

## SETTING UP YEALINK REMOTE PHONE

Due to the ongoing COVID-19 pandemic, a number of businesses are in dire need of the ability to make and receive calls from a remote office. The ComXchange PBX and Yealink phones work perfectly in conjunction to accomplish this task. This enables the remote worker to take calls as they normally would when working from the jobsite, minimizing downtime.

## REQUIREMENTS

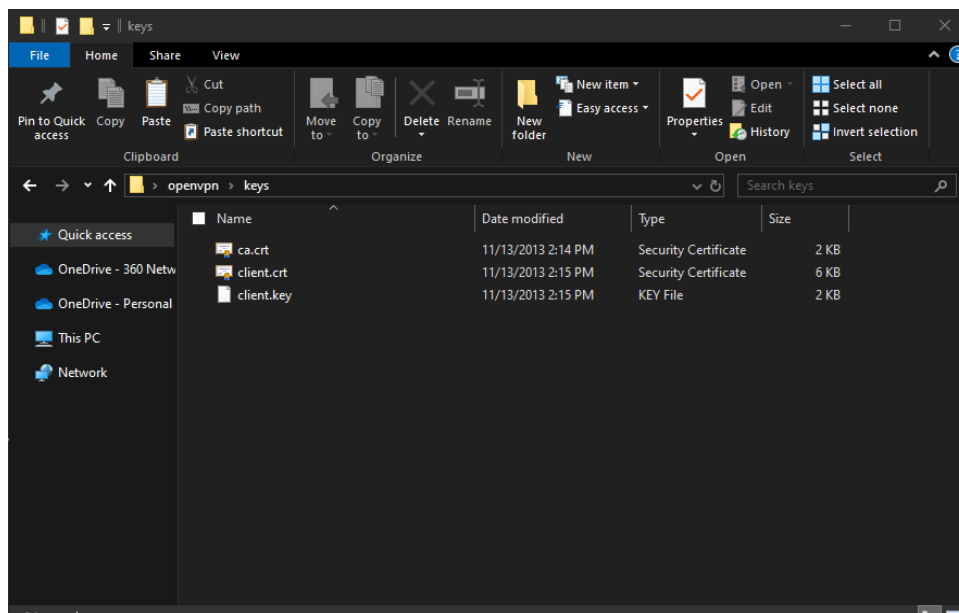
- Yealink T4X or Yealink T5X series phone
- External Power Supply or POE (Power-Over-Ethernet)
- WIFI or Ethernet with Internet Access (Remote Location)
- Unique OpenVPN Certificate for EACH remote worker

*Note: Do NOT use the same OpenVPN Certificates that you use to connect and administrate the ComXchange PBX.*

## OPENVPN CLIENT CONFIGURATION (Certificates)

We will begin by creating the files necessary for the phone to connect remote to the ComXchange PBX.

1. Have your ComXchange Administrator create new OpenVPN client certificates for each remote phone. If they are unable to do so, please have them contact 360 Networks LLC for assistance.
2. Create a New Folder on your Desktop, and name it “openvpn”
3. Create a new folder named “keys” inside of the openvpn folder.
4. Copy the ca.crt, client.crt, and client.key certificate files to the “keys” folder.

