

CONNECTING A REMOTE EXTENSION IN 3CX

1. Introduction

1.1 General

This guide will cover the configuration of a 3CX PBX in respect to server and client configurations in order to setup staff members to work from home.

It will cover different methods to connect to 3CX remotely regardless if 3CX is hosted in the cloud or on premise.

It has been written for 3CX version 16, however some components may be relevant for versions 15.5 and version 15.0

The following scenarios will be covered;

- Remote extensions using 3CX Webclient
- Remote extensions using 3CX Softclient
- Remote extensions using 3CX SBC
- Remote extensions using 3CX mobile client
- Remote extensions using STUN provisioning
- Remote extensions using manual provisioning
- Using Jabra cordless Headsets with 3CX Webclient

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4.3 Option 2:	
·	



2. General preparation

2.1 Prerequisites

To have these solutions implemented properly the following points should be followed;

- Proper port preservation/port forwarding setup forall the required ports (SIP (Default Port 5060), RTP (Default 9000-10999), Tunnel (Default 5090) and HTTPS (Default 5001)) on the firewall on the 3CX-Server side.
 - If using STUN or manual provisioning a configurable firewall must be on the remote end.
 - If the 3CX is on premise and remote workers also must access the LAN in the Office, ensure that there is enough bandwidth on the WAN connection of the office side.
 - Setup 3CX on an OS you are familiar with.
 - Ensure that QoS is enabled on all necessary network components
- SIP ALG is **disabled** on any possible border device (Router/Firewall) on the server side!

2.2 Data consumption – 3CX Server side

Having remote extensions, creates an additional layer of traffic that you would not experience if extensions where in the same office. For example calls between local extensions will now take extra bandwidth as they will be traversing over the internet.

Please find the data usage on 3CX with different codecs:

- https://www.3cx.com/blog/docs/bandwidth-utilised-for-voip/
- https://www.3cx.com/blog/docs/bandwidth-dsl-atm-isp/

Additional traffic will also be generated by using SIP-Notify messages on port 5001 for BLF keys.

- → The more extensions that use BLF, the more SIP-Notify traffic is generated
- → The more BLF keys every single extension uses, the more SIP-Notify traffic is generated



3. Configuration

3.1 3CX Webclient

3.1.1 Prerequisites

- Port forwarding on the firewall is implemented and configured properly on the 3CX server side.
- Chrome is default browser on clients.
- Corded or cordless headset configured as main audio device on the remote computer.

3.1.2 Server side

By default, every extension has Webclient enabled. To ensure it is enabled go on the Navigation pane to *Extensions – mark the Ext. – General tab* – scroll down to *'Web Authentication' – Tick 'Enable Web Client'*

3	CX.	ē
di	Dashboard	Extensions
	Phones	
1	Extensions	Extensions
	Groups	tur Is
0	SIP Trunks	- Add / E
ŧ	Inbound Rules	Search
Ť	Outbound Rules	

Click on the extension



Choose the 'General' tab



Scroll down to 'Web Authentication' and ensure 'Enable Web Client' is ticked.



Also make sure that every extension that should receive the Webclient login has an e-mail address inside the '*User Information*' under the '*General*' tab inside the extension.

Once this is all checked and confirmed, simply choose either all extensions from the top of the list or only the ones that need the credentials and choose 'Send Welcome Email'.



Highlight the extension

	15						
+ Add	🖊 Edit	X Delete	± Import	≜ Export	Password	13 Regenerate	A Send Welcome Email
500							
	Ext	First	La	st	Email		Password
					-		

Choose 'Send Welcome Email'

xtensio	15					_	
+ Add	🖊 Edit	X Delete	± Import	≜ Export	P assword	153 Regenerate	A Send Welcome Emai
500							
	Ext	First	La	ist	Email		Password

The users credentials will be sent now to the e-mail address entered inside the extension. The welcome e-mail contains the following information:

- Config-file for the 3CX Softclient
- QR code for the 3CX mobile client
- Number of the extension
- Personal VM PIN
- Number of the VM System
- 3CX Webclient login link and credentials
- Link for the Chrome 'click2call' plugin
- Links to download the Softclient and Mobile client

Optional: Password change

In the '**Password**' field a random password is entered by default. This can be found in the welcome email.

However, a new password can be entered there.



If you enter a new password, make sure the password is strong enough!

Once done, scroll to the extension or search for it by entering the extension number, highlight the extension

Extensions							
+ Add	🖍 Edit	X Delete	± Import	1 Export	Password	🕼 Regenerate	A Send Welcome Ema
500							
	Ext	First		Last	Email		Password
_		۸					



and press 'Send Welcome Email'. A welcome mail with the ne login credentials will be sent to the user.



3.1.3 Client side

The e-mail has been successfully received by the user. Open the email and scroll to '**Using the 3CX Webclient**'. Click on the 2nd link 'when out of office' that contains the FQDN.



Enter the extension number and the password from the welcome e-mail.







In the 3CX Management console we can see the extension now as being registered.

Extensions				
+ Add 🖉	Edit	¢ Delete	± Import	1 Export
500				
	Ext	First	La	st
	500	Home	Wo	ork

Detailed description on how to use the Webclient can be found in the Alloy 3CX Webclient user guide. To view the 3CX Webclient user guide please click <u>here</u>.



