

Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=slow >TAbort- <TAbort- <MAbort- >SERR- <PERR-

Interrupt: pin A routed to IRQ 255

Region 0: Memory at f5000000 (32-bit, non-prefetchable) [disabled] [size=64K]

??/??????????

// ????????????

rpm -q bison bison-devel ncurses ncurses-devel zlib zlib-devel openssl openssl-devel gnutls-devel gcc gcc-c++

bison-2.3-2.1

package bison-devel is not installed

ncurses-5.5-24.20060715

ncurses-devel-5.5-24.20060715

zlib-1.2.3-3

zlib-devel-1.2.3-3

openssl-0.9.8e-12.el5

openssl-devel-0.9.8e-12.el5

package gnutls-devel is not installed

gcc-4.1.2-44.el5

gcc-c++-4.1.2-44.el5

?? is not installed ???????????

// ?? yum ???????

yum install bison-devel gnutls-devel

//

???????

?? G400P ?????????????????? opvx-bristuff-0.4.0-RC3h.tar.gz ??????????????????/?????? asterisk, asterisk-addons, zaptel, libpri????? Elastix ?? Elastix ??

NOTES:

????????????????????????

- zaptel-1.4.12.1
- libpri-1.4.3
- asterisk-1.4.26.2
- asterisk-addons-1.4.7

// ?? opvx-bristuff-0.4.0-RC3h.tar.gz

```
# wget http://downloads.openvox.cn/pub/drivers/bristuff/g400p/opvx-bristuff-0.4.0-RC3h.tar.gz
# tar xzf opvx-bristuff-0.4.0-RC3h.tar.gz
# cd opvx-bristuff-0.4.0-RC3h
```

```
// ???????
```

```
NOTES: ?????????????????????????????????????????
```

```
# amportal stop
# service dahdi stop ;?? PIAF???? zaptel?
# mv /usr/lib/asterisk /usr/lib/asterisk_orig
# ./install.sh
```

```
???????????????? "Press <Enter> to continue, or <CTRL> + <C> to abort."
?? Enter ??????????
```

```
????????? iLBC codec?????????
```

```
// ??????
```

```
# cd zaptel-1.4.12.1
# make config
# vi /etc/sysconfig/zaptel
```

```
????????????????
MODULES="$MODULES opvxg4xx" # G400P GSM Card
MODULES="$MODULES ztdummy" # Zaptel Timing Only Interface
```

Notes:

? ??? cd asterisk; make sample????????? Elastix ??????

```
// ?? dahdi ?????????? PIAF?????????
```

```
# chkconfig dahdi off
```

```
?????????????
```

```
// ?????
```

```
?? /etc/zaptel.conf
```

```
loadzone=tw
defaultzone=tw
alaw=1,3,5,7
span=1,1,3,ccs,ami
span=2,2,3,ccs,ami
span=3,3,3,ccs,ami
span=4,4,3,ccs,ami
```

bchan=1,3,5,7

dchan=2,4,6,8

?? /etc/asterisk/zapata.conf

[channels]

txgain=0.0

rxgain=0.0

signalling=gsm

context=from-gsm

echocancel=no

relaxdtmf=yes

; slot A

channel => 1

; slot B

channel => 3

; slot C

channel => 5

; slot D

channel => 7

?????

chown asterisk:asterisk /etc/asterisk/zapata.conf

// ?????????????????????????????

// ?????????

dmesg

....

Zapata Telephony Interface Registered on major 196

Zaptel Version: 1.4.12.1

Zaptel Echo Cancellor: MG2

PCI: Enabling device 0000:00:09.0 (0000 -> 0002)

ACPI: PCI Interrupt Link [LNKD] enabled at IRQ 11

ACPI: PCI Interrupt 0000:00:09.0[A] -> Link [LNKD] -> GSI 11 (level, low) -> IRQ 11

Found an OpenVox G400P: Version 0.8e79

opvxd4xx: slot 0 is Installed

opvxd4xx: slot 1 is Installed

opvxd4xx: slot 2 is Empty

opvxd4xx: slot 3 is Empty

opvxd4xx: Powering up all spans...

ztcfg -vvvvvv

Zaptel Version: 1.4.12.1

Echo Cancellor: MG2

Configuration

=====

SPAN 1: CCS/ AMI Build-out: 399-533 feet (DSX-1)
 SPAN 2: CCS/ AMI Build-out: 399-533 feet (DSX-1)
 SPAN 3: CCS/ AMI Build-out: 399-533 feet (DSX-1)
 SPAN 4: CCS/ AMI Build-out: 399-533 feet (DSX-1)

Channel map:

Channel 01: Clear channel (A-law) (Slaves: 01)
 Channel 02: D-channel (Default) (Slaves: 02)
 Channel 03: Clear channel (A-law) (Slaves: 03)
 Channel 04: D-channel (Default) (Slaves: 04)
 Channel 05: Clear channel (A-law) (Slaves: 05)
 Channel 06: D-channel (Default) (Slaves: 06)
 Channel 07: Clear channel (A-law) (Slaves: 07)
 Channel 08: D-channel (Default) (Slaves: 08)

8 channels to configure.

cat /proc/interrupts

```

    CPU0
0: 92720937      XT-PIC timer
1:    2      XT-PIC i8042
2:    0      XT-PIC cascade
4:  5520      XT-PIC serial
7:    0      XT-PIC parport0
8: 94901916      XT-PIC rtc
9:    1      XT-PIC acpi
10: 92692060      XT-PIC opvxd4xx
11: 148485      XT-PIC uhci_hcd:usb1, uhci_hcd:usb2, CMI8738, eth0
12:    4      XT-PIC i8042
14: 107020      XT-PIC ide0
    
```

Notes:

? ?? IRQ ??? opvxd4xx ??????(?????)???? PCI?? IRQ????????? PCI Slot?

