Step by Step Guide

BRI Card Installation

Elastix 2.2.0

Step by Step Guide

BRI Card Installation

(with Elastix-2.2.0)

Version 1.0

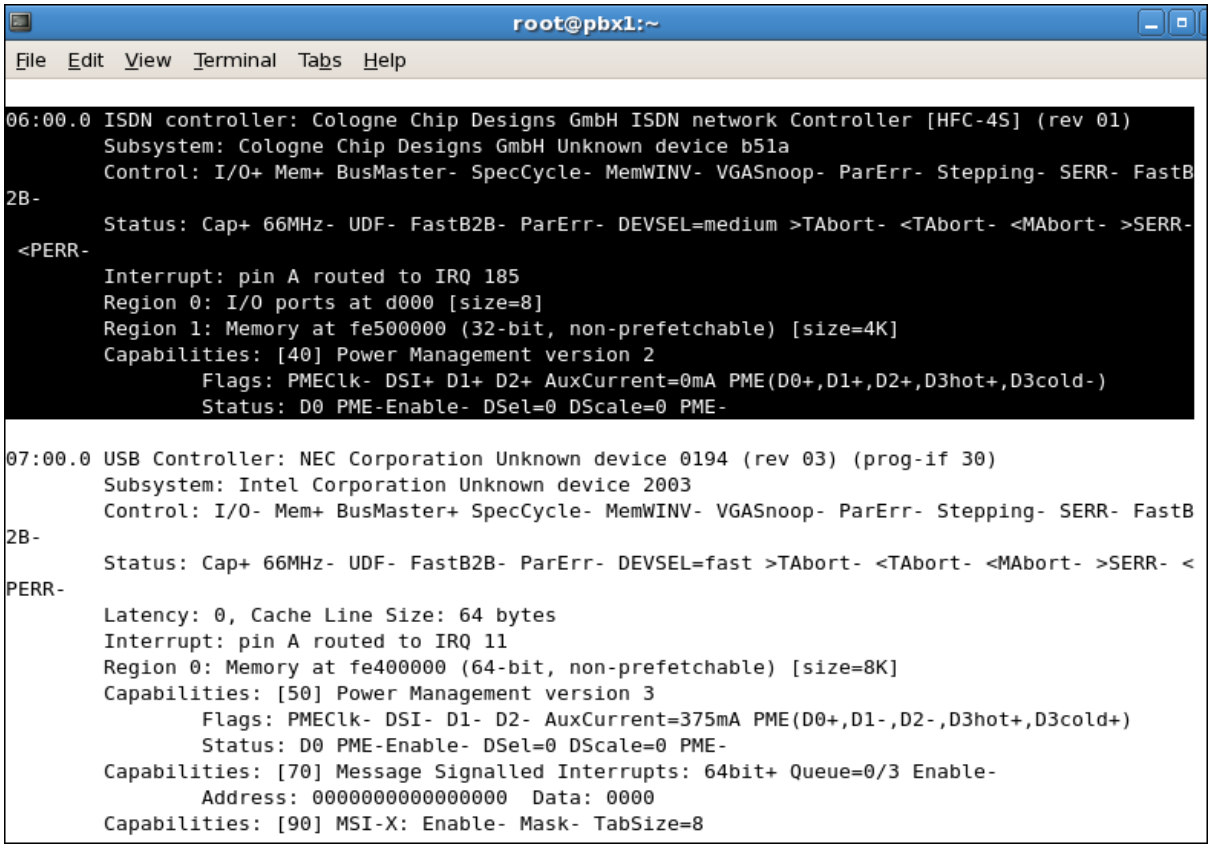
Table of Contents

Hardware Setup

1. Insert the BRI (PCI/PCIe) card in the corresponding slot
2. Check if the installed BRI card is detected using the below command

```
[root@pbx1 ~]# lspci -vvvvv
```

3. Check the output of the given command and ensure if there is a **Cologne chip Unknown device** with subsystem id **b51a**



Software Installation

To use Allo.com BRI card in Elastix, you have to reinstall dahdi-linux with the driver of CB400P/CB400E. Dahdi includes two software: dahdi-linux and dahdi-tools, here you just need to download dahdi-linux driver of CB400P/CB400E, then reinstall dahdi-linux with the driver of CB400P/CB400E.

