



# **How to use Fanvil IP phone in 3CX system**

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## 1 Revision History

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Revision history:

Revision	Author	Date	Description
0.0.1	Frank	2014-3-1	Initial version

## 2 Introduction

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### 2.1 Overview

3CX is an IP Phone System that completely replaces your proprietary PBX, supports standard SIP soft/hard phones, VOIP services and traditional PSTN phone lines. 3CX is unique as it can run on the Windows operating system, which most people are already accustomed too, so there is no requirement to know Linux like some other VoIP Phone Systems.

3CX Phone System is far less expensive than a traditional PBX and can reduce call costs substantially by using a VOIP service provider. Its web-based administration makes phone system management easy. 3CX Phone System eliminates the phone wiring network and allows users to hot desk simply by taking their phone.

In order to be compatible with 3CX, we need to set up Fanvil IP phone to make it support 3CX features.

Fanvil IP phone models supported 3CX:

- ◆ C58/C62
- ◆ E01/E52/E58/E62
- ◆ F52/F58/F62

### 2.2 Target Audience

This document is targeting VoIP administrator or IP phone users who want to use Fanvil VoIP phones with 3CX.

## 3 Set up phone's configuration for 3CX

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### 3.1 Set up SIP server type to 3CX

3CX supports some private applications, like 3CX call park. It is not standard, customized by itself. If we want to use it with 3CX, we need to set up Fanvil IP phone's web-VoIP-SIP-advanced SIP settings-server type changed to from common to 3CX. And then the IP phone would co-work with 3CX call park.

### 3.2 Disable semi-attended transfer function

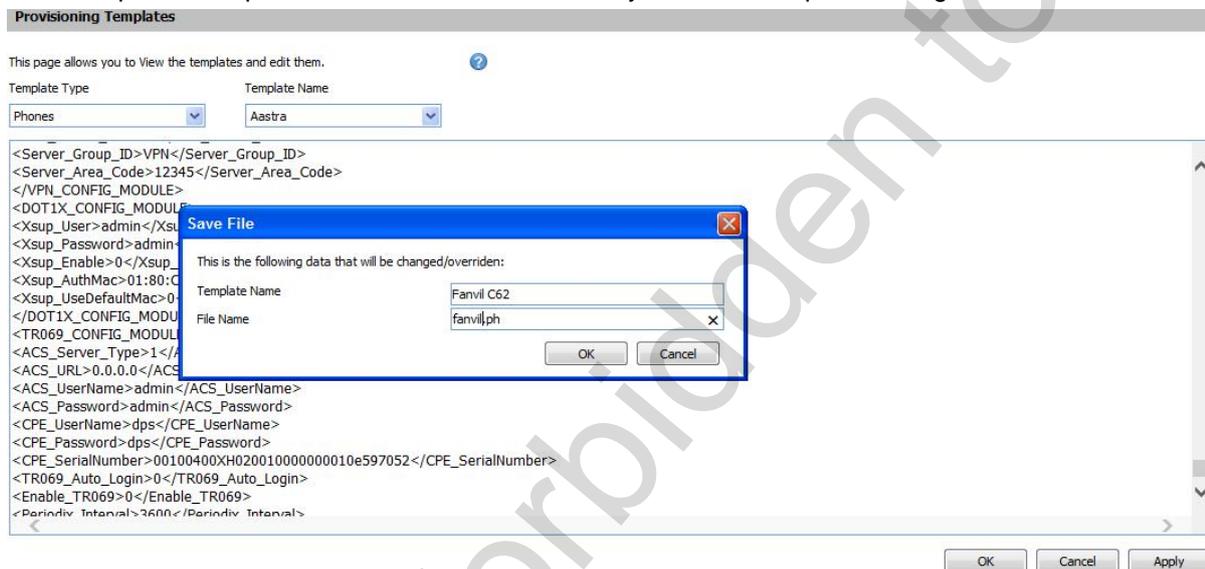
3CX does not support semi-attended transfer, so we need to disable it for IP phone to avoid system abnormal. Go to web-phone-feature-feature settings-semi-attended transfer changed to be disabled.

