

# Yealink Auto Provisioning User Guide

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# Introduction

Yealink IP phones are full-featured telephones that can be plugged directly into an IP network and can be used easily without manual configuration.

This guide shows you how to provision Yealink IP phones with the minimum settings required. Yealink IP phones support the FTP, TFTP, HTTP, and HTTPS protocols for file provisioning and are configured by default to use Trivial File Transfer Protocol (TFTP).

The purpose of this guide is to serve as a basic guidance for auto provisioning Yealink IP phones, including:

- Yealink SIP-T28(P)
- Yealink SIP-T26(P)
- Yealink SIP-T22(P)
- Yealink SIP-T20(P)
- Yealink SIP-T18(P)
- Yealink SIP-T12(P)
- Yealink SIP-T38(G)
- Yealink SIP-T32(G)
- Yealink VP530

The provisioning process outlined in this document applies to the firmware V70 or higher version of Yealink IP phones.

# **Getting Started**

This section shows you how to get ready for the provisioning. The provisioning process discussed in this guide uses TFTP and a personal computer (PC) as the provisioning server.

To begin the provisioning process, the following are required:

- Obtaining Configuration Information
- Managing Configuration Files

### **Obtaining Configuration Information**

### **Obtaining Configuration Files**

Before you begin provisioning, you need to obtain the configuration files. There are 2 configuration files both of which are CFG formatted that the phone will try to download from the server during provisioning. We call them Common CFG file and MAC-Oriented CFG file.

The MAC-Oriented CFG file is only effectual for the specific phone. It uses the 12-digit MAC address of the phone as the file name. For example, if the MAC address of the phone is 0015651130F9, then the MAC-Oriented CFG file name must be 0015651130F9.cfg. However, the Common CFG file is effectual for all the phones with the same model. It uses a fixed name "y000000000XX.cfg" as the file name, where "XX" equals to the hardware version of the phone model, except 0 for T28 which is special.

Phone Model	Common Configuration File
SIP-T28(P)	y00000000000.cfg
SIP-T26(P)	y00000000004.cfg
SIP-T22(P)	y00000000005.cfg
SIP-T20(P)	y00000000007.cfg
SIP-T12(P)	y0000000008cfg
SIP-T18(P)	y0000000009.cfg
SIP-T38G	y0000000038.cfg
SIP-T32G	y00000000032.cfg
VP530	y00000000023.cfg

The names of the Common CFG file for each phone model are:

You can ask the distributor or the Yealink FAE for configuration files.

### **Obtaining Phone Information**

Before you begin the provisioning, you will also need the phone information. For example, MAC address and the SIP account of the phone.

**MAC Address**: The unique 12-digit serial number of the phone. You can obtain it from the phone's bar code at the back of the phone.

**SIP Account**: This may includes SIP credentials such as user name, password and the address of the phone's registration server. Ask your system administrator for SIP account information you need. Although SIP accounts may not be required to get the phone working, we strongly recommend using them.

### **Managing Configuration Files**

Auto provisioning enables Yealink IP phones to update automatically via downloading the Common CFG file and MAC-Oriented CFG file. Before provisioning you may need to edit and customize your configuration files.

### **Editing Common CFG File**

Common CFG file contains configuration parameters which apply to all phones of the same phone model, such as the language displays on the phone LCD screen.

```
Common.cfg ×
 #!version:1.0.0.1
 ##File header "#!version:1.0.0.1" can not be edited or deleted.##
 #Configure the WAN port type; 0-DHCP(default), 1-PPPoE, 2-Static IP Address;
 #Require reboot;
 network.internet_port.type =
 #Configure the static IP address, submask, gateway and DNS server for the phone;
 #Require Reboot
 network.internet_port.ip =
16 network.internet_port.mask =
 network.internet_port.gateway =
 network.primary_dns=
 network.secondary_dns =
21 #Configure the username and password for PPPOE connection;
 #Require reboot;
 network.pppoe.user =
 network.pppoe.password =
 #Configure the PC port type; 0-Router, 1-Bridge(default);
 #Require reboot;
 network.bridge_mode =
```

The line beginning with "#" is considered to be a comment.

The parameters commonly edited in the Common CFG file (T2xP as an example) are detailed as following:

##File header "#!version:1.0.0.1" cannot be edited or deleted.##

#Configure the WAN port type; 0-DHCP(default), 1-PPPoE, 2-Static IP Address #Require reboot

network.internet\_port.type = 0

#Configure the static IP address, submask, gateway and DNS server for the phone #Require reboot

network.internet\_port.ip = 192.168.1.10

network.internet\_port.mask = 255.255.255.0

network.internet\_port.gateway =192.168.1.1

network.primary\_dns= 202.101.103.55

network.secondary\_dns = 202.101.103.54

#Configure the PC port type;0-Router,1-Bridge(default) #Require reboot

network.bridge mode = 1

#LAN port as Router settings #Require reboot

 $network.pc_port.ip = 10.0.0.1$ 

network.pc\_port.mask = 255.255.255.0

 $network.pc_port.speed_duplex = 0$ 

network.pc\_port.dhcp\_server = 1

network.dchp.start\_ip = 10.0.0.10

network.dchp.end\_ip = 10.0.0.100

#Enable or disable the Plug and Play feature; 0-Disabled, 1-Enabled (default)

 $auto_provision.pnp_enable = 1$ 

#Set the auto provisioning mode (0-Disabled (default), 1-Power on, 4-Repeatedly, #5-Weekly, Power on + Repeatedly, Power on + Weekly)

auto provision.mode = 1

auto\_provision.power\_on\_enable = 1

auto\_provision.repeat.enable = 0

auto\_provision.repeat.minutes = 1440

auto\_provision.schedule.periodic\_minute = 1
auto\_provision.schedule.time\_from = 00:00
auto\_provision.schedule.time\_to = 00:00
auto\_provision.schedule.dayofweek = 0123456
auto\_provision.server.url =
auto\_provision.server.username =
auto\_provision.server.password =
auto\_provision.weekly.enalbe = 0
auto\_provision.weekly.mask = 0123456
auto\_provision.weekly.begin\_time = 00:00
auto\_provision.weekly.end\_time = 00:00
#Set the AES key used for decrypting the Common CFG file
auto\_provision.aes\_key\_16.com =

#Set the AES key used for decrypting MAC-Oriented CFG file

auto\_provision.aes\_key\_16.mac =

#Set the language used on the Web page

#The available values are: English, Chinese\_S, Turkish, Portuguese, Spanish, Italian, #French, Russian, Deutsch and Czech

lang.wui =

#Set the language used on the phone LCD screen

#The available values are: English (default), Chinese\_S, Chinese\_T, German, French, #Turkish, Italiano, Polish, Spanish and Portuguese

lang.gui = English

#Set the web server access type (0-Disabled, 1-HTTP&HTTPS (default), 2-HTTP only, #3-HTTPS only)

#Require reboot

 $network.web_server_type = 1$ 

#Set the HTTP port (80 by default) #Require reboot

network.port.http = 80

#Set the HTTPS port (443 by default) #Require reboot

network.port.https = 443

#Set the new password (admin123) for the administrator

security.user\_password = admin:admin123

#Set the new password (user123) for the user

security.user\_password = user:user123

### **Editing MAC-Oriented CFG File**

MAC-Oriented CFG file contains configuration parameters which are expected to be updated per phone, such as the registration information.