3.2 3CX Softclient

3.2.1 Prerequisites

- Port forwarding is setup on the firewall properly on the 3CX server side.
- Corded or cordless headset configured as main audio device on the computer.

3.2.2 Server side

By default, every extension has the Softclient pre-configured by already.

All that needs to be setup is the email address inside the '*User Information*' under the '*General'* tab inside the extension.

0 Home Work	ок	Cancel					
ieneral Voicemail	Forwarding Rules	Phone Provisioning	BLF	Options	Rights	Click2Talk/Click2Meet	
User Information							
Extension							
500							
First Name							
Home							
Last Name							
Work							
Email Address							
@alloy.com.au							

Then head over to the '*Phone Provisioning*' tab and ensure under '*Network*' all boxes are ticked: '*Enable PUSH for smartphones*', '*Re-provision phone on Startup*' and '*Use 3CX Tunnel for remote connections (3CX App only)*'

	ne work	ОК	Cancel				
ieneral	Voicemail	Forwarding Rules	Phone Provisioning	BLF	Options	Rights	Click2Talk/Click2Meet
Phone	Provisioning						
+ Add							
Your ph	iones						
3CX.	Арр						
Netwo	k						
Networ	k interface for re	gistration and provisio	oning				
Networ SIP Trai	k interface for re	gistration and provisio	oning				
Networ SIP Trai	k interface for re	gistration and provisio	ning				
Networ SIP Trai UDP RTP Mo	k interface for re	gistration and provisio	ning				
Networ SIP Train UDP RTP Mo Norr	k interface for re	gistration and provisio	ning				
Networ SIP Trai UDP RTP Mo Norr DTMF N RFC2	k interface for re insport de mal lode 2833	gistration and provisio	ning				
Networ SIP Trai UDP RTP Mo Norr DTMF N RFC2	k interface for re sport de nal lode 2833 able PUSH for sr	gistration and provision	ning				
Networ SIP Trail UDP RTP Mo Norr DTMF N RFC2	k interface for re insport de nal lode 2833 able PUSH for sr -provision phone	gistration and provision martphones e on Startup	ning				



Once this is all checked and confirmed, simply choose either all extensions from the top of the list or only the ones that need the credentials

Extension	IS						
+ Add	🖊 Edit	X Delete	± Import	≜ Export	Password	13 Regenerate	A Send Welcome Email
500							
	Ex	t First	La	ist	Email		Password

and choose 'Send Welcome Email'.

Extension	s				
+ Add	🖊 Edit	X Delete	± Import ± Export		A Send Welcome Ema
500					
	Ext	First	Last	Email	Password
	500	Home	Work	alloy.com.au	*****

The users credentials will be sent now to the e-mail address entered inside the extension.

The welcome e-mail contains the following information:

- Config-file for the 3CX Softclient
- QR code for the 3CX mobile client
- Number of the extension
- Personal VM PIN
- Number of the VM System
- 3CX Webclient login link and credentials
- Link for the Chrome 'click2call' plugin
- Links to download the Softclient and Mobile client

3.2.3 Client side

The e-mail has been successfully received by the user.

Open the email and scroll to '*Installing the 3CX Client/Softphone*' and click on the correct link, f.e. Windows and safe the file on the computer.



Once the link is clicked the file download starts. Choose '*Save File*'





Choose the download directory and hit 'Save'

rganize • New fold	ler				111 -	•
Office 2016 ^	Name	Date modified	Туре	Size		
temp	🔀 spek-0.8.2	3/2/2020 1:46 PM	Windows Installer	8,673 KB		
yealink	B blender-2.81-windows64 - Kopie	11/29/2019 1:51 PM	Windows Installer	129,988 KB		
This DC	Blender-2.81-windows64	11/29/2019 1:51 PM	Windows Installer	129,988 KB		
10.01.01	H AVD-NativeApp-4.3.14-Release - Kopie	7/18/2019 8:58 AM	Windows Installer	16,012 KB		
J SU Objects	AVD-NativeApp-4.3.14-Release	7/18/2019 8:58 AM	Windows Installer	16,012 KB		
Desktop	HouseWithoutBordersSetup - Kopie	4/2/2019 2:30 PM	Windows Installer	1,368 KB		
Documents	HouseWithoutBordersSetup	4/2/2019 2:30 PM	Windows Installer	1,368 KB		
🕹 Downloads 👘	SupportInfo_PWcuD4v84Hab0InerGyUQz	3/13/2020 10:16 AM	File folder			
Music	temp_matlab_R2019b_win64	3/2/2020 2:19 PM	File folder			
Pictures	vsthostx64	3/2/2020 2:00 PM	File folder			
Videos	📒 install_speciab	3/2/2020 1:54 PM	File folder			
Land Dick (C)	how to reset password	1/29/2020 5:19 PM	File folder			
Local Disk (Ci)	Windows PBX - Kopie	1/28/2020 2:40 PM	File folder			
Network *	nufus files - Konie	1/28/2020 2:40 PM	File folder			
File name: 3CXP	PhoneforWindows15					
Save as tune: Wind	ows Installer Package					

Open the containing folder and find the downloaded file.

