testing environment

Debian 11.6.0
Dahdi-3.2.0
Asterisk-20

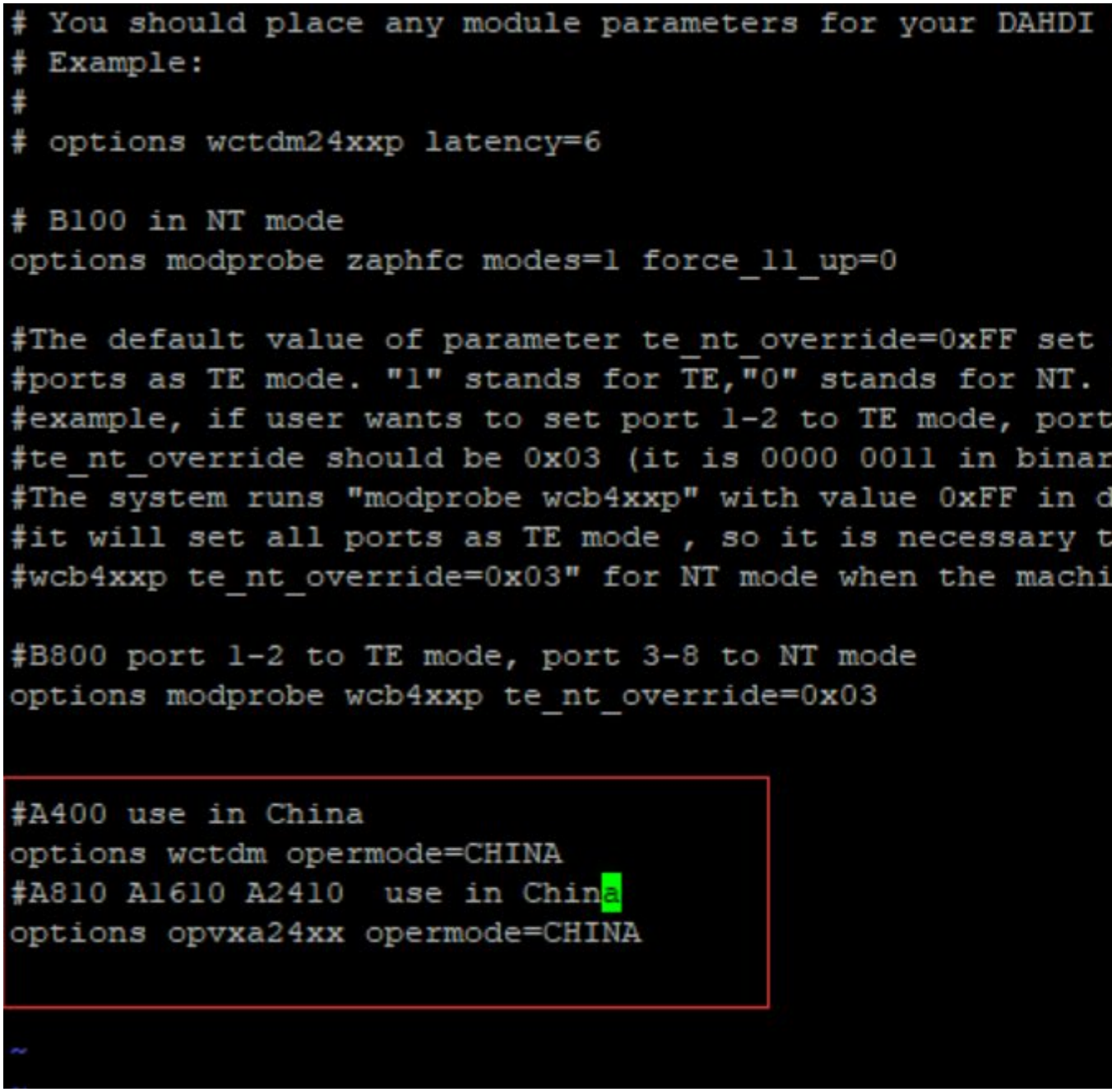
download

Download the DAHDI source code package from the OpenVox official website
https://www.openvoxtech.com/pub/drivers/dahdi-linux-complete/openvox_dahdi-linux-complete-current.tar.gz
Get Asterisk from Digium website:
https://downloads.asterisk.org/pub/telephony/asterisk/asterisk-20-current.tar.gz
Usually run the following command in the directory/etc/src/to download and decompress DAHDI, Asterisk, and Libpri:
#wget https://www.openvoxtech.com/pub/drivers/dahdi-linux-complete/openvox_dahdi-linux-complete-current.tar.gz
#wget https://downloads.asterisk.org/pub/telephony/asterisk/asterisk-20-current.tar.gz
tar -xvzf openvox_dahdi-linux-complete-current.tar.gz
tar –xvzf asterisk-20-current.tar.gz
Dependency package installation:
apt-get update
apt-get install build-essential
apt-get install git
apt-get install linux-headers-`uname -r`
Install Dahdi
Convert the path to the directory of the dahdi linux-comple-XX source code package (XX represents the DAHDI version), and run the following command to install DAHDI:
cd /usr/src/dahdi-linux-complete-XX
make
make install
make config
Install Asterisk
Convert the path to the Asterisk source code package directory (XX represents Asterisk version), and run the following command to install Asterisk:
cd asterisk-20.xx
#contrib/scripts/install_prereq install
. /configure
make
make install
make samples

configuration

Load Driver
After compilation, please run the following instructions to load the driver according to the

corresponding board model:
modprobe dahdi
modprobe wctdm opermode=CHINA（A400）
modprobe opvxa24xx opermode=CHINA (A810,A1610,A2410)
dahdi_genconf -vvv
