FLYINGVOICE

Flyingvoice Phones Auto Provisioning Guide

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Introduction

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

This guide provides instructions on how to provision the Flyingvoice phones. Flyingvoice phones support FTP, TFTP, HTTP, and HTTPS protocols for auto provisioning.

Supported Phones

The following table lists product names and available firmware versions for IP phones that use auto provisioning process outlined in this guide.

Product Name	Boot File (Available Firmware Version)
FIP10(P), FIP11C(P), FIP13G, FIP14G, FIP15G, FIP16	V0.5.15 or later

Getting Started

Obtaining Template Files

Please contact the Flyingvoice technical support to get the template configuration files for auto provision.

The template configuration files include Boot file, CFG configuration file, and Resource File.

Boot file: You can use a boot file to specify which configuration files to be downloaded and customize the download sequence of configuration files. There are two kinds of boot files include Common boot file(y000000000000.boot) and MAC-Oriented boot file. The Common boot file(y000000000000.boot) works on all phones, the MAC-Oriented

boot file only works on the phone with a specific MAC address.

CFG file： The CFG file contains all parameters that affect the features of the phone.
There are two CFG files include Common CFG file(y000000000000.cfg) and
MAC-Oriented CFG file.

You can create and name as many configuration files as you want (for example,
account.cfg, sip.cfg, features.cfg) to cooperate with the boot file . The custom
configuration files can contain the configuration parameters of the same feature
modules for all phones.

Resource file: Resource files include Local phonbook file(xml) and remote phonebook
file(xml), the resource file is optional, but if the particular feature is being employed,
these files are required.

Obtaining Phone Information

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

MAC Address: The unique 12-digit serial number of the IP phone. You can find it on
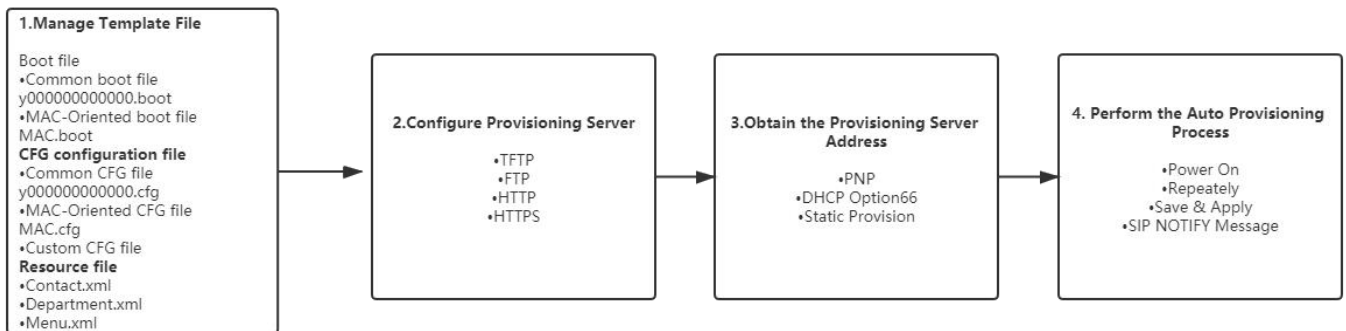the bar code on the back of the IP phone.

SIP Account Information: This may include SIP credentials such as user name,
password and IP address of the SIP server. Ask your system administrator for SIP
account information.

Provisioning Flyingvoice Phones

Auto Provisioning Process

```
                    ┌──────────────┐
                    │ Trigger auto │
                    │ provisioning │
                    └──────┬───────┘
                           ▼
                    ┌──────────────┐
                    │ Request to   │
                    │ download the │
                    │ boot file    │
                    │ and cfg file │
                    │ from the     │
                    │ provisioning │
                    │ server       │
                    └──────┬───────┘
                           ▼
                    ◇ MAC file exists? ◇──Y──▶ Download MAC file and
                           │                    update the configuration
                           N                    on the phone
                           ▼
                    ◇ MAC.boot file exists? ◇──Y──▶ Download the MAC.boot
                           │                         file and the
                           N                         configuration files in
                           ▼                         the boot file in sequence
                    ◇ y000000000000.boot exists? ◇──Y──▶ Download the
                           │                              y000000000000.boot
                           N                              file and the
                           ▼                              configuration files
                    ◇ y000000000000.cfg exists? ◇         in the boot file in sequence
                           │                    │
                           Y                    N
                           ▼                    │
                    ┌──────────────┐            │
                    │ Download the │            │
                    │ y000000000000│            │
                    │ .cfg file    │            │
                    │ and update   │            │
                    │ the config-  │            │
                    │ uration on   │            │
                    │ the phone    │            │
                    └──────┬───────┘            │
                           ▼                    │
                    ◇ MAC.cfg exists? ◇◀─────────┘
                        │        │
                        N        Y
                        │        ▼
                        │  ┌──────────────┐
                        │  │ Download the │
                        │  │ MAC.cfg file │
                        │  │ and update   │
                        │  │ the config-  │
                        │  │ uration on   │
                        │  │ the phone    │
                        │  └──────┬───────┘
                        │         ▼
                        └──▶┌──────────────┐
                            │ End auto     │
                            │ provisioning │
                            └──────────────┘
```

Major Tasks for Auto Provisioning

1.Manage Template File

Boot file
- Common boot file
  y000000000000.boot
- MAC-Oriented boot file
  MAC.boot

CFG configuration file
- Common CFG file
  y000000000000.cfg
- MAC-Oriented CFG file
  MAC.cfg
- Custom CFG file

Resource file
- Contact.xml
- Department.xml
- Menu.xml

2.Configure Provisioning Server
- TFTP
- FTP
- HTTP
- HTTPS

3.Obtain the Provisioning Server Address
- PNP
- DHCP Option66
- Static Provision

4. Perform the Auto Provisioning Process
- Power On
- Repeately
- Save & Apply
- SIP NOTIFY Message

Auto Provision Configuration Instance

This section shows an instance of auto provision configuration on a TFTP server.