🖃 — 🛧 🕹 > This PC > Local Disk ((C) > Users > remo,ALLOY > Downloads			~ O	Search Downloads	P
CorDine allow com av	^ Name	Date modified	Type	Size		
Alloy	USCPhoneforWindows15	3/21/2020 2:11 PM	Windows Installer	17,279 KB		
Frank	gs-cert	3/20/2020 10.39 AM	JPG File	76 KB		
Microsoft Teams Cleat Siles	📄 intermediate	3/20/2020 10:36 AM	PNG Ello	49 KB		
	lex lex	3/20/2028 10:35 AM	PNG File	S4 KE		
Microsoft learns-Chatdateien	Cancelled	3/20/2020 10:29 AM	JPG File	42 KB		
Neuer Ordner	extensions	3/19/2020 10:46 AM	Microsoft Excel C	2 KB		
Office 2016	107	3/18/2020 1/40 PM	Wireshark capture	1,541 KB		
temp	PW-QC0-Q0200_63.3.bin	3/16/2000 S10 PM	BIN File	\$5,721 KB		
yealink	pricelist-rev6.3-dec1-2019	3/16/2020 4/29 PM	PDF-XChange Vie	1,609 KB		
	capture-000802C59021	3/13/2020 3:55 PM	Wireshark capture	21,255 KB		
ThePC	T-REC-0.850-201904-BAwd11PDF-E	3/13/2020 10:22 AM	PDF-XChange Vie	1,011 KB		
3D Objects	T-REC-Q.850-201810-HPDF-E	3/13/2020 10:21 AM	PDF-XChange Vie	757 KB		
E Desktop	Supportinto_PWcuD4x84HabUner6yUQs	3/13/2020 10:08 AM	Win8A8.ZIP archive	37,174 KB		
Documents	🖬 unnamed	3/12/2020 1:57 PM	JPG File	172 KB		
Downleads	cefb4d5d	3/12/2020 1:53 PM	PNG File	6 KB		
h Masic	Direft2	3/11/2020 4:13 PM	Text Document	1 KB		
Pinterer .	CT1568_DC6758F10	3/11/2020 3:55 PM	Text Document	1 KB		
PRIME	ET1368_DC6758F10.op	3/11/2020 3:55 PM	RAW File	6 KB		
Widees	LT1568_DC6758F10	3/11/2020 3:55 PM	RAW File	1,526 KB		
Example Production	The second			11.000		

Double click on the installation file or right click on it and choose 'Install' and then click '*Run*'.



Choose '*Next*'





Accept 'Terms and Conditions' and click 'Next'.



Keep the installation path and choose 'Next'.

認識 3CX Client For Windows Setup Select Installation Folder	- · ×
This is the folder where 3CX Client For Windows will be installed.	3CX
To install in this folder, click "Next". To install to a different folder, ente "Browse".	er it below or click
Eolder: C:\ProgramData\3CXPhone for Windows\	Browse
3CX Client For Windows Setup <a>Rev Next >	Cancel

Then choose '*Install*'.



Accept the 'User Account Control' from Windows with Yes.



Leave 'Launch 3CX Client for Windows' ticked and click 'Finish'.



The client was installed successfully.



→ If you are asked to install an update from the phone system accept with Yes/ok.

Now go back to the welcome e-mail and double click on the '3CX config file'.



Choose 'Open'.





The file is opened with the 3CX Softclient. The Softclient gets provisioned and is registered automatically.



In the 3CX Management console we can see the extension now as being registered



Detailed description on how to use the Softclient can be found in the following userguides:

- Windows
- <u>Mac</u>



3.3 3CX SBC

3.3.1 Prerequisites

- Port forwarding is setup on the firewall properly on the 3CX server side.
- Single/unused Windows10 computer or supported raspberry Pi with supported hardware Specifications. Link here : <u>Hardware specifications</u>
- IP Deskphone on remote site

3.3.2 Server Side

Log into the 3CX Management Console, 'SIP Trunks' and choose 'Add SBC'.

3	CX.		<u>1</u>				
2	Phones	0	in franks				
1	Extensions		SIP Trunks				
	Groups						
			+ Add SIP Trunk	🕂 Add gateway	+ Add SBC	🕂 Add Bridge	1
0	SIP Trunks		1 Export Provider	Push Config	C Update		
+	Inbound Rules						

Enter a '*Name*' for the SBC

Add SBC	×
For more info on how to add and confi	gure an SBC click here.
Password	٢
	OK Cancel

Choose 'OK' to save the SBC

TestHome ок Cancel
General Statistics Settings
Connection Information
Name
TestHome
Password

On the Trunk overview we can see now the SBC as 'Down'.



Go back into the configuration and keep the window open, as certain information will be needed. Now we log into the remote machine:



3.3.3 Client Side

3.3.3.1 Installing and connecting the SBC

Open this <u>link</u> to come to the download page of 3CX to download the 3CX SBC unto the remote machine.