1. Go to `/usr/src` directory
2. Download the DAHDI driver with tools, which are available at http://www.allo.com/isdn-bri-card.html under 'Drivers and Manuals'.

```
#wget http://www.allo.com/firmware/bri-card/allo-dahdi-
drivers/dahdi-linux-complete-2.5.0.1+2.5.0.1.tar.gz
```

3. Expand the downloaded file and enter into that directory.

```
[root@pbx1 ~]#tar -xvzf dahdi-linux-complete-
2.5.0.1+2.5.0.1.tar.gz
```

4. Before reinstalling dahdi-linux, you had better stop asterisk and dahdi in your server. Please use the following command to stop asterisk and dahdi

```
[root@pbx1 ~]#amportal stop
[root@pbx1 ~]#service dahdi stop
```

5. Please use the following command to reinstall the DAHDI

```
 [root@localhost dahdi-linux-x.x.x]#make clean

 [root@localhost dahdi-linux-x.x.x]#make
 [root@localhost dahdi-linux-x.x.x]#make install
```

6. During step 5, if you do not get any error information, it means that you have reinstalled dahdi successfully; if you get any error information, you have to check the error and fix it, then run the installation command above again.
7. Please add the line "allo4xxp" at the end of the file in /etc/dahdi/modules and run "service dahdi start" command to start dahdi.

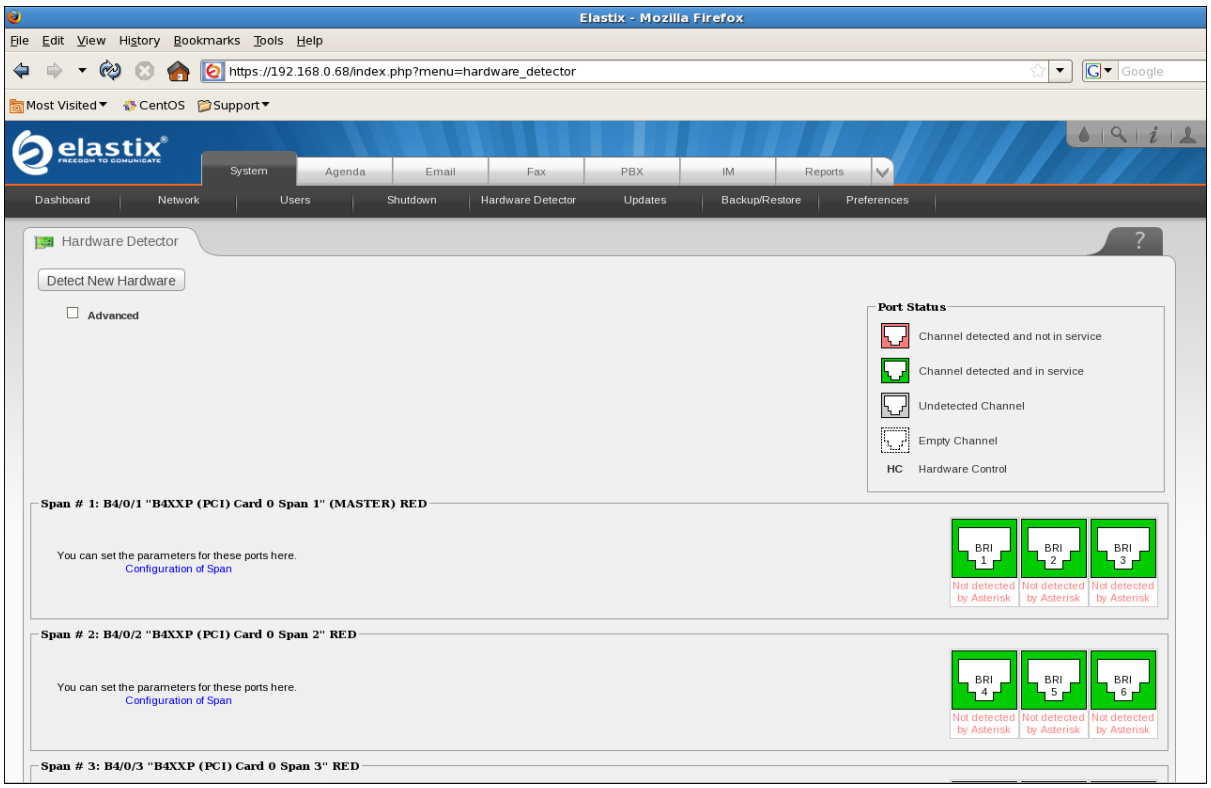
```
[root@pbx1 ~]#service dahdi start
```