1. Manage boot files.

Edit the common boot file y000000000000.boot, enter the name of your customized cfg configuration file.


```
y000000000000.boot
1  include:config <time.cfg>
2  include:config "xxx.cfg"
```

2. Manage configuration files.

Edit the desired configuration parameters in the CFG file(time.cfg) you want the IP phone to download. You can copy the parameters from the common cfg file.

```
time.cfg

 1  ##Time Zone ranges from -11 to +14.
 2  local_time.time_zone=+8
 3  local_time.ntp_server1=cn.pool.ntp.org
 4  local_time.ntp_server2=cn.pool.ntp.org
 5
 6  ##Time format: 0-12 hours, 1-24 hours.
 7  local_time.time_format=0
 8
 9  ##Date format: 0-WWW MMM DD, 1-DD-MMM-YY, 2-YYYY-MM-DD, 3-DD/MM/YYYY, 4-MM/DD/YY, 5-DD MMM YYYY, 6-WWW DD MMM.
10  local_time.date_format=0
```

3. Configure the TFTP server.

1) Create a root directory on your local system. For example, D:\TFTPD Directory.

2) Place the boot files, cfg files and resource files to the TFTP root directory.

3) Start the TFTP server, click Browser, select the directory that you created, press OK.
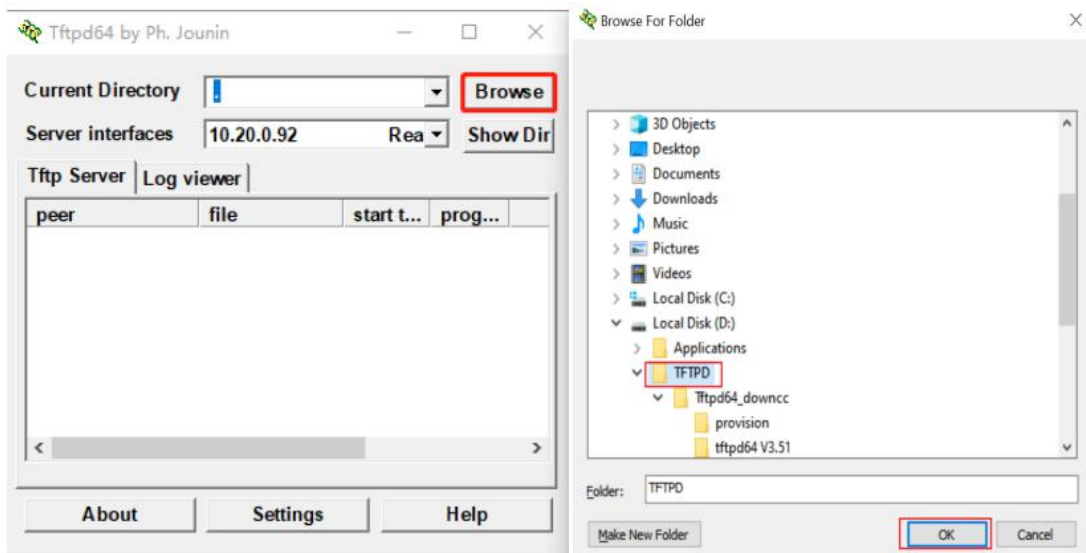
4) The server's URL format is "**tftp://IP/**" （The "IP" here means the server's IP address, such as "tftp://10.20.0.92/"）, this is where the phone downloads the configuration file.

4. Configure the provisioning server address on the IP phone.

1) Log in to the phone's web management page.

2) Go to **Administration** > **Provision > Configuration Profile**, type in the access URL of the provisioning server in the Profile Rule field.

5. Click **Save & Apply** on the bottom of the page to trig the phone to perform auto provisioning.

6. Check whether the phone updates the settings on the web page or on the phone screen.

Managing Boot Files

Flyingvoice phones can download CFG files referenced in the boot files. Before provisioning, you may need to edit and customize your boot files. Flyingvoice supports the

following two types of boot files:

- MAC-Oriented boot file (for example 0021f2000001.boot)

- Common boot file(y000000000000.boot)

You can edit the template boot file directly or create a new boot file as required. Open each boot file with a text editor such as Notepad++.

Editing Common Boot File

The common boot file is effective for all phones. It uses a fixed name "y000000000000.boot" as the file name.

The following figure shows the contents of the common boot file:

```
include:config <xxx.cfg>

include:config "xxx.cfg"
```

The following table lists guidelines you need to know when editing the boot file:

Item	Guidelines
#	The line beginning with "#" is considered to be a comment. You can use "#" to make any comment in the boot file.
include:config <xxx.cfg> include:config "xxx.cfg"	1) Each "include" statement can specify a URL where a configuration file is stored. The configuration file format must be *.cfg. 2) The URL in <> or "" supports the following two forms:

	• Relative URL (relative to the boot file): For example, sip.cfg, HTTP Directory/sip.cfg • Absolute URL： For example, http://10.20.0.88/HTTP Directory/sip.cfg The URL must point to a specific CFG file. The CFG files are downloaded in the order listed (top to bottom). The parameters in the newly downloaded configuration files will override the duplicate parameters in files downloaded earlier. The "include" statement can be repeated as many times as needed.

Creating MAC-Oriented Boot File

The MAC-Oriented boot file is only effective for the specific phone. It uses the 12-digit MAC address of the IP phone as the file name. For example, if the MAC address of the IP phone is 0021f2000001, the MAC-Oriented boot file has to be named as 0021f2000001.boot(case-sensitive) respectively. If you want to create a MAC-Oriented boot file for your phone, follow these steps:

To create a MAC-Oriented boot file:

1. Create a boot file for your phone, name it with the MAC address.

2. Copy the contents from the common boot file and specify the configuration files to be downloaded. One or more configuration files can be referenced in the boot file. The following takes two configuration files as an example.

```
include:config <test.cfg>
include:config "http://10.20.0.92/mac.cfg"
```

3. Save the changes and close the MAC-Oriented boot file. You can also make a copy of the common boot file, rename it and then edit it.

