🍵	Show / Hide 🗅		- A	Search in	table
Index 🚖	Name	SRD	Gateway IPv4 SIP Interface	SBC IPv4 SIP Interface	Proxy Keep-Alive Time [sec]	Redundancy Mode
1	Onebox	OneBox365 (#1	None	Lync2013	60	
2	OXE	OXE (#2)	None	OXE	60	
3	Onebox-GW	OneBox365 (#1	Onebox-GW	Lync2013	60	
lected Row #	2		Na 🛶 Page 1	of 1 🗾 🗾 10 א		
elected Row #	2		Na 🛶 Page 1	of 1 10 10	<u> </u>	
elected Row #	2	2 0YE	Page 1	of 1 10 1		Disable
elected Row # Index: Name: SRD:	2	2 OXE	Page 1	of 1 Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala	: e: ncing Method:	Disable Using OPTION: Disable
elected Row # Index: Name: SRD: Gateway IPv4	2 SIP Interface:	2 OXE OXE None	Page 1	of 1 10 10 10 10 10 10 10 10 10 10 10 10 1	: e: incing Method: put:	Disable Using OPTION: Disable IP Address onl
Index: Name: SRD: Gateway IPv4 SBC IPv4 SIP I	2 SIP Interface: nterface:	2 OXE OXE None OXE	Page 1	of 1 10 10 10 10 10 10 10 10 10 10 10 10 1	: e: incing Method: put: me:	Disable Using OPTION: Disable IP Address onl None
Index: Name: SRD: SBC IPv4 SIP I Proxy Keep-Ali	2 SIP Interface: nterface: ve Time [sec]:	2 OXE OXE None OXE 60	Page 1	of 1 10 T Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala Classification In TLS Context Nar DNS Resolve Me	: e: ncing Method: put: ne: thod:	Disable Using OPTION: Disable IP Address onl None
elected Row # Index: Name: SRD: Sateway IPv4 SBC IPv4 SIP I Proxy Keep-Ali Redundancy Mo	2 SIP Interface: nterface: ve Time [sec]: ode:	2 OXE OXE None OXE OXE 60	Rage 1	of 1 10 T Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala Classification In TLS Context Nar DNS Resolve Me Keep-Alive Failu	: e: ncing Method: put: ne: thod: re Responses:	Disable Using OPTION: Disable IP Address onl None
elected Row # Index: Name: SRD: Gateway IPv4 SBC IPv4 SIP I Proxy Keep-Ali Redundancy Mu	2 SIP Interface: nterface: ve Time [sec]: ode:	2 OXE OXE None OXE 60	Page 1	of 1 10 10 Proxy Hot Swap Proxy Keep-Aliv Proxy Load Bala Classification In TLS Context Nar DNS Resolve Me Keep-Alive Failu	: e: ncing Method: put: me: thod: re Responses:	Disable Using OPTION Disable IP Address oni None

# 9.2.7 IP Group Table

Open the 'IP Group Table' page (**Configuration** tab > **VoIP** menu > **VoIP** Network> IP Group Table)

Configure IP Group Table for Lync as below:

Index	Name	SRD	Туре	SBC Operation Mode	Proxy Set	IP Profile	Media Realm	SIP Group Name	Classify By Proxy Set	Inbound Message Manipulation Set	Outbound Message Manipulatio Set
1	OneBox365	OneBox36	Server	Not Configur	Onebox	OneBox365	OneBox365		Enable	-1	1
2	OXE	OXE (#2)	Server	Not Configur	OXE	OXE	OneBox365	10.1.20.1	Enable	-1	2

Row		
Common GW S	SBC	
Name	OneBox365	
Туре	Server	•
Proxy Set	Onebox	•
IP Profile	OneBox365	•
Media Realm	OneBox365	•
SIP Group Name		
QoE Profile	None	•
Media Enhancement Profile	None	•
Bandwidth Profile	None	•
Always Use Src Address	No	▼)
Contact User	(	
Local Host Name		
UUI Format	Disable	•
Used By Routing Server	(Not Used	•
Created By Routing Server	No	

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	Enterprise	
Common GW SBC		
SBC Operation Mode	Not Configured	0
Classify By Proxy Set	Enable	
SBC Client Forking Mode	Sequential	
Inbound Message Manipulation Set	<del>[</del> -1	
Outbound Message Manipulation Set	[1	
Message Manipulation User- Defined String 1	(	
Message Manipulation User- Defined String 2	(	0
Registration Mode	User Initiates Registra	
Max. Number of Registered Users	(-1	
Authentication Mode	User Authenticates	Ð
Authentication Method List		0
Username	(	
Password		
Source URI Input	(	r)
Destination URI Input	(	0
	(	5

Configure IP Group Table for OXE as below:

fit Row				
	Index 2 SRD OXE	•		
Common	GW SBC			
Name		(OXE		
Туре		Server	•	
Proxy Set		OXE	•	
IP Profile		OXE	•	
Media Rea	lm	OneBox365	•	
SIP Group	Name	10.1.20.1		
QoE Profile	e	None	•	
Media Enh	ancement Profil	e None	•	
Bandwidth	Profile	None	•	
Always Us	e Src Address	No	•	
Contact Us	ser			
Local Host	Name			
UUI Forma	it	Disable	<b>v</b> )	
Used By R	outing Server	Not Used	T)	
Created B	y Routing Serve	r No		

it Row				
	Index	2		
	SRD	OXE	•	
Common	GW	SBC		
SBC Oper	ation Mo	de	Not Configured	•
Classify B	y Proxy	Set	Enable	•
SBC Clien	t Forking	Mode	Sequential	•
Inbound Manipulat	lessage ion Set		-1	
Outbound Manipulat	Message ion Set		2	
Message I Defined S	Manipulat tring 1	ion User-		
Message I Defined S	Manipulat tring 2	ion User-		
Registrati	on Mode		User Initiates Registr	re 🔻
Max. Num Users	ber of R	egistered	-1	
Authentica	ation Mod	le	User Authenticates	•)
Authentica	ation Met	hod List	-	
Username				
Decouverd			(	

## 9.2.8 IP Profile Definition

\_

Open the IP Profile Settings page (Configuration tab > Coders and Profiles > IP Profiles Settings)

Configure IP Profile for Lync:

Row		
Common GW SE	C Signaling SBC Media	
Name	OneBox365	
Dynamic Jitter Buffer Minimum Delay [msec]	(10	
Dynamic Jitter Buffer Optimization Factor	(10	
Jitter Buffer Max Delay [msec]	(300	
RTP IP DiffServ	46	
Signaling DiffServ	40	
Silence Suppression	Disable 🔹	
RTP Redundancy Depth	0	
Echo Canceler	(Line 🔻	
Broken Connection Mode	Disconnect •	
Input Gain (-32 to 31 dB)	0	
Voice Volume (-32 to 31 dB)	0	
Media IP Version Preference	Only IPv4	
Symmetric MKI	Enable •	

Row		
Index (1		1
ommon GW SB	C Signaling	SBC Media
Profile Preference	[1	
Coders	Default Coder	s group 🔻
Media Security Mode	Preferable - S	ingle me 🔻
s DTMF Used	Disable	•)
First Tx DTMF Option	RFC 2833	•
Second Tx DTMF Option	(	•)
Rx DTMF Option	Supported	•
ax Signaling Method	No Fax	•
CNG Detector Mode	Disable	•
/xx Modem Transport Гуре	Disable	•
NSE Mode	Disable	<b>v</b> )
Play RB Tone to IP	Disable	•)
Early Media	Enable	<b>Y</b> )
Progress Indicator to IP		•
Early 183	Disable	<b>Y</b> )
Early Answer Timeout	6	

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Edit Row	×
Index (1	•
Common GW SB	C Signaling SBC Media
PRACK Mode	Transparent
P-Asserted-Identity Header Mode	As Is
Diversion Header Mode	As Is
History-Info Header Mode	As Is
Session Expires Mode	Transparent
Remote Update Support	Supported Only After
Remote re-INVITE	Supported only with S V
Remote Delayed Offer Support	Supported T
User Registration Time	0
NAT UDP Registration Time	-1
NAT TCP Registration Time	-1
Remote REFER Mode	Regular
Remote Replaces Mode	Standard 🔻
Play RBT To Transferee	No •

	Enterprise	_
dit Row	×	
Remote 3xx Mode	Transparent	•
Remote Early Media	Supported	
Remote Multiple 18x	Supported V	
Remote Early Media Response Type	Transparent	
Remote Multiple Early Dialogs	According to Operatio ▼	
Remote Multiple Answers Mode	Disable	
Remote Early Media RTP Detection Mode	By Media	
Remote RFC 3960 Support	Not Supported	
Remote Can Play Ringback	Yes 🔻	
Reliable Held Tone Source	Yes 🔻	
Play Held Tone	No	
Remote Hold Format	Inactive	
Remote Representation Mode	According to Operatio ▼	
Keep Incoming Via Headers	According to Operatio ▼	
Keep Incoming Routing Headers	According to Operatio ▼	
Keep User-Agent	(A	•

	Enter	prise
Row		
Index (1		
common GW SB	C Signaling	SBC Media
Transcoding Mode	Only If Require	ed 🔹
Extension Coders	Coders Group	1 🔹
Allowed Audio Coders	Coders Group	1 •
Allowed Coders Mode	Restriction	•
Allowed Video Coders	None	•)
Allowed Media Types	(	
SBC Media Security Mode	RTP	•)
Media Security Method	SDES	•)
Enforce MKI Size	Don't enforce	•
SDP Remove Crypto Lifetime	No	•
RFC 2833 Mode	Extend	•
Alternative DTMF Method	(As Is	•)
RFC 2833 DTMF Payload Type	0	
Fax Coders	None	×)

Coder Group 1 is set to G711 A law:

Coder Group Settings				
Coder Group ID			1 🔻	
Coder Name	Packetization Time	Pata	Payload Type	Silonco Supproceion
G 7111 Llaw		64 V		Enable V
G./ 110-law	20 .			
<b>T</b>	•	<b></b>		<b>T</b>
▼	<b>T</b>	<b>T</b>		<b>T</b>
<b></b>	<b>T</b>	<b>T</b>		<b>T</b>
▼	<b>T</b>	<b>T</b>		<b>T</b>
<b>T</b>	<b>T</b>	<b>T</b>		<b>T</b>
<b>T</b>	<b>T</b>	<b>T</b>		<b>T</b>
<b>T</b>	▼	<b>T</b>		<b>T</b>
▼	▼	<b>T</b>		<b>T</b>
▼	<b>T</b>	T		<b>T</b>

dit Row		
RFC 2833 DTMF Payload Type	0	
Fax Coders	None	•
Fax Mode	As Is	•
Fax Offer Mode	All coders	•
Fax Answer Mode	Single coder	•
Remote Renegotiate on Fax Detection	Transparent	•
SDP Ptime Answer	Remote Answer	•
Preferred PTime	0	
Use Silence Suppression	Transparent	•
RTP Redundancy Mode	As Is	•
RTCP Mode	Transparent	•
Jitter Compensation	Disable	•
ICE Mode	Disable	•
SDP Handle RTCP	Don't Care	•
RTCP Mux	Not Supported	•
RTCP Feedback	Disable	•
Direct Media Tag		
Adapt RFC2833 BW to Voice coder BW	Disabled	•