## 4 Auto Provisioning with 3CX and Fanvil IP phones

### 4.1 Import configuration file template to 3CX

We need to create the configuration file template for Fanvil IP phone used, and then import it into 3CX system. Then we can let Fanvil IP phone auto provisioned by 3CX system.

Open 3CX admin tools interface, and then select settings-provision-template, and then copy the Fanvil IP phone configuration file template contents into the current opened template text field. Pressed OK or apply, there would be save file box indicated. Fill the template name, and file name. after press OK, the Fanvil IP phone template would be saved into 3CX system for auto provisioning.



With the new Fanvil template, you can assign extensions to Fanvil IP phones(like the example C62) via auto provisioning by downloading configuration files automatically and remotely.

### 4.2 Refresh configuration for IP phones

3CX might detect Fanvil IP phones' status when they are changed to 3CX compatible mode.

3CX admin tools-extension menu can let you check the data in detail.

Phones						
Phone Model and Firmware Version	Name	User ID	User Password	PIN	IP of Phone	MAC Address
IP PHONE C320 2.3.230.142	new	new	new	new	192.168.3.53	000307a9b1e1
Fanvil E66P 2.3.255.4	new	new	new	new	192.168.3.254	000307a9b40b
HKBN C62 2.3.283.162	new	new	new	new	192.168.3.88	000307a9b49e
Fanvil C62 2.3.254.151	new	new	new	new	192.168.1.136	00a859c60017
HKBN C62 2.3.283.162	new	new	new	new	192.168.3.45	000307a9b423
Fanvil D600 10.335.1407.97	new	new	new	new	192.168.3.216	000317a9b2b8
Fanvil F58/F58P 2.3.279.159	new	new	new	new	192.168.3.131	00a859cd6b02
Fanvil C62 2.3.254.151	new	new	new	new	192.168.3.67	00a859c55ef6
Fanvil F52/F52P 2.3.205.130	new	new	new	new	192.168.2.17	00a859ceb8d2
Fanvil C66P 2.3.255.4	new	new	new	new	192.168.3.95	000307a9b3f1
Fanvil F62/F62P 2.3.281.161	new	new	new	new	192.168.3.68	00010a03002a
Fanvil C58/C58P 2.3.233.129	new	new	new	new	192.168.3.229	000307a9b3e7
Fanvil C62 2.3.254.151	new	new	new	new	192.168.3.104	000305060934
IP PHONE C320 2.3.230.142	new	new	new	new	192.168.3.240	00a859cbb1c8
Fanvil C56/C56P 2.3.208.108	new	new	new	new	192.168.3.43	000307a9b391
FANVIL C66 2.3.255.4	new	new	new	new	192.168.3.245	000307a9b40f
Fanvil C62 2.3.282.160	new	new	new	new	192.168.3.230	0001b9a0d866
IP PHONE C320 2.3.230.142	new	new	new	new	192.168.3.54	000307a9b45c
Fanvil C66P 2.3.218.4	new	new	new	new	192.168.3.191	000307a9b49a
Fanvil DPH-4005 FRU2.2.182.78	new	new	new	new	192.168.3.150	00a859c6002d
Fanvil C58/C58P 2.2.0.0	new	new	new	new	192.168.2.37	00025f000029
Fanvil C58/C58P 2.3.279.159	new	new	new	new	192.168.3.71	000307a9b44b

Now we can see some data related with IP phones', and then decide if we need to assign them with extensions. For example, the phone with IP 192.168.3.104 is not assigned extension. We choose it, and then press add extension, or assign some existed extension.

If we pressed add extension, just set up new extension data with OK or apply, done; if assign some existed extension, a selected box would be opened. Assign some extension and press OK, done.

Then IP phones would receive SIP-NOTIFY from 3CX; after downloaded configuration file, it would do reboot to make it taken effect.

Note that:

Make sure the extension MAC address you created for is the same as the IP phone's; phone model needs to be the same as the Fanvil IP phone you used.

### Extensions

Edit Extension settings and click OK or Apply to save changes.

General | Forwarding Rules | Phone Provisioning | Other | Office Hours

Provisioning

Provisioning ensures the phone settings are centrally retrieved, this limits the amount of time spent and information needed to be configured on each phone.