Common.cfg MAC-Oriented.cfg X
1 #!version:1.0.0.1
$\frac{2}{2}$
4
<pre>9 #Enable or disable the account1, 0-Disabled(default), 1-Enabled; 10 account.1.enable = 11</pre>
<pre>12 #Configure the label for account1, which will display on the LCD screen; 13 account.1.label = 14</pre>
15 #Configure the display name of account1; 16 account.1.display_name = 17
<pre>18 #Configure the username and password for register authentication; 19 account.1.auth_name = 20 account.1.password = 21</pre>
22 #Configure the register user name; 23 account.1.user_name = 24
<pre>25 #Configure the SIP server address and port(5060 by default); 26 account.1.sip_server_host = 27 account.1.sip_server_port = 28</pre>
<pre>29 #Enable or disable to use the outbound proxy server, 0-Disabled(default), 1-Enabled; 30 account.1.outbound_proxy_enable =</pre>

The parameters commonly edited in the MAC-Oriented CFG file are detailed as following:

##

MAC-Oriented CFG File

#!version:1.0.0.1

#File header "#!version:1.0.0.1" cannot be edited or deleted.##

#Line1 settings

#Activate/Deactivate the account1, 0-Disabled (Default), 1-Enabled

account.1.enable = 0

#Configure the label of account1 which will display on the LCD screen

account.1.label =

#Configure the display name of account1

account.1.display\_name =

##

#Configure the user name and password for register authentication
account.1.auth_name =
account.1.password =
#Configure the register user name
account.1.user_name =
#Configure the SIP server address and port (5060 by default)
account.1.sip_server_host =
account.1.sip_server_port = 5060
#Line2 settings
#Activate/Deactivate account2, 0-Disabled(Default), 1-Enabled
account.2.enable = 0
#Configure the label of account2 which will display on the LCD screen
account.2.label =
#Configure the display name of account2
account.2.display_name =
#Configure the user name and password for register authentication
account.2.auth_name =
account.2.password =
#Configure the register user name
account.2.user_name =
#Configure the SIP server address and port(5060 by default)
account.2.sip_server_host =
account.2.sip_server_port = 5060
#Line3 settings
#Activate/Deactivate the account3, 0-Disabled(Default), 1-Enabled
account.3.enable = 0
#Configure the label of account3 which will display on the LCD screen
account.3.label =
#Configure the display name of account3
account.3.display_name =
#Configure the user name and password for register authentication
account.3.auth_name =
account.3.password =
#Configure the register user name
account.3.user_name =
#Configure the SIP server address and port (5060 by default)

account.3.sip\_server\_host =

account.3.sip\_server\_port = 5060

#Line4 settings (For T28P, T38G and VP phone only)

#Activate/Deactivate the account4, 0-Disabled(Default), 1-Enabled

account.4.enable = 0

#Configure the label of account4 which will display on the LCD screen

account.4.label =

#Configure the display name of account4

account.4.display\_name =

#Configure the user name and password for register authentication

account.4.auth\_name =

account.4.password =

#Configure the register user name

account.4.user\_name =

#Configure the SIP server address and port (5060 by default)

account.4.sip\_server\_host =

account.4.sip\_server\_port = 5060

#Line5 settings (For T28P and T38G only)

#Activate/Deactivate account5, 0-Disabled(Default) 1-Enabled

account.5.enable = 0

#Configure the label of account5 which will display on the LCD screen

account.5.label =

#Configure the display name of account5

account.5.display\_name =

#Configure the user name and password for register authentication

account.5.auth\_name =

account.5.password =

#Configure the register user name

account.5.user\_name =

#Configure the SIP server address and port (5060 by default)

account.5.sip\_server\_host =

account.5.sip\_server\_port = 5060

#Line6 settings (For T28P and T38G only)

#Activate/Deactivate the account6, 0-Disabled(Default), 1-Enabled

account.6.enable = 0

#Configure the label of account6 which will display on the LCD screen.

account.6.label = #Configure the display name of account6 account.6.display\_name = #Configure the user name and password for register authentication account.6.auth\_name = account.6.password = #Configure the register user name account.6.user\_name = #Configure the SIP server address and port (5060 by default) account.6.sip\_server\_host = account.6.sip\_server\_port = 5060

### **Customizing Resource Files**

You can configure the phone features via the parameters in the configuration files. You can also customize your phone with a personalized ringtone, language or logo.

#### **Customizing a Ringtone**

Yealink IP phones have built-in system ringtones and the default ring type is Ring1. You can change the ring type, or you can customize your personal ringtone and make it take effect via auto provisioning.

The ringtone file must use PCMU audio format, mono channel, 8K sample rate and 16 bit resolution.

The ringtone file format must be .wav.

All ringtone files uploaded must be within 100KB.

##

## Configure the access URL of the customizing ringtone

ringtone.url =

#ringtone.delete =http://localhost/all

#Delete all the custom ringtones uploaded through auto provision

ringtone.delete =

For example: enter "ftp://192.168.1.100/Ring9.wav" in the "ringtone.url =" field. During the auto provisioning process, the phone links to the provisioning server "192.168.1.100", and downloads the ringtone file "Ring9.wav".

You'd better check that the ringtone file has been uploaded to the root directory of the server before provisioning.

For more information about customizing a ringtone file, you can refer to the Customizing a

Ringtone Using CoolEdit Pro in this guide.

#### **Customizing a LCD Language**

Yealink IP phones allow you to modify the translation of the existing languages on the LCD screen, but you cannot add new language to the phone. To modify the existing language, you need to edit the language file and upload it to the root directory of the provisioning server, then specify the access URL in the configuration file.

The following figure shows a portion of the language file:





gui\_lang.url =

#gui\_lang.delete = =http://localhost/all

#Delete all custom languages downloaded through auto provision

gui\_lang.delete =

For example: enter "ftp://192.168.1.100/lang+English.txt" in the "gui\_lang.url = " field. During the auto provisioning process, the phone links to the provisioning server "192.168.1.100", and download the language file "lang+English.txt".

Available languages may be different between different firmware versions. Ask the distributor for the language template file.

### Customizing a LCD Logo

Yealink SIP-T2xP/T1xP IP phones allow you to customize the logo displayed on the phone LCD screen (The SIP-T20P IP phone only supports displaying the text logo). Ask the distributor for the logo file, or you can customize a .dob logo file. Upload the logo file to the root directory of the provisioning server and then specify the access URL in the configuration file:

#####	****
##	Configure the access URL of the Logo File ##
######	****
#(SIP-T2>	T1xP only, not applicable to T20P)
lcd_logo	1 =
#lcd_log	delete = =http://local.host/all
#Delete	l custom logo files
lcd_logo	elete =
For exan	le: enter "ftp://192.168.1.100/logo.dob" in the "lcd_logo.url =" field. During
the auto	ovisioning process, the phone links to the provisioning server "192.168.1.100
and dow	oads the logo file "logo.dob".

the fearbhing table here toge his fearbaiter such phone historie
--

Phone model	Logo file format	Resolution
SIP-T28P	.dob	<=236*82 2 gray scale
SIP-T26P	.dob	<=132*64 2 gray scale
SIP-T22P	.dob	<=132*64 2 gray scale
SIP-T18P	.dob	<=132*64 2 gray scale
SIP-T12P	.dob	<=132*64 2 gray scale

Upload the logo file to the root directory of the provisioning server. After provisioning, the phone boots up, and you will then find that the customized logo displays on the phone LCD screen.

For more information about customizing a Logo file, refer to Customizing a Logo File Using PictureExDemo in this guide.

### **Uploading Local Contacts**

Yealink IP phones allow you to batch upload contact data by auto provisioning. Edit the contactData.xml file, upload the file to the root directory of the provisioning server and then specify the access URL in the configuration file.

The following shows an example of the contactData.xml file:

<contactdata></contactdata>
<group></group>
<contact <="" sdisplayname="Mary" sofficenumber="1234" td=""></contact>
sMobilNumber="12345678901" sOtherNumber="2231" sLine="0" sRing="Auto"/>
<contact <="" sdisplayname="Damy" sofficenumber="1235" td=""></contact>
sMobilNumber="12345678902" sOtherNumber="2232" sLine="0" sRing="Auto"/>
<contact <="" sdisplayname="John" sofficenumber="1236" td=""></contact>
sMobilNumber="12345678903" sOtherNumber="2233" sLine="0" sRing="Auto"/>
 blacklist>
<contact <="" sdisplayname="Mili" sofficenumber="7788" td=""></contact>
sMobilNumber="444444444444" sOtherNumber="2222" sLine="0" sRing="Auto"/>

####################	*######################################	##########
##	Upload local contact file	##

local\_contact.data.url =

For example: enter "ftp://192.168.1.100/ ContactData.xml" in the "local\_contact.data.url =" field. During the auto provisioning process, the phone links to the provisioning server "192.168.1.100", and download the contact file "ContactData.xml".

```
Yealink IP phones support both the .xml and .csv formats.
```

### **Updating Firmware**

Yealink IP Phones allow you to update the firmware manually via web user interface, or batch update the firmware via the auto provisioning. To batch update the phones' firmware via auto provisioning, ask the distributor for the firmware file, upload it to the root directory of the provisioning server, and then specify the access URL in the configuration files.