Software Configuration

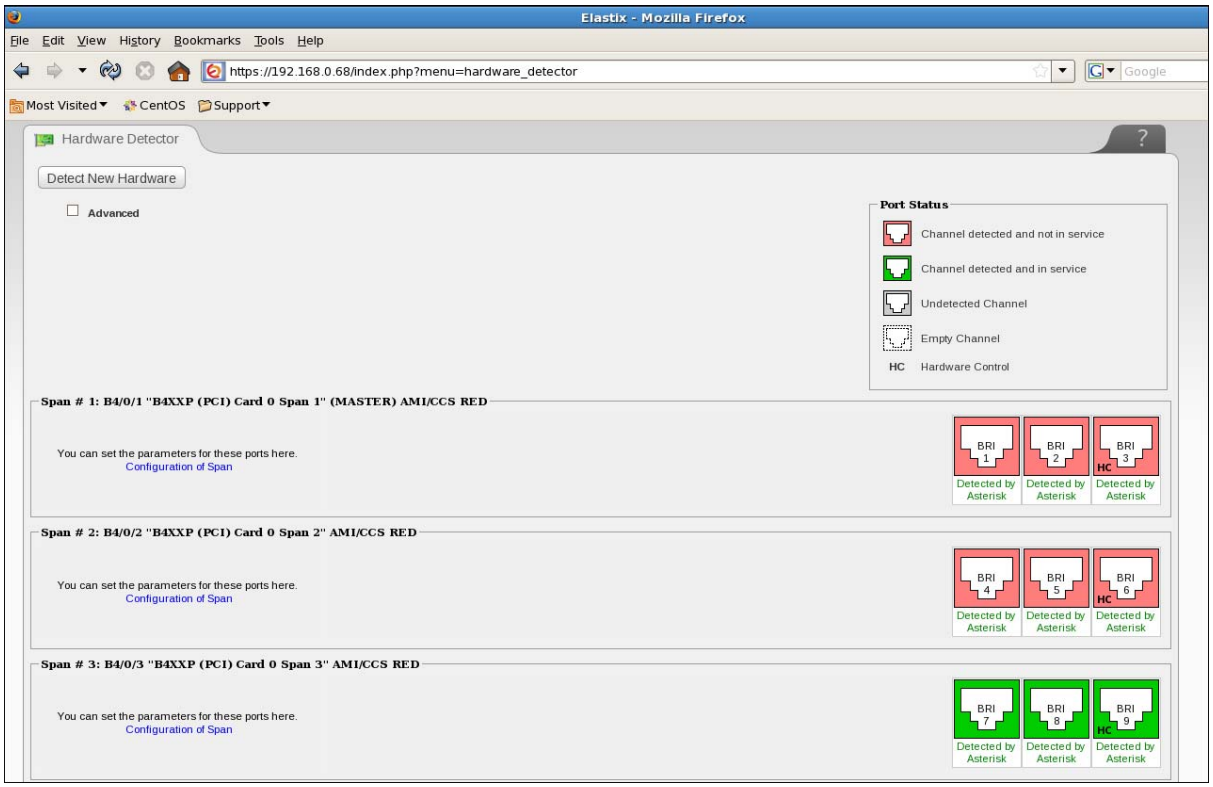
You have two ways to configure the software; configure via web page or via command line

Configure via webpage:

1. Input your IP of Elastix-2.2.0 (For example – 192.168.0.68) in the address bar, When you see the Elastix web page (Username: - admin, Password: - palosanto), Click Hardware detection.



2. Configuration of spans can be done through web interface itself. Click “Configuration of span” on each span and configure channels, after that you will see.