MAC Address	<input type="text" value="00a859c60017"/>	?
Model	<input type="text" value="Fanvil C62"/>	?
Phone Display Language	<input type="text" value="English"/>	?
Select Interface	<input type="text" value="192.168.10.152"/>	?

3CXPhone Provisioning

A provisioning file will be created for 3CX Phone Clients connected in your network. The options that can be provisioned are Extension details, Account credentials and BLF Section.

Provision 3CXPhone with Tunnel enabled for remote connections

Codec Priority

Configure the priority of the codecs in this phone

Preferred Codec	<input type="text" value="PCMU"/>	?
Second Preferred Codec	<input type="text" value="PCMA"/>	?
Third Preferred Codec	<input type="text" value="G722"/>	?
Fourth Preferred Codec	<input type="text" value="G729"/>	?

BLF (Busy Lamp Fields)

## 4.3 After refreshed configuration for IP phones

After Fanvil IP phone downloads configuration file and reboot, we can find that 3CX has distribute the extension and PIN code(password) for it.

话机型号和固件版本	名字	用户名	密码	PIN码	话机IP地址	MAC地址	Sta
Fanvil C60 2.1.5.7	新建	新建	新建	新建	192.168.1.86	0001039fa0c4	
Fanvil C56/C56P 2.3.117.79	新建	新建	新建	新建	192.168.3.28	0aa860000038	
VOIP PHONE 1.1.465.1001	新建	新建	新建	新建	192.168.3.35	000105060a23	
Fanvil C62 2.3.211.133	新建	新建	新建	新建	192.168.3.162	000105060a2d	
Fanvil C66 2.3.136.0	新建	新建	新建	新建	192.168.3.145	00a859cb4436	
Fanvil C210 2.3.177.108	新建	新建	新建	新建	192.168.1.121	00a859c92f82	
Fanvil F52/F52P 2.3.26.6	新建	新建	新建	新建	192.168.3.48	00a859cc3cba	
Fanvil IP Phone 2.3.21.6	新建	新建	新建	新建	192.168.3.219	00a859ca2778	
Fanvil C60 2.3.124.86	新建	新建	新建	新建	192.168.2.51	000104050a13	
Fanvil C60 2.3.13.6	新建	新建	新建	新建	192.168.3.123	00a859c92090	
Fanvil C56/C56P 2.3.13.29	新建	新建	新建	新建	192.168.3.88	00010a030020	
Fanvil E66P 2.3.190.3	新建	新建	新建	新建	192.168.3.246	000104050a19	
Fanvil C62 2.3.0.0	新建	新建	新建	新建	192.168.1.136	00a859c60017	
Fanvil C56/C56P 2.2.162.67	新建	新建	新建	新建	192.168.3.43	000305060936	
Fanvil C58/C58P 2.3.126.85	新建	新建	新建	新建	192.168.3.29	000105060a11	
Fanvil C66 2.3.136.0	新建	新建	新建	新建	192.168.3.54	000307a9b2b8	
Denwa DW-610P 2.3.200.128	新建	新建	新建	新建	192.168.3.98	000307a9b2b2	
Fanvil C66 2.3.165.1	新建	新建	新建	新建	192.168.3.18	000104050b57	
DLINK DPH-400SE FRU2.2.332.184	新建	新建	新建	新建	192.168.3.68	00010a03002a	
Fanvil C66 2.3.168.1	新建	新建	新建	新建	192.168.3.185	000104050ae5	
Aastra 1023i 2.2.425.239	新建	新建	新建	新建	192.168.3.147	000105060a47	
Fanvil C62 2.3.13.6	新建	新建	新建	新建	192.168.3.125	0aa86000003a	
Fanvil C62 2.3.211.135	fanvil3	1003	1003	1003	192.168.1.62:5060	0015651152c3	
PLANET VIP-5060PT 2.3.190.3	fanvil4	1004	1004	1004	192.168.3.254:5060	00022810efc2	
Aastra 1023i/2.2.350.200		1005	1005	1234	192.168.3.62:5060	000307a9b38f	
Fanvil C66 2.3.168.0		1006	1006	1234	192.168.3.156:5060	000307a9b32a	
Fanvil C62 2.3.108.50	ll dp	1009	1009	2681	192.168.3.104:5060	000305060934	

Now, Fanvil IP phone would be auto provisioned with 3CX to get extension paramters and make phone calls.