#######	##########	#######	######	######	#######	######	####
##	Configure the	access UR	L of the firr	nware file	•		##
#######	##########	#######	######	######	#######	######	####

#### firmware.url =

For example: enter "ftp://admin:password@192.168.1.100/2.61.0.80.rom" in the "firmware.url =" field. During the auto provisioning process, the phone links to the provisioning server "192.168.1.100" ("admin" as the authentication user name and "password" as the authentication password), and download the firmware file 2.61.0.80.rom.

# **Configuring a TFTP Server**

Yealink IP Phones support using the FTP, TFTP, HTTP and HTTPS protocols to download the configuration files. TFTP server is used by default. You can use any protocol for provisioning. The following section takes the TFTP server as an example.

We recommend that you can use 3CDaemon or TFTP32 tool as a TFTP server. 3CDaemo and TFTPD32 are free applications for Windows. You can download the 3CDaemon software at: http://www.oldversion.com/3Com-Daemon.html and TFTP32 at: http://tftpd32.jounin.net/.

We provide a simple instruction of configuring a TFTP server using 3CDaemon tool in the Configuring a FTP server section.

### **Preparing a Root Directory**

#### To prepare a root directory:

- 1. Create a root TFTP directory on the local computer.
- 2. Store the configuration files to this root directory.
- 3. Set the security permissions for the TFTP directory folder.
- 4. You need to define a user or a group name, and set the permissions: read, write, and modify files. Security permissions vary by organization.

An example of using the Windows platform is shown as below:

Administrators (VANSTD	80\Admini	strators)		^
EVENUE UWNER				111
Hill, James (jahill@myse     SYSTEM	rvername.	.com]		~
<	1111		>	
	A	\dd	<u>R</u> emov	e
Permissions for Everyone		Allow	Deny	
Full Control				^
Modify				
Read & Execute		~		
List Folder Contents		<b>~</b>		
Read		<b>~</b>		
Write				
Coopiel Dermissions				~
For special permissions or for a click Advanced.	advanced	settings,	Advance	d

# **Configuring a TFTP Server**

If you have a 3CDaemon application installed on your computer, use it directly. Otherwise, download and install it.

#### To configure a TFTP server:

1. Double click the 3CDaemon.exe to start the application. A configuration page shows as below:

in 30 secon					
File View Help					
TFTP Server	Start Time	Peer	Bytes	Status	
Configure TFTP Server	Feb 28, 2012 16:06:20 Feb 28, 2012 16:06:20 Feb 28, 2012 16:06:20	local local local	0	Listening for TFTP requests on IP address: 192.168.133.1, Port 69 Listening for TFTP requests on IP address: 192.168.168.1, Port 69 Listening for TFTP requests on IP address: 10.2.11.128, Port 69	
TFTP Server is started. Click here to stop it.					
Logging to Iftpd log. Click to stop.					
Not debugging. Click to start.					
Clear list.					
Yiew Log/Debug files.					

2. Select **Configure TFTP Server**. Click the button to locate the TFTP root directory on the computer:

300 3CDaemon		
<u>F</u> ile <u>V</u> iew <u>H</u> elp		
TFTP Server	Start Time Peer Bytes Status	
Configure TFTP Server	Feb 24, 2012 06:59:47         local         0         Listening for TFTP requests on IF address: 152:168.183.1, Part 69           Feb 24, 2012 06:59:47         local         0         Listening for TFTP requests on IF address: 10.2.11.126, Part 69           Feb 24, 2012 06:59:47         local         0         Listening for TFTP requests on IF address: 10.2.11.126, Part 69	
<b>•••</b>	3CDaemon Configuration	
TFTP Server is started. Click here to stop it.	FTP Frofiles Syslog Configuration General Configuration TFTP Configuration	
Logging to Tftpd log. Click to stop.	Create directory names in incoming file re	
Not debugging. Click to start.	Upload/Bownload B:\Autop\Auto Provision Hanv	
Clear list.	Nuxinum retries 10	
View Log/Debug files.		

 Click the Confirm button to finish configuring the TFTP server. The server URL "tftp://IP/" (Here "IP" means the IP address of the provisioning server, for example, "tftp://192.168.1.100/") is capable of TFTP downloading.

# **Obtaining the Address of Provisioning Server**

Yealink IP phones support to obtain the provisioning server address during bootup process in the following ways:

- Zero-Sp-Touch
- Plug and Play (PNP) Server
- DHCP Options
- Phone Flash

When the phone boots up, it will go by the following process to obtain the provisioning server address step by step: Zero-Sp-Touch -->PNP server -->DHCP options (Custom option --> option 66 -->option 43) -->Phone Flash.

The following sections detail each process.

### **Zero-Sp-Touch**

Zero-Sp-Touch allows you to configure the network and provisioning server address via phone user interface during bootup. This feature is helpful when there is a system failure on the phone. To use Zero-Sp-Touch, you need to make sure that this feature is enabled.

To configure the Zero-Sp-Touch via web user interface:

- 1. Click on Upgrade ->Advanced.
- 2. Select Enabled from the pull-down list of Zero Active.
- 3. Set the waiting time(in seconds) in the Wait Time filed.

Status	Account	Network	Phone	Contacts	Upgrade	Security
Status Custom ( Custom ( URL Account Passwor Common M&C-Dria	Account Option(128 ~ 254) Option Type d AES Key	Network Basic Au String	Phone dvanced v Q Q Q Q Q Q Q	Contacts	Upgrade NOTH Custo Specf you w Provisi about AES k It is pr	Security E om Option y the DHCP Option that ant to use for oning. Refer to Auto on Manual for details provisioning. Key rovided by ISP.
Zero Act WaitTim PNP Con Check Ni Click this immediat Export /	ive e fig ew Config button to auto prove rely Import Config ystem Log	Enabled 5 Enabled Disabled iti是文化 证据文化 Impo Local	<ul> <li>♥</li> </ul>		Citck t provis Citck t provisi Expor Config the se al the Syste There export or Ser	this button to auto sion immediately his button to auto on immediately. (/Import gexport the uraion files to backup titings, and could import settings, and could import settings after reset. <b>m Log</b> are two methods to the system log, Local ver.

 Zero sp touch

 Update, Ok or Cancel ? 2s

 Cancel
 Status

 OK

When the Zero-Sp-Touch is enabled, there will be a configure wizard during the bootup:

Press the **OK** soft key. Then you can configure the network on the LCD screen:

1	Network	
WAN Type:	DHCP	4
VLAN Status:	Disable	41
802.1x Mode	Disable	41
VPN Active:	Off	41

Press the **Next** soft key after finishing the network configuration. Configure the provisioning server address, authentication username (optional) and password (optional) in the Auto Provision interface.

A sample screenshot is shown below:

Server URL:		
UserName:		
Password:		

# Plug and Play (PNP) Server

Yealink IP phones support obtaining the provisioning server address from the PNP server. The phone broadcast the PNP Subscribe message to obtain a provisioning server address during bootup. To use Plug and play, make sure this feature is enabled.

To configure the PNP via web user interface:

- 1. Click on Upgrade ->Advanced.
- 2. Select Enabled from the pull-down list of PNP config.

Status	Account	Network	Phone	Contacts	Upgrade	Security
		Basic	Advanced			
Custom Opti Custom Opti URL Account Password Common AE	on on Type S Key d AFS Key	(128 String •	~ 254)		DINOTE Special that is provis Auto detail <b>AES</b> It is p	om Option fy the DHCP Optic you want to use fr ioning, Refer to Provision Manual f s about provisionin Key rovided by ISP.
PNP config	o neo neo	Enabled	~		Click	this button to
Check New Click this but provision imr Export / Imp	Config iton to auto nediately wort Config	Disabled Auto provision Import	▼ ) ) ) ) 浏览		Cilck i provis Expo Confi backu could settir	his button to aut ion immediately. <b>rt/Import</b> <b>igExport</b> the juraion files to ip the settings, ar import all the gs after reset. <b>em Log</b>
Export Syste	em Log	Local Export	×		There to ex Local	e are two method port the system lo or Server.
PCAP Trace		Start	Stop Expo	rt		
	Confirm		Cancel			

Any PNP server activated in the network responses with a **SIP NOTIFY** message and an address of the provisioning server contained in the message body. The phone can then link to the provisioning server and performs the provisioning process.