'opermode' only applies to FXO ports, which means it does not work for FXS. Users can also replace "CHINA" with other national standards, please refer to the document ./dahdi-linux-XX/linux/drivers/dahdi/fxo_modules.h, Obtain other communication standards
Under normal circumstances, after executing the command "dahdi_gengconf", the system will automatically generate two files:/etc/dahdi/system.exe and/etc/asterisk/dahdi-channels.exe. Check if the generated configuration file meets your requirements, or you can manually modify the relevant parameters. It is worth noting that it is confirmed that dahdi-channels.conf is included in chan_dahdi.conf. If not, please run the command:
echo "#include dahdi-channels.conf" >>/etc/asterisk/chan_dahdi.conf
Edit/etc/modprobe. d/dahdi. conf to automatically load opermode parameters upon startup



Add the corresponding board driver to the/etc/dahdi/modules file to achieve automatic loading of board drivers during startup

#cp /etc/dahdi/modules.sample /etc/dahdi/modules

#chmod 0777 /etc/dahdi/modules

#vi /etc/dahdi/modules

```
# Contains the list of modules to be loaded / unloaded b
#
# NOTE:  Please add/edit /etc/modprobe.d/dahdi or /etc/m
#        would like to add any module parameters.
#
# Format of this file: list of modules, each in its own
# Anything after a '#' is ignore, likewise trailing and
# whitespaces and empty lines.

# Digium TE205P/TE207P/TE210P/TE212P: PCI dual-port T1/E
# Digium TE405P/TE407P/TE410P/TE412P: PCI quad-port T1/E
# Digium TE220: PCI-Express dual-port T1/E1/J1
# Digium TE420: PCI-Express quad-port T1/E1/J1


#OpenVox D130
opvxd115

#OpenVox D230
#OpenVox D430
#OpenVox D830
#OpenVox D1630
wct4xxp


#OpenVox B100
zaphfc

#OpenVox B200
#OpenVox B400
#OpenVox B800
wcb4xxp

#OpenVox A400
wctdm

#OpenVox A810
#OpenVox A1610
#OpenVox A2410
opvxa24xx

# Digium TE435
```