Download 3CX V16
Server
 Download 3CX v16 for Windows Download the ISO – Debian for 3CX (includes SBC) Download the 3CX SBC
Deploy in the Cloud
Take the PBX Express

Choose 'Save File'

Opening 3CXSBC16.msi	×
You have chosen to open: 弱 3CXSBC16.msi	
which is: Windows Installer Package (5.5 M from: https://downloads-global.3cx.com	B)
Would you like to save this file?	
	Save File Cancel

Open the file location

—		manage				
Home Sha	re View	Application Tools				
· • + ·	This PC → Loca	al Disk (C:) → Users →	3CX-Training	> Downloads		
)ownloads 🔺 🕯	Name			Date modified	Туре	Size
ocuments 🖈	✓ Today ([1]				
Pictures 🖈	🔂 3CXSE	3C16		3/21/2020 3:48 PM	Windows Installer	5,682 KB
cx (\\VBoxSvr)	✓ Earlier t	this year (1)				

Double click on the installation file or right click on it and choose 'Install', read the lined-out '*Pre-requisites*' and then click '*Next*'.

🛃 3CX Session Border Contro	ller Setup	×
	Welcome to the 3CX Session Border Controller Setup Wizard	32
	The Setup Wizard will install 3CX Session Border Controller or your computer. Click "Next" to continue or "Cancel" to exit the Setup Wizard.	n 24
	Pre-requisites 1. Port 5060 (TCP and UDP) on this computer must be free 2. Requires 3CX PBX Version 16 Update 2 and higher 3. Update 3CX PBX before you install SBC	01 38 74
	< Back Next > Cancel	



Accept the 'Terms and Conditions' and choose 'Next'.

3CX Session Border Controller	×
End-User License Agreement	
Please read the following license agreement carefully	CA.
LICENSE AGREEMENT	<u> </u>
3CX Phone System Software	
2CV Software Ltd ///2CV/// is willing to lisense the 2CV Phone	
3CX Software, Ltd. ("3CX") is willing to license the 3CX Phone	¥
I accept the terms in the License Agreement	
O I do not accent the terms in the License Agreement	
Or do not accept the terms in the beense Agreement	
CX Session Border Controller Setup	
< Back Next >	Cancel

Keep the install path and choose '**Next**'.

🛃 3CX Session Border Controller Setup	_		×
Select Installation Folder		20	\mathbf{v}
This is the folder where 3CX Session Border Controller will be installed.		30	Λ.
To install in this folder, click "Next". To install to a different folder, ent "Browse".	er it be	elow or clid	k
Eolder:			
C:\ProgramData\3CXSBC\		Browse	.)
			8
			1
3CX Session Border Controller Setup			
< Back Next >		Cano	el

Now enter the values from the 3CX Management console into these fields.

提 3CX Session Border Controller Setup
SBC Client Configuration
Configure this SBC by filling in the details below.
3CX PBX WEB URL
SBC Client for Windows requires the full WEB URL of your PBX including the leading "https://" protocol and port number at the end.
Examples: https://mycompany.3cx.com or https://mycompany.3cx.com:5001
Access the 3CX Management Console > SIP Trunks > Add SBC. An Authentication KEY ID will be generated. Copy this key in the space below.
3CX Session Border Controller Setup
< Back Next > Cancel



Copy the '*Web URL*' incl. Port and '*Authentication KEY ID*' with the help of the copy icons on the right.

Network Info		
Web Url https://www.s5001		6
Authentication KEY ID 6Pvr0eNPD8nV		6
Public IP	Local IP	
Public IP	Local IP	

Once done confirm with 'Next'.

🖟 3CX Session Border Controller Setup 🛛 🗙
SBC Client Configuration
Configure this SBC by filling in the details below.
3CX PBX WEB URL
SBC Client for Windows requires the full WEB URL of your PBX including the leading "https://" protocol and port number at the end.
Examples: https://mycompany.3cx.com or https://mycompany.3cx.com:5001
https://
SBC AUTHENTICATION KEY ID
Access the 3CX Management Console > SIP Trunks > Add SBC. An Authentication KEY ID will be generated. Copy this key in the space below.
5Pvr0eNPD8nV
3CX Session Border Controller Setup
< Back Next > Cancel

Now choose '*Install*' and accept the 'User Account Control' from Windows with Yes.

🛃 3CX Session Border Controller Setup	×
Ready to Install The Setup Wizard is ready to begin 3CX SBC Installation	3CX
Click "Install" to begin the installation. If you want to review or change installation settings, click "Back". Click "Cancel" to exit the wizard.	any of your
	į
3CX Session Border Controller Setup	Cancel

Then click on '*Finish*'.





Done!

Now we can check the status of the SBC from the SIP Trunk list and can see the Trunk is already up.

•	TestHome	124.148.172.96	SBC	0	Version:	↑ 2 min	03/21/2020	
					16.0.390		4:05:25 PM	

3.3.3.2 Adding the remote Phone

- The following steps are done once the IP-Phone is plugged into the remote network.

We go back into the SBC connection and note down the local IP of the SBC, in our case 192.168.75.112

Network Info	
Web Url	
https://	15
Authentication KEY ID	
6Pvr0eNPD8nV	li G
Public IP	Local IP
	192.168.75.112

We choose the extension we want to configure.

	Extension	IS					
5	+ Add	🖋 Edit	X Delete	± Import ± Export	Password	🕼 Regenerate	r# Si
Ì	501						
		Ext	First	Last	Email	Pass	word
	•	501	Home	Work		****	
					_		

Inside the extension we choose the 'Phone Provisioning' tab.