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Index 2	Ĵ	
common GW SE	IC Signaling	SBC Media
Name	OXE	
Dynamic Jitter Buffer Minimum Delay [msec]	(10	
Dynamic Jitter Buffer Optimization Factor	(10	
Jitter Buffer Max Delay [msec]	(300	
RTP IP DiffServ	46	
Signaling DiffServ	(40	
Silence Suppression	Disable	•
RTP Redundancy Depth	0	
Echo Canceler	Line	•)
Broken Connection Mode	Disconnect	•
Input Gain (-32 to 31 dB)	0	
Voice Volume (-32 to 31 dB)	0	
Media IP Version	Only IPv4	•

Configure IP Profile for OXE:

lit Row	
Index 2	
Common GW SB	C Signaling SBC Media
Profile Preference	1
Coders	Default Coders group V
Media Security Mode	Preferable - Single me 🔻
Is DTMF Used	Disable 🔹
First Tx DTMF Option	(RFC 2833 V
Second Tx DTMF Option	· · · · · · · · · · · · · · · · · · ·
Rx DTMF Option	Supported
Fax Signaling Method	No Fax
CNG Detector Mode	Disable 🔹
Vxx Modem Transport Type	Disable •
NSE Mode	Disable 🔹
Play RB Tone to IP	Disable 🔻
Early Media	Enable
Progress Indicator to IP	· · · · · · · · · · · · · · · · · · ·
Early 183	Enable T
Early Answer Timeout	6

	Alc Ente	atel·Lucent 🕖	
Edit Row			x
Index 2		1	-
Common GW SB	C Signaling	SBC Media	
PRACK Mode	Transparent		
P-Asserted-Identity Header Mode	(As Is	•)	
Diversion Header Mode	As Is	<b>v</b> )	
History-Info Header Mode	As Is	¥	
Session Expires Mode	Transparent	<b>(</b> )	
Remote Update Support	Supported	•)	
Remote re-INVITE	Supported	•	
Remote Delayed Offer Support	Supported	•	
User Registration Time	0		
NAT UDP Registration Time	-1		
NAT TCP Registration Time	-1		
Remote REFER Mode	Regular	<b>v</b> )	
Remote Replaces Mode	Standard	•	-
NAT UDP Registration Time NAT TCP Registration Time Remote REFER Mode Remote Replaces Mode	-1 -1 Regular Standard		

# Edit Row

Edit Row		×
Remote 3xx Mode	Transparent	<ul> <li>A</li> </ul>
Remote Early Media	Supported	
Remote Multiple 18x	Supported	
Remote Early Media Response Type	Transparent	Ð
Remote Multiple Early Dialogs	According to Operatio	D
Remote Multiple Answers Mode	Disable	
Remote Early Media RTP Detection Mode	By Signaling	D
Remote RFC 3960 Support	Not Supported	D
Remote Can Play Ringback	Yes	Ð
Reliable Held Tone Source	Yes	D
Play Held Tone	No	
Remote Hold Format	Transparent	
Remote Representation Mode	According to Operatio	Ð
Keep Incoming Via Headers	According to Operatio	0
Keep Incoming Routing Headers	According to Operatio	0
Keen Heer Agent		- ·
	Save	Cancel

Row	
Index (2	
ommon GW SB	C Signaling SBC Medi
ranscoding Mode	Only If Required
xtension Coders	Coders Group 2 🔹
lowed Audio Coders	Coders Group 2 🔹
lowed Coders Mode	Restriction
owed Video Coders	(None 🔹
lowed Media Types	
3C Media Security ode	(RTP •)
edia Security Method	(SDES V
nforce MKI Size	Don't enforce
DP Remove Crypto fetime	(No •
FC 2833 Mode	As Is 🔹
lternative DTMF lethod	(As Is 🔹 🔻
FC 2833 DTMF ayload Type	0
ax Coders	None V

Coder Group 2 is set to G711 U law.

# 9.2.9 Configure Proxy 1 Registration:

Open the **'Proxy & Registration'** page (**Configuration** tab > **VoIP** menu > SIP Definitions > **Proxy & Registration**)

•	
Use Default Proxy	No
Proxy Name	
Redundancy Mode	Parking
Proxy IP List Refresh Time	10
Enable Fallback to Routing Table	Disable
Prefer Routing Table	No
Always Use Proxy	Disable
Redundant Routing Mode	Routing Table
SIP ReRouting Mode	Standard Mode
Gateway Name	etesting9.etesting.lab
Gateway Registration Name	
DNS Query Type	A-Record
Proxy DNS Query Type	A-Record
Subscription Mode	Per Endpoint
Number of RTX Before Hot-Swap	3
Use Gateway Name for OPTIONS	No
User Name	
Password	Default_Passwd
Cnonce	Default_Cnonce
Authentication Mode	Per Gateway
Set Out-Of-Service On Registration Failure	Disable
Challenge Caching Mode	None
Mutual Authentication Mode	Optional
Use Proxy IP as Host	Disable
Max Generated Register Rate	30
Enable Desistration	Disable



## 9.2.10 Configure Routing

Open the 'IP to Trunk Group Routing' page (**Configuration** tab > SBC > Routing SBC > **IP to IP Routing Table**).

Routing rule for OPTIONS :

-to-IP Routing Table	6										
Add + Edit 💉	Delete (	insert +	Up †	Down + S	how / Hide 🕒			▼ All	Search in table	i	Sear
Index 🔶	Name	Routing Policy	Alternative Route Options	Source IP Group	Request Type	Source Username Prefix	Destination Username Prefix	Destination Type	Destination IP Group	Destination SIP Interface	Destinati Addres
1		Default_SBCR	Route Row	Any	OPTIONS	*	*	Dest Address	None	None	internal
3		Default_SBCR	Route Row	OneBox365	All	*	*	IP Group	OXE	None	
4		Default SBCR	Route Row	OXE	All	*	*	IP Group	OneBox365	None	
cted Row #1											
ime:						Destination	lype:		Dest Address		
uting Policy:		Det	fault_SBCRou	utingPolicy		Destination	IP Group:		None		
ternative Route Op	tions:	Roi	ute Row			Destination	SIP Interface:		None		
urce IP Group:		An	y			Destination	Address:		internal		
equest Type:	- <b>6</b> -22	OP *	TIONS			Call Setup R	lules Set ID:		-1		
estination Username	enx: e Prefix:	*				Destination	Fort: Transnort Tyne	6-1	U		
ource Host:	e rrenner	*				Group Policy	/:		None		
estination Host:		*				Cost Group:			None		
essage Condition:		Nor	ne								
eRoute IP Group:		An	y								

## Routing rule Lync to OXE:

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Index 🗧 Name	Routing Al Policy C	lternative Route Options	Source IP Group	Request Type	Source Username Prefix	Destination Username Prefix	Destination Type	Destination IP Group	>
1	Default_SBCR Rou	ite Row	Any	OPTIONS	*		Dest Address	None	N
3	Default_SBCR/Rou	ite Row	OneBox365	All		*	IP Group	OXE	N
4	Default_SBCR(Rou	ite Row	OXE	All	*	*	IP Group	OneBox365	ß
ected Pow #3				e e Page 1	of 1   11   1	0.			
ected Row #3				Page 1	of 1 American 1				
ected Row #3	1001-000-0040		1	Page 1	Destination	0▼		IP Group	
ected Row #3 ame: outing Policy:	Default	SBCRouti	ingPolicy	Page 1	Destination	I ype: IP Group:		IP Group OXE	
ected Row #3 ame: outing Policy: Iternative Route Options:	Default Route F	SBCRouti	ingPolicy	Page 1	Destination Destination	Iype: IP Group: SIP Interface:		IP Group OXE None	
ected Row #3 ame: outing Policy: Iternative Route Options: ource IP Group:	Default Route F OneBoy	SBCRouti	ingPolicy	Page 打	Destination Destination Destination Destination Call Sature R	Type: IP Group: SIP Interface: Address: ules Set ID:		IP Group OXE None	
ected Row #3 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource IIsername Prefix:	Default Route F OneBo All *	_SBCRouti Row x365	ingPolicy	Page 打	Destination Destination Destination Call Setup R Destination	Iype: IP Group: SIP Interface: Address: cules Set ID: Port:		IP Group OXE None	
ected Row #3 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix:	Default Route F OneBoy All *	SBCRouti	ingPolicy	Page 打	Destination Destination Destination Call Setup R Destination Destination	Type: IP Group: SIP Interface: Address: ules Set ID: Port: Transport Type		IP Group OXE None -1 0	
ected Row #3 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix: ource Host:	Default Route F OneBo All * *	_SBCRouti Row x365	ingPolicy	Page 👔	Destination Destination Destination Call Setup R Destination Destination Group Policy	Iype: IP Group: SIP Interface; Address: ules Set ID: Port: Transport Type ':		IP Group OXE None -1 0 None	
ected Row #3 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix: ource Host: estination Host:	Default Route F OneBoy All * *	_SBCRouti Row x365	ingPolicy	e e Page 打	Destination Destination Destination Call Setup R Destination Destination Group Policy Cost Group:	Iype: IP Group: SIP Interface: Address: uides Set ID: Port: Transport Type /:	:	IP Group OXE None -1 0 None None	
ected Row #3 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix: ource Host: estination Host: essage Condition:	Default Route F OneBoy All * * * * None	_SBCRouti Row x365	ingPolicy	Page 打	Destination Destination Destination Call Setup R Destination Destination Group Policy Cost Group:	Iype: IP Group: SIP Interface: Address: uules Set ID: Port: Transport Type /:	4	IP Group OXE None -1 0 None None	
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# Alcatel Lucent