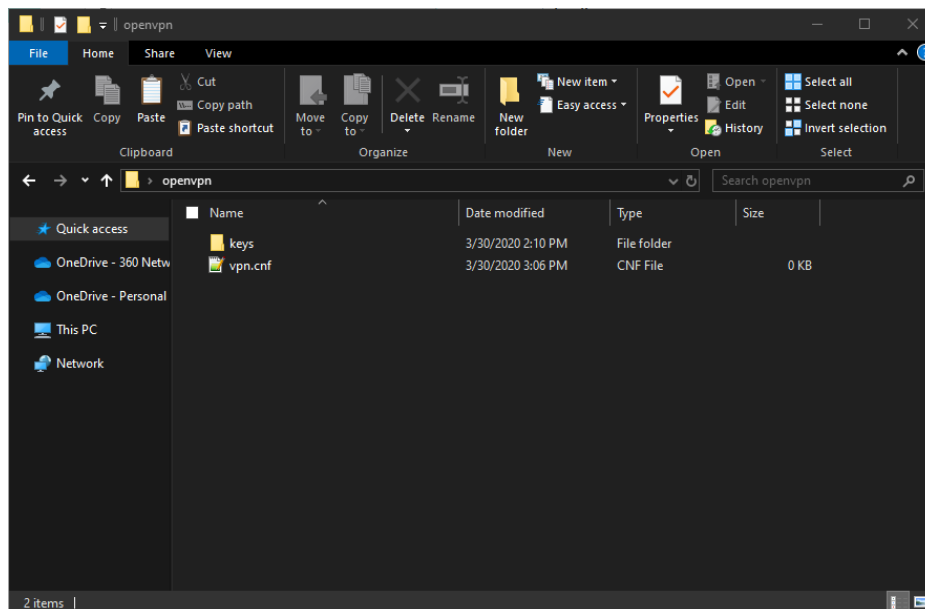


## OPENVPN CLIENT CONFIGURATION (Configuration File)

Next we will create the Configuration File that gives instructions to the OpenVPN client.

1. Create a new text file in the “openvpn” folder. Change the filename and extension to “vpn.cnf”
2. Copy the following text into vpn.cnf and save. Change the IP address to the ComXchange PBX remote access IP, and make that you change the name of the certificates to what you have in the /openvpn/keys/ folder:

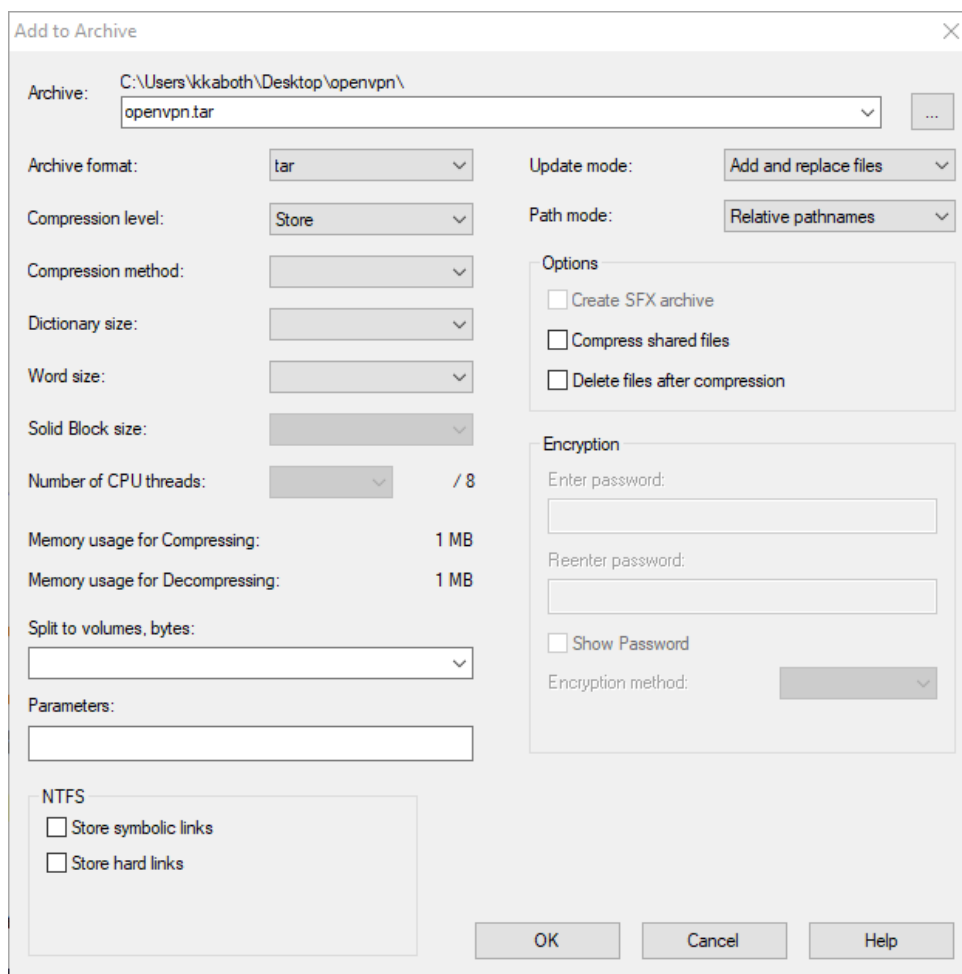
```
tls-client
dev tap
dev-type tap
proto udp
remote xx.xx.xx.xx 1194
resolv-retry infinite
nobind
;user nobody
;group nobody
persist-key
persist-tun
ca /config/openvpn/keys/ca.crt
cert /config/openvpn/keys/client.crt
key /config/openvpn/keys/client.key
;comp-lzo
verb 4
pull
;mute 20
```