General Voicemail Forwarding Rules Phone Provisioning BLF Options R	ļ	501 Hom	e Work	ОК	Cancel			
	9	General	Voicemail	Forwarding Rules	Phone Provisioning	BLF	Options	R

Under '*IP Phone*' we change the '*Provisioning Method*' to '*3CX SBC*' and enter the LAN IP of the SBC, in our case 192.168.75.112 and save.

IP Phone	
Provisioning Method 3CX SBC (remote)	
Provisioning Link: https://	ou38u
Mac Address	
001565	
Select Interface	
3CX Session Border Controller	
192.168.75.112	

Now the IP Phone must be factory reset:

How-to

- <u>Yealink</u>
- <u>Snom</u>
- Grandstream

Once Factory defaulted the phone appears inside the phones node with as a bold entry.

+/	Add Phone	🖍 Edit E	Add Ext	t Assign Ext	t Reject	+ Firmwar	re 📿 Rebo	ot 📌 Rep	rovision	🖻 Phone UI	Password	+ Config	
Sea	rch												
	EXT	Vendor	Model	Fw. Version	Name	User ID	Password	Phone pwd	PIN	IP			MAC
	New	yealink	SIP- T28P	2.73.0.50	New	New	New	New	New	192.168.75.8 192.168.75.1	31:5059 via SB 12:5060	с	I 0015
	New	yealink	SIP- T22P	7.73.0.50	New	New	New	New	New	192.168.75.8 192.168.75.1	80:5059 via SB 12:5060	с	I 0015
	New	yealink	SIP- T48G	35.81.0.110	New	New	New	New	New	192.168.75.8 192.168.75.1	3:5059 via SB 12:5060	с	0015
	New	yealink	SIP- T46S	66.82.0.30	New	New	New	New	New	192.168.75.8 192.168.75.1	32:5059 via SB 12:5060	C	I 0015



Highlight the required phone and choose 'Assign Ext'.

Phon	es					
+ A	dd Phone	🖍 Edit E	xt Add Ex	Assign Ext	× Reject	+ Firmware
Sear	ch					
	EXT	Vendor	Model	Fw. Version	Name	User ID
•	New	yealink	SIP-T46S	66.82.0.30	New	New

Assign the phone to its original extension, in this case '501'.

Assign phone to extension						
Choose Extension						
212 T54W						
213 Snom D765						
215 snom PA1						
216 gxp2170						
300						
500 Home Work						
501 Home Work						
711						

Then click '**OK**'.

Assign phone to extension		
Choose Extension		
501 Home Work		
		ОК

The '*Phone Provisioning*' tab opens automatically and lets you choose the settings, change if there is need to (f.e. Timezone, etc.).

501 Hon	ne Work	ОК	Cancel		
General	Voicemail	Forwarding Rules	Phone Provisioning	BLF	Options
Phone	Provisioning				
+ Add					
Your ph	ones				
Yeali	nk T46S				
For infe	o on how to prov	rision this phone click	here.		
ID Dhar	-				



Then choose the '*Options*' tab, scroll down to '*Troubleshooting*' and ensure '*PBX Delivers Audio*' is **unticked** and save.

Troubleshooting	
Potentially overcome com	patibility issues with old/incompatible phones with these options
PBX Delivers Audio	

The phone receives the provisioning information and depending on the model either reboots or directly takes over the new settings.

After a few moments the phone is up and running. (*If it was previously used on the same system, it should not line out that it has the wrong firmware!*)

501	Yealink	SIP-T46S	Not Supported 66.82.0.30	Home Work	*****	*****	*****	7079	192.168.75.82:5060 via SBC 192.168.75.112:5060	001565F59C89
•	•	501	Home	Work					****	

The Deskphone can now be used as it would be inside the office network. Also in terms of maintenance.



3.4 3CX Mobile client

3.4.1 Prerequisites

- Port forwarding is setup on the firewall properly on the 3CX server side.
- Mobile device running iOS 13 and higher or Android 7 and higher
- App Store or Google Play Store account

3.4.2 Server Side

All that must be done is setup the e-mail address inside the 'User Information' under the General tab inside the extension.

Once this is all checked and confirmed, simply choose either all extensions from the top of the list or only the ones that need the credentials

Extension	is						
+ Add	🖊 Edit	X Delete	± Import	≜ Export	Password	13 Regenerate	A Send Welcome Email
500							
	Ext	First	La	st	Email		Password

and choose 'Send Welcome Email'.



The users credentials will be sent now to the e-mail address entered inside the extension.

The welcome e-mail contains the following information:

- Config-file for the 3CX Softclient
- QR code for the 3CX mobile client
- Number of the extension
- Personal VM PIN
- Number of the VM System
- 3CX Webclient login link and credentials
- Link for the Chrome 'click2call' plugin
- Links to download the Softclient and Mobile client

3.4.3 Client side

The e-mail has been successfully received by the user.

Now open the App Store on the mobile deice and search for 3CX Android or 3CX iOS app. Click on it and press the 'Install' button.



Once the app is installed open the app by clicking on the icon. The 3CX app opens. Choose the '*Menu*' top left.



Open the email and click on the **QR code**.



