

## 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](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:
pri_q921.h:135:18: note: while referencing 'data'
```

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 -vv
```

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 by
#
# NOTE: Please add/edit /etc/modprobe.d/dahdi or /etc/modprobe.d/
#       would like to add any module parameters.
#
# Format of this file: list of modules, each in its own line
# Anything after a '#' is ignored, likewise trailing and leading
# whitespaces and empty lines.
```

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

```
Autogenerated by /usr/sbin/dahdi_genconf on Mon Mar 6
# If you edit this file and execute /usr/sbin/dahdi_genconf
# your manual changes will be LOST.
# Dahdi Configuration File
#
# This file is parsed by the Dahdi Configurator, dahdi_conf
#
# Span 1: D115/0/1 "D115 (E1/T1) Card 0 Span 1" (MASTER)
span=1,1,0,ccs,hdb3
# termtype: te
bchan=1-15,17-31
dchan=16
#echocanceller=mg2,1-15,17-31

# Global data

loadzone      = us
defaultzone   = us
```

Annotate the echocanceller 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.conf is shown in the figure:

```
: Autogenerated by /usr/sbin/dahdi_genconf on Mon Mar 04 14:56:12 2002
; If you edit this file and execute /usr/sbin/dahdi_genconf,
; your manual changes will be LOST.
; Dahdi Channels Configurations (chan_dahdi.conf)
;
; This is not intended to be a complete chan_dahdi.conf
; to be #include-d by /etc/chan_dahdi.conf that will include
;
;
; Span 1: D115/0/1 "D115 (E1/T1) Card 0 Span 1" (MASTER)
group=0,11
context=from-pstn
switchtype = euroisdn
signalling = pri_cpe
channel => 1-15,17-31
context = default
group = 63
```

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 -vvvvgc
```

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 Id
pseudo		default		default
1		from-pstn		default
2		from-pstn		default
3		from-pstn		default
4		from-pstn		default
5		from-pstn		default
6		from-pstn		default
7		from-pstn		default
8		from-pstn		default
9		from-pstn		default
10		from-pstn		default
11		from-pstn		default
12		from-pstn		default
13		from-pstn		default
14		from-pstn		default
15		from-pstn		default
17		from-pstn		default
18		from-pstn		default
19		from-pstn		default
20		from-pstn		default
21		from-pstn		default
22		from-pstn		default
23		from-pstn		default
24		from-pstn		default
25		from-pstn		default
26		from-pstn		default
27		from-pstn		default
28		from-pstn		default
29		from-pstn		default
30		from-pstn		default
31		from-pstn		default

```
localhost*CLI> █
```

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.conf 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