## OPENVPN CLIENT CONFIGURATION (Packaging)

We now need to use 7zip or a similar program to package the files we created, this allows the Yealink phone to read the OpenVPN configuration.

1. Select both the vpn.cnf and the keys folder. Press Right Click, select 7-Zip → Add to Archive...
2. Change Archive Format to “tar”. Rename the file “openvpn.tar” (If the name is different, the phone won’t see it) Leave everything else the same and press “OK”.



You now have the files ready to upload to the Yealink phone.

## UPLOADING OPENVPN.TAR TO YEALINK REMOTE PHONE

Now that we have the properly configured openvpn.tar, we are ready to upload to the Yealink phone.

1. Press “OK” to find the IP address of your phone. Use this IP address to log into the web interface of the phone.
2. Navigate to Network —> Advanced within the phone settings. Change the “VPN Active” dropdown to “Enabled”
3. Upload the openvpn.tar we just created. Press submit. The phone will prompt to reboot, make sure to do so.



4. After rebooting, your phone should now be connected to the remote network. You may see a visual indicator of the VPN on the display of the phone. (Depending on the model)

## PROVISIONING THE REMOTE PHONE

If you are unable to make calls after uploading the openvpn.tar, it is most likely that you have to provision the phone.

1. Log into the phone using your web browser. Navigate to Settings —> Auto Provision.
2. For “Server URL”, Enter the LAN IP of the ComXchange (Default 192.168.101.2)
3. For “Username”, Enter the extension number that the phone will provision to.
4. For “Password”, Enter the registration password of the extension the phone will provision to.
5. Press Confirm, then Autoprovision Now. Reboot if the phone prompts you to. The phone will now try to register.

The screenshot displays the Yealink T46G web interface. The top navigation bar includes tabs for Status, Account, Network, Dsskey, Features, Settings (selected), Directory, and Security. A left sidebar lists various configuration categories: Preference, Time & Date, Call Display, Upgrade, Auto Provision (highlighted), Configuration, Dial Plan, Voice, Ring, Tones, Softkey Layout, TR069, Voice Monitoring, SIP, and Power Saving. The main content area is titled 'Auto Provision' and contains the following settings:

- PNP Active: ☐ On ☒ Off
- DHCP Active: ☒ On ☐ Off
- Custom Option(128~254): [Empty field]
- DHCP Option Value: yealink
- Server URL: tftp://192.168.149.3
- User Name: 308
- Password: [Masked]
- Attempt Expired Time(s): 5
- Common AES Key: [Masked]
- MAC-Oriented AES Key: [Masked]
- Zero Active: Disabled
- Wait Time(1~100s): 5
- Power On: ☒ On ☐ Off
- Repeatedly: ☐ On ☒ Off
- Interval(Minutes): 1440
- Weekly: ☐ On ☒ Off
- Weekly Upgrade Interval(0~12week): 0
- Inactivity Time Expire(0~120min): 0
- Time: 00 : 00 -- 00 : 00
- Day of Week: ☒ Sunday, ☒ Monday, ☒ Tuesday, ☒ Wednesday, ☒ Thursday, ☒ Friday, ☒ Saturday
- Flexible Auto Provision: ☐ On ☒ Off
- Flexible Interval Days: 30
- Flexible Time: 02 : 00 -- [Empty] : [Empty]

At the bottom of the settings area are 'Confirm' and 'Cancel' buttons, and an 'Auto Provision Now' button. On the right side, a 'NOTE' section explains that the IP phone can interoperate with a provisioning server using auto provisioning for deploying IP phones, and provides a link to more guides.

Congratulations! You are finished setting up your Yealink remote phone.