Jils Idit Fies fo Lupture hadyre Statistics Telephony Ioils Halp	
$\textcircled{\begin{tabular}{cccccccccccccccccccccccccccccccccccc$	
fjlter: Fgression Cleg. Apjr	
Bn Time Source Destination Protocol Info	^
1.0.000000 10.2.9.106 224.0.1.75 SIP Request: SUBSCRIBE sip:MAC003565233dla@intern.IPPhone.com	
3 0.066915 10.2.9.46 10.2.9.106 SIP Status: 22 Accepted Subscription	1
4 0.671499 10.2.9.106 10.2.9.46 SIP Status: 200 ok	
6 1.80/8/3 10.2.9.100 10.2.9.106 SIP Status: 200 ok (1 bindings)	~
In read (Gro Dyne on refs. 750 Dyne (Gross Gurden) Stillerest T. Scillerest (Linker (Gurden) Berner 1997 (Gross Heart (Linker) (Gurden) Berner Harden Forton), Sci Pert 199 (Gross, Berner 199 197, P Berner Harden Berner Harden	
Trame (frame), 728 bytes Packets: 6 Displayed: 6 Murked: 0 Profile: Defuilt	

### **DHCP Options**

Yealink IP phones support obtaining the provisioning server address from DHCP options. You can configure the phone to obtain a provisioning server address from a custom DHCP option, or the phone will automatically detect the Option 66 or Option 43.

To obtain a provisioning server by a custom DHCP option, make sure that the DHCP option is set properly.

To configure the DHCP option via web user interface:

- 1. Click on Upgrade ->Advanced.
- 2. Enter the value (128-254) in the Custom Option field.
- 3. Select the desired type from the pull-down list of Custom Option Type.

Yealink							
E354 VOP	Status	Account	Network	Phone	Contacts	Upgrade	e Security
			Basic A	dvanced			
	Custom O	ption(128 ~ 254)	130	0	7	=2	NOTE
	Custom O	ption Type	String			0	Eustom Option
	DHCP Opt	ion Value	56	0	-	У	you want to use for
	URL				0	, in the second s	Provision Manual for details
	Account			0		,	AEE Kow
	Password		•••••			í	it is provided by ISP.
	Common /	AES Key	•••••			C	Click this button to auto
	MAC-Orie	nted AES Key	•••••			, in the second s	Click this button to auto
	Zero Activ	e	Disable			p	provision immediately.
	Wait Time	(s)	5			E	Export/Import ConfigExport the configuraion files to backup
	PNP Confi	9	Enabled	× 0		ť	he settings, and could import all he settings after reset.
	Check Net	w Config	Disable	a 💌 🕜		9	System Log
	Click this b	outton to auto provisio	n immediately Aut	to provision 🕜		T e	There are two methods to export the system log, Local or Server
	Status     Acount     Network     Phone     Contacts     Upgrade     Security       Basic     Advanced       Custom Option (128 ~ 254)     130     0     0       DHCP Option Value     20     0						
			Impo	ort Export			
	Export Sy	stem Log	Local	<b>N</b>			
				Export			
	System Lo	ig Level	3	~			
	PCAP Trac	te	Star	t Stop	Export		
		Confirm		Cancel			

A valid Custom Option is from 128 to 254. The Custom Option Type must be in accordance with the one defined in the DHCP server.

### **Phone Flash**

Yealink IP phones support obtaining a provisioning server address from the phone flash. To obtain a provisioning server by reading the phone flash, make sure the configuration is set properly.

To configure the Phone Flash via web user interface:

- 1. Click on Upgrade ->Advanced.
- Enter the URL, username and password of the provisioning server in the URL, Account and Password fields (the authentication username and password is optional).



3. Select Power on from the pull-down list of Check New Config.

If the configuration files have been AES encrypted, the AES Keys will be needed. The Common AES Key is for decrypting the Common CFG file. The MAC-Oriented AES Key is for decrypting the MAC-Oriented CFG file. The keys must be 16 bytes and the supported characters are:  $0 \sim 9$ ,  $A \sim Z$ ,  $a \sim z$  and the following special characters are also supported: # \$ % \* +, - .: = ? @ [] ^ \_ { } .

Reboot the phone after the above configurations. During bootup, the phone will link to the provisioning server "192.168.1.100", using the authentication user name and password filled in the **Account** and **Password** fields. If the phone fails to get any information from the phone flash, the current round of obtaining the provisioning server address will stop.

# **Downloading and Verifying Configurations**

# **Downloading Configuration Files**

Once obtains a provisioning server address from one of the way introduced above. The phone will link to the provisioning server and download the configuration files. During the provisioning process, the phone will try to download the Common CFG file first, and then try to download the MAC-Oriented CFG file from the root directory of the provisioning server. If resource files need to be updated and the access URL has been specified in the configuration file. The phone will then try to download and update the resource files.

# **Verifying Configurations**

After auto provisioning, the phone boots up. You can then verify the update via phone user interface, or you can verify it via web user interface of the phone. For more information, refer to the user guide of the Yealink IP phones.

During the auto provisioning process, you can monitor the downloading request and response message by a WinPcap tool.

If the MD5 value of the CFG file is different from that of the last one, the phone updates the configuration and then reboots. Otherwise, the phone gives up update and doesn't reboot.

Realtek 10/100/1000 Ether:	net NIC	(Micros	oft's Packet	Scheduler) : Capturing - Vireshark	
Eile Edit View Go Capture Anal	lyze Statistics Telephony Tools	Help			
NH N N N N N N X	28 0 0 0 0 7 1		19 🖬 🖬 🕈	8 ※ 1 印	
Filter: hestalltftallfta		• Everassion Clear &	anly		
		- Providence	mo		
No. Tine -	Source	Destination	Protocol	Info	
194 46.954819	10.2.11.119	10.2.11.126	TETP	Read Request, File: y000000000000.cfg\000, Transfer type: octet\000	
200 46 981090	10 2 11 119	10.2.11.126	TETP	Acknowledgement Block 1	
201 46.982020	10.2.11.126	10.2.11.119	TETP	Data Packet, Block: 2	
202 46.983900	10.2.11.119	10.2.11.126	TETP	Acknowledgement, Block: 2	
203 46.984250	10.2.11.126	10.2.11.119	TFTP	Data Packet, Block: 3	
204 46.986221	10.2.11.119	10.2.11.126	TETP	Acknowledgement, Block: 3	
205 46 989806	10 2 11 119	10.2.11.119	TETP	Data Patket, Diutt 4	
207 46,990045	10.2.11.126	10.2.11.119	TETP	Data Packet. Block: 5	
208 46.991977	10.2.11.119	10.2.11.126	TFTP	Acknowledgement, Block: 5	
209 46.992153	10.2.11.126	10.2.11.119	TETP	Data Packet, Block: 6	and the second second
210 46.993832	10.2.11.119	10.2.11.126	TETP	Acknowledgement, Block: 6	
212 46 994334	10.2.11.120	10.2.11.119	TETP	Data Packet, Block: /	
213 46,996245	10.2.11.126	10.2.11.119	TETP	Data Packet. Block: 8	
214 47.000510	10.2.11.119	10.2.11.126	TETP	Acknowledgement, Block: 8	_
215 47.000704	10.2.11.126	10.2.11.119	TETP	Data Packet, Block: 9	
216 47.003985	10.2.11.119	10.2.11.126	TETP	Acknowledgement, Block: 9	
217 47.004139	10.2.11.126	10.2.11.119	TETP	Data Packet, Block: 10 (last)	
244 54 444367	10.2.11.119	10.2.11.126	TETP	Read Request, File: 00156511185c, cfn\000, Transfer type: octet\000	
245 54.462711	10.2.11.126	10.2.11.119	TETP	Error Code, Code: Access violation, Message: Could not open requested file for re	ading\(
Frame 415 (345 bytes on w	ire, 345 bytes captured)				
Ethernet II, Src: 6c:50:4	d:40:da:4d (6c:50:4d:40:da	:4d), Dst: xiamenYe_1	1:18:5c (00:	15:65:11:18:5c)	
Internet Protocol, Src: 1	0.2.11.254 (10.2.11.254),	DST: 10.2.11.244 (10.	2.11.244)		
⊞ User Datagram Protocol, S	rc Port: bootps (67), Dst	Port: bootpc (68)			
Bootstrap Protocol					
Message type: Boot Repl	y (2)				
Hardware type: Ethernet					
Hardware address length	: 6				
Hops: 0					
Transaction ID: 0xbcc10	503				
Seconds elapsed: 0					
Bootp flags: 0x0000 (Un	icast)				
Client IP address: 0.0.	0.0 (0.0.0.0)				
Your (client) IP addres	s: 10.2.11.244 (10.2.11.24	4)			
Next server IP address:	0.0.0.0 (0.0.0.0)				
Relay agent IP address:	0.0.0.0 (0.0.0.0)				
Client MAC address: Xia	menYe_11:18:5c (00:15:65:1	1:18:5c)			
Client hardware address	padding: 0000000000000000	0000			
Server host name not gi	ven				
Boot file name not give	n				
Realtek 10/100/1000 Ethernet NIC	··· Packets: 5334 Displayed: 1	28 Marked: 0		Profile: Default	

Example1: Yealink IP phone downloads configuration files from the TFTP server.