Inside the app choose 'Scan QR code'.

• •	k⊚ £2≪ ∣	N 🗢 💥 🗇 🕌 📶 🛢 47% 20:54
-		No Active Profile
¢ [®]	Settings	3
S.€	Silent	DEF
	Scan QR Code	6
0	Help	MNO
0	About	9 wxyz
		#
		$\langle X \rangle$
		costs Cost Voicemail



Hold the scanner fully over the QR Code displayed in the mail.



The provisioning information is retrieved and the client is configured. ■ ⊗ ▶ ♥ ● ● ● ● ● ● ● ● ● ● ● ● ■ ■ 47% 20:56



Done!

Detailed description on how to use the Mobile client can be found in the following userguides:

- <u>iOS</u>
- <u>Android</u>



3.5 Remote connection using STUN

3.5.1 Prerequisites

- Port forwarding is setup on the firewall properly on the 3CX server side.
- SIP ALG is disabled on any firewall/router device on the remote side!
- If using port 5060 as a port for a remote device, ensure to lock 5060 down to the public IP of the 3CX server on the remote firewall, else 5060 will be attacked by hacking tools like 'Sipvicious'.
- Port forwarding is setup on the firewall properly on the remote extension side.

- The below conditions must be met for each remote phone on at the same location

- Every remote phone uses a static IP address
- Every remote phone uses a different SIP port. F.e. 5060, 5065, 5070, ...
- Every remote phone uses a different RTP port range. f.e. 11000-11005, 11006-11010, ...
- SIP and RTP port are mapped equally → Source port = outside port and they are forwarded to the static IP address of the matching device.

Using STUN provisioning we show the solution using Yealink RPS. To fully keep control over the remote device we advise to follow our steps as lined out:

3.5.2 Preparing the RPS server

3.5.2.1 What is RPS

RPS (Remote Provisioning Server) from Yealink, GAPS from Grandstream or Snom Active are free provisioning services designed to dropship devices to the customer and have them auto configured upon first boot. All that is required is a free account to the respective service.

Free registration for Alloy resellers can be done:

- Yealink RPS
- Snom Active
- Grandstream GAPS → send request to: <u>support@alloy.com.au</u>

3.5.2.2 How does it work

Upon every first boot (after factory default has been performed) the IP Phone contacts the RPS service to see if there is any provisioning information available. If there is no information available, the device skips this step and stays unprovisioned until it will be provisioned via another way. If there is any data available the device downloads the available information, which is the link to the provisioning server, and downloads the provisioning information from the server.

The link between the device and the provisioning server is the devices' MAC-address that is entered on the RPS with the attached server link.

3.5.2.3 3CX RPS vs own RPS

If an extension on 3CX is created and the 'Provisioning Method' is set to 'STUN' the MAC address of the device is registered along with the provisioning link for 2 weeks on 3CX' RPS account. After this the information will be removed automatically.

Now what happens if the device must be factory defaulted at some stage after these 2 weeks? The extension must be refreshed through the 3CX management console, to have the provisioning MAC and link sent again to the RPS server.

If the own RPS account is used, the MAC address and the assigned provisioning link will not be removed automatically and will stay untouched until changes are made. This means, after a factory



default of the device, the device will be able to retrieve auto provisioning information from the RPS server upon first boot and be up and running automatically in the shortest time.

We therefore strongly advise the following when using RPS provisioning:

3.5.2.4 Register device on RPS

Before we create an RPS extension, we register the device, the MAC address of the device, on our RPS account.

We go to <u>https://dm.yealink.com/reseller/login</u> and enter username and password.

Yealink Management Cloud Service Channel	
	Welcome to login
	Password
	Advanced
	Forget Password

Once logged in we choose 'Device Management' and click on 'Add'.

Yealink Management Cloud Service RPS							
Ξ	Device Management	+ Add -					
A Home		Q Searc					
☎ Device Management	0 selected Migrate Delete Reset connection						
Server Management	MAC Server Name IP	Binding Dat					

We just enter the MAC for this moment and click 'Save'.

Yealink Management Cloud Service RPS					
€	Add Device				
🕈 Home					
Device Management	*MAC	001565			
Server Management	Server Name	Please select			
Log Management	Unique Server URL	Please enter a unique server URI			
🧬 System Settings 🛛 🗸	Username	Please enter username, maximur			
	Password	Please enter password, maximur			



Now the device is bound to our RPS account and can't be used anymore from any other RPS account. We go to the Management Console of the 3CX and create a new extension. **'Extensions' – 'Add'**

3	CX.	疍
di	Dashboard	Extensions
2	Phones	
1	Extensions	Extensions
	Groups	
0	SIP Trunks	TAGO Feat Delete Limport Lexport
. 1	Inbound Pulse	Search

We enter the '*User Information*' under the '*General*' tab and go to the '*Phone Provisioning*' tab and choose '*Add*'.

General	Voicemail	Forwarding Rules	Phone Provisioning
Phone	Provisioning		
+ Add	4		
Your ph	nones		
200	A		

We choose the phone model and enter the MAC address of this device and confirm.