## Routing rule OXE to Lync :

Add + Edit / Delet	e 🝵 🛛 Insert +	Up t	Down + S	how / Hide 🗈			× All	Search in table	
Index • Name	Routing	Alternative	Source IP	Request Type	Source	Destination Username	Destination	Destination IP	Desti
	Policy	Options	Group		Prefix	Prefix	Type	Group	SIPIN
1	Default_SBCR	Route Row	Any	OPTIONS	*	*	Dest Address	None	None
3	Default_SBCR	Route Row	OneBox365	All	*	*	IP Group	OXE	None
4	Default SBCR	Route Row	OXE	All	*	*	IP Group	OneBox365	None
vetad Pow #4				e e Page 🚺 i	of 1 and 1	2 🔻			
ected Row #4				• •• Page 🚺	of 1 🕞 🛌 🖭 🗍	2 🔻			
ected Row #4				e ee Page 👔 e	Destination	o▼ Iype:		IP Group	_
ected Row #4 ame: puting Policy:	De	fault_SBCRou	tingPolicy	• •• Page 👔 •	of 1 and 1 Destination Destination	)▼ Iype: IP Group:		1P Group OneBox365	D
ected Row #4 ame: buting Policy: ternative Route Options:	De Ro	fault_SBCRoul	tingPolicy	• •• Page 1 •	Destination Destination	Iype: IP Group: SIP Interface:		IP Group OneBox365 None	D
ected Row #4 ame: buting Policy: ternative Route Options: surce IP Group:	De Ro OX	fault_SBCRout ute Row E	tingPolicy	• •• Page 1 •	Destination Destination Destination Destination Destination	Iype: IP Group: SIP Interface: Address:		IP Group OneBox365 None	כ
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ected Row #4 ame: outing Policy: ternative Route Options: ource IP Group: equest Type: ource Username Prefix: actination Lisername Prefix:	De Ro OX All *	fault_SBCRoui ute Row E	tingPolicy	Page T	Destination Destination Destination Call Setup R Destination Destination Destination	IVPE: IP Group: SIP Interface: Address: ules Set ID: Port: Transport Type		IP Group OneBox365 None -1 0	D
ected Row #4 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix estination Username Prefix	De Ro OX All * : *	fault_SBCRoui ute Row E	tingPolicy	Page T	Destination Destination Destination Call Setup R Destination Group Policy	Ivpe: IP Group: SIP Interface: Address: ules Set ID: Port: Transport Type ':	1	IP Group OneBox365 None -1 0	D
ected Row #4 ame: outing Policy: Iternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix ource Host:	De <u>Ro</u> OX All * * * * *	fault_SBCRoui ute Row E	tingPolicy	Page T	Destination Destination Destination Cell Setup R Destination Group Policy Cost Group:	Iype: IP Group: SIP Interface: Address: Udes Set ID: Port: Transport Type (:	:	IP Group OneBox365 None -1 0 None None	C
ected Row #4 ame: outing Policy: ternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix ource Host: estination Host: essage Condition:	De <u>Ro</u> OX All * * * * *	fault_SBCRoui ute Row E	tingPolicy	Page Ţ /	Destination Destination Destination Call Setup R Destination Destination Group Policy Cost Group:	IVPE: IP Group: SIP Interface: Address: ules Set ID: Port: Transport Type (;	1	IP Group OneBox365 None -1 0 None None	D
ected Row #4 ame: outing Policy: tternative Route Options: ource IP Group: equest Type: ource Username Prefix: estination Username Prefix ource Host: estination Host: essage Condition: essage Condition:	De Ro OX All * * * * * * * * * * * * * * * * * *	fault_SBCRoul ute Row E	tingPolicy	Page 打 (	Destination Destination Destination Call Setup R Destination Destination Group Policy Cost Group:	IVPE: IP Group: SIP Interface: Address: ules Set ID: Port: Transport Type ':	:	IP Group OneBox365 None -1 0 None None	C

## 9.2.11 IP-to-IP Outbound Rules

Add +	Edit 🧪	Delete 🝵	Insert +	Up †	Down 1	Show	Hide 🗅	-	All	Search in ta	ble		Search
Index 🚖	Name	Routing Policy	Additional Manipulati	Source IP Group	Destination IP Group	Source Username Prefix	Destination Username Prefix	Manipulate Item	Remove From Left	Remove From Right	Leave From Right	Prefix to Add	Suffix to Add
0	Lync vers	Default_SB	No	OneBox36	OXE	*	*	Destination	0	0	255		
1	Lync vers	Default_SB	No	OneBox36	OXE	*	*	Source UR	0	0	255		
2	OXE vers l	Default_SB	No	OXE	OneBox36	*	0	Destination	1	0	255	+33	
2	OVE vers I	Default SB	No	OXE	OneBox36	0	*	Source LIR	1	0	255	+33	

Rule 2: Remove the leading 0 and add +33 on destination URI

Rule Name:	OXE vers Lync Dst	Action Manipulated Item:	Destination UR
Routing Policy:	Default_SBCRoutingPolicy	Remove From Left:	1
Additional Manipulation:	No	Remove From Right:	0
Source IP Group:	OXE	Leave From Right:	255
Destination IP Group:	OneBox365	Prefix to Add:	+33
Source Username Prefix:	*	Suffix to Add:	
Destination Username Prefix:	0	Privacy Restriction Mode:	Transparent
Source Host:	*		
Destination Host:	*		
Calling Name Prefix:	*		
Message Condition:	None		



Rule 3: Remove the leading 0 and add +33 on source URI

Selected	Row	#3	
Derected		.,	

Rule		Action	
Name:	OXE vers Lync Src	Manipulated Item:	Source URI
Routing Policy:	Default_SBCRoutingPolicy	Remove From Left:	1
Additional Manipulation:	No	Remove From Right:	0
Source IP Group:	OXE	Leave From Right:	255
Destination IP Group:	OneBox365	Prefix to Add:	+33
Source Username Prefix:	0	Suffix to Add:	
Destination Username Prefix:	*	Privacy Restriction Mode:	Transparent
Source Host:	*		
Destination Host:	*		
Calling Name Prefix:	*		
Message Condition:	None		

### 9.2.12 Sip Header Manipulations

> To configure Sip Headers manipulations :

Open the 'IP to Trunk Group Routing' page (Configuration tab > VoIP menu > Sip Definitions > Msg Policy & Manipulation > Messages Manipulation).

<ul> <li>Message I</li> </ul>	Manipulat	ions							
Add +	Edit	🖍 🛛 Delete 🍵 🛛 In	isert + Up †	Down 🕴 ያ	Show / Hide 🗈	▼ All	Search in table	9	Search 🔎
Inc	dex 🚖	Name	Manipulation Set ID	Message Type	Condition	Action Subject	Action Type	Action Value	Row Role
1		GW OPTIONS	1	options		header.request-u	Modify	'etesting9.etestin	Use Current (
2		GW OPTIONS	2	options		header.request-u	Modify	'etesting9.etestin	Use Current (
3		Lync_from	2			header.from.url.	Modify	'10.1.2.63'	Use Current (
4		Lync_ppreferred	2			header.p-preferr	Modify	header.from.url.	Use Current (
5		Lync_passerted	2			header.p-asserte	Modify	header.from.url.l	Use Current (
7		Lync_remove_Priv	2	invite		header.Privacy	Remove		Use Current (

Index:	1	Action Subject:	header.request-uri.url.hos
Name:	GW OPTIONS	Action Type:	Modify
Manipulation Set ID:	1	Action Value:	'etesting9.etesting.lab'
Message Type:	options	Row Role:	Use Current Condition
Condition:			
contaition.			
ected Row #2			
ected Row #2	2	Action Subject:	header.request-uri.url.host
ected Row #2	2 GW OPTIONS	Action Subject: Action Type:	header.request-uri.url.host Modify
editation: elected Row #2 index: Name: Manipulation Set ID:	2 GW OPTIONS 2	Action Subject: Action Type: Action Value:	header.request-uri.url.host Modify 'etesting9.etesting.lab'

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Selected Row #3

Index:	3	Action Subject:	header.from.url.host
Name:	Lync_from	Action Type:	Modify
Manipulation Set ID:	2	Action Value:	'10.1.2.63'
Message Type:		Row Role:	Use Current Condition
Condition:			

#### Selected Row #4

Index:	4	Action Subject:
Name:	Lync_ppreferred	Action Type:
Manipulation Set ID:	2	Action Value: Row Role:
Message Type:		
Condition:		

header.p-preferred-identity.url.host Modify header.from.url.host Use Current Condition

#### Selected Row #5

Index:	5	Action Subject:	header.p-asserted-identity.url.host
Name:	Lync_passerted	Action Type:	Modify
Manipulation Set ID:	2	Action Value:	header.from.url.host
Message Type:		Row Role:	Use Current Condition
Condition:			

#### Selected Row #7

Index:	7	Action Subject:	header.Privacy
Name:	Lync_remove_Priv	Action Type:	Remove
Manipulation Set ID:	2	Action Value:	
Message Type:	invite	Row Role:	Use Current Condition
Condition:			



# 10 Appendix B : CloudBond box configuration

Step 1: Configure the IP addresses of the servers by using the SysAdmin interface:

🗅 Appliance Management 🛛 🗙		
← → C 🗋 10.1.2.60/Sys/	Admin/System/ServerManagem	ent
Applications 👔 AudioCodes 🗋	O365Sysadmin 🚼 SBC-Onebox	
	EDITION	
Internal Network		
Domain controller:	10.1.2.60	
Front End:	10.1.2.61	
Edge Internal:	10.1.2.62	Existing Edge IP DNS: 10.1.2.62 , Topology Internal IP: 10.1.2.62
Internal subnet:	255.255.0.0	
Internal default gateway:	10.1.255.254	
External Network		
Edge external IP:	81.388-62-68	Topology External IP: 83.206.62.68
External subnet:	200 200 200 240	
External default gateway:	49.398-42.79	
Public DNS:	0.0.0	
Update		

**Step2:** Put the DC as the NTP reference on all servers to be sure that they all have the same time/date.

**Step 3**: Create the necessary DNS entries on the enterprise DNS and the Cloudbond box DC DNS. Typically:

1. On the enterprise DNS server, a stub zone matching the CloudBond 365 resource domain Fully Qualified Domain Name (FQDN)

- 2. On the CloudBond 365 Controller server, a stub zone matching the corporate enterprise DNS zone.
- 3. On the public DNS server, a zone matching the FQDN of the SIP domain specified for CloudBond 365.

Refer to AudioCodes document:

LTRT-26323 AudioCodes CloudBond 365 Deployment Guide Ver. 7.0.pdf chapters 3.4 and B2

Step 4: Activate the PKI on the DC:

Refer to AudioCodes document:

LTRT-26443 CloudBond 365 Certificates Configuration Note Ver. 7.0.pdf, chapter B3

**Step 5:** Create and load the internal certificates for FE and Edge servers by using the newly created CloudBond PKI.

Refer to AudioCodes document: LTRT-26443 CloudBond 365 Certificates Configuration Note Ver. 7.0.pdf, chapter 10.