A Realtek 10/100/1000 Et	thernet NIC	(Microsof		Scheduler) : Capturing - Vireshark	
Eile Edit View Go Capture	Analyze Statistics Telephony Icol	s Help			
	XZAQAAAT			S & 1	
			an a		
Filter: ftp  tftp  http  bootp		• Eggression Cleag Appl	y		
No Time	Source	Destination	Protocol	Info	0
151 34.500098	10.2.11.126	10.2.11.115	FTP	Response: 220 3Com 3CDaemon FTP Server Version 2.0	
153 34.507326	10.2.11.115	10.2.11.126	FTP	Request: USER 1TT	
154 34.509003	10.2.11.126	10.2.11.115	FTP	Response: 331 User name ok, need password	
155 34.513482	10.2.11.115	10.2.11.126	FTP	Request: PASS 11111	
150 34.515044	10.2.11.126	10.2.11.115	FTP	Response: 230 User Togged In	
157 34.523305	10.2.11.115	10.2.11.126	FIP	Request: TTPE 1	
158 34.524405	10.2.11.120	10.2.11.115	FIP	Response: 200 Type set to 1.	
100 34 523607	10.2.11.113	10.2.11.120	FIF	Request: PASY	
100 34.532097	10.2.11.120	10.2.11.115	FIP	Response: 227 Entering passive mode (10,2,11,126,5,189)	
146 24 542200	10.2.11.115	10.2.11.120	FIP	Request: SIZE yououououououcrg	
166 24 552621	10 2 11 115	10.2.11.124	ETD	Response: 213 3900	
167 24 554557	10.2.11.126	10.2.31.325	FTP	Request, Kein yoodoo oodotoo, cig	
177 24 502026	10 3 11 134	10.3.21.115	ETO	Response, 236 Clocked data connection file transfer successful	
100 26 220570	10 2 11 115	10.2.11.126	ETD	Response, 220 crosing data connection, File cranster successfur.	
189 36 340311	10 2 11 126	10 2 11 115	ETP	Request, qual	
100 00.040011	TOTAL TALLES		FILE	TTO Detransmission Decomes 221 Service clasing control connection	
216 42,191295	10.2.11.126	10.2.11.115	FTP	Response: 220 3Com 3CDaemon FTP Server version 2.0	
218 42, 199981	10.2.11.115	10.2.11.126	ETP	Request: USER Iff	
219 42,200926	10.2.11.126	10.2.11.115	FTP	Response: 331 User name ok, need password	
220 42,205441	10.2.11.115	10.2.11.126	FTP	Request: PASS 11111	
221 42,206670	10.2.11.126	10.2.11.115	FTP	Response: 230 user logged in	
222 42.210856	10.2.11.115	10.2.11.126	FTP	Request: TYPE I	
223 42,211775	10.2.11.126	10.2.11.115	FTP	Response: 200 Type set to I.	
224 42,222780	10.2.11.115	10.2.11.126	FTP	Request: PASV	
225 42.226037	10.2.11.126	10.2.11.115	FTP	Response: 227 Entering passive mode (10,2,11,126,5,193)	
229 42.232726	10.2.11.115	10.2.11.126	FTP	Request: SIZE 00156511185c.cfg	
230 42.234476	10.2.11.126	10.2.11.115	FTP	Response: 213 Error accessing file	
231 42.240170	10.2.11.115	10.2.11.126	FTP	Request: RETR 00156511185c.cfg	
232 42.241397	10.2.11.126	10.2.11.115	FTP	Response: 550 File unavailable	
245 42.728589	10.2.11.126	10.2.11.115	FTP	Response: 220 3Com 3CDaemon FTP Server Version 2.0	
247 42.736866	10.2.11.115	10.2.11.126	FTP	Request: USER 1ff	
248 42.737875	10.2.11.126	10.2.11.115	FTP	Response: 331 User name ok, need password	
249 42.742202	10.2.11.115	10.2.11.126	FTP	Request: PASS 111111	
250 42.743675	10.2.11.126	10.2.11.115	FTP	Response: 230 User logged in	
251 42.757760	10.2.11.115	10.2.11.126	FTP	Request: TYPE I	
252 42.759005	10.2.11.126	10.2.11.115	FTP	Response: 200 Type set to I.	
253 42.763681	10.2.11.115	10.2.11.126	FTP	Request: PASV	
254 42.767121	10.2.11.126	10.2.11.115	FTP	Response: 227 Entering passive mode (10,2,11,126,5,194)	
258 42.781389	10.2.11.115	10.2.11.126	FTP	Request: SIZE 00156511185c.cTg	
259 42.783327	10.2.11.126	10.2.11.115	FTP	Response: 213 Error accessing tile	
200 42.787362	10.2.11.115	10.2.10126	FIP	Request: RETR UUIS6SILLASC.CTG	

