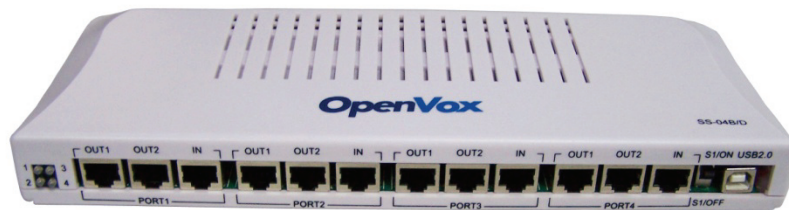# OpenVox FB40/FD40 User Manual

OpenVox-Best Cost Effective Asterisk Cards

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Thank You for Choosing OpenVox Products!

Contents

FB40/FD40 Description

In most of the time, users need to reconnect the BRI/PRI line to a redundant server maintained by UPS when main PBX Server is power off. It may cause a little extra work for people who use simple and small PBX servers. But for those who run complex PBXs in server rooms, it becomes real problems.

How to eliminate this problem? The release of OpenVox FB40/FD40 failover box for BRI/PRI answers it. The FB40/FD40 can automatically switch the BRI/PRI line to the redundant server when the power of the main PBX server has been cut off and will automatically switch back to normal when the power is on again. In this way, no more worries about getting the BRI/PRI line connected to the redundant server when the main server is down.

FB40/FD40 is controlled through an Asterisk loadable module res_failover.so. This module keeps sending "running" signal to redundant server when Asterisk is running. Once Asterisk is down or system power is cut off, the module will not be able to send out the "running" signal to FB40/FD40 and thus FB40/FD40 will automatically switch to the redundant server.

FB40/FD40 provides a reliable and flexible solution to Asterisk PBX

FB40/FD40 Features

- Easy installation; uses USB to connect computer or server.
- Industry standard USB type B connector.
- USB 2.0 and 1.1 compliant.
- Low power consumption, takes power from USB bus.
- Standard length type A to type B cable provided.
- Supports software watchdog.
- Supports up to 4 ISDN BRI/PRI interfaces.
- Supports multiple FB40/FD40 devices in one system.
- Fully supports Asterisk (Version1.2/1.4/1.6).
- Supports Elastix, Trixbox.
- Small plastic enclosure: 285mm x 110mm x 34mm.
- 4 power supply indicator lights.
- 5 year warranty.
- FB40 supports all OpenVox BRI cards, Digium, Sangoma BRI cards and other compatible BRI cards.
- FD40 supports all OpenVox PRI cards, Digium, Sangoma PRI cards and other compatible PRI cards.

FB40/FD40 Installation Guide
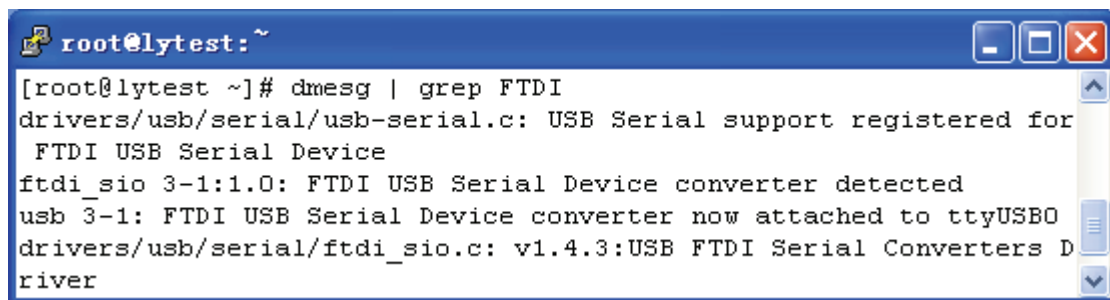
Hardware Connection

Take the FD40 for example:

P1
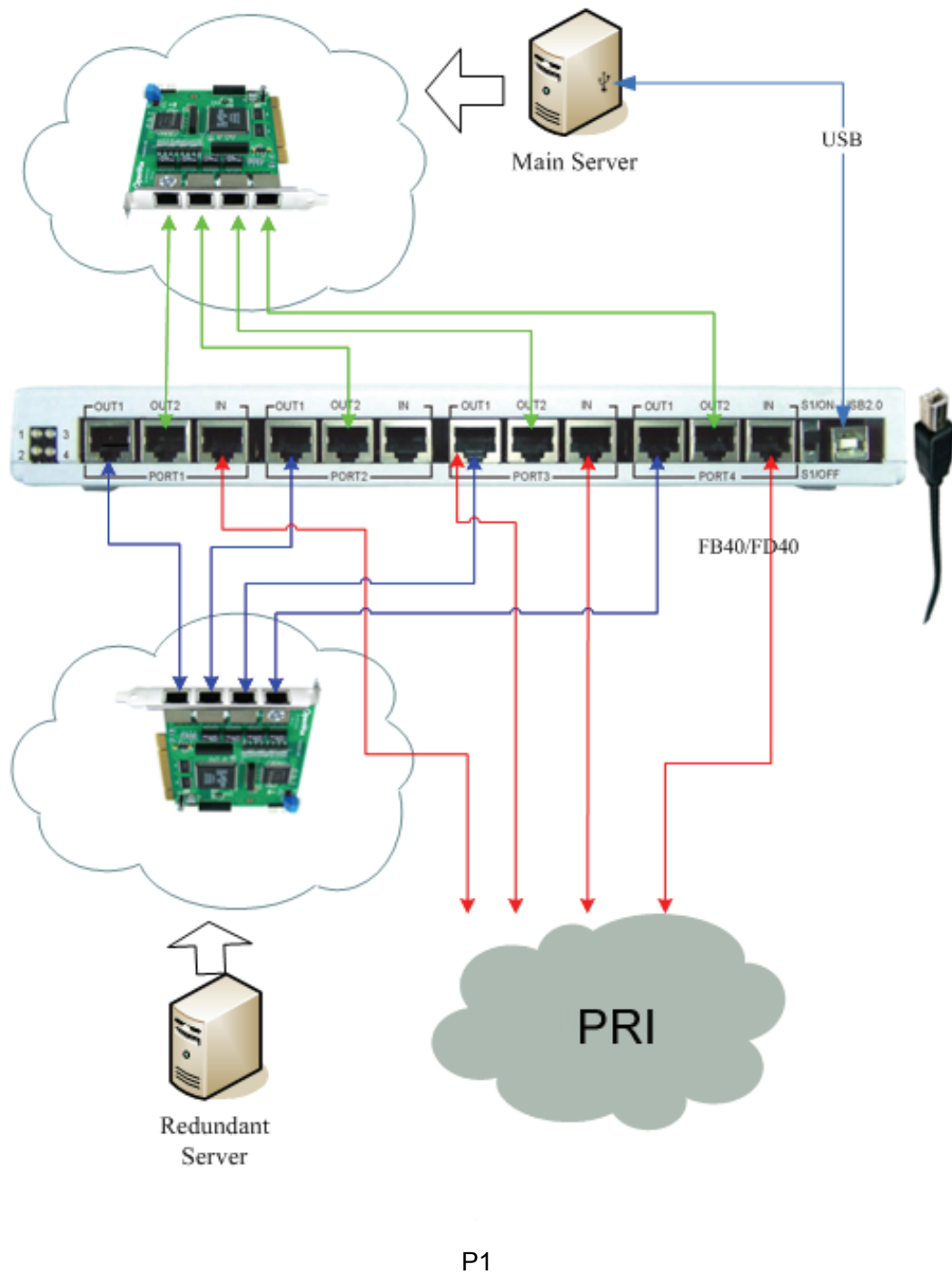
Device Driver Detection

The device driver of FB40/FD40 has been integrated with many Linix distributions. Users can run the following command to see if the FB40/FD40 has been recognized or detected by the system. (Please connect the FB40/FD40 to the server with attached USB cable that comes together with the product. Note: Please make sure that all the lights are on by switching the on-of button when the FB40/FD40 is connected to the server.)
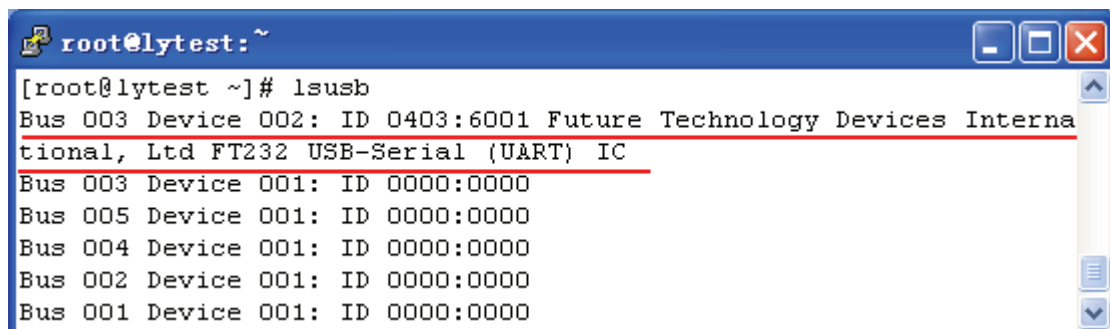
 # dmesg | grep   FTDI

```
[root@lytest ~]# dmesg | grep FTDI
drivers/usb/serial/usb-serial.c: USB Serial support registered for
 FTDI USB Serial Device
ftdi_sio 3-1:1.0: FTDI USB Serial Device converter detected
usb 3-1: FTDI USB Serial Device converter now attached to ttyUSB0
drivers/usb/serial/ftdi_sio.c: v1.4.3:USB FTDI Serial Converters D
river
```

User can also run the lsusb command to check if the FB40/FD40 device is connected.

 # lsusb

```
[root@lytest ~]# lsusb
Bus 003 Device 002: ID 0403:6001 Future Technology Devices Interna
tional, Ltd FT232 USB-Serial (UART) IC
Bus 003 Device 001: ID 0000:0000
Bus 005 Device 001: ID 0000:0000
Bus 004 Device 001: ID 0000:0000
Bus 002 Device 001: ID 0000:0000
Bus 001 Device 001: ID 0000:0000
```

FB40/FD40 Working Instruction

The following picture shows how the FB40/FD40 works when the PBX Server is ON. The BRI/PRI signal goes from: 1->2->3-