Step 6: If needed, load the public certificates on Edge and Reverse Proxy server.



# 11 Appendix C : Lync 2013 Configuration

This section describes the way to configure the Mediant SBC as a PSTN Gateway and its association with the Mediation Server:

Run Lync Server Topology Builder program:



Go into Mediation Pool and Edit Properties on the server.

	Lync Serve	er 2013, Topolo	gy Builder		_ <b>D</b> X
File       Action       Help         ✓       ▲       Lync Server         ✓       ▲       ACS-2013         ▶       >       Lync Server 2010         ✓       →       Lync Server 2013         ▶       >       Standard Edition Front End Servers         ■       Enterprise Edition Front End pools         ■       Director pools         ▲       Mediation pools         ■       Mediation pools         ■       Persistent Chat pools         ■       Edge pools         ■       Trusted application servers         ■       Shared Components         ■       Branch sites	Mediation Server PSTN TLS listening port: TCP listening port: Trunks:	gateway 5067 - 5067 5060 - 5060 Default sbc.	Trunk ac-onebox.com	Gateway sbc.ac-onebox.com	Site ACS-2013

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10	Encip	Edit Properties	
PSTN gateway	Mediation Server PSTN gate	way	•
	Listening ports: * TLS: 5067	- 5067 TCP: 5060	- 5060
	✓ Enable TCP port		
	The following trunks are associ	server must be enabled because a TCF ated with this Mediation Server. Click N ired only when your topology contains	<sup>o</sup> gateway depends on it. Nake Default to mark a trunk as Office Communications Server 2007
	Trunk	Gateway	Site
	sbc.ac-onebox.com	sbc.ac-onebox.com	ACS-2013
		Γ	Make Default

# Create a new IP/PSTN gateway:

14	Lync Sei	rver 2013, Topolo	gy Builder		_ C
File Action Help					
<ul> <li>Lync Server</li> <li>ACS-2013</li> <li>Lync Server 2010</li> <li>Lync Server 2013</li> <li>Standard Edition Front End Servers</li> <li>Enterprise Edition Front End Servers</li> <li>Director pools</li> <li>Mediation pools</li> <li>Mediation pools</li> <li>QUC-FE.ac-onebox.com</li> <li>Persistent Chat pools</li> <li>Edge pools</li> <li>Trusted application servers</li> <li>Shared Components</li> <li>Sol Server stores</li> <li>File stores</li> <li>PSTN gateways</li> </ul>	PSTN Gateway FQDN: IPv4 addresses: Alternate media IP address: Trunks:	sbc.ac-onebox.c Use all configure Not configured Root sbc.ac-or	om ed IPv4 addresses Trunk nebox.com	Mediation Server <u>UC-FE.ac-onebox.com</u>	Site ACS-2013



Enter the SBC FQDN or IP address:

10	Define New IP/PSTN Gateway	x
5	Define the PSTN Gateway FQDN	
Define th FQDN: *	ne fully qualified domain name (FQDN) for the PSTN gateway.	
sbc.ac-	onebox-com	
Help	Back Next Cancel	

Then, choose the TCP protocol and enter the listening port of the SBC: 5060

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i o	Define New IP/PSTN Gateway	x
<b>-</b>	Define the root trunk	
Trunk name:	*	
sbc.ac-onet	box-com	
Listening po	rt for IP/PSTN gateway: *	
5066		
SIP Transpor	rt Protocol:	
TCP		•
Associated N	Mediation Server:	
UC-FE.ac-or	nebox.com ACS-2013	•
Associated N	Mediation Server port: *	
5060		
Help	Back Finish Cancel	

You can now see the new trunk:

14 - Contra de Contra	Lync Serve	er 2013, Topology Builder
File Action Help		
<ul> <li>Action Thep</li> <li>Lync Server</li> <li>ACS-2013</li> <li>Lync Server 2010</li> <li>Lync Server 2013</li> <li>Standard Edition Front End Servers</li> <li>Enterprise Edition Front End pools</li> <li>Director pools</li> <li>Mediation pools</li> <li>Mediation pools</li> <li>Weliation pools</li> <li>Mediation servers</li> <li>Edge pools</li> <li>Edge pools</li> <li>Trusted application servers</li> <li>Shared Components</li> <li>SQL Server stores</li> <li>File stores</li> <li>PSTN gateways</li> <li>Sbc.ac-onebox.com</li> <li>Trunks</li> <li>Custor Servers</li> </ul>	Trunk name: PSTN gateway: Listening port: SIP Transport Protocol: Mediation Server: Mediation Server port:	sbc.ac-onebox.com sbc.ac-onebox.com (ACS-2013) 5060 TCP UC-FE.ac-onebox.com (ACS-2013) 5060
Office Web Apps Servers     Branch sites		



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 Image: Comparison

 Enterprise
 Image: Comparison

 To activate all changes go to main menu and in Action -> Topology choose option Publish....

i Gi		Lync Server 20	ra, ropology builder
File A	ction Help		
4 2	Edit Properties	Taunda	
4	Topology +	New	
	Help	Open	x com
	Lync server 2015	Download Current Topology	x.com (ACS-2013)
	Standard Edition Frd	Save A Copy	X.COIII (AC3-2013)
	Director pools	Publish.,,	
	4 Mediation pools	Install Database	Lange 1000 2012
	Merge Office Communications Server 2007 R2	ibox.com (ACS-2013	
	Persistent Chat pool	Remove Deployment	
	Edge pools		
	Trusted application ser	vers	
⊿	🚞 Shared Components		
	SQL Server stores		
	File stores		
	PSTN gateways		
	bc.ac-onebox.com		
	▲ Trunks		
	3 sbc.ac-onebox.com		
	Office Web Apps Serve	rs	

Publi Your to	ishing wizard complete			
	Step Publishing topology Downloading topology Downloading global simple URL settings Updating role-based access control (RBAC) roles Enabling topology	Status Success Success Success Success Success		<u>V</u> iew Logs
To clos Hel	se the wizard, click Finish. IP	Back .	Einish	Cancel



Now open Lync Server Control Panel



In Topology tab you should see the newly created gateway: sbc.ac-onebox.com

Ly	nc Server 2013						Administrator   S	lign out
							5.0.8308.556   Privacy sta	atement
	Home	Status Server Application Simple UR	L Trusted Application					
22	Users	( [	MA KAT					
24	Topology			2				
Ş	IM and Presence	Cet service status Properties	Action 🔻 📿 Refresh					0
9	Persistent Chat	Computer	Pool	Site	Status	Replication	Version	
6	Voice Routing	sbc.ac-onebox.com	sbc.ac-onebox.com	ACS-2013	N/A	N/A	N/A	
e	Voice Features	UC-DC.ac-onebox.com	UC-DC.ac-onebox.com	ACS-2013	N/A	N/A	Lync Server 2013	
72	Response Groups	UC-Edge.ac-onebox.com	UC-Edge.ac-onebox.com	ACS-2013	N/A	-	Lync Server 2013	
Ð	Conferencing	UC-FE.ac-onebox.com	Standard Edition	ACS-2013	Retrieving	1	Lync Server 2013	
6	Clients							
諧	Federation and External Access							
	Monitoring and Archiving							
4	Security							
9	Network Configuration							

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Voice Routing configuration

In Dial Plan section, Create a new Pool dial plan and choose the newly created PSTN gateway from the Select a service dialog box.

Lyı	nc Server 2013						
	Home	Dial Plan	Voice Policy	Route	PSTN Usage	Trunk Configuration	Test Voice Routing
33	Users	Create vo	ice routing tes	t case info	mation		
N	Topology						
Ģ	IM and Presence						Q
9	Persistent Chat	4 New	🔻 🥖 Edit	▼ Ac	tion 🔻 Comr	nit 🔻	
1	Voice Routing	Na	me 🔺	Scope	State	Normalization rules	Description
6	Voice Features	C	Global	Global	Committed	1	
73	Response Groups		ACS-2013	Site	Committed	1	
Þ	Conferencing						
6	Clients						
龘	Federation and External Access						
	Monitoring and Archiving						
1	Security						
T	Network Configuration						

			Enterprise			
lit Dial P	'lan - ACS-201	13				
🧹 ОК	🗙 Cancel					
Scope: S Name: *	ite					
ACS-201	3					
Simple na	me: *					
ACS-201	3					
Descriptio	n:					
Dial-in co	nferencing regio	n:				
External a	access prefix:			🤅		
External a	access prefix:			?		
External : Associated	access prefix: l Normalization	Rules				
External a Associated	access prefix: I Normalization	Rules	Select	?	Remove	<b>4</b> 1
External s Associated P New	access prefix: I Normalization Copy ormalization rul	Rules	Select	Show details Pattern to match	Remove 1	Translation pa
External a Associated Power	Access prefix: A Normalization Copy ormalization rul XE_rule	Rules Paste le	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove	Translation pa \$1
External a Associated P New N O	Access prefix: A Normalization Copy ormalization rul XE_rule	Rules	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove	Translation pa \$1
External a Associated New O	Access prefix: A Normalization Copy ormalization rul XE_rule	Rules	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove	Translation pa \$1
External a Associated New O	Access prefix: A Normalization Copy ormalization rul XE_rule	Rules	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove	Translation pa \$1
External a Associated New N	access prefix: a Normalization Copy ormalization rul XE_rule	Rules	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove	Translation pa \$1
External a Associated New O	Access prefix: A Normalization Copy ormalization rul XE_rule	Rules	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove 4	Translation pa \$1
External a Associated	A Normalization	Rules	Select State Committed	Show details Pattern to match 1 ^(1\d{4})\$	Remove	\$1