**Example 2:** Yealink IP phone downloads the configuration files from the FTP server.



Kealtek 10/100/1000 Ether	net NIC	(Licrosof	t's Packet	Scheduler) : Capturing - Vireshark	
<u>File Edit View Go Capture Ana</u>	lyze Statistics Telephony Tools	Help			
	28 0 4 4 4 3 7 4			R & 1 193	
Filter: http		<ul> <li>Expression Clear Apply</li> </ul>	r		
No Time	Source	Destination	Protocol	Info	
240 6.882104	10.2.11.126	10.2.11.244	HTTP	POST /cgi-bin/ConfigManApp.com HTTP/1.1 (application/x-www-form-urlencoded)	
321 8.003114	10.2.11.126	10.2.11.244	HTTP	GET /cg1=bin/ConfigManApp.com?Id=7&Ajax=1&s1d=0.8358257513087566 HTTP/1.1	
506 10.693593	10.2.11.244	10.2.11.126	HTTP	GET /y000000000000.crg HTTP/1.1	
515 10.721055	10.2.11.126	10.2.11.244	HITP	HTTP/1.1 200 OK (apprication/occet-stream)	
836 15 261886	10.2.11.126	10.2.11.244	WTTP	GET / DUIDDITTEDC. CIG HITP/LI	
3271 61 877302	10 2 11 126	10 2 11 244	HTTP	GET /cgi_bin/ConfigManann cgm?td=7&Aiay=1&cid=0_0305627115025837 HTTP/1_1	
3325 71 873594	10.2.11.126	10.2.11.244	HTTP	GET /cgi=bin/configManApp.com21d=7&diax=1&sid=0.9869411162705095 HTTP/1.1	
3392 81,867954	10.2.11.126	10.2.11.244	HTTP	GET /cg1-bin/ConfigManApp.com?Id=7&Aiax=1&sid=0.9273850928056307 HTTP/1.1	
3416 86,440448	10.2.11.126	10.2.11.244	HTTP	GET /cgi-bin/ConfigManApp.com?Id=1 HTTP/1.1	
3424 86.489121	10.2.11.126	220.181.126.59	HTTP	POST /check_outchain.php HTTP/1.1	
3426 86.534643	220.181.126.59	10.2.11.126	HTTP/XML	. HTTP/1.1 200 OK	
3441 86.987334	10.2.11.126	113.108.86.110	HTTP	GET /tips/120001831/4 HTTP/1.1	
3447 87.016789	113.108.86.110	10.2.11.126	HTTP/XML	. HTTP/1.1 200 OK	
3456 87.099539	10.2.11.126	124.115.7.154	HTTP	GET /psb?/7d03ad87-1870-4c6d-9b00-f14a612243dd/aNZFCw0nEvP9mD7wy1*GT5VZXKeYtaLI7a7	jzv87aC
3462 87.258033	124.115.7.154	10.2.11.126	HTTP	HTTP/1.1 200 OK (JPEG JFIF 1mage)	
34/1 8/.330851	10.2.11.126	124.115.7.154	HTTP	GET /psb///d0sad8/-18/0-4c6d-9000-T14a612243dd/*rQLNHryvvcDjAP26N00jsc21pGum2LBsQd	MREUUZ2
34/0 8/.413143	124.115.7.154	10.2.11.120	HITP	HITP/1.1 200 OK (JPEG JFF Image)	
2522 99 754752	10.2.11.120	10.2.11.244	WTTP	GET / JS/Common, JS/212//0/020 HTTP/LL	
3547 92 026186	58 218 203 104	10 2 11 160	HTTP	Continuation or non-HTTP traffic	
3585 94, 901678	10.2.11.126	117.25.132.114	HTTP	GET /client/bw MB 201201175705 gif HTTP/1 1	
3594 94,954821	117.25.132.114	10.2.11.126	HTTP	HTTP/1.1 200 OK (GIF89a)	
3619 100.038609	10.2.11.126	117.25.132.114	HTTP	GET /client/hr_OR_201201173029.swf HTTP/1.1	
3647 100.274677	117.25.132.114	10.2.11.126	HTTP	HTTP/1.1 200 OK (application/x-shockwave-flash)	
3663 103.063716	10.2.11.244	10.2.11.126	HTTP	GET /y00000000000.cfg HTTP/1.1	
3665 103.068789	10.2.11.126	10.2.11.244	HTTP	HTTP/1.1 200 OK (application/octet-stream)	
3677 103.961308	10.2.11.244	10.2.11.126	HTTP	GET /00156511185c.cfg HTTP/1.1	
3681 103.965999	10.2.11.126	10.2.11.244	HTTP	HTTP/1.1 404 Not Found (text/html)	
3693 105.387490	10.2.11.126	117.25.132.114	HTTP	GET /CITent/041403882C85e181489e1995188684*91616.g1* HTTP/1.1	
3704 105.454796	117.25.132.114	10.2.11.126	HTTP	HTTP/1.1 200 OK (GIF89a)	
3730 110. 333263	117 25 122 114	10 2 11 126	HITP	GET / CTHERT/DD1/8/DaaUcTs2EST4U07CeC/25303001616.5%# HTTP/1.1	
2796 115 020700	10 2 11 126	117 25 122 114	NTTO	CCT / light (PD2729/d02) Stifus 10/d2/stifus 1/d516 atf utto/1 1	
3798 116 023309	117 25 132 114	10 2 11 126	WTTP	HTTP/1 1 200 OK (GTS93)	
3836 121 112817	10 2 11 126	117 25 132 114	HTTP	GET /client /2653ab66ad047c501a6d87c1a9cd3bd01616_swf_HTTP/1_1	
3859 121, 303246	117.25.132.114	10.2.11.126	HTTP	HTTP/1.1 200 OK (application/x-shockwaye-flash)	
3884 126, 365017	10.2.11.126	117.25.132.114	HTTP	GET /client/hr_OR_201201063207.gif HTTP/1.1	
2002 126 412071	117 35 123 114	10 2 11 126	WTTO	VTTP/1 1 200 OF (CTEROS)	
	wire, 523 bytes captured)				
Cons of the out	and a second and a second a se				~

# **Troubleshooting**

This chapter provides general troubleshooting information to help you solve the problems you might encounter when deploying the phones.

If you require additional information or assistance with the deployment, contact your system administrator.

#### Why does the phone fail to download the configuration file?

- Ensure that the Auto Provisioning feature is enabled.
- Check that the provisioning server or the network is reachable.
- Check that authentication credentials configured on the phone are correct.
- Ensure that the configuration file exists on the provisioning server.

#### Why does the provisioning server return a HTTP 404?

- Check that the provisioning server is properly set up.
- Revisit the path configuration (URL rewriting, port).
- Ensure that the requested file exists on the provisioning server.

#### Why does the phone display "Network Unavailable"?

- Ensure that the Ethernet cable is plugged into the Internet port o the phone and the Ethernet cable is not loose.
- Ensure that the switch or hub in your network is operational.
- Check the configuration of network is properly set in the configuration files.
- Contact your system administrator for more information.

#### Why does the permission denied when uploading files to a FTP server?

- Ensure that the root directory of the FTP server contains the full directory path.
- On the provisioning server, check the file permissions, if necessary, change the file permission.
- Contact your system administrator for more information.

#### Why does not the phone obtain the IP address from DHCP server?

- Ensure that your settings are right on the DHCP Server.
- Ensure your phone is configured to obtain the IP address via DHCP server.
- Contact your system administrator for more information.

#### Why does not the phone download the ringtone?

- Make sure that the ringtone file's type is .wav format.
- Make sure that the size of the ringtone file is no larger than the phone support.
- Check the ringtone's properties are all right for the phone.
- Ensure the network is available and the root directory is right for downloading.
- Ensure that the ringtone file exists on the provisioning server.

#### Why does not the phone apply the configurations?

- Ensure the configuration files are different from the last ones.
- Ensure the phone have downloaded the configuration files.
- Ensure the parameters are correctly set in the configuration files.
- Contact your system administrator for more information.

# Glossary

**MAC Address:** A Media Access Control address (MAC address) is a unique identifier assigned to network interfaces for communications on the physical network segment.

**MD5:** The MD5 Message-Digest Algorithm is a widely used cryptographic hash function that produces a 128-bit (16-byte) hash value.

**DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network configuration protocol for hosts on Internet Protocol (IP) networks. Computers that are connected to IP networks must be configured before they can communicate with other hosts.

**FTP:** File Transfer Protocol (FTP) is a standard network protocol used to transfer files from one host to another host over a TCP-based network, such as the Internet. It is often used to upload web pages and other documents from a private development machine to a public web-hosting server.

**HTTP:** The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web.

**HTTPS:** Hypertext Transfer Protocol Secure (HTTPS) is a combination of Hypertext Transfer Protocol (HTTP) with SSL/TLS protocol. It provides encrypted communication and secure identification of a network web server.

**TFTP:** Trivial File Transfer Protocol (TFTP) is a simple protocol to transfer files. It has been implemented on top of the User Datagram Protocol (UDP) using port number 69.

**AES:** Advanced Encryption Standard (AES) is a specification for the encryption of electronic data.

**URL:** A uniform resource locator or universal resource locator (URL) is a specific character string that constitutes a reference to an Internet resource.

**XML:** Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable

# **Appendix**

### **Configuring a FTP Server**

This chapter shows you how to configure a FTP server using 3CDaemon and how to configure a HTTP server using HFS tool. You can download the 3CDaemon software at: http://www.oldversion.com/3Com-Daemon.html and HFS at: http://www.snapfiles.com/get/hfs.html

### **Preparing a Root Directory**

#### To prepare a root directory:

- 1. Create a root FTP directory on the local computer.
- 2. Store the configuration files to this root directory.
- 3. Set the security permissions for the FTP directory folder.
- 4. You need to define a user or group name, and set the permissions: read, write, and modify files. Security permissions vary by organization.

An example of using the Windows platform is shown as below:

Administrators (VANS)	「D80\Admini	strators)		î
Everyone				
11 Hill, James (jahill@my 12 SYSTEM	servername	.com]		~
	-	\dd	<u>R</u> emove	
Permissions for Everyone		Allow	Deny	
Full Control				^
Modify				
Read & Execute				
List Folder Contents				
Read				
Write				
Coopiel Dormissions			-	~
For special permissions or fo click Advanced.	or advanced	settings,	Advance	d

### **Configuring a FTP server**

If you have a 3CDaemon application installed on your computer, open it now, or otherwise, download and install it.

#### To configure a FTP server:

- 1. Double click the 3CDaemon.exe to start the application.
- 2. Click the FTP Server button on the left of the main page.