Managing Configuration Files

Auto provisioning enables Flyingvoice phones to update themselves automatically via downloading Common CFG, MAC-Oriented CFG, and custom CFG files. Before provisioning, you may need to edit and customize your configuration files.

You can edit the template configuration files directly or create a new CFG file as required. Open each configuration file with a text editor such as Notepad++.

Editing Common CFG File

The Common CFG file is effective for all phones. It uses a fixed name "y000000000000.cfg" as the file name, the common CFG includes the configuration parameters for all phones, such as firmware upgrade, phonebook, and volume settings.

The following figure shows a portion of the common CFG fie.

```
#######################################################################
##                        Provision                                 ##
#######################################################################
auto_provision.server.auth_method=
auto_provision.server.url=

auto_provision.server.username=
auto_provision.server.password=

#######################################################################
##                      Feature General                             ##
#######################################################################
##Define the "#" or "*" key as the send key; 0-Disabled, 1-# key(default), 2-* key;
features.pound_key.mode=

#######################################################################
##                        Line Key                                  ##
#######################################################################
##linekey.X.*: (FIP10(P)/FIP12WP: X ranges from 1 to 2. FIP11C(P): X ranges from 1 to 6. FIP13G: X ranges from 1 to 9. FIP14G: X ranges from 1 to 21. FIP15G: X ranges from 1 to
##linekey.X.type: 0-N/A, 5-DND, 9-Pickup(pickup/DirectPickup), 10-Call Park, 11-DTMF, 13-Speed Dial, 14-Intercom, 15-Line, 16-BLF, 20-Private Hold, 23-Group Pickup, 24-Pagi

linekey.1.type=
linekey.1.line=
linekey.1.value=
linekey.1.label=
linekey.1.pickup_value=

linekey.2.type=
linekey.2.line=
linekey.2.value=
linekey.2.label=
linekey.2.label=
```

The following table lists guidelines you need to know when editing the common CFG file:

Item	Guidelines
Filename	The file name must be y000000000000.
#	The line beginning with "＃" is considered to be a comment.
Line formats and Rules	Each line must use the following format and adhere to the following rules: Configuration Parameter=Valid Value · Separate each configuration parameter and value with an equal sign. · Set only one configuration parameter per line. · Put the configuration parameter and value on the same line, and do not break the line.

Editing MAC-Oriented CFG File

The MAC-Oriented CFG file is only effective for the specific phone. It uses the 12-digit MAC address of the IP phone as the file name. For example, if the MAC address of the IP phone is 0021f2000001, the MAC-Oriented CFG file has to be named as 0021f2000001.cfg(case-sensitive) respectively.

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

The following figure shows a portion of the MAC-Oriented CFG file:

```
##account.X.*:(FIP10(P)/FIP12WP/FIP16: X ranges from 1 to 2. FIP11C(P): X ranges from 1 to 3. FIP13G: X ranges from 1 to 4. FIP14G: X ranges from 1 to 8. FIP15G: X ranges fror
########################################################################
##                    Account Register                         ##
########################################################################
#Enable or disable the account1, 0-Disabled (default), 1-Enabled;
account.1.enable=

#Configure the label displayed on the LCD screen for account1.
account.1.label=

#Configure the display name of account1.
account.1.display_name=

#Configure the username 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.
account.1.sip_server_host=

#Specify the port for the SIP server. The default value is 5060.
account.1.sip_server_port=

#Specify the IP address or domain name of the outbound proxy server.
account.1.outbound_host=

#Specify the server port, the default value is 5060.
account.1.outbound_port=
```

The following table lists guidelines you need to know when editing the MAC-Oriented CFG file:

Item	Guidelines
Filename	The filename matches the MAC address of your phone.
#	The line beginning with "#" is considered to be a comment.

Line formats and Rules	Each line must use the following format and adhere to the following rules: Configuration Parameter=Valid Value · Separate each configuration parameter and value with an equal sign. · Set only one configuration parameter per line. · Put the configuration parameter and value on the same line, and do not break the line.

Creating a New CFG File

If you want to create a new CFG file for your phone, follow these steps:

To create a new CFG file:

1. Create a CFG file for your phone. Ensure the file complies with the guidelines that are listed in Editing Common CFG File or Editing MAC-Oriented CFG File.

2. Copy configuration parameters from the template configuration files and set valid values for them.

```
local_contact.data.url=http://10.20.0.92/testcontact.xml
wui.http_enable=1
wui.https_enable=1
lang.gui=Chinese_S
```

3. Save the changes and close the CFG file.

You can also make a copy of the template configuration file, rename it and then edit it.

Managing Resource Files

Before provisioning, you may need to edit and customize your resource files.

You can edit the template resource files directly or create a new resource file as required. Open each resource file with a text editor such as Notepad++.

Customizing Resource Files

The resource files are effective for all phones of the same model or the specific phone. If the resource file is to be used for all IP phones of the same model, the access URL of resource file had better be specified in the common CFG file. However, if you want to specify the desired phone to use the resource file, the access URL of the resource file should be specified in the MAC-Oriented CFG file.

Configuring a Provisioning Server

Flyingvoice phones support using FTP, TFTP, HTTP, and HTTPS protocols to download boot files and configuration files. You can use one of these protocols for provisioning.   The following section provides instructions on how to configure a TFTP server. We recommend that you use TFTPD32 as the TFTP server.

TFTPD32 is a free application for Windows. You can download TFTPD32 online: http://tftpd32.jounin.net/tftpd32_download.html.