Create a normalization rule that fits your needs: OXE\_rule

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\_\_\_\_

Create a new Voice Policy: ACS-2013

Ly	nc Server 2013							
	Home	Dial Plan	Voice Policy	Route	PSTN Usage	Trunk Configuration	Test Voice Routing	
23	Users	Create v	oice routing test	case inform	nation			
N	Topology							
Ş	IM and Presence						Q	
9	Persistent Chat	4 New	🔻 🥖 Edit	▼ Acti	on 🔻 Comn	ait 🔻		
12	Voice Routing	N	ame 🔺	Scope	State	PSTN usage	Descrip	tion
6	Voice Features	6	Global	Global	Committed			
23	Response Groups		ACS-2013	Site	Committed	toOXE_PSTN, France		
Ð	Conferencing							
P	Clients							
15	Federation and External Access							
	Monitoring and Archiving							
	Security							
Ŷ	Network Configuration	-						
lit Voice I	Policy - ACS-2	013						
------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------	---------------------------------------	--------------	----------------------------------			
/ OK	Cancel	v13						
VOR	<ul> <li>Cancer</li> </ul>							
Scope: Sit Name: <mark>*</mark>	te							
ACS-2013								
Description	a:							
				+				
^ Callin	g Features							
🖌 Er	able call forwar	ding		$\checkmark$	Enable team call			
🖌 Er	able delegation			$\checkmark$	Enable PSTN reroute			
	able call transfe	r			Enable bandwidth policy override			
V Lr								
Er	able call park				Enable malicious call tracing			
√ Er ∫ Er	nable call park nable simultaneo	us ringing of phones			Enable malicious call tracing			
✓ Er □ Er √ Er Associated	able call park able simultaneo PSTN Usages	us ringing of phones			Enable malicious call tracing			
✓ Ex Ex ✓ Ex Associated New	aable call park aable simultaneo PSTN Usages	us ringing of phones	Remove		Enable malicious call tracing			
✓ Er ↓ Er ✓ Er Azsociated ↓ New PSTN us	aable call park aable simultaneou PSTN Usages Select sage record	us ringing of phones Show details Azsociate	Remove 1	•	Enable malicious call tracing			
✓ Ex	aable call park aable simultaneou PSTN Usages Select tage record PSTN	us ringing of phones Show details Associate OXEinter	Remove d routes mal	•	Enable malicious call tracing			
✓ Ex	able call park able simultaneou PSTN Usages Select age record PSTN	us ringing of phones Show details Associate OXEinter Numeros	Remove d routes mal France	•	Enable malicious call tracing			
✓ Ex	able call park able simultaneou PSTN Usages Select tage record PSTN	us ringing of phones Show details Associate OXEinter Numeros	Remove 4 d routes mal France	•	Enable malicious call tracing			
<ul> <li>✓ Ex</li> <li>✓ Ex</li> <li>✓ Ex</li> <li>Associated</li> <li>♦ New</li> <li>PSTN us</li> <li>toOXE_</li> <li>France</li> </ul>	able call park able simultaneou PSTN Usages Select age record PSTN	us ringing of phones   Show details  Associate OXEinter Numeros	Remove 4 d routes mal France	•	Enable malicious call tracing			
✓ Ex ✓ Ex ✓ Ex Associated ↓ New PSTN us toOXE_ France	aable call park aable simultaneou PSTN Usages Select aage record PSTN	us ringing of phones Show details Associate OXEinter Numeros	Remove 4 d routes mal France		Enable malicious call tracing			
✓ Ex ✓ Ex ✓ Ex Associated ◆ New PSTN us toOXE_ France	able call park able simultaneou PSTN Usages Market Select age record PSTN	us ringing of phones	Remove d routes mal France		Enable malicious call tracing			
✓ Ex ✓ Ex ✓ Ex ✓ Ex Associated ◆ New PSTN us toOXE_ France Call forwa	able call park able simultaneou PSTN Usages Select age record PSTN	us ringing of phones Show details Associate OXEinter Numeros aneous ringing PSTN u	Remove d d routes mal France		Enable malicious call tracing			
✓ Ex	able call park able simultaneou PSTN Usages Select age record PSTN	us ringing of phones Show details Associate OXEinter Numeros aneous ringing PSTN u	Remove 1 d routes mal France		Enable malicious call tracing			

\_\_\_\_\_

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Lyı	nc Server 2013		10			
	Home	Dial Plan	Voice Policy	Route	PSTN Usage	Trunk Configuration
33	Users	Create v	oice routing test (	case infor	mation	
N	Topology					
Ş	IM and Presence	View	PSTN Usage F	Record - t	OXE_PSTN	
9	Persistent Chat	×	Close			
12	Voice Routing	Nai	Me:			
6	Voice Features		SAL_FOIN			
23	Response Groups	Ass	sociated Routes		Pattern	to match
Þ	Conferencing		OXEinternal		^19	
đ	Clients					
詣	Federation and External Access					
	Monitoring and Archiving					
1	Security	Ass	ociated Voice Pol	icies		
Ŷ	Network Configuration		Voice policy		Descrip	tion
	P					

\_\_\_\_

Create a new Route to the SBC: toOXE\_PSTN

Γ.								
Ly	nc Server 2013	_						
	Home	Dial F	lan Voice Policy	Route	PSTN Usage	Trunk Configuration	Test Voice Routing	
33	Users	Crea	te voice routing test	case inform	nation			
24	Topology							
Ð	IM and Presence						Q	
P	Persistent Chat	-	lew 🥖 Edit 🔻	1 Mov	e up 🛛 🕹 Mov	e down Action 🔻	Commit 🔻	
ও	Voice Routing		Name		State	PSTN usage		Pattern to match
S	Voice Features		OXEinternal		Committ	ed toOXE_PSTN		^19
72	Response Groups		NumerosFrance		Committ	ed France		^\+33

		Alcatel·Lucent 🕢	
Ly	nc Server 2013		
	Home	Dial Plan Voice Policy Route PSTN Usage Trunk Configuration	Test Voice Routing
22	Users	Create voice routing test case information	
58	Topology		
<b>E</b>	IM and Presence	Edit Voice Route - OXEinternal	
P	Persistent Chat	J OK X Cancel	
00	Voice Routing	Name: *	
	Voice Fostures	OXEinternal	
6	voice realities	Description:	-
44	Response Groups		
-	Conferencing	Add the starting digits that you want this route to handle, or create the	
	Clients	expression manually by clicking Edit.	3
	Federation and External Access	Starting digits for numbers that you want to allow:           Type a valid number and then click Add.	Add
	Monitoring and Archiving	19	Exceptions
4	Security		Remove
	Network		
	configuration	Match this pattern: *	
		×19	
		Edit Reset 3	
		Suppress caller ID	
		Alternate caller ID:	
		Associated trunks:	10
		PstnGateway:sbc.ac-onebox.com	Add
			Remove
		Associated PSTN Usages	1
		Select Remove 🐴 🦺	
		PSTN usage record Associated voice policies	
		toOXE PSTN ACS-2013	

- Associated trunk = sbc.ac-onebox.com
- Associated PSTN Usage = ToOXE\_PSTN

			<ul> <li>Alcate</li> <li>Enterpris</li> </ul>	el·Lu	cent 🕖			
Lyı	nc Server 2013		and a span of a	2000				
	Home	Dial Plan	Voice Policy	Route	PSTN Usage 1	runk Configuration	Test Voice Routing	
22	Users	Create voic	e routing test cas	e inform	ation			
M	Topology							
Ð	IM and Presence						Q	
9	Persistent Chat	/ Edit	• Action •	Com	nit 🔻			
8	Voice Routing	Nam	e		State	Routes	1	Policies
6	Voice Features	Fran	:e		Committed	NumerosFrance		ACS-2013
2	Response Groups	Inter	nal		Committed			
Þ	Conferencing	Loca	1		Committed			
2	Clients	Long	Distance		Committed			
海	Federation and External Access	toOX	E_PSTN		Committed	OXEinternal		ACS-2013
	Monitoring and Archiving							
9	Security							
Ŧ	Network Configuration							



Trunk configuration:

Ly	nc Server 2013			Administrator   Sign o
	Home	Dial Plan Voice Policy Route PSTN Usage Trunk Configuration Test Voice Routing	3.0.8	305.336   Privacy stateme
33	Users	Create voice routing test case information		्र <u>भ</u>
M	Topology	6		
Ģ	IM and Presence			
2	Persistent Chat	♦ New ▼		0
e	Voice Routing	Name 🔺 Scope State Media bypass PSTN usage	Calling number rules	Called number rules
C	Voice Features	💮 Global Global Committed Internal, Local, toOXE_PSTN	0	0
23	Response Groups			
Ð	Conferencing			
P	Clients			
識	Federation and External Access			
	Monitoring and Archiving			
9	Security			
9	Network Configuration			

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Juliar Irunk Configuration - Global			
Scope: Global Name: *			
Global			
Description:			
Maximum early dialogs supported:			
21			
Encryption support level:			
Optional		•	
Refer support:			
None	3		
Enable media bypass		-	
Centralized media processing			
Enable RTP latching			
Enable forward call history			
	3		
Enable forward P-Asserted-Identity	data		
Lnable outbound routing failover til	ner.		
Associated PSIN Usages			
🛀 Select Remove 👚	÷		
PSTN usage record	Associated routes		
Internal			
Local			
Local toOXE_PSTN	OXEinternal		

Enable media bypass: disabled

Associate a PSTN usage: add "ToOXE\_PSTN".



Commit all the previous modifications.

You can test this configuration by going into Test Voice Routing tab. Verify that the result is Passed

Dial Plan	Voice Policy	Route	PSTN Usage	Trunk Configuration	n Test Voice Routing			
Create voi	Create voice routing test case information 🗸							
					٩			
🖕 New	🛊 New 🦯 Edit 🔻 Action 🔻 Commit 🔻							
Nar	ae		State	Pass/fail	Dialed number to test	Dial plan	Voie	
190	11		Committe	d Passed	19011	ACS-2013	AC	

To create Lync users, open the Cloudband Management Suite and create your users:

🗲 i i i i i i i i i i i i i i i i i i i	://uc-dc. <b>ac-onebox.com</b> /SysAdmin/User/List/			♀ c 🧭 Accounts Manag	ement ×
Search User	Go Reset	– Settings LoadList Auto: Manual (LoadList			
AC Users   Use	ers/Licenses-count: 2/40				
Status	Full Name	Call Forward	Telephone	Company	Department
~	~	~	~	~	~
Available	claire Dechriste	Off	+33123456789		
Offline	Mike Giver	Off	+33123456788		
View 1 - 2 of 2		14 - 64	Page 1 of 1 🕬 🖬 1	ο 🗸 🛛 ρ Search φ 👜 Columns φ Clear 📮 To	ggle 🗙 Default

Enable Enterprise Voice features:

Clair Account C 10.1.2.60/SysAdmin/User/Edit/?dn=CN=claire,OU=acs,DC=ac-onebox,DC=com Applications X AudioCodes 03655ysadmin X S8C-Onebox Account type: One Box Account type: One Box Account Information First Name*: Dechniste Full Name: Claire Dechniste Fax: motificensed Preferred Language: Fax: preferred Language: Preferred Language: Fax: preferred Language:<			<ul> <li>Alcatel·Luc</li> <li>Enterprise</li> </ul>	ent 🕖 ——	
C 10.1.2.60/SysAdmin/User/Edit/?dn=CN=claire,OU=acs,DC=ac-onebox,DC=com   Applications 3 AudioCodes   O365Sysadmin 3 S8C-Onebox   Account type: One Box   Account Information   First Name*   Last Name*   Dechniste   Sign-in Name*   Caire   Domain Name:   app-etesting.com   Registrar Pool:   UC-FE.ac-onebox.com   Mail*   claire@aapp-etesting.com   Preferred Language:   Fax:   motilicensed   Votee Policy:   Site:ACS-2013   Description: null Description: null   Patient   Site:ACS-2013   Dial Plan   Site:ACS-2013   Dial Plan   Site:ACS-2013	🕒 Edit Account	×			
Applications * AudioCodes Description: ************************************	→ C 🗋 10.1.2.60	0/SysAdmin/User/Edit/?d	n=CN=claire,OU=acs,DC=	ac-onebox,DC=com	
Account type: One Box  Account Information  First Name*:  Last Name*:  Dechriste  ILast Name*:  Claire  Domain Name:  app-etesting.com  Registrar Pool:  UC-FE.ac-onebox.com  Mail*:  claire@aapp-etesting.com  Preferred Language:  Fax:  not licensed  Pet to PC  Voice Policy: Site/ACS-2013  Description: null  Peatures: Enable Call Forward(Enable Delegation Enable Call Transfer/Enable team call Enable call park, Enable Simultaneous ringing of phonese  Dial Plan: Description: null	Applications 🚼 AudioCoc	les 📋 O365Sysadmin 🔁 SB	C-Onebox		
Account type: One Box  Account Information  First Name *:  Last Name *:  Dechriste  Sign-in Name *:  Calire  Domain Name:  app-etesting.com •  Registrar Pool:  UC-FE.ac-oneDox.com •  Mail*:  claire@app-etesting.com  Preferred Language:  Fax:  potilicensed  Felsphony  Group Management Call Forwarding Policies  Policy:  Site:ACS-2013 •  Dial Plan:  Site:ACS-2013 •  Description: null					
Account type: One Box  Account Information  First Name*: Claire Initials: Last Name*: Dechriste Full Name: Claire Dechriste Sign-In Name*: Claire Domain Name: aapp-etesting.com Registrar Pool: UC-FE.ac-onebox.com Mail*: Claire@aapp-etesting.com Preferred Language: Fax: polices  Peefred Language: Fax: polices  Peefred Language: Site:ACS-2013  Description: null Features: Enable call Forward Enable Delegation Enable Call Transfer Enable team call Enable call park Enable simultaneous ringing of phonest Dial Plan: Site:ACS-2013  Description: null		ANDARD EDITION			
Account Information  First Name*:  Last Name*:  Dechriste  Iul Name:  Last Name*:  Last Name*:  Claire  Domain Name:  aapp-etesting.com  Registrar Pool:  UC-FE.ac-onebox.com  Mail*:  Claire@aapp-etesting.com  Preferred Language:  Fax:  not licensed   Voice Policy:  Itelephony  Group Management Call Forward in  Policies  Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Policies Poli					
Account Information First Name*: Last Name*: Dechriste Full Name: Claire Dechriste Sign-in Name*: Claire Domain Name: app-etesting.com Registrar Pool: UC-FE.ac-onebox.com Mail*: Claire@aapp-etesting.com Preferred Language: Fax: notlicensed	Account type: One Box				
First Name*: Claire   Last Name*: Dechriste   Sign-In Name*: claire   Claire Domain Name:   app-etesting.com   Registrar Pool: UC-FE.ac-onebox.com   Mail*: claire@aapp-etesting.com   Preferred Language: Fax:   relephony Group Management   Call Forwarding Policies     Voice Policy: Site:ACS-2013 ▼   Description: null     Features:   Enable call Forward_Enable Delegation   Enable call Forward_Enable Delegation   Enable call Forward_Enable Delegation   Enable call Forward_Enable Delegation   Dial Plan:   Site:ACS-2013 ▼	Account Information				
First Name*       Claire       Initials:         Last Name*:       Dechriste       Full Name:       Claire Dechriste         Sign-in Name*:       claire       Domain Name:       aapp-etesting.com •         Registrar Pool:       UC-FE.ac-onebox.com •       Mail*:       claire@aapp-etesting.con         Preferred Language:       Fax:       not licensed         Telephony       Group Management       Call Forwarding       Policies         • Pc to PC       •       Enterprise Voice       Voice Policy:       Site:ACS-2013 •         • Description: null       Feabures:       Enable call Forward Enable Delegation       Enable Call Forward Enable Call Transfer/Enable team call       Enable call park       Enable simultaneous ringing of phonesting         • Dial Plan:       Site:ACS-2013 •       •       •       •       •         • Dial Plan:       Site:ACS-2013 •       •       •       •       •			_		
Last Name*: Dechriste Full Name: Claire Dechriste Sign-in Name*: claire Registrar Pool: UC-FE.ac-onebox.com  Mail*: claire@aapp-etesting.com Preferred Language: Fax: not licensed  Telephony Group Management Call Forwarding Policies  PC to PC  PC to PC  Telephony Colley Site:ACS-2013  Description: null Features: Enable call Forward Enable Delegation Enable Call Transfer/Enable team call Enable call park Enable simultaneous ringing of phones Dial Plan: Site:ACS-2013  Description: null	First Name*:	Claire	Initials:		
Sign-in Name*: claire   Registrar Pool: UC-FE.ac-onebox.com ▼   Mall*: claire@aapp-etesting.com   Preferred Language: Fax:   not licensed     Preferred Language:   Fax:   not licensed   Perform Group Management Call Forwarding Policies   Policies   Policy:   Site:ACS-2013 ▼   Description: null   Features:   Enable call Forward Enable Delegation	Last Name*:	Dechriste	Full Name:	Claire Dechriste	
Registrar Pool:       UC-FE.ac-onebox.com ▼       Mail *:       claire@aapp-etesting.com         Preferred Language:       Fax:       not licensed         relephony       Group Management       Call Forwarding         Policies       PC to PC            • Enterprise Voice       Voice Policy:         Site:ACS-2013 ▼       Description: null         Features:       Enable call Forward Enable Delegation Enable Call Transfer Enable team call Enable call park Enable simultaneous ringing of phones         Dial Plan:       Site:ACS-2013 ▼         Description: null       Site:ACS-2013 ▼	Sign-in Name*	claire	Domain Name	appletesting.com V	
Preferred Language:     Fax:     not licensed         Telephony     Group Management     Call Forwarding     Policies         PC to PC            • PC to PC            • Enterprise Voice          Voice Policy:     Site:ACS-2013 ▼         Description: null         Features:         Enable call Forward Enable Delegation         Enable call Forward Enable Delegation         Enable call Plan:         Description: null         Bite:ACS-2013 ▼         Description: null	Registrar Pool:	LIC-EE ac-onebox com 1		and postering sector	
Preferred Language:       Fax: not licensed         Telephony       Group Management       Call Forwarding       Policies            P C to PC           P C to PC           Voice Policy: Site:ACS-2013              Description: null Features: Enable call Forward, Enable Delegation       Enable Call Transfer; Enable team call, Enable call park Enable simultaneous ringing of phones          Dial Plan:       Site:ACS-2013           Description: null		10012.00000000	Mail*:	claire@aapp-etesting.com	
Group Management       Call Forwarding       Policies         PC to PC       Enterprise Voice       Voice Policy: Site:ACS-2013 ▼         Description: null       Features:       Enable call Forward Enable Delegation Enable Call Transfer Enable team call Enable call park Enable simultaneous ringing of phones         Dial Plan:       Site:ACS-2013 ▼         Description: null       Features	Preferred Language:		Fax	not licensed	
Telephony     Group Management     Call Forwarding     Policies          P C to PC           P C to PC					
PC to PC  Enterprise Voice Voice Policy: Site:ACS-2013 Description: null Features: Enable call Forward Enable Delegation Enable Call Transfer Enable team call Enable call park Enable simultaneous ringing of phones Dial Plan: Description: null Description: null	Telephony Group I	Management Call Forwardi	ng Policies		
Enterprise Voice   Voice Policy: Site:ACS-2013 •   Description: null   Features:   Enable call Forward   Enable Delegation   Enable Call Transfer   Enable call park   Enable simultaneous ringing of phones   Ø   Ø   Dial Plan:   Description: null	PC to PC				
Voice Policy: Site:ACS-2013  Description: null Features: Enable call Forward, Enable Delegation, Enable Call Transfer, Enable team call, Enable call park, Enable simultaneous ringing of phones Dial Plan: Description: null Description: null	Enterprise Voice				
Description : null Features: Enable call Forward Enable Delegation Enable Call Transfer Enable team call Enable call park Enable simultaneous ringing of phones Dial Plan: Description : null		Voice Policy: Site:A	CS-2013 V		
Enable call Forward Enable Delegation Enable Call Transfer Enable team call Enable call park Enable simultaneous ringing of phone Dial Plan: Description : null		Features:			
Dial Plan: Description : null		Enable call Forward Enable	Delegation Enable Call Transfer	Enable team call Enable call park Enable	simultaneous ringing of phones
Dial Plan: Site:ACS-2013 Description : null		e e	Ø		
		Dial Plan: Description : null	Site:ACS-2013		
	Line URI:	tel:+33123456789			

#### Enabled Lync Users for Enterprise Voice Features

Modify User "Telephony" from "PC-PC Only" to "Enterprise Voice", and assign a phone number to the lync user with "Line URI":  $\underline{tel:+33123456789}$  here.

Note: remove ext=xxxx extension if any. It causes trouble on the OXE for callback feature.

Once enabled, Lync client will display a new icon and a dial pad:

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What's happening today?							
	Claire Dechriste Available Set Your Location						
	-, i			☆ -			
Find some	eone or dial a nu	mber		Q			
	1	2 abc	3 DEF				
	4 бні	5 JKL	6 мно				
	7 pqrs	8 TUV	9 wxyz				
	*	0 +	#				
	Redial	e e	Call				

👖 PIN 🛭 😭 Check





### 12 Appendix D: Alcatel-Lucent Enterprise Communication Platform: configuration requirements

The following mgr screenshots show the configuration of the OmniPCX Enterprise.

For more details on SIP features, refer to standard OXE technical documentation chapter "SIP configuration procedure".