P2
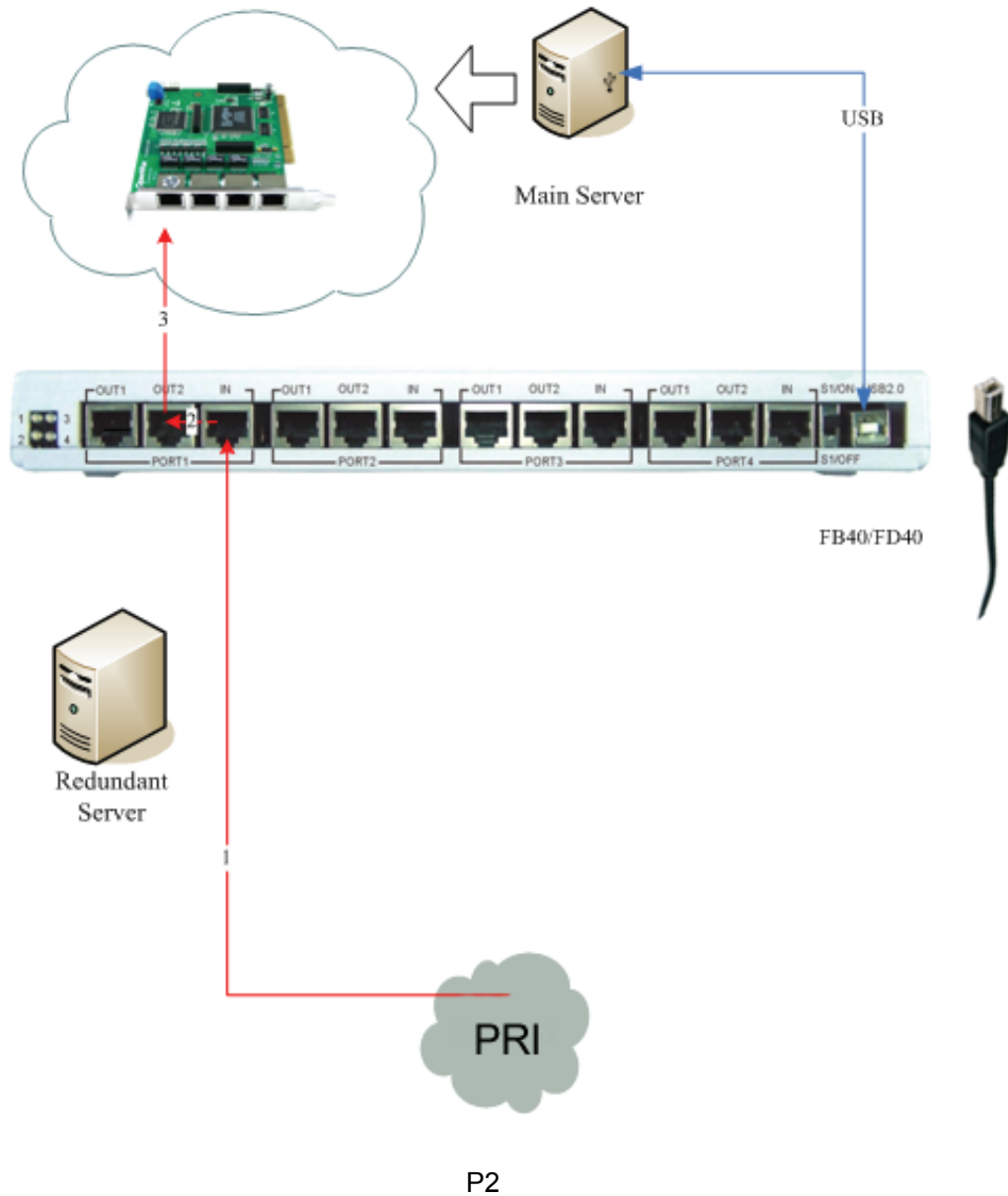
When the main PBX Server stops working (poweroff) or the FB40/FD40 stops, the BRI/PRI signal goes from 1->2->3:

P3
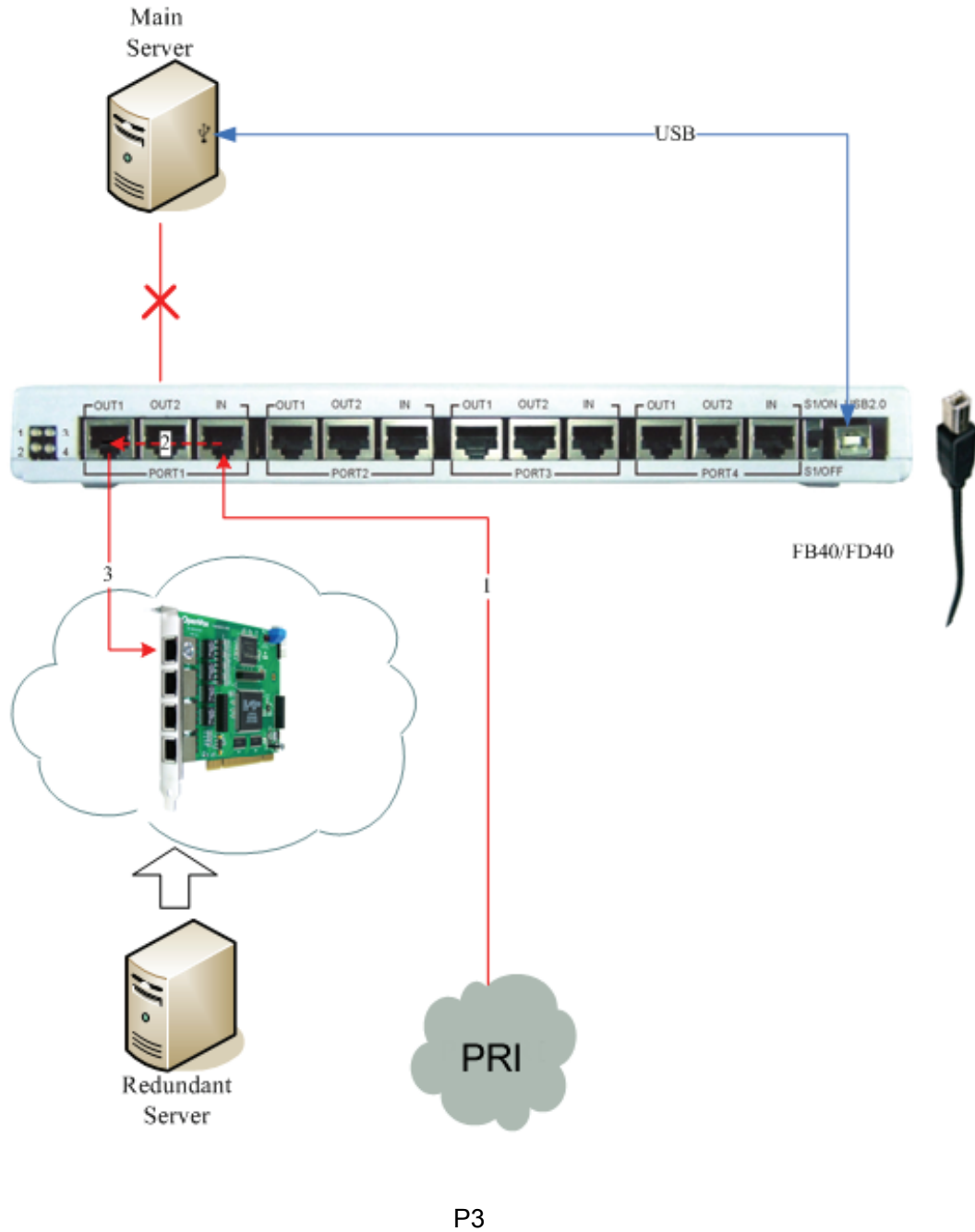
The Dashed shows the auto-switch line goes in FB40/FD40.

FB40/FD40 Software Installation

Software Download

> # *wget* www.openvox.cn/download/drivers/failover/failover-1.0-current.tar.gz

Software Installation

Installation with asterisk 1.2.X

1) Unzip the file
> # *tar -xzvf failover-1.0-current.tar.gz*
> # *cd failover*

2) Copy the file to res directory under asterisk
> # *cp res_failover.c $asterisksource/res/*

3) Copy the configuration file to /etc/asterisk directory
> # *cp failover.conf /etc/asterisk/*

4) Compile Makefile in res directory under asterisk
> # *vi /usr/src/asterisk/Makefile*

5) Modify Makefile
> *MODS=res_indications.so res_monitor.so res_adsi.so res_agi.so res_features.so*
>
> *To:*
> *MODS=res_indications.so res_monitor.so res_adsi.so res_agi.so res_features.so res_failover.so*

6) If asterisk is installed, please compile it and re-install
> # *cd $asterisksource*
> # *make*
> # *make install*

7) Configure the /etc/asterisk/failover.conf file on requirements.

8) Reboot asterisk

Installation with asterisk 1.4.X

1) Unzip the file

        # tar -xzvf failover-1.0-current.tar.gz
        # cd failover

2) Copy the file to res directory under asterisk

        # cp res_failover.c $asterisksource/res/

3) Copy the configuration file to /etc/asterisk directory

        # cp failover.conf /etc/asterisk/

4) If asterisk is installed, please compile it and re-install

        # cd $asterisksource
        # make
        # make install

5) Configure the /etc/asterisk/failover.conf file on requirements.

