testing environment

Dahdi-3.2.0
Asterisk-20
Libpri-1.6.0

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 Libpri from Digium website:
https://downloads.asterisk.org/pub/telephony/libpri/libpri-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
#wget https://downloads.asterisk.org/pub/telephony/libpri/libpri-current.tar.gz
tar -xvzf openvox_dahdi-linux-complete-current.tar.gz
tar –xvzf asterisk-20-current.tar.gz
tar –xvzf libpri-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

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 libpri
Convert the path to the directory where the libpri source code package is located, and run

the following command to install Libpri:

cd libpri-XX

make

make install

Compilation encountered issues

```
gcc -g  -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -fPIC  -O2
gcc -g  -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -fPIC  -O2
q921.c: In function 'q921_dump':
q921.c:1333:85: error: array subscript 0 is outside the bounds of an interi
 1333 |                 if ((h->u.ft == 3) && (h->u.m3 == 0) && (h->u.m2 ==
      |
In file included from pri_internal.h:35,
                 from q921.c:38:
```

Solution: Annotate the - all line in the libss7-1.6.0/Makefile file file

```
        rose_qsig_aoc.o \
        rose_qsig_cc.o \
        rose_qsig_ct.o \
        rose_qsig_diversion.o \
        rose_qsig_mwi.o \
        rose_qsig_name.o \
        version.o
DYNAMIC_OBJS= \
        $(STATIC_OBJS)
CFLAGS ?= -g
CFLAGS += $(CPPFLAGS)
#CFLAGS += -Wall -Werror -Wstrict-prot
CFLAGS += -fPIC $(ALERTING) $(LIBPRI_O
INSTALL_PREFIX=$(DESTDIR)
INSTALL_BASE=/usr
libdir?=$(INSTALL_BASE)/lib
ifneq ($(findstring Darwin,$(OSARCH)),
```

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

Dependency package installation

#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:

The corresponding driver for the d130 board is opvxd115, d230, d430, d830, and d1630, and the corresponding driver for d1630 is wct4xxp

modprobe dahdi

modprobe opvxd115（D130）

modprobe wct4xxp (D230,D430,D830,D1630)

dahdi_genconf -vvv

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

Add corresponding board drivers to/etc/dahdi/modules to achieve automatic loading of board drivers upon startup