### 12.1 SIP Trunk and ARS route management

It is necessary to create:

- An ISDN SIP trunk
- An external SIP gateway for AudioCodes Mediant E-SBC
- An ARS route, whose first route takes the SIP trunk group

#### 12.1.1 Create a SIP Trunk

Х	
х	Node Number (reserved) : 109
х	Trunk Group ID : 20
х	
х	Trunk Group Type + T2
х	Trunk Group Name : CloudBond
х	UTF-8 Trunk Group Name :
х	Number Compatible With : -1
х	Remote Network : 15
х	Shared Trunk Group + False
х	Special Services + Nothing
х	Node number : 9
х	Transcom Trunk Group + False
Х	Auto.reserv.by Attendant + False
Х	Overflow trunk group No. : -1
Х	Tone on seizure + False
Х	Private Trunk Group + False
Х	Q931 Signal variant + ISDN all countries
Х	SS7 Signal variant + No variant
Х	Number Of Digits To Send : 0
Х	Channel selection type + Quantified
Х	Auto.DTMF dialing on outgoing call + NO
Х	T2 Specification + SIP
Х	Homogenous network for direct RTP + NO
Х	Public Network COS : 31
Х	DID transcoding + False
Х	Can support UUS in SETUP + True
Х	Associated Ext SIP gateway : -1
Х	
Х	Implicit Priority
Х	
х	Activation mode : 0
х	Priority Level : 0
Х	



Enterprise

Go into Trunk Group menu and specify the entity number:

lqReview/Modify: Trunk Groupqqqqqqqqqqqqqqqqqqqqqqqqqqq Х Node Number (reserved) : 109 х х Trunk Group ID : 20 Instance (reserved) : 1 Х х Trunk Group Type + T2 х T2 Specification + SIP х Public Network Ref. : -----х VG for non-existent No. + YES х Entity Number: 1 х Supervised by Routing + NO х VPN Cost Limit for Incom.Calls : 0 х x Immediate Trk Listening if VPNCall + YES VPN TS % : 50 х х CSTA-Monitored + NO х Max.% of trunks out CCD : 0 Ratio analog.to ISDN cost : ----х TS Distribution on Accesses + YES х x Quality profile for voice over IP + Profile #1 Use of volume in system + YES х Announcement for dial tone + NO х Announcement for Ring tone + NO х x Reroute Anonymous Calls to Entity + NO Called Number Storage + NO х End-to-end dialing + NO х DTMF end-to-end signal. + NO х Trunk aroup used in DISA + NO х х DISA Secret Code : ----Trunk COS : 31 х Sending of Progress message + YES х No. of digits unused (ISDN): 0 х **B** Channel Choice + YES х x Channels: Attendant Control (Rsvd): 0 x Redirection For ACD (Dissuasion) + NO DTO joining + NO Х х Consultation Call On B Channel + NO х Automated Attendant + NO Calling party Rights COS: 0 х TS Overflow + YES х Number To Be Added : ------Х Charge Calling And ADN Creation + NO х Logical Channel + 1\_\_15 & 17\_\_31 х Use Split Access + NO х Heterogeneous Remote Network + NO х х COS Restrictions - Barring mode + Not Restricted / Not barred х ARS Class of service : 31 х External Access Server + NO CSTA Tracking MCDU Trk : -----х IE External Forward + None х



x Max ISDN-IP and SIP connections : 0

х

#### 12.1.2 Create an external SIP gateway

SIP>SIP Ext Gateway

Х	
х	Node Number (reserved) : 109
х	Instance (reserved) : 1
х	SIP External Gateway ID : 10
х	,
x	Gateway Name · CloudBond
x	SIP Remote domain : 10 1 2 63
Ŷ	
Ŷ	SID Port Number : 5060
<u>`</u>	Transport type + UDD
X	Delensing Demoins
X	Beionging Domain :
х	Registration ID :
х	Registration ID P_Asserted + Faise
Х	Registration timer : 0
Х	SIP Outbound Proxy :
х	Supervision timer : 0
Х	Trunk group number : 20
х	Pool Number : -1
х	Outgoing realm :
х	Outgoing username :
х	
х	Outgoing Password :
х	Confirm :
x	
x	Incoming username ·
x	noonning doornamo .
Ŷ	Incoming Password ·
Ŷ	Confirm :
Ŷ	00111111
Ŷ	REC 3325 supported by the distant + True
Ŷ	DNS two + DNS A
<u>`</u>	SID DNS1 ID Addroop : 10.1.2.15
X	SIP DINGT IP AUDIESS . 10.1.2.15
х	SIP DINSZ IP Address :
х	SDP In 18X + Faise
х	Minimal authentication method + SIP None
Х	INFO method for remote extension + False
х	To EMS + False
х	SRTP + RTP only
Х	Ignore inactive/black hole + False
х	Contact with IP address + False
х	Dynamic Payload type for DTMF : 97
х	Outbound Calls 100 REL + Supported
х	Incoming Calls 100 REL + Not Requested
х	Gateway type + Standard type
х	Re-Trans No. for REGISTER/OPTIONS : 2
x	P-Asserted-ID in Calling Number + False
x	Trusted P-Asserted-ID header + True
x	Diversion Info to provide via + Diversion
v	Provy identification on IP address + False
^	Troxy dentinoution of the address + 1 also



Outbound calls only + False х SDP relay on Ext. Call Fwd + Default х SDP Transparency Override + False х x RFC 5009 supported / Outbound call + Not Supported Nonce caching activation + NO Х FAX Procedure Type + T38 only х x DNS SRV/Call retry on busy server : 0 х Unattended Transfer for RSI + NO Redirection functionality + NO х Attended Transfer + NO х Send BYE on REFER + YES х Support UTF8 characters set + NO х CSTA User-to-User supported + NO х Trusted From header + False Х Support Re-invite without SDP + False х х Type of codec negotiation + Default Х

12.1.3 Management of outgoing calls via SIP Trunk Group

ARS routing is used to route outgoing calls to external SIP GW through Public SIP TG.

Create a new Dialing Command Table: Select Translator > Automatic Route Selection > Numbering Command Table

~		
х	Node Number (reserved) : 109	
х	Instance (reserved) : 1	
х	Instance (reserved) : 1	
х	Table ID : 20	
х		
х	Carrier Reference : 0	
х	Command : I	
х	Associated Ext SIP gateway : 10	
v	• •	

Create an ARS route list with a route using the SIP trunk group and the previously created dialing command table:

IqReview/Modify: ARS Route listqqqqqqqqqqqqqqqqqqqqqqqqqqqqq

x Node Number (reserved) : 109 x Instance (reserved) : 1 x Instance (reserved) : 1 x ARS Route list : 20 x Name : oneboxARS x PIN Code + False x

x Node Number (reserved) : 109

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	Enterprise
х	Instance (reserved) : 1
х	Instance (reserved) : 1
х	ARS Route list : 20
х	Route : 1
х	
х	Name : oneboxsip
х	Trunk Group Source + Route
х	Trunk Group : 20
х	No.Digits To Be Removed : 0
х	Digits To Add :
х	Numbering Command Tabl. ID : 20
х	VPN Cost Limit : 0
х	Protocol Type + Dependant on Trunk Group Type
х	NPD identifier : 255
х	Route Type + Public
x	ATM Address ID : -1
x	Preempter + False
x	
x	Quality
x	
x	[Add ] [Remove] [Next ] [Previous]
x	
x	Quality + Speech
x	
-	

#### Create the time-based route list.

Select Translator > Automatic Route Selection > ARS Route list > Time-based Route List

х	Node Number (reserved) : 1
х	Instance (reserved) : 1
х	Instance (reserved) : 1
х	ARS Route list : 20
х	Time-based Route List ID : 1
х	
х	Time-based Route
х	
х	[ Add ] [Remove] [ Next ] [Previous]
х	
х	Time-based Route
х	
х	Route Number : 1
х	Waiting Cost Limit : -1
х	Stopping Cost Limit : -1
v	

Select Translator > External Numbering Plan > Numbering Discriminator

х

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Select Translator > External Numbering Plan > Numbering Discriminator > Dsc Hierarchy > Discriminator Rule

Х		
х	Node Number (reserved) : 1	
х	Instance (reserved) : 1	
х	Instance (reserved) : 1	
х	Discriminator No. : 20	
х	Call Number : 0	
х		
х	Area Number : 1	
х	ARS Route List Number : 20	
х	Schedule Number : -1	
х	Number of Digits : 10	
Х		

Select Translator > External Numbering Plan > Ext. Callback Translation Tables Create an external callback translation table:

IqCreate: Ext.Callback Translation Tablesqqqqqqqqqqqqqqqqqqqqq х х Node Number (reserved) : 1 х Instance (reserved) : 1 Instance (reserved) : 1 х External Callback Table : 1 х х Country Codes: 0 х Country Name : Default х х

Create a callback translation Rule for this table:

IqReview/Modify: Ext.Callback Translation Rulesqqqqqqk

```
х
         Node Number (reserved) : 109
х
          Instance (reserved) : 1
Х
          Instance (reserved) : 1
Х
        External Callback Table : 1
Х
               Basic Number : DEF
Х
х
х
        No.Digits To Be Removed : 0
х
              Digits To Add : 200
х
```

Create an Entity for Lync users:

-

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	Enterprise
х	Attendant Group Manager : -1
х	Priority + NO
х	Emergency call to attd + NO
х	Traffic Overflow + Disallowed
х	Installation No. (ISDN) :
х	Supplement.Install.No. (ISDN) :
х	Caller ID Secret + No
х	AdvOfCharg2 requests (AOC2) + NO
х	AdvOfCharg3 requests (A0C3) + NO
х	Auto. Locking : 0
х	Voice Mail Box No.for attendt :
х	Trunk Group ID : 0
х	External Callback Table : 1
х	
х	Call Distribution
х	
х	Overflow Routing No. :
х	Forwarding on routing + YES

Associate the system discriminator with the entity discriminator: Select Entity > Descend Hierarchy> Discriminator Selector

IqReview/Modify: Discriminator Selectorqqqqqqqqqqqqqq

X	
х	Node Number (reserved) : 109
х	Entity Number : 1
х	Instance (reserved) : 1
х	
х	Discriminator 00 : 0
х	Discriminator 01 : 1
х	Discriminator 02 : 20
х	Discriminator 03 : 12
х	Discriminator 04 : 0
х	Discriminator 05 : 0
х	Discriminator 06 : 0
х	Discriminator 07 : 0
x	

Activate the transfer feature in Class of services > Phone feature COS

x	
Х	Node Number (reserved) : 109
Х	Instance (reserved) : 1
Х	Phone Features COS : 0
Х	
Х	Phone COS Name :
Х	
Х	Rights
Х	
Х	Prot.against dir.call pickup : 0
Х	Protected against all barge-in : 1
Х	Protected against set barge-in : 1
Х	Outgoing calls only : 0
Х	Forward to external No. : 1
Х	Prot.against multi-I ringing : 1
Х	Protected against forwarding : 0
хP	Protected (against barge-in, etc.) : 1
Х	Prot.against call announc. : 1
Х	Remote wake-up/appointment : 1



Auto call back on busy trk-grp: 0 х Transfer on no answer : 1 х ISDN remote charge service : 0 х Bypass on forwarding: 0 х Prot.against bypass onforward : 1 х Interphony: 1 х Secret Code, Repertory Key: 1 х х Night Serv.Answ.Pick up: 0 Night Serv.Direct call pick-up: 0 х Attendant Call Privil.on PAI: 0 х Busy priv.to public overfl. : 0 х Server-Minitel PC: 0 х Prot.against Priv.Call: 0 Х Prot.against.Rem.Forward.: 0 х Beep On Ext.Call: 0 х O/S private to public overflow : 0 Х Transfer outgoing - incoming : 1 х х Transfer Outgoing-Outgoing : 1

To get the display name of Lync user on OXE user when the OXE user calls the Lync user or when Lync user calls the OXE user, you must configure Calling Name Presentation to True.