Add Phone		
Choose from avail Yealink T48	able models	
Mac Address	1	
001565		

We choose the Provisioning Method 'Direct SIP'

IP Phone
Provisioning Method
Direct SIP (STUN - remote)
• Note: For a device to work in Direct SIP (STUN - remote) mode, the setting in "Disallow u unchecked. Uncheck this option before saving for this device to work.
Provisioning Link: https://



And enter under '*Local SIP Port of Phone*' and '*Local RTP Port Start/End*' the values we have defined on the remote firewall for the device with the matching MAC address.

Local SIP Port of Phone	
5065	
Local RTP Audio Ports Star	
14000	
Local RTP Audio Ports End	
14019	

Further below we enter additional Information like Display language, Time zone, Once done we go to the '**Options**' tab and untick '**Disallow use of**'.

General	Voicemail	Forwarding	Rules	Phone Provisio	ning	BLF	Options	Rights
Restrict	ions							
Disa	able Extension							
Dis	able External Ca	lls						
Ena	ble PIN Protect	For 0	seconds					
Dis:	allow use of exte	ension outside	the LAN (F	emote extension	is using Dii	rect SIP o	or STUN will	be blocked)

We go back to the '**Phone Provisioning**' tab and copy the provisioning link and press 'OK' at the top to save the extension.

IP Phone
Provisioning Method
Direct SIP (STUN - remote)
Provisioning Link: https://

With this link copied we go now back to the RPS management platform and choose '*Server Management*' on the left side.

Ξ	Device Overview
A Home	
Tevice Management	10
Server Management	12



There we choose 'Add Server'.

Add Server	
Basic Settings	
*Server Name	Please enter server name, maximum 128 charad
*Server URL	Please enter server URL, maximum 512 charact
User Name	Please enter username, maximum 32 characters
Password	Please enter password, maximum 32 characters

We enter a Server Name and the provisioning URL that we have copied from the 3CX. Additionally, we can enter a Username and password for higher security. The user will be asked to enter these values once the phone is connected to the server. When finished we 'Save'.

Basic Settings	
*Server Name	Test STUN
1 *Server URL	https://
User Name	Please enter username, maximum 32 characters.
Password	Please enter password, maximum 32 characters.

Go back to '**Device Management**' and click the '**Edit**' symbol on the right side of the matching MAC address.

MAC \$	Server Name	IP	Binding Date ≑	Last Report Ti	IP Status \sim	Operation
001565			2020/03/21 22:5		Unbound	Ľ

Under '*Server Name*' choose the Server that contains the link to the install you want to add this phone to. Then press '*Save*'.

Edit	
*MAC	001565
Server Name	Test STUN
Unique Server URL	Please enter a unique server URL, maximum 512 characters.

The user can now plug in the factory defaulted device or factory default it in the remote network. The device will get the provisioning link, get provisioned and reboot.



3.6 Remote connection using manual provisioning

3.6.1 Prerequisites

- Port forwarding is setup on the firewall properly on the 3CX server side.
- SIP ALG may or may not be enabled on the remote site. This depends on the situation.
- If using port 5060 as a port for a remote device, ensure to lock 5060 down to the public IP of the 3CX server on the remote firewall, else 5060 will be attacked by hacking tools like 'Sipvicious'.
- Port forwarding is setup on the firewall properly on the 3CX remote side.

- The below conditions must be met for each remote phone on at the same location

- Every remote phone uses a static IP address
- Every remote phone uses a different SIP port. F.e. 5060, 5065, 5070, ...
- Every remote phone uses a different RTP port range. f.e. 11000-11005, 11006-11010, ...
- SIP and RTP port are mapped equally → Source port = outside port and they are forwarded to the static IP address of the matching device

3.6.2 Server side

Log into the 'Management Console' of the 3CX, choose '*Extensions*' on the left and choose 'Add'.

1	Extensions	Extensions
	Groups	+ Add / Edit X Delete
0	SIP Trunks	

Enter all the necessary 'User Information' (Extension number, First and Last name,) in the 'General' tab.



Once done we go to the '**Options**' tab and untick '**Disallow use of**'. Choose 'OK' at the top.

General	Voicemail	Forwarding Rul	es Phone P	Provisioning	BLF	Options	Rights
Restrict	ions						
Disa	able Extension						
Disa	able External Ca	lls					
Ena	ble PIN Protect	For 0 se	conds				
Disa	allow use of exte	ension outside the	LAN (Remote e)	tensions using	Direct SIF	or STUN will	be blocked)



Go back into the extension, '*General*' tab and scroll down to '*Authentication*' and either keep the tab like this or copy the values under '*ID*' and '*Password*' into a notepad.

Authentication	details used by p	hones & client.
ID	7	
	1	
Password		
Password	-	

3.6.3 Client side

No log unto the client network and enter the phones' local IP into the browser

Prim	e Business Phone SIP-T57W	
	Login	
	1 Usemame	
	Password	
	Login	

Login to the phone and choose '*Register*' under '*Account*' or the tab where the account settings are to be entered. Enter the values from the 3CX.