Configuring TFTP Server

To prepare a root directory

1. Create a TFTP root directory on the local system (for example, D:\TFTPD Directory).

2. Place the boot files, configuration files and resource files to this root directory.
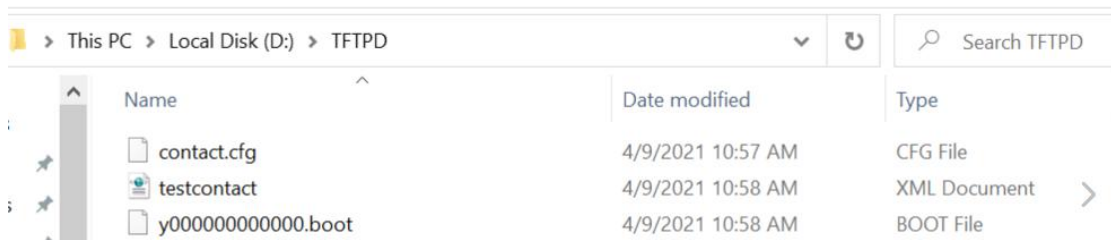
To configure a TFTP server

Start the TFTP server, click Browser, select the directory that you created, press OK.
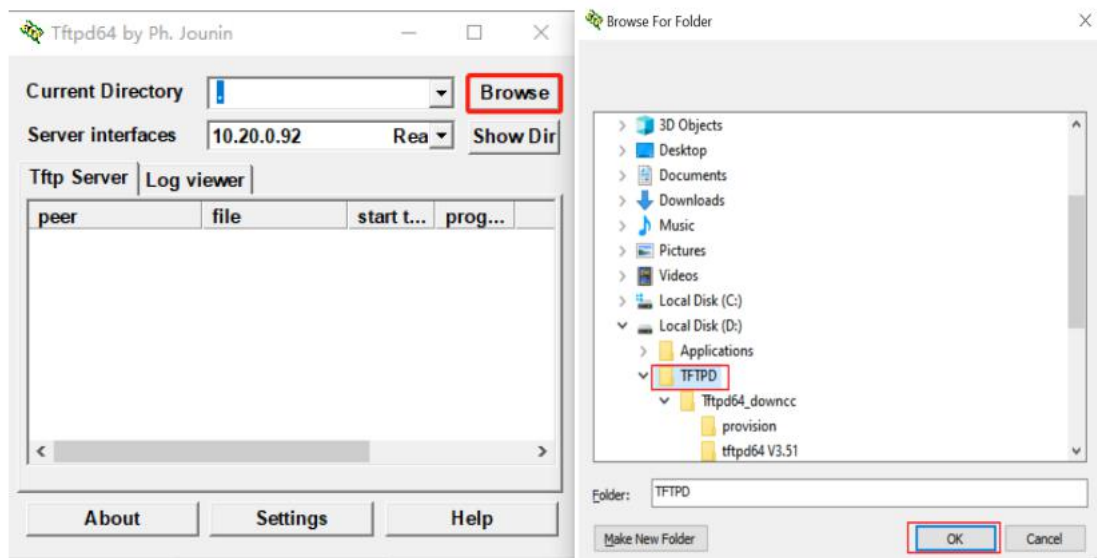
The server's URL format is "**tftp://IP/**"（The "IP" here means the server's IP address, such as "tftp://10.20.0.92/"）, this is where the phone download the configuration file.

Obtaining the Provisioning Server Address

Plug and Play (PnP) Server

Flyigvoice phones support obtaining the provisioning server address from the PnP server. The phone sends the PnP SUBSCRIBE message to the broadcast address 224.0.1.75 to obtain the provisioning server address during startup. The PNP feature is enabled by default.

The following figure indicates the phone obtain the provision server's address from the NOTIFY message from the PNP server.

```
389 14:58:40.482353 192.168.50.163    59495 224.0.1.75      5060 SIP    616 Request: SUBSCRIBE sip:MAC0021f222b01d@224.0.1.75 |
392 14:58:40.499449 192.168.50.18      7777 192.168.50.163   59495 SIP    303 Status: 200 OK |
393 14:58:40.499791 192.168.50.18      7777 192.168.50.163   59495 SIP    486 Request: NOTIFY sip:MAC0021f222b01d@192.168.50.163:59495 |
816 14:58:45.500978 192.168.50.163    40508 192.168.50.18      69 TFTP    97 Read Request, File: 0021f222b01d.cfg, Transfer type: octet, tsize=0, blksize=5
819 14:58:45.507409 192.168.50.18     52322 192.168.50.163   40508 TFTP    67 Option Acknowledgement, tsize=2537, blksize=512
820 14:58:45.508553 192.168.50.163    40508 192.168.50.18    52322 TFTP    60 Acknowledgement, Block: 0
821 14:58:45.508930 192.168.50.18     52322 192.168.50.163   40508 TFTP    558 Data Packet, Block: 1
822 14:58:45.509323 192.168.50.163    40508 192.168.50.18    52322 TFTP    60 Acknowledgement, Block: 1
823 14:58:45.509613 192.168.50.18     52322 192.168.50.163   40508 TFTP    558 Data Packet, Block: 2
824 14:58:45.510448 192.168.50.163    40508 192.168.50.18    52322 TFTP    60 Acknowledgement, Block: 2
825 14:58:45.510451 192.168.50.18     52322 192.168.50.163   40508 TFTP    558 Data Packet, Block: 3
827 14:58:45.511514 192.168.50.163    40508 192.168.50.18    52322 TFTP    60 Acknowledgement, Block: 3
```

```
> Frame 393: 486 bytes on wire (3888 bits), 486 bytes captured (3888 bits) on interface \Device\NPF_{93D8C28D-8E1F-4EB6-BECA-A78B14E645CA}, id 0
> Ethernet II, Src: XiamenYe_f4:d8:4e (f4:b5:49:f4:d8:4e), Dst: EASY3CAL_22:b0:1d (00:21:f2:22:b0:1d)
> Internet Protocol Version 4, Src: 192.168.50.18, Dst: 192.168.50.163
> User Datagram Protocol, Src Port: 7777, Dst Port: 59495
< Session Initiation Protocol (NOTIFY)
  > Request-Line: NOTIFY sip:MAC0021f222b01d@192.168.50.163:59495 SIP/2.0
  > Message Header
  < Message Body
      tftp://192.168.50.18/0021f222b01d.cfg
```

DHCP Option66

Flyingvoice phones can obtain the provisioning server address by detecting DHCP option 66 during startup. And DHCP Option 66 is enabled by default.