System -> Other System Parameter -> Descend Hierarchy -> External signaling Parameter -> review Modify -> calling name presentation -> put it in True.

Х	
х	Node Number (reserved) : 109
х	Instance (reserved) : 1
х	Instance (reserved) : 1
х	System Option + Calling Name Presentation
Х	
х	Calling Name Presentation + True
х	

To get the display name of Lync user on OXE user during a call, check the OXE user phone feature Cos number (Tel facility Category Id), then Go to:

Classes of Service -> Phone Feature Cos -> Calling name display (CNIP/I CNAM) put it in 1

x Calling name display (CNIP/I-CNAM) : 1

Set G729 in System > other system param> compression parameters>compression Type

Х Node Number (reserved) : 109 х Instance (reserved) : 1 х Instance (reserved) : 1 х System Option + Compression Type х х х Compression Type + G 729 х

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System > other system parameters> compression parameters> Multi algorithms for compression

Х	
х	Node Number (reserved) : 109
х	Instance (reserved) : 1
Х	Instance (reserved) : 1
х	System Option + Multi. Algorithms for Compression
Х	
Х	Multi. Algorithms for Compression + False
Х	
m	qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq

List of prefixes and suffixes defined on etesting9 OXE system:

+  dir	+  mean	info  digit
0  484  485  486  487  490  491:493  495  496  497  500  501  502  503  504  505  506	Professional_trunk_seize [Cancel_Remote_forward [Overfl_busy_to_assoc_set [Overf_busy/no_repl_assoc_set [Recording_Conversation [Ubiquity_Mobile_Programming [Ubiquity_Services_Pfx [Ubiquity_Assistant ] [Last_Caller_Call_back [Remote_forward [Overflow_on_associated_set [Cancel_Overfl_on_assoc_set [Protection_against_beeps [Substitution [Wake_up/appointment_remind]	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
+ 09/06/16	EDNUMP V. 4.00 Page: 6	+
+  dir	+  mean	++  info  digit
507  508  509  51  52  53  54  55  56  570  580  581  582  583  584  585  586	Cancel_Wake_up  Forward_cancel_by_destinat  Meet_me_Conference  Immediate_forward  Immediate_forward_on_busy  Forward_on_no_reply  Forward_on_busy_or_no_reply  Direct_call_pick_up  Group_call_pick_up  Voice_Mail_Deposit  Tone_test  Personal_directory_Progr  Personal_directory_Use  Force_type_identification_pfx  Suite_Wakeup  Suite_Wakeup_Cancel  Suite_Dont_Disturb	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$



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09/06/1	6 EDNUMP V. 4.00 Page : 7	·+
+  dir '	mean	info  digit
+  587	Room_status_management	+   -1  -1
588	Mini_bar	-1  -1
589	Direct_Paging_Call	· · · 1 · -1
599	Professional_trunk_seize	0  -1
666	Pabx_address_in_DPNSS	·   -1  -1
67	ARS_Prof_Trg_Grp_Without_Subad	-1  -1
9	Attendant_Group_Call	-1  -1
*	DTMF_End_to_End_Dialling	· · · 1  -1
#	Speed_call_to_associated_set	· -1 -1
+	++	+

\_



# 13 Appendix E: AAPP member's escalation process

In case you would need technical assistance, please contact the reseller/distributor where you purchased your AudioCodes products. They have been trained on the products to give you 1st and 2nd levels of support. They are in plus in direct relation with 3rd level AudioCodes support in case an escalation would be needed.



### 14 Appendix F: AAPP program

### 14.1 Alcatel-Lucent Application Partner Program (AAPP)

The Application Partner Program is designed to support companies that develop communication applications for the enterprise market, based on Alcatel-Lucent Enterprise's product family. The program provides tools and support for developing, verifying and promoting compliant third-party applications that complement Alcatel-Lucent Enterprise's product family. ALE International facilitates market access for compliant applications.

The Alcatel-Lucent Application Partner Program (AAPP) has two main objectives:

Provide easy interfacing for Alcatel-Lucent Enterprise communication products:

Alcatel-Lucent Enterprise's communication products for the enterprise market include infrastructure elements, platforms and software suites. To ensure easy integration, the AAPP provides a full array of standards-based application programming interfaces and fully-documented proprietary interfaces. Together, these enable third-party applications to benefit fully from the potential of Alcatel-Lucent Enterprise products.

#### Test and verify a comprehensive range of third-party applications:

to ensure proper inter-working, ALE International tests and verifies selected third-party applications that complement its portfolio. Successful candidates, which are labelled Alcatel-Lucent Enterprise Compliant Application, come from every area of voice and data communications.

The Alcatel-Lucent Application Partner Program covers a wide array of third-party applications/products designed for voice-centric and data-centric networks in the enterprise market, including terminals, communication applications, mobility, management, security, etc.



#### Web site

The Application Partner Portal is a website dedicated to the AAPP program and where the InterWorking Reports can be consulted. Its access is free at <a href="http://applicationpartner.alcatel-lucent.com">http://applicationpartner.alcatel-lucent.com</a>



### 14.2 Enterprise.Alcatel-Lucent.com

You can access the Alcatel-Lucent Enterprise website at this URL: <u>http://www.enterprise.alcatel-lucent.com/</u>



### 15 Appendix G: AAPP Escalation process

### 15.1 Introduction

The purpose of this appendix is to define the escalation process to be applied by the ALE International Business Partners when facing a problem with the solution certified in this document.

The principle is that ALE International Technical Support will be subject to the existence of a valid InterWorking Report within the limits defined in the chapter "Limits of the Technical Support".

In case technical support is granted, ALE International and the Application Partner, are engaged as following:



(\*) The Application Partner Business Partner can be a Third-Party company or the ALE International Business Partner itself

### 15.2 Escalation in case of a valid Inter-Working Report

The InterWorking Report describes the test cases which have been performed, the conditions of the testing and the observed limitations.

This defines the scope of what has been certified.

If the issue is in the scope of the IWR, both parties, ALE International and the Application Partner, are engaged:

Case 1: the responsibility can be established 100% on ALE International side.



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In that case, the problem must be escalated by the ALE Business Partner to the ALE International Support Center using the standard process: open a ticket (eService Request –eSR)

Case 2: the responsibility can be established 100% on Application Partner side. In that case, the problem must be escalated directly to the Application Partner by opening a ticket through the Partner Hotline. In general, the process to be applied for the Application Partner is described in the IWR.

Case 3: the responsibility can not be established. In that case the following process applies:

The Application Partner shall be contacted first by the Business Partner (responsible for the application, see figure in previous page) for an analysis of the problem.

The ALE International Business Partner will escalate the problem to the ALE International Support Center only if the Application Partner <u>has demonstrated with traces a problem on the ALE</u> <u>International side</u> or if the Application Partner (not the Business Partner) <u>needs the involvement of</u> <u>ALE International</u>

In that case, <u>the ALE International Business Partner must provide the reference of the Case</u> <u>Number on the Application Partner side</u>. The Application Partner must provide to ALE International the results of its investigations, traces, etc, related to this Case Number.

ALE International reserves the right to close the case opened on his side if the investigations made on the Application Partner side are insufficient or do not exist.

Note: Known problems or remarks mentioned in the IWR will not be taken into account.

For any issue reported by a Business Partner outside the scope of the IWR, ALE International offers the "On Demand Diagnostic" service where ALE International will provide 8 hours assistance against payment.

**IMPORTANT NOTE 1:** The possibility to configure the Alcatel-Lucent Enterprise PBX with ACTIS quotation tool in order to interwork with an external application is not the guarantee of the availability and the support of the solution. The reference remains the existence of a valid InterWorking Report.

Please check the availability of the Inter-Working Report on the AAPP (URL: <u>https://applicationpartner.alcatel-lucent.com</u>) or Enterprise Business Portal (Url: <u>Enterprise Business</u> <u>Portal</u>) web sites.

**IMPORTANT NOTE 2:** Involvement of the ALE International Business Partner is mandatory, the access to the Alcatel-Lucent Enterprise platform (remote access, login/password) being the Business Partner responsibility.

### 15.3 Escalation in all other cases

For non-certified AAPP applications, no valid InterWorking Report is available and the integrator is expected to troubleshoot the issue. If the ALE Business Partner finds out the reported issue is maybe due to one of the Alcatel-Lucent Enterprise solutions, the ALE Business Partner opens a ticket with ALE International Support and shares all trouble shooting information and conclusions that shows a need for ALE International to analyze.

Access to technical support requires a valid ALE maintenance contract and the most recent maintenance software revision deployed on site. The resolution of those non-AAPP solutions cases is based on best effort and there is no commitment to fix or enhance the licensed Alcatel-Lucent Enterprise software.



Enterprise

For information, for non-certified AAPP applications and if the ALE Business Partner is not able to find out the issues, ALE International offers an "On Demand Diagnostic" service where assistance will be provided for a fee.

### 15.4 Technical support access

The ALE International **Support Center** is open 24 hours a day; 7 days a week: e-Support from the Application Partner Web site (if registered Alcatel-Lucent Application Partner): <u>http://applicationpartner.alcatel-lucent.com</u> e-Support from the ALE International Business Partners Web site (if registered Alcatel-Lucent Enterprise Business Partners): <u>https://businessportal2.alcatel-lucent.com</u> click under "Contact us" the *eService Request* link e-mail: <u>Ebg\_Global\_Supportcenter@al-enterprise.com</u> Fax number: +33(0)3 69 20 85 85 Telephene numbers:

Telephone numbers:

ALE International Business Partners Support Center for countries:

Country	Supported language	Toll free number
France		
Belgium	French	
Luxembourg		
Germany		
Austria	German	
Switzerland		
United Kingdom		
Italy		
Australia		
Denmark		
Ireland		
Netherlands		+800-00200100
South Africa		
Norway	English	
Poland	English	
Sweden		
Czech Republic		
Estonia		
Finland		
Greece		
Slovakia		
Portugal		
Spain	Spanish	

For other countries:	
English answer:	+ 1 650 385 2193

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Spanish answer:	+ 1 650 385 2198
German answer:	+ 1 650 385 2197
French answer:	+ 1 650 385 2196