## 5 Use NOTIFY with check-sync to reboot IP phone automatically

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In order to make phones' status stable and refreshed in time, we can use 3CX admin tools to let phones reboot: system-reboot phone. 3CX would send NOTIFY messages to phones, there would be Event: check-sync field in it. Phones would be rebooting.

## 6 Set up DSS keys with 3CX call park function

3CX supports call park function, which allows a person to put a call on hold at one phone and continue the conversation from any other phone. When you want to park calls, you might park them to SP0~SP9, which is park place. Moreover, 3CX call park support subscription. You can use Fanvil IP phone to subscribe some park place of SP0~SP9. With DSS key' led indication, you can know if there is park call to the corresponding park place.

You may set up Fanvil phone's DSS key with 3CX call park function. first, select type to memory key; set up value with SPn(n is from 0~9); change subtype to call park.

### Function Key Settings

Key	Type	Value	Line	Subtype	Pickup Number
DSS Key 1	Memory Key	SP1	SIP1	Call Park	

An example how to realize and use call park

(we has defined DSS key1 as call park key, with value SP0)

If there is no call parked to SP0, the key's led will be lit with solid green;

During talking, press the DSS key 1, you might park the current call to SP0;

If there is call parked to SP0, DSS key 1 would lit with red fast blink;

If the phone is indicated there is call parked to SP0, you might press DSS key 1 to retrieve parked call.

## 7 Auto Provisioning screensaver and languages packets

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Usually, Fanvil IP phone uses auto provisioning to download firmware, configuration file, phonebook, and openvpn ca files. In order to support users requirement for screensaver and other languages supported, Fanvil IP phone is added the new 2 files auto provision method.

In Fanvil phone's configuration file template, we might add the related URL, like this:

```
<AUTOUPDATE_CONFIG_MODULE>  
<Auto_etc_Url>tftp://192.168.1.147/openvpn.bin</Auto_etc_Url>  
<Auto_Image_Url>tftp://192.168.1.147/C62.z</Auto_Image_Url>  
<Auto_Pbook_Url>tftp://192.168.1.147/contact.xml</Auto_Pbook_Url>  
<Auto_Logo_Url>tftp://192.168.1.147/screensaver.txt</Auto_Logo_Url>  
<Auto_Mmisset_Url>tftp://192.168.1.147/French_mmisset.z</Auto_Mmisset_Url>  
</AUTOUPDATE_CONFIG_MODULE>
```

The first line's is for openvpn ca files;

The second line's is for fw downloaded;

The third line's is for phonebook provisioned;

The fourth line's is for screensaver downloaded;

The fifth line's is for language packet downloaded.

## 8 Alert-Info function

3CX allows users to distinguish incoming type for external line, or internal line, by alert rings, not by caller ID.

If you want to use this function, you need to access to Fanvil phone's web-phone-audio, and then set up:

### Alert Info Ring Settings

Index	Text	Ring Type
Alert Info 1	<input type="text" value="external"/>	Type 1 ▾
Alert Info 2	<input type="text" value="internal"/>	Type 2 ▾
Alert Info 3	<input type="text" value="pstn"/>	Type 3 ▾
Alert Info 4	<input type="text" value="quene"/>	Type 4 ▾
Alert Info 5	<input type="text"/>	Type 5 ▾
Alert Info 6	<input type="text"/>	Type 6 ▾
Alert Info 7	<input type="text"/>	Type 7 ▾
Alert Info 8	<input type="text"/>	Type 8 ▾
Alert Info 9	<input type="text"/>	Type 9 ▾
Alert Info 10	<input type="text"/>	Type 1 ▾

Function realization:

3CX would send INVITE with alert-info header. According to different parameters, the called party phone would use different rings.

For example: if alert-info is external, you need to fill the text of web with external, and assign the ring type to type1. And then there is external call incoming, the phone would be ringed type1.

You can assign the ring type for different kind of calls, but the alert-info is fixed and decided by the 3CX.

## 9 3CX group calls

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3CX supports group call function. With this function, you can create a ring group. The group would be added with some extensions, and assigned a group call extension number. If you set up the group ring policy to ring for all, when there is group call incoming, all extension would be ringed. After some extension answers the call, other extensions would be canceled the call and would save as missed call. 3CX supports cancel Reason header field. With this field and parameters (Reason: SIP; cause=200; text="Call completed elsewhere" (Reason Header Field (RFC 3326))), Fanvil IP phones would know the incoming call has been answered, so it would be marked as missed call.

## 10 HTTP URL for Active URI with authentication paramters

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Active URI is used for CTI (Computer Telephony Integration), to allow PC control Fanvil IP phone remotely.

If you enable and configured with active URI, you can use a PC to send some HTTP URL to a phone; after the phone receives it, it would be activated to do something, like dialing, enable DND etc.

It is no need to set up IP phone, only received active URL automatically, authenticated; if it authentication is passed, the phone would be executed the commands and sent 200 OK.

### 10.1 Usage

Use a PC, opened web browser, like IE, firefox, etc. and then fill the URL into the address bar:

`http://%%deskphone_useraccount%%:%%deskphone_password%%@%%desktopphone_ipaddress%%/cgi-bin/ConfigManApp.com?key=xxx`

%%deskphone\_useraccount%% means the exact phone's web login username;  
%%deskphone\_password%% means the exact phone's web login password.  
%%desktopphone\_ipaddress%% means phones IP address

For example: you input a URL

<http://admin:admin@192.168.3.104/cgi-bin/ConfigManApp.com?key=OK> into the address bar. Then phone would be authenticate and execute OK key function to enter status menu.

If you do not fill with username and password, the browser would pop the authentication dialog box to ask you input username and password. Else the URL would be not executed by the phone.

### 10.2 Supported function and event

Answer call: key=OK/key=ENTER

Open speaker: key=SPEAKER

Press transfer : key=F\_TRANSFER

Mute call: key=MUTE

Hold call: key=F\_HOLD

Press some Softkey: key=F1-Fn

Input some DTMF(included num, \* and #): key=0-9/\*/POUND

Press some Line key: key=L1-Ln

Press some Dss key: key=D1-Dn

Press Conference key: key=F\_CONFERENCE

Press Message key: key=MSG

Press Headset key: key=HEADSET

Press redial key: key=RD

Enable DND: key=DNDOOn

Disable DND: key=DNDOOff

## 11 Make combined activities in an active URI

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If you want Fanvil phone did some operations, like offhook, dialing numbers, and then sent calls, you might use active URI with advanced usage:

For example:

1. Making calls URL:

[http://%%deskphone\\_useraccount%%:%%deskphone\\_password%%@%%desktopphone\\_ipaddress%%/cgi-bin/ConfigManApp.com?key=SPEAKER;%%dialled\\_number%%;ENTER](http://%%deskphone_useraccount%%:%%deskphone_password%%@%%desktopphone_ipaddress%%/cgi-bin/ConfigManApp.com?key=SPEAKER;%%dialled_number%%;ENTER)

<http://admin:admin@192.168.3.104/cgi-bin/ConfigManApp.com?key=SPEAKER;1004;ENTER>

This URI means letting phone dial 1004 in speaker mode.

[http://%%deskphone\\_useraccount%%:%%deskphone\\_password%%@%%desktopphone\\_ipaddress%%/cgi-bin/ConfigManApp.com?key=F\\_TRANSFER;:::;%%dialled\\_number%%;F\\_TRANSFER](http://%%deskphone_useraccount%%:%%deskphone_password%%@%%desktopphone_ipaddress%%/cgi-bin/ConfigManApp.com?key=F_TRANSFER;:::;%%dialled_number%%;F_TRANSFER)

[http://admin:admin@192.168.3.104/cgi-bin/ConfigManApp.com?key=F\\_TRANSFER;1005;F\\_TRANSFER](http://admin:admin@192.168.3.104/cgi-bin/ConfigManApp.com?key=F_TRANSFER;1005;F_TRANSFER)

This URI means when phone is in talking status, the URI would let phone do blind transfer to ext 1005.