	-			-
i Statu	is 🗸	Label	Manual	?
👤 Acco	ount ^	Display Name	Manual	?
Regis	ter	Register Name	1IZBXEpngx	?
Basic		Username	503	?
Codeo	c	Password		• 2
Advar	nced	SIP Server 1		
🛞 Netwo	ork 🗸	Server Host		Port 5060
\rm 🕕 Dssk	ey 🗸	Transport		- 0
😍 Feat	ures 🗸			
🔅 Settir	ngs 🗸	Server Expires	3600	V
		Conior Doto: Counto	2	

Confirm the changes and then setup the phone settings like keys, time zones, language, etc.



4. Using the 3CX Web-Client with Jabra headset

4.1 General

This section lines out which hardware and software should be used to successfully implement Jabra headsets with the 3CX Web-Client.

Mandatory software:

- Google Chrome browser
- 3CX Enterprise v.16

Advised Software:

- Jabra Direct

We have tested this integration with 3CX professional v.16 and enterprise v.16. it seems to work with both versions.

Tested hardware: Jabra Pro 925: 925-15-508-208 Not OK

Jabra Pro 930: 930-29-509-103 OK Jabra Pro 9450: 9450-25-507-103 OK Jabra Engage 65: 9553-553-117 OK Jabra Evolve 65: 6593-823-499 OK Jabra Evolve 30: 5399-829-309 OK This lines out that the Jabra Engage and Evolve series fully work with the 3CX Web-Client. As well as the Pro 930 and the Pro 94xx Series. However, elder series like the Pro 920/925 won't work with that anymore.

4.1 Preparation:

To successfully integrate the Jabra headset into the 3CX Web-client please follow the steps below:

Download and install the Jabra Direct software from <u>here</u>. If necessary, perform a Firmware update through the Jabra Direct.

Open Chrome and search for 'Jabra Browser Integration Extension' in Google, download and install it.





Let the extension access all sites:

Q. Search extensions	
Permissions • Communicate with cooperating native applications	
Allow this extension to read and change all your data on websites you visit: On click On specific sites On all sites	0
Allow in incognito Warning: Google Chrome cannot prevent extensions from recording your browsing history. To disable this extension in incognito mode, unselect this option.	
Allow access to file URLs	
Extension options	
View in Chrome Web Store	Z
Source Chrome Web Store	
Remove extension	•

A headset now appears beside the address-bar in Chrome.



Log into the web-client and Click on the user icon top left



Once you click on the user icon a list comes down. Choose '**Settings**'._____





Now we come to 2 possible options. We have realized that there are 2 different settings possible. Based on what the browser shows different options is not known to us now.

4.2 Option 1:

4.2.1 Step 1:

Inside 'Settings' stay on the 'General' node, 'General Options' and scroll down.

General	General Options
Personalize	Language

4.2.2 Step 2:

At the bottom you will find a section called '*Other Options*', under '*Use headset integration*' choose '*Jabra*'.

Other Options
Replace + with 00
Use headset integration
Jabra
Headset ready

4.2.3 Step 3:

This will bring up a new message underneath that advises the install of the 'Jabra browser Integration Host'.

Jabra			
You need t	install the Jabra Browser In	tegration Host and re	eload this page



4.2.4 Step 4:

Right click on the link above and choose '**Open link in new Tab**', choose the '**Chromehost 2.0**' file and install the file.

	Operating systems	Chrome host native download	Description
v	Vindows (Windows 7 or newer)	JabraChromeHost2.0.msi	Chromehost 2.0
V	Vindows (Windows 7 or newer)	JabraChromeHost0.51.msi	Security fix to allow beta testing
n	nacOS (El Capitan or newer)	JabraChromeHost2.0.dmg	Chromehost 2.0
n	nacOS (El Capitan or newer)	JabraChromeHost0.5.dmg	Old Mac release

Save the file on the local machine and execute it.

V Today (3)			
🖟 JabraChromeHost2.0.0	7/02/2020 2:45 PM	Windows Installer	1,272 KB
JabraDirectSetup	7/02/2020 2:29 PM	Application	60,143 KB

Accept the 'Accept the Terms and Conditions' and the choose 'Install'.



Once the installation is done, choose 'Finish'



Now reload the 3CX web-client page and allow the Jabra plugin the requested access.



4.3 Option 2:

While the first option must be enabled through the 'General' Node, the 2. Option can be enabled through '*Settings' – 'Personalize' – 'Audio/Video'*

3CX	ē			Enter Name or Number	۹ 🏼	Q 🦁 Web Client 👻 Available
Install 3CX Extension for Chrome	General	Status View	Audio/Video			
 Install SCC Extension for Chrome People Contacts Chat Call History Voicemail Schedule Conference WebMeeting switchboard Settings Help Scooge Flay 	General Personalize Call Forwarding Greetings Integration Scan QR Code BLF Settings	Status View Group Presence Active calls Queues Audio/Video	Audio/Video Camera: USB2.0 VGA UVC WebCam (13d3:5a01) Speaker Default - Speakers (2- Jabra Link 370) (0b0e:245d) Ringer Default - Speakers (2- Jabra Link 370) (0b0e:245d) Microphone Default - Microphone (2- Jabra Link 370) (0b0e:245d) Use headset integration Jabra You need to install the Jabra Browser Integration Host and reload this page			
Download on the App Store						

After this follow the <u>Steps 2-4</u> from option 1.

If you have any additional questions or would like further support please contact Alloy on 03 862 9040 or via email at support@alloy.com.au