Using the A400 board as an example to configure
The FXO port uses fxsks signaling, while the FXS port uses fxoks signaling.
The following shows a portion of the basic channel configuration file/etc/dahdi/systemconf:

```
# Span 1: WCTDM/4 "Wildcard TDM400P REV E/F Board 5" (
fxoks=1
fxoks=2
fxsks=3
fxsks=4

# Global data

loadzone         = us
defaultzone      = us
```

To match the national communication standard, some parameters need to be modified. For example, in China, please modify the parameters loadzone and defaultzone as follows:
loadzone = cn
defaultzone = cn
Users can access the file Search for the country parameter in/dahdi-XX/tools/zonedata. c. In addition, there is another parameter that needs to be modified in/etc/asterisk/identifications. conf:
country=cn
A part of the file/etc/asterisk/dahdi-channels.exe is shown in the figure:

```
span 1: WCTDM/4 "Wildcard TDM400P REV E/F Board 5"
(MASTER)
;;; line="1 WCTDM/4/0 FXOKS"
signalling=fxo_ks
callerid="Channel 1" <4001>
mailbox=4001
group=5
context=from-internal
channel => 1
callerid=
mailbox=
group=
context=default

;;; line="2 WCTDM/4/1 FXOKS"
signalling=fxo_ks
callerid="Channel 2" <4002>
mailbox=4002
group=5
context=from-internal
channel => 2
callerid=
mailbox=
group=
context=default

;;; line="3 WCTDM/4/2 FXSKS"
signalling=fxs_ks
callerid=asreceived
group=0
context=from-pstn
channel => 3
callerid=
group=
context=default

;;; line="4 WCTDM/4/3 FXSKS"
signalling=fxs_ks
callerid=asreceived
group=0
context=from-pstn
channel => 4
```

After confirming the system. conf and dahdi channels. conf files, execute the following command:

dahdi_cfg –vvvvv

This command will read and load parameters from the file system.exe into the hardware. Part of the output result of the instruction execution is displayed as shown below.

```
Channel map:

Channel 01: FXO Kewlstart (Default) (Echo Canceler: no
Channel 02: FXO Kewlstart (Default) (Echo Canceler: no
Channel 03: FXS Kewlstart (Default) (Echo Canceler: no
Channel 04: FXS Kewlstart (Default) (Echo Canceler: no

4 channels to configure.

Setting echocan for channel 1 to none
Setting echocan for channel 2 to none
Setting echocan for channel 3 to none
Setting echocan for channel 4 to none
```

Start Asterisk

asterisk -vvvvvgc

If Asterisk is already running, run 'asterisk-r' instead. In the CLI interface, please run:

```
localhost*CLI> dahdi show channels

Chan Extension  Context          Language   MOH Inter
Pseudo          default                      default
      1         from-internal                default
      2         from-internal                default
      3         from-pstn                    default
      4         from-pstn                    default
```

If all channels display correctly, it means that DAHDI has been successfully loaded into Asterisk.

Next, please set the dialing plan.

Write a dialing plan

Please write a dial plan in the extensions.onf file. The following diagram illustrates a simple

inbound and outbound plan:

vim /etc/asterisk/extensions.conf

In this example, analog cards 1 and 2 are connected to analog phones via FXS ports, while ports 3 and 4 are connected to PSTN lines via FXO ports

When a call comes in from the PSTN line, the analog phone connected to HDMI/1 (the first port of the board) rings

[from-pstn]

exten => s,1,Answer()

exten => s,n,Dial(dahdi/1,,r)

exten => s,n,Hangup()

When the analog phone is called out, it will be sent out through the third port of the board (dahdi/3)

[from-internal]

exten => _X.,1,Dial(dahdi/3/outgoing_number)

exten => _X.,2,Hangup()

After setting up the dial plan, please run "asterisk-r" and execute the command "dialplan reload" in the CLI interface, and then you can dial