A screenshot is shown as below:

3CDaemon	1.000				
File View Help					
TFIP Server	Start Time	Peer	Bytes	Status	
FTP Server	Mar 13, 2012 14:26:34	local	0	Listening for FTP requests on IP address: 192.168.147.1, Port 21	
	Mar 13, 2012 14:26:34	local	0	Listening for FTP requests on IP address: 192.168.172.1, Port 21	
	Mar 13, 2012 14:26:34	local	0	Listening for FTP requests on IP address: 10.2.11.101, Port 21	
Configure FIP Server					
<u></u>					
FTP Server is started. Click here to stop it.					
Logging to Ftpd log. Click to stop.					
X					
Not debugging. Click to start.					N
<b>e</b>					Lig"
Clear list.					
<b>6</b>					
View Log/Debug files.					
Syslog Server					
TFIP Client					
For Help, press F1					NUM

#### 3. Select Configure FTP Server.

4. Click the ]] button to locate the TFTP root directory on the computer:

🚾 3CDaemon		
<u> M</u> ile <u>¥</u> iew <u>H</u> elp		
TFTP Server	Start Time Peer Bytes Status	
FIT Server Configure FIF Server Configure FIF Server FIF Server is started. Click here to stop it.	Ter OI, 2012 10:24:01 local     0     Listening for TT requests on IF address: 102:106.133.1, Fort 21       War OI, 2012 10:24:01 local     0     Listening for TTF requests on IF address: 102:106.108.1, Fort 21       War OI, 2012 10:24:01 local     0     Listening for TTF requests on IF address: 102:111.128, Fort 21       War OI, 2012 10:24:01 local     0     Listening for TTF requests on IF address: 102:111.128, Fort 21       General Configuration     TTF Configuration       General Configuration     TTF Configuration       War Info     Syslag Configuration	
Leging to Kipd Leg Circle to stop Rei debugging Circle to start. Circle to start. Circle to start.	fts     Profile     Itp       Var     Set/Change user's parsword       User     E: Wattop Watto Provision Ms       Dista user can:     Dista user can:       Dista transmission into the form than press       Te add a profile: Enter the are information into the form than press       Te add a profile: Rightight the profile, make your changes, then press	
Sysleg Server	3CDaemon 職定 取消 反用 (A)	
TFTP Client		
For Help, press F1		NUM //

- 5. Enter the new authentication username in the Profile filed.
- 6. Click the Set/Change user's password button to set the password in the pop-up

dialogue box.

- 7. Click the **OK** button to save.
- 8. Mark the check boxes of Login, Download and Upload to make sure the FTP user has the login, download and upload permission.

3CDaemon	10 10 1 1 1 1 1		
le View Help			
TFIP Server	Start Time	Peer Bytes	Status
FTP Server Configure FTF Server	Mar 13, 2012 14:26:34 Mar 13, 2012 14:26:34 Mar 13, 2012 14:26:34	local 0 local 0 local 0	Listening for FTP requests on IP address: 1921.68.47.1, bort 21 Listening for FTP requests on P address: 1921.68.17.2, bort 21 Listening for FTP requests on IP address: 10.21.11.01, Port 21
FTF Server is started. Click here to stop it.	3CDar	emon Configur General C	ation 22 onfiguration TTTP Configuration
Click here to rop it. Logring to Ford log. Click to stop Rod abbeging Click to stop Click t		FiF Fro USSYNOUS 0 add a profile Save Frofile 0 add a profile	Ities Syle Configuration Profile white Sav/Change View Description User Con- Distance Con-
Syrlog Server		aemon	
TFIF Client	]]		
r Help, press F1			NUM

9. Click the Save Profile button to save the settings and finish the configurations.

💷 3CDaemon			
<u>F</u> ile <u>V</u> iew <u>H</u> elp			
TFTP Server	Start Time Peer	Bytes Status	
FTP Server	Mar 01, 2012 10:24:01 local Mar 01, 2012 10:24:01 local Mar 01, 2012 10:24:01 local Mar 01, 2012 10:24:01 local	1         0         Listening for FTP requests on IP address: 192.168.133.1, Port 21           1         0         Listening for FTP requests on IP address: 192.168.168.1, Port 21           1         0         Listening for FTP requests on IP address: 192.11.126, Port 21	
Configure FIF Server FIF Server is started Click here to stop it. Logging to Fipd Log Click to stop Set debugging Click to stort. Clear list. 203	Sar 0, 2012 10 24 01 10 44 SCDnemon Config General C FIF Prof	O Littening for fill requests on ar address. 10.2.11 126, fort 21      arration     main and a statements of the statement of the stateme	
View Log/Debug files.	Save Profile" To edit a profil	<ul> <li>act are not into into the total changes, then press</li> <li>iii did total changes, then press</li> </ul>	
	3CDaemon	<b>确定 取消</b> <u>应用(A)</u>	
Syslog Server			
TFTP Client			
For Help, press F1	,		NUM

10. Click the **Confirm** button to finish configuring the FTP server.

The server URL "ftp://username:password@IP/" (Here "IP" means the IP address of the provisioning server, "username" and "password" are the authentication for FTP download. For example, "ftp://admin:123456@192.168.1.100/") is capable of TFTP download.

# **Configuring a HTTP Server**

### **Preparing a Root Directory**

#### To prepare a root directory:

- 1. Create a root HTTP directory on the local computer.
- 2. Store the configuration files to this root directory.
- 3. Set the security permissions for the FTP directory folder.
- 4. You need to define a user or group name and set the permissions: read, write, and modify files. Security permissions vary by organization.

An example of using the Windows platform is shown as below:

Administrators (VANSTD80	)\Admini:	strators)		^
Everyone				_
🙎 Hill, James (jahill@myserv	ername.	.com]		
🕵 SYSTEM				~
<			>	
	A	\dd	<u>R</u> emov	e
Permissions for Everyone		Allow	Deny	
Full Control				^
Modify		<b>v</b>		
Read & Execute				
List Folder Contents		~		
Read				
Write		~		
Consist Parmissions				~
For special permissions or for ad click Advanced.	vanced	settings,	Advance	ed

### **Configuring a HTTP Server**

HFS tool is an executable application, so you don't need to install it.

#### To configure a HTTP server:

1. Download the application file to your local directory, double click the hfx.exe.

The main configuration page is shown as below:

HFS ~ HTTP File Server 2.2f	Build 155
🛓 Menu   📅 Port: 8080   🎎 You are in Expert mode	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Open in browser http://10.2.11.101:8080/	
	Top speed:0.0 KE/s
Virtual File System	Log
	17:23:24 Check update: no new version
🧊 IP 📃 Filename	🗘 Status Speed Time left %
Connections: 0 Out: 0.0 KB/s In: 0.0 KB/s I otal Out: 0 B Tot	al In: U B VFS: 0 Items

2. Click Menu in the main page and select the IP address of the PC from IP address.

🚔 HFS ~ HTTP File Server 2.2f	and the second	Build 155		- 0 <u>×</u>
📕 Menu   🖗 Port: 8080   🕵 You	are in Expert mode			
+ Self Test Edit HTML template Other options Upload	8080/		Top sp	eed: 0.0 KB/s
Start/Exit Virtual File System Limits Flash taskbutton Fingerprints	istem	17:23:24 Check update	Log e: no new version	n
IPaddress       IP address       Accept connections on       Dynamic DNS updater       URL encoding       Updates       ♥       Donatel       ♥       Load file system       Ctrl+O       Save file system       Ctrl+S       X	This IP address is used o 192.168.147.1 192.168.172.1 10.2.11.101 Custom Don't include port in URL Find external address Constantly search for bet	nly for URL building		
Save options				
About     Switch OFF F4     Exit     Connections: 0 Out: 0.0 KB/s In:	0.0 KB/s Total Out: 0 B Tot	Status Spe	ved Time left	*

The default HTTP port is 8080. You can also reset the HTTP port (make sure the port isn't used before you reset).



**3.** Right click the  $c_1$  icon on the left of the main page, select **Add folder from disk** to add the HTTP Server root directory.