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

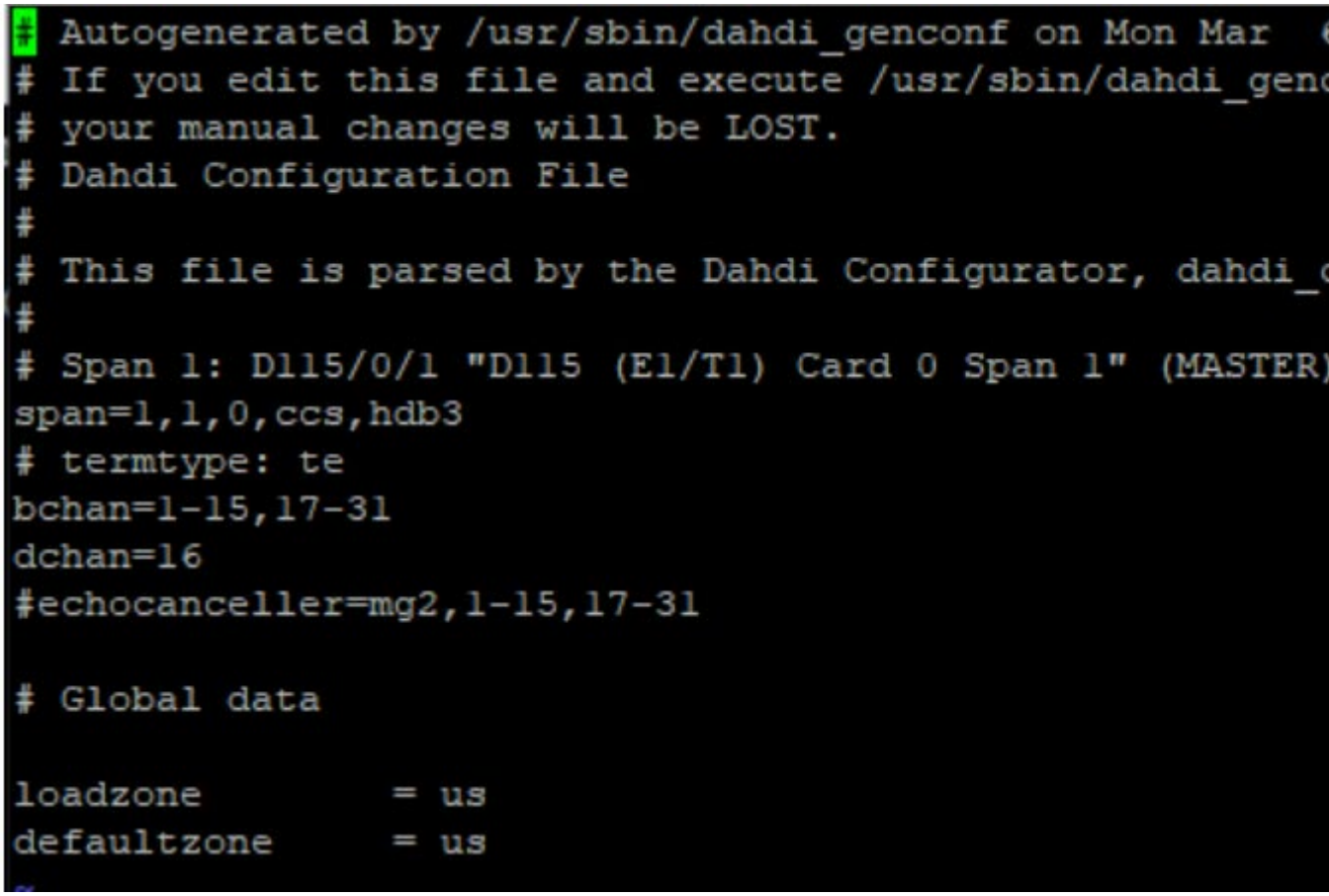
#chmod 0777 /etc/dahdi/modules

#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 D130 board as an example to configure

The following shows a portion of the basic channel configuration file/etc/dahdi/systemconf:



Annotate the echocanceler line

Determine whether crc4 verification needs to be enabled

If the E1 operator has not enabled crc4 verification, crc4 needs to be removed and modified to

span=1,1,0,ccs,hdb3

In China, operators generally do not enable crc4

A part of the file/etc/asterisk/dahdi-channels.exe is shown in the figure:

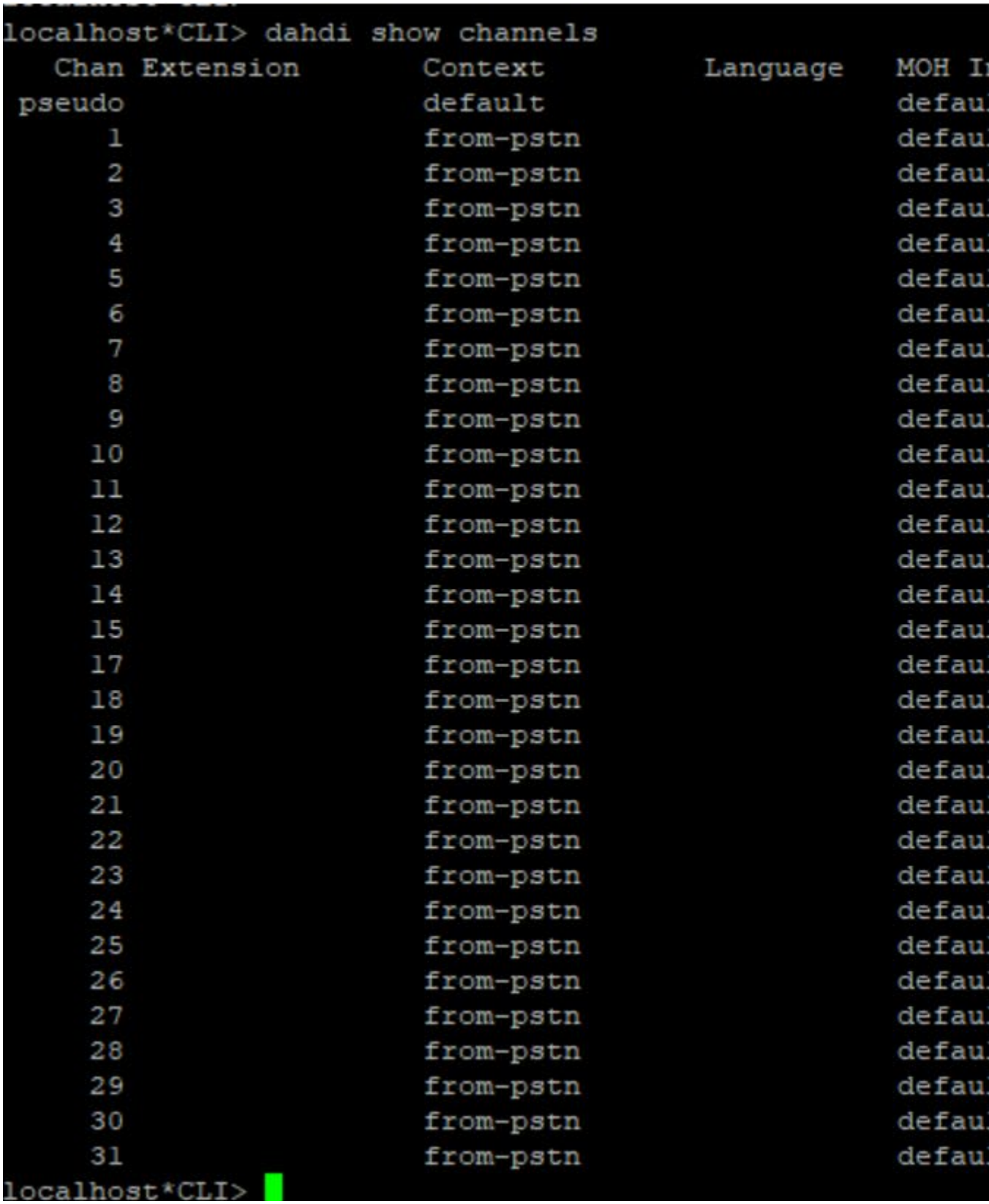
After confirming the system. conf and dahdi channels. conf files, execute the following command:

dahdi_cfg –vvvvv

```
[root@localhost dahdi-linux-complete-3.2.0+3.2.0]# dahdi
DAHDI Tools Version - 3.2.0

DAHDI Version: 3.2.0
Echo Canceller(s): HWEC
Configuration
======================

SPAN 1: CCS/HDB3 Build-out: 0 db (CSU)/0-133 feet (DSX-1

31 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
Setting echocan for channel 5 to none
Setting echocan for channel 6 to none
Setting echocan for channel 7 to none
Setting echocan for channel 8 to none
Setting echocan for channel 9 to none
Setting echocan for channel 10 to none
Setting echocan for channel 11 to none
Setting echocan for channel 12 to none
Setting echocan for channel 13 to none
Setting echocan for channel 14 to none
Setting echocan for channel 15 to none
Setting echocan for channel 16 to none
Setting echocan for channel 17 to none
Setting echocan for channel 18 to none
Setting echocan for channel 19 to none
Setting echocan for channel 20 to none
Setting echocan for channel 21 to none
Setting echocan for channel 22 to none
Setting echocan for channel 23 to none
Setting echocan for channel 24 to none
Setting echocan for channel 25 to none
Setting echocan for channel 26 to none
Setting echocan for channel 27 to none
Setting echocan for channel 28 to none
Setting echocan for channel 29 to none
Setting echocan for channel 30 to none
```

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.

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



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:
vi /etc/asterisk/extensions.conf

When a call comes in from the E1 card, cc welcome voice will be played
[from-pstn]
exten => _X.,1,Answer()   ; answer the inbound call
exten => _X.,n,Playback(cc_welcome)
exten => _X.,n,Hangup()

When the extension is set to 'from internet', outgoing calls will be sent from the E1 card dahdi/g0, with ${INTERN} being the called number
[from-internal]
exten => _X.,1,Dial(dahdi/g0/${EXTEN})
exten => _X.,n,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