If you can see all the spans detected by asterisk, which means your CB400P/CB400E card is ready to make calls using these configured channels.

Configure via command line

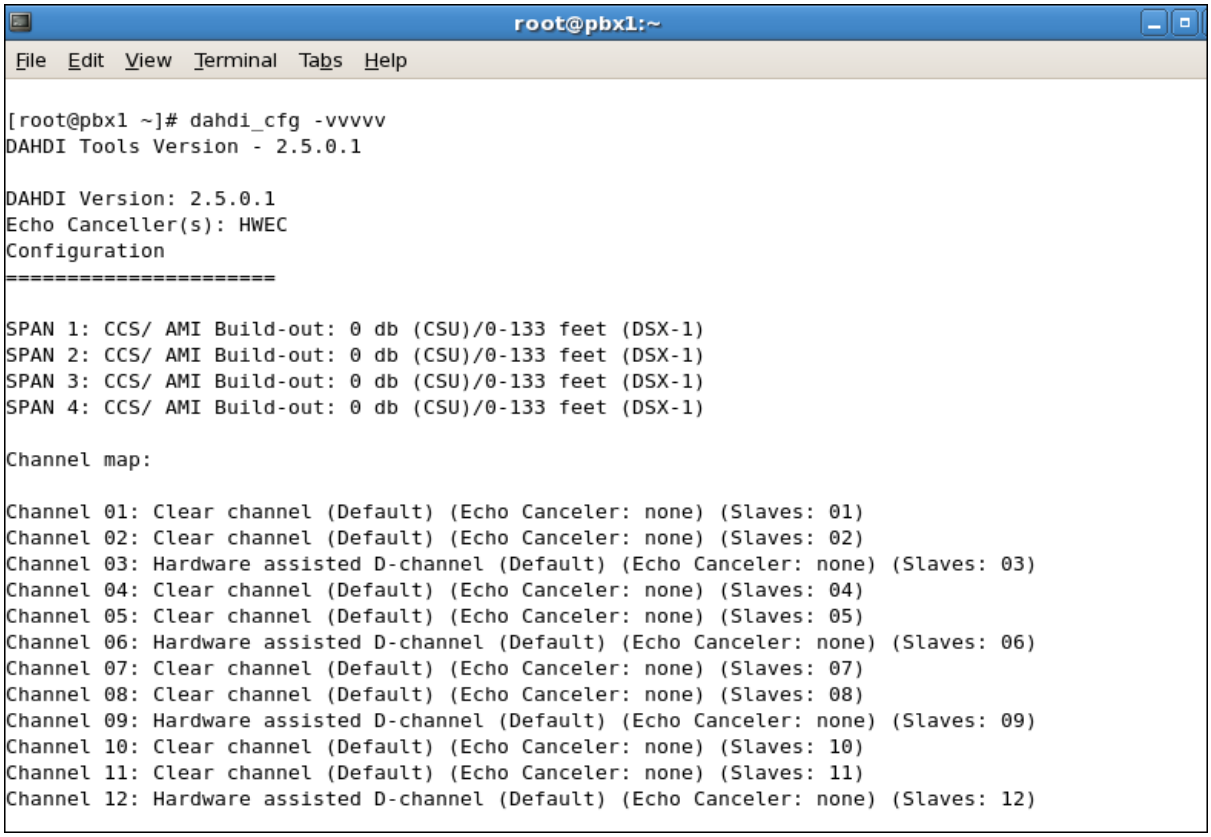
1. Please run the following command to configure the /etc/dahdi/system.conf and /etc/asterisk/dahdi-channels.conf file automatically.

```
[root@pbx1 ~]# dahdi_genconf
```

It does not show any output if dahdi_genconf runs successfully.

```
[root@pbx1 ~]# dahdi_cfg –vvvvvvv
```

You can get some information of all the channels as shown in screenshot, if dahdi_cfg –vv command runs successfully.


root@pbx1:~
File Edit View Terminal Tabs Help
[root@pbx1 ~]# dahdi_cfg -vvvvv
DAHDI Tools Version - 2.5.0.1
DAHDI Version: 2.5.0.1
Echo Canceller(s): HWEC
Configuration
SPAN 1: CCS/