📾 HFS ~ HTTP File Server 2.2f	Build 155	
🛃 Menu 🛛 🖑 Port: 8088 🛛 🕵 You are in Expert mode		
Open in browser http://10.2.11.101:8088/		
		pp speed: 0.0 KB/s
Virtual File System Log		
Add files		
Add folder from disk       New empty folder       Ins       New link       Advanced		
Copy URL address Ctrl+C Browse it F9 Comment Bind root to real-folder		
<ul> <li>Set user/pass</li> <li>Restrict access</li> <li>Customized realm</li> <li>Browsable</li> <li>Archivable</li> <li>Upload</li> <li>▲ Why is upload disabled?</li> </ul>		
Hide tree Auto-hide empty folders Hide file extention in listing	Speed Time left	%
Connections: 0 Out: 0.0 KB/s In: 0.0 KB/s Total Out: 0 B Total In: 0 B VFS: 55	51 items - not savec	

4. Locate the root directory from the computer system. Select the kind of folder which you want.



5. Check the server URL "http:// IP:Port/" in the "Open in browser" address bar (For example, the server URL "http:// 10.2.11.101:8088/" is showed on the screenshot). We recommend that you can fill the server URL in the address bar of the web browser and then press <Enter> key to check the HTTP server before provisioning.

Yealink IP phones also support the Hypertext Transfer Protocol with SSL/TLS (HTTPS) protocol for auto provisioning. HTTPS protocol provides the encrypted communication and secure identification. For more information about installing and configuring an Apache HTTPS Server, refer to the network resource.

### **Configuring a DHCP server**

This section shows you how to configure a DHCP server for windows using DHCP Turbo. You can down this software from website at: http://www.tucows.com/preview/265297 and install it following the setup wizard.

Before configuring the DHCP Turbo, make sure that:

- The firewall on the PC is disabled.
- There is no DHCP server in your local system.

#### To configure the DHCP Turbo:

1. To start the DHCP Turbo application, double click the localhost.

2. Click the Login button (the login password is blank) to log in.

🐮 DHCP Turbo on localhost	
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Servers C Berription Platform DECT Turbo Version Mat bindings Features Build	
Ready.	10

**3.** You can then edit the existed DHCP server, or you can right click the **localhost** and select **"New Server"** to add a new DHCP server.

BHCP Turbo on localhost	
<u>Eile Edit View Bindings Iools Help</u>	
<u>■</u> * * <b>■</b> ≥ * ∽ ⊂ § k?	
Servers Cocalhost Cocalhos	

- 4. Right click the **Scopes** and select **New Scope**.
- 5. Configure the DHCP server name, the DHCP IP range and the subnet mask.

6. You can add a custom option via DHCP Turbo. Click **Option Type**, right click and select the **New Option Type** on the right of the main page.

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	Tag		Uption							
			Magic (	zookie						
+ Named Policies			nome a	rector			b.			
Uption Types			Hardwar	e addr	ess leng	th	he	New Option Type	Ctrl+V	
- Doopes			Boot fi	ile			-	The day	Cul. 7	
BUDHCPServer			Pad				5	Undo	Ctri+Z	
		:	Subnet	mask			¢1	<u>R</u> edo	Ctrl+Y	
	Æ 2		Time of	Efset			Se.	Cut	Carley	
			Gateway	/S			4	Cui	CUT+X	
			Time se	ervers			Ð	Copy	Ctrl+C	
			IEN116	name s	ervers			Paste	Ctrl+V	
			Domain Log roy	name s	ervers			Laste		
			Log sei Cookiei	Quote :	servers			<u>D</u> elete	Del	
			LPR ser	vers				Select All	Ctrl+A	
	/ 🖅 10		Impress	s serve	rs		01			
	🚝 11		RLP sea	vers			9	<u>F</u> ind	Ctrl+F	
	Æ 12		Hostnar	ne			s an	Properties	Ctrl+P	
	🖅 13		Boot fi	ile siz	e		~	Trobertreem		1
		1	Merit (	lump fil	le					
			Domain C	name						
	16		Dwap Se	rvers						
	-4518		Root pi Evtenci	ICH DOT DO	+b					
			IP fors	arding						
			Non-los	al sou	rce rout	ing				
	<b>a</b> 01		D.1:	£:1		•				
	Description									
	Specifies a d	wice's l	hardwar	e addre	ss type		-			
	1									

Set the custom DHCP option (custom DHCP option tag number ranges from 128 to 254) and select the option type (Yealink support the String and IP Address option type only). Click the OK button to finish setting the option properties. Click at to save the change.

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Servers V Filter Standard Options V Filter Standard Options
→ Database Tag ∇ Option ▲
P Insed Policies A Option Properties
DHCPServer -E -1 Mame TFTPServer
-451 Type Sbit -
Lescri 32bit
11
-Æ17 Root path -Æ18 Extenzions path
-Æ19 IP forwarding -Æ20 Non-local source routing
Description
Specifies a device's hardware address type.

8. Click Named Policies-->Global, right click and select New Option on the left of the main page.



9. Scroll down and double click the custom option 128.

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<u>File Edit View Bindings T</u> ools	Help	
Servers Tag	Name Value	<u> </u>
🖻 🛄 localhost	I Option Selector	
Jatabase		
Nered Policies	Filter Standard Uptions	
Global	Tag 🗸 Name 🔺	
Conting Types		
Scopes	48 I Window system font servers	
L. DHCPServer	-45 DHCP address lease time	
	-4568 Mobile IP home agent	
	TI NNTP servers	
	TT User class	
	H-49122 Cablelabs Cliel Configuration	
	- 2 128 TFTFServer	
	🗄 🖅 Legacy PacketCable 🔽	
	Description	
	07 02	
	<u>UK</u> <u>Lancel</u>	
	(L)	

- 10. Fill the provisioning server address in the input field.
- 11. Click the  $\boldsymbol{OK}$  button to finish setting a custom option.
- **12.** Click [a] to save the change.

You can add the option 66 via DHCP Turbo. The following figures show the detailed processes.

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<u>File Edit View Bindings I</u> d	ools <u>H</u> elp				
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			+rl+7		
		Rado (	trl±V		
		le Cut	arit i		
		Copy C			
		Daste (	trl±V		
	i	Delete [			
		Select All	trl+A		
	<	≩i Find (	trl+F		
	-	Reporties	trl+P		
	-				
Add a new option to this poli	icy				

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Servers V	Tag $ abla$ Name Value	
	P Detion Selector	
	Filter TFTP Options	
	Tag         Name	
	-4≣-16 MS option 67 -4≣-15 MS option 66	
_	Hext server Boot file	
	Description S	
	The host name of a TFTP server the device should use during the second stage of	
	its boot process. Unless you know your device requires this option, you should use option -14 (as IP address) or option -20 (as host name) to define the IFTP server.	
• •	QK Cancel	

🎕 DHCP Turbo on localh	ost						_	•	x
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A DHCP Turbo on localhost	
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Servers V Tag V Name Value	[
- Ilocalhost d d Option Selector	? <b>X</b>
- Database 4	
- MW Exclusions Filter Standard Options -	
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Global Tag Name	<b>_</b>
- Dption Types	
E- Scopes	
and a supplier	
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42 NTP servers	
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Head by devices and nameral to evolve an deversation	
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د. ا				

# **Customizing a Ringtone Using CoolEdit Pro**

If you have installed the Coo Edit application, double click to open it. Otherwise, you can download the installation package from the website: http://www.toggle.com/lv/group/view/kl36218/Cool\_Edit\_Pro.htm and install it.

#### To customize a ringtone using Coo Edit Pro:

- 1. Open the Cool Edit Pro application.
- 2. Click File to open an audio file.
- 3. Locate the ringtone file, click **Open**, the file is uploaded as follows.

A sample audio file loaded is shown as below:



- 4. Select and copy the audio waveform.
- 5. Select File->New to create a new file, set the audio format as PCMU, the channels as Mono, the sample rate as 8000 and the resolution as 16-bit.
- 6. Paste the audio waveform to the new file.



 Select File->Save as to save the new audio file. On the Save waveform page, select the file format as A/mu-law wave.

### Customizing a Logo File Using PictureExDemo

The original picture format must be .bmp or .gif. We recommend placing all files and the PictureExDemo application to the root directory of the PC.

1. Double click the PictureExDemo.exe.

🛃 GifConvertGz	and the same of the		2.73	X	
	AddDe	leteAll Convert	About		

2. Click Add button to open a .bmp or .gif file.

You can repeat the second step to add multiple original picture files.

3. Click the Convert button.

Add DeleteAll Convert About	

Then you can find the .dob logo files in the adv directory.