The following figure indicates the phone obtain the provision server's address by detecting DHCP option 66.

```
485 14:29:06.842740 0.0.0.0           68 255.255.255.255   67 DHCP    590 DHCP Discover - Transaction ID 0xf8448829
489 14:29:06.876257 192.168.50.92     67 255.255.255.255   68 DHCP    343 DHCP Offer    - Transaction ID 0xf8448829
490 14:29:06.879025 0.0.0.0           68 255.255.255.255   67 DHCP    590 DHCP Request  - Transaction ID 0xf8448829
491 14:29:06.911088 192.168.50.92     67 255.255.255.255   68 DHCP    343 DHCP ACK      - Transaction ID 0xf8448829
573 14:29:30.719753 192.168.50.4      42952 192.168.50.92   69 TFTP    93 Read Request, File: 0021f222b01d, Transfer type: octet, tsize=0, blksize=512, timeout=
580 14:29:34.954594 192.168.50.4      42952 192.168.50.92   69 TFTP    93 Read Request, File: 0021f222b01d, Transfer type: octet, tsize=0, blksize=512, timeout=
581 14:29:34.956266 192.168.50.92     64902 192.168.50.4   42952 TFTP    62 Error Code, Code: File not found, Message: File not found
583 14:29:35.321573 192.168.50.4      54546 192.168.50.92   69 TFTP    98 Read Request, File: 0021f222b01d.boot, Transfer type: octet, tsize=0, blksize=512, tir
584 14:29:35.322920 192.168.50.92     64903 192.168.50.4   54546 TFTP    62 Error Code, Code: File not found, Message: File not found
585 14:29:35.518512 192.168.50.4      52506 192.168.50.92   69 TFTP    99 Read Request, File: y000000000000.boot, Transfer type: octet, tsize=0, blksize=512, ti
586 14:29:35.520433 192.168.50.92     64904 192.168.50.4   52506 TFTP    62 Error Code, Code: File not found, Message: File not found
587 14:29:35.676215 192.168.50.4      55823 192.168.50.92   69 TFTP    98 Read Request, File: y000000000000.cfg, Transfer type: octet, tsize=0, blksize=512, ti
588 14:29:35.677966 192.168.50.92     64905 192.168.50.4   55823 TFTP    116 Data Packet, Block: 1 (last)
```

```
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
  > Option: (53) DHCP Message Type (ACK)
  > Option: (54) DHCP Server Identifier (192.168.50.2)
  > Option: (1) Subnet Mask (255.255.255.0)
  > Option: (3) Router
  > Option: (6) Domain Name Server
  > Option: (51) IP Address Lease Time
  > Option: (58) Renewal Time Value
  > Option: (59) Rebinding Time Value
  > Option: (66) TFTP Server Name
  > Option: (255) End
```

Static Provision

Flyingvoice phones can obtain the provisioning server address by static provision.

You can follow the steps below to configure the phone.

1. Log into the phone's web management page.

2. Go to **Administration** > **Provision > Configuration Profile**, type in the access URL of the provisioning server in the Profile Rule field.

3. Click **Save & Apply** on the bottom of the page to trig the phone to perform auto provisioning.

After that, the phone will connect to the provisioning server and perform the auto provisioning through one of the following methods: power on, repeatedly, click save and

apply, SIP NOTIFY message. For more information on these methods, refer to the section Triggering the IP Phone to Perform Auto Provisioning .

Triggering the Phone to Perform Auto Provision

Power On

The IP phone performs the auto provisioning when the IP phone is powered on.

Repeatedly

The IP phone performs the auto provisioning at regular intervals. You can configure the interval for the repeatedly mode. The default interval is 3600 seconds.

Save & Apply

The IP phone performs the auto provisioning when you click Save & Apply on the provision page.

SIP NOTIFY Message

The IP phone will perform auto provisioning when receiving a SIP NOTIFY message which contains the header "Event: check-sync". Whether the IP phone reboots or not depends on

the value of the parameter "reboot = true". If the header of the SIP NOTIFY message contains this string " reboot=true ", the IP phone will reboot immediately.

Downloading and Verifying Configurations

Downloading Boot, Configuration and Resource Files

After obtaining the provisioning server address in one of the ways introduced above, the phone will request to download the boot files and configuration files from the provisioning server when it is triggered to perform auto provisioning.

For more information about auto provisioning, refer to Auto Provisioning Process.

If the access URLs of the resource files have been specified in the configuration files, the phone will try to download the resource files.

Resolving and Updating Configurations

After downloading, the phone resolves the configuration files and resource files (if specified in the configuration files), and then updates the configurations and resource files to the phone flash. Generally, updated configurations will automatically take effect after auto provisioning is completed. For the update of some specific configurations which require a reboot before taking effect, for example, network configurations, the IP phone will reboot to

make the configurations effective after auto provisioning is completed.

Verifying Configurations

After auto provisioning, you can then verify the update via phone user interface or web user interface of the phone.

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 as a 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 an FTP Server

Wftpd and FileZilla are free FTP application software for Windows. This section mainly provides instructions on how to configure an FTP server using wftpd for Windows.