6) Reboot asterisk

Installation with asterisk 1.6.X

1) Unzip the file

        # tar -xzvf failover-1.0-current.tar.gz
        # cd failover

2) Copy the file to res directory under asterisk

        # cp res_failover.c $asterisksource/res/

3) Copy the configuration file to /etc/asterisk directory

        # cp failover.conf /etc/asterisk/

4) If asterisk is installed, please compile it and re-install

        # cd $asterisksource
        # make
        # make install

5) Configure the /etc/asterisk/failover.conf file on requirements.

6) Reboot asterisk

Explanation of Configuration Files

[openvox_failover_1]
device=/dev/ttyUSB0
;kick_time_interval=4000
;event_cmd=logger
;autorun=yes

[openvox_failover_2]
device=/dev/ttyUSB1
kick_time_interval=500
event_cmd=logger
autorun=no

- [openvox_failover_1]：Name of FB40/FD40 Device, to distinguish from different devices, a must to configuration;
- device=/dev/ttyUSB0：Name of USB device that FB40/FD40 uses, a must to configuration;
- kick_time_interval：the time interval of software watch dog; the default time is 4000ms, user can customize the time with 100ms for Minimum and 9000ms for Maximum;
- event_cmd：event command, the default is logger, it will record the FB40/FD40 status in system log;
- autorun：this decides if FB40/FD40 will start when asterisk boots; the default is yes which means the FB40/FD40 starts when asterisk boots; if no, the FB40/FD40 will not start when asterisk boots and user may need manually boot the device by running failover start command.

Steps to Use

1) Start asterisk
 # asterisk –vvvgc

2) Start FB40/FD40 device

*CLI> failover start   # This command can start all the FB40/FD40 devices.
or
*CLI> failover start 1   # This command can be use to start the first FB40/FD40. A difference number means to start a specific FB40/FD40 in the server.

3) Stop FB40/FD40 device

CLI> failover stop   # This command can stop all the FB40/FD40 devices.

CLI> failover stop 1   # This command can be use to stop the first FB40/FD40.
                                                A difference number means to stop a specific FB40/FD40 in the server.

4) Show FB40/FD40 device information

CLI> failover show   # Show FB40/FD40 device information

5) Reload FB40/FD40 device configuration file

CLI> failover stop   # All the FB40/FD40 device must be stopped before reloading the configuration file

CLI> failover reload   # Reload the configuration file

Software Installation by the res_failover.so

If you do not have the gcc compiler and the source code of the asterisk, you can also download the res_failover.so and use it directly as below.

1) Download res_failover.so
    Check the asterisk version
    # asterisk –V

    Download the suitable version from
    http://www.openvox.cn/download/drivers/failover/

2) Unzip the file
        # tar -xzvf res_failover-1.X.X.so-for-asterisk-1.X.X.tar.gz
        # cd res_failover-1.X.X.so-for-asterisk-1.X.X

2) Copy the so module file to /usr/lib/asterisk/modules
        # cp res_failover.so /usr/lib/asterisk/modules

3) Copy the configuration file to /etc/asterisk directory
        # cp failover.conf /etc/asterisk/

4) Configure the /etc/asterisk/failover.conf file on requirements.

5) Reboot asterisk

Technical Support

If you meet any technical problems when using OpenVox products, you can check our Forum for help or contact us directly be the following ways:

I. Email Support

You can email your technical problems to the following emails:

support@openvox.com.cn
mark.liu@openvox.cn

Unless it is an emergency, this is always the most efficient way to get support.

II. Phone Support

If it is an emergency, the fastest way to have your problem solved is to call our technical department at
+86-755-82535362
+86-755-82535462
+86-755-82535095

Our work time is 9:30am to 17:30pm, from Monday to Friday, (GMT +8 Beijing Time).

Reference

www.openvox.cn

www.digium.com

www.asterisk.org

www.voip-info.org

www.asteriskguru.com