// ?? SIM ??????

asterisk -rvvvvvvvvvvv

```

CLI> gsm debug channel 1
CLI> gsm show status 1
-- GSM Span 1 registered to network!
    
```

Tips:

? ??? Channel NO. ? 1,3,5,7?????? gsm debug channel x ?????? channel ????????

No GSM running on channel 2

? SIM card ?? - Channel NO - Span NO. ???

SIM x1 - Channel 1 - Span 1

SIM x2 - Channel 3 - Span 2

SIM x3 - Channel 5 - Span 3

SIM x4 - Channel 7 - Span 4

? ? SIM card ???????????? GSM ??(??? 3G ???)?status ???????

GSM 1: < +CREG: 2 , 8 >

GSM 1: < +CREG: 0 , 8 >

?? Elastix ?????

???????????????????? Elastix ????????????????????? Elastix ????????????????????? Elastix ???

???????????????? UI ?? Inbound ? Outbound ????????????????? FreePBX ???

?? G400P ??????? Elastix(?????????????????)?? UI ??? Inbound/Outbound ?????????????

???? A400P ????

Outbound ??

// Trunk

Elastix UI > PBX > PBX Configuration > Trunks > Add Custom Trunk

Custom Dial String = Zap/1/\$OUTNUM\$

// Route

Elastix UI > PBX Configuration > Outbound Routes > Add Route

Route Name = <whatever name>

Dial Patterns = 008|.

Trunk Sequence = Zap/1/\$OUTNUM\$

// ??????

008 + ?????

Inbound ??

?? /etc/asterisk/extensions_custom.conf???????????

; This is for inbound calls with G400P GSM card

[from-gsm]

exten => _X.,1,Set(DID=\${EXTEN})

exten => _X.,n,Goto(s,1)

exten => s,1,Noop(Entering from-zaptel with DID == \${DID})

exten => s,n, Ringing()

exten => s,n,Set(DID=\${IF("\${DID}" = "")?s:\${DID}})

```

exten => s,n,Noop(DID is now ${DID})
exten => s,n,GotoIf(["${CHANNEL:0:3}"="Zap"]?zapok:notzap)
exten => s,n(notzap),Goto(from-pstn,${DID},1)
exten => s,n,Macro(Hangupcall,dummy)
exten => s,n(zapok),Noop(Is a Zaptel Channel)
exten => s,n,Set(CHAN=${CHANNEL:4})
exten => s,n,Set(CHAN=${CUT(CHAN,-,1)})
exten => s,n,Macro(from-zaptel-${CHAN},${DID},1)
exten => s,n,Noop(Returned from Macro from-zaptel-${CHAN})
exten => s,n,Goto(from-pstn,${DID},1)
exten => fax,1,Goto(ext-fax,in_fax,1)

```

???????????

```
#asterisk -rx "dialplan reload"
```

```
//?? DID ?? SIM card
```

Elastix UI > PBX > PBX Configuration > Unembedded freePBX > Zap Channel DIDs >

Channel = 1

Description = gsm1-did

DID = <??? SIM ??????>

```
// Inbound Route
```

Elastix UI > PBX > PBX Configuration > Inbound Routes

Description = gsm1

DID Number = <??? SIM ??????>

Set Destination =<whatever you wanted>

?????

```
// ??????
```

```
# modprobe opv4xx debug=8
```

```
# amportal stop
```

```
# amportal start
```

```
# dmesg
```

```
//???? firmware
```

```
??????????? firmware ???
```

```
???? firmware: http://downloads.openvox.cn/pub/firm...0100612.tar.gz
```

```
?? ?? firmware ???http://downloads.openvox.cn/pub/driv...s-1.0.0.tar.gz
```

```
# amportal stop
```

```
# modprobe -r opv4xx
```

```
# modprobe opv4xx burn=1
```

```
# tar opvx-epcs-1.0.0.tar.gz
```

```
# tar -xzf opvx-fw-g400p-20100612.tar.gz
```

```
# cp g400p.bin opvx-epcs-1.0.0
```

```
# cd opvx-epcs-1.0.0
```

./epcs
?? g400p.bin

FAQ

Q: ??? Asterisk ???

A: ????????????

Q: ?????ERROR[3130] codec_dahdi.c: Failed to open /dev/zap/transcode: No such file or directory

A: ?? /etc/sysconfig/zaptel??????

MODULES="\$MODULES zttranscode" # Zaptel Transcoding

Q: ????? Asterisk?????????

A: ?????[OpenVox G400P User Manual for dahdi](#)