You can download wftpd online:

https://download.apponic.com/E8fPrPTuPFzY_HHyQrJ6XGarF_FIfbaVayxxBqFSjtrm-6ZSp4EXGnHu09pCJ1XXoM6Qy-LCJNDmpJUBJ3vlRAoRS57LAfpSrIhIS__mZe69LszeDeI1WImvk2DdQH-BL2KM7iwUfXL0lOejAj21yWqNRjBUtK_wKkhQ/

To prepare a root directory

1. Create an FTP root directory on the local system (for example, D:\FTP Directory).

2. Place the boot files and configuration files to this root directory.

To configure a FTP server

1. Download the compressed file of the wftpd application to your local directory and extract it.

2. Double click the Wftpd.exe.

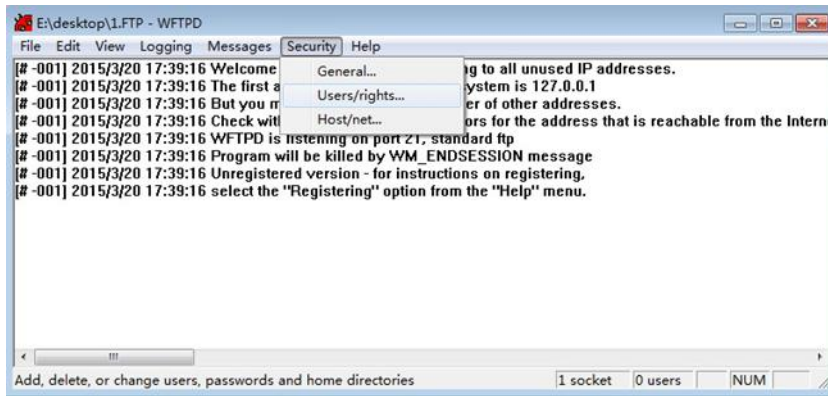   The dialogue box of how to register is shown as below:
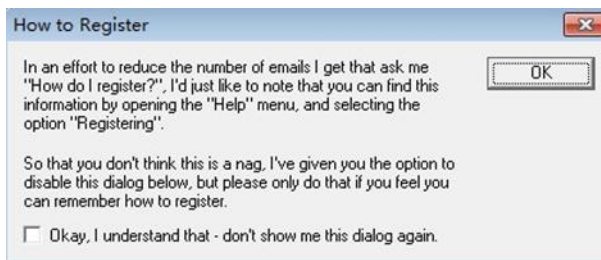
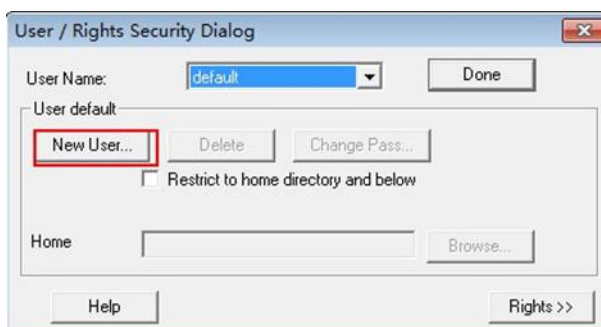3. Check the check box and click OK in the pop-up box.

   The log file of the wftpd application is shown as below:

4. Click Security->Users/rights

5. Click New User.

6. Enter a user name (for example, test1) in the User Name field and then click OK.

7. Enter the password of the user (for example, test1) created above in the New Password

and Verify Password field respectively, and then click OK.

8. Click Browse to locate the FTP root directory in your local system.

9. Click Rights>> and assign the desired permission for the user (for example, test1) created above.

10. Check the check boxes of Read, Create Files/Dirs, List Directories and Overwrite/Delete to make sure the FTP user has the read and write permission.

11. Click Done to save the settings and finish the configurations.

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://test1:123456@10.3.6.234/") is where the IP phone downloads boot files and configuration files from.

Configuring an HTTP Server

This section provides instructions on how to configure an HTTP server using HFS tool. You can download the HFS software online:http://www.rejetto.com/hfs/hfs24rc06.exe。

To prepare a root directory:

1. Create an HTTP root directory on the local system (for example, D:\HTTP Directory).

2. Place the boot files and configuration files to this root directory.

To configure an HTTP server

1. Download the application file to your local directory, double click the hfs.exe.
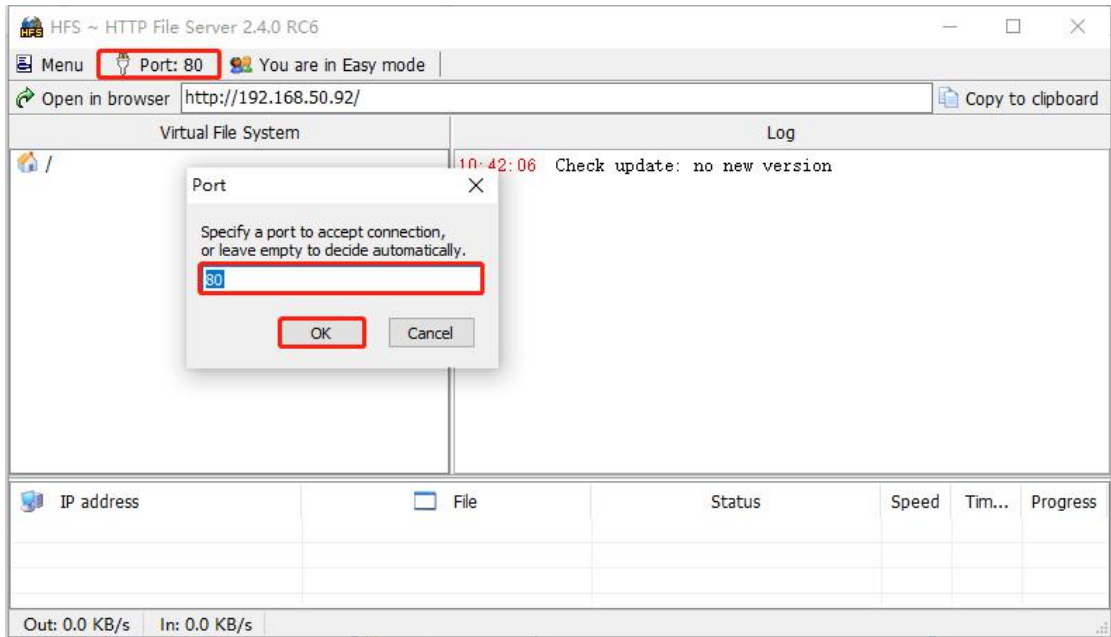
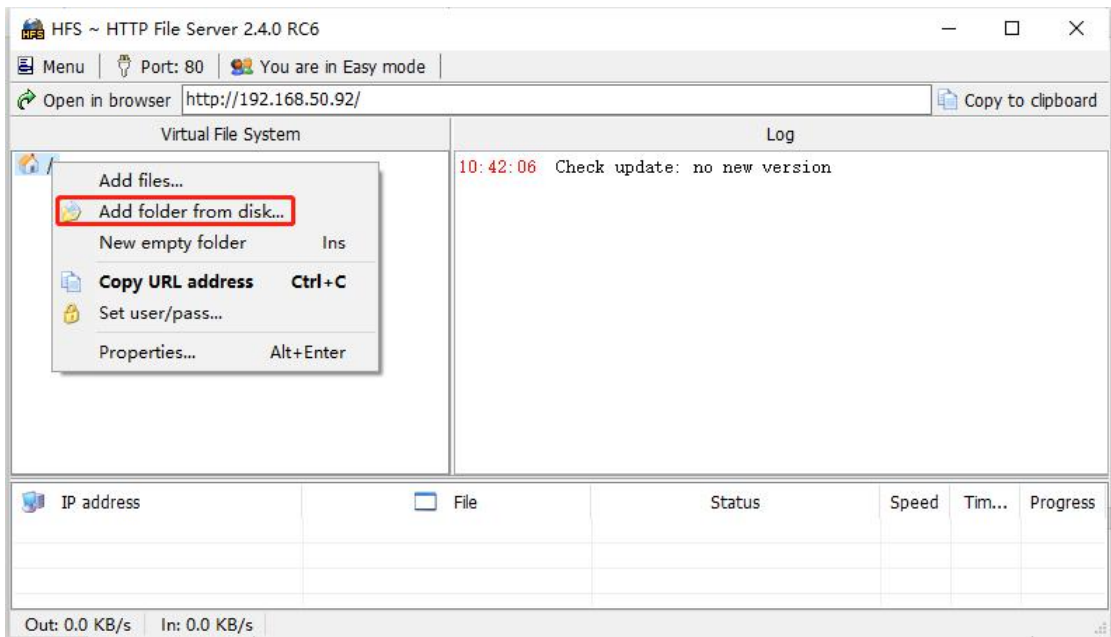The main configuration page is shown as below：
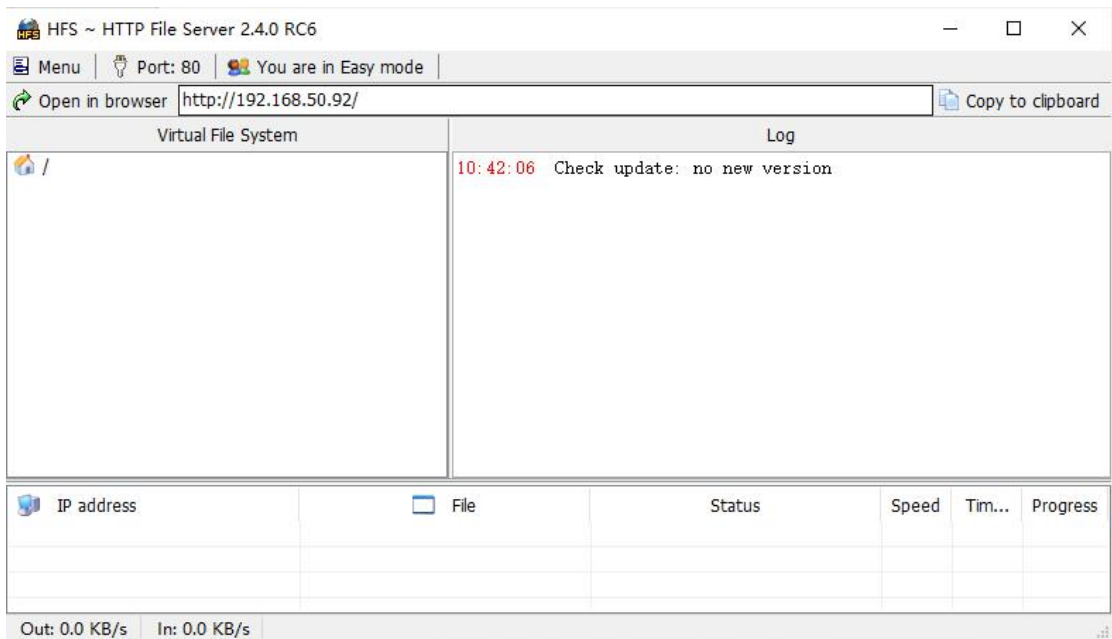
2. Click Menu in the main page and select the IP address of the PC from IP address.
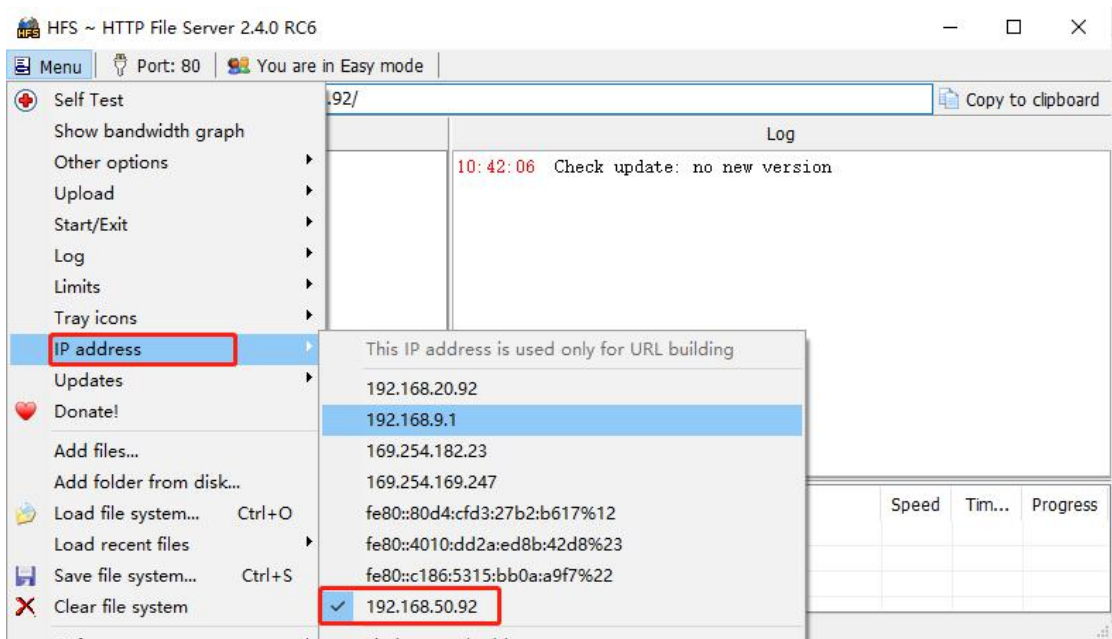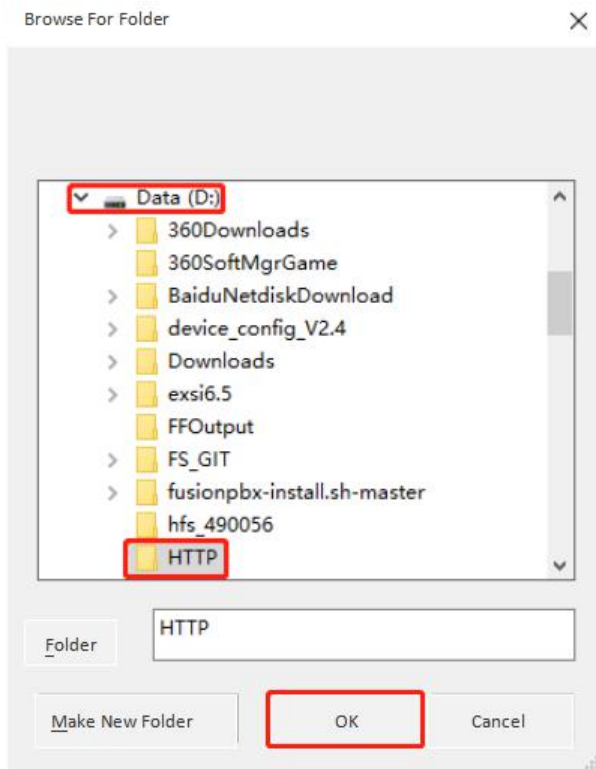

The default HTTP port is 8080. You can also reset the HTTP port (make sure there is no port conflict).
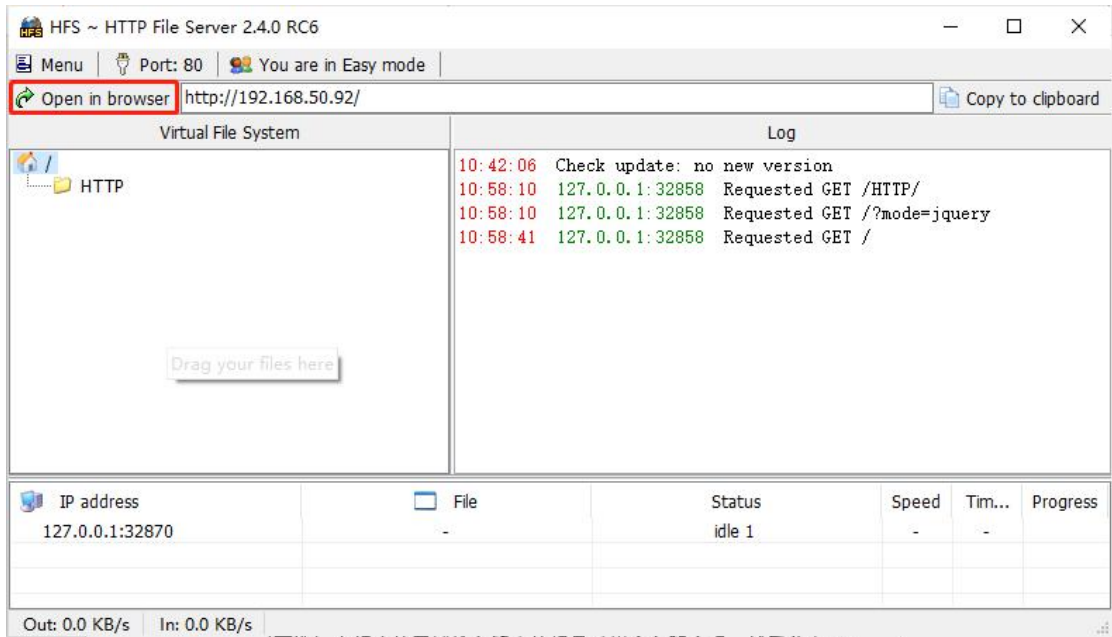
3. Right click the icon on the left of the main page, select Add folder from disk to add the HTTP Server root directory.

4. Check the server URL (for example, http://10.2.11.101:8088/ProvisioningDir) by clicking

"Open in browser".

5. (Optional.) Right-click the root directory name (for example, ProvisioningDir), and then

   select Set user/pass….

6. (Optional.) Enter the desired user name and password for the root directory in the

   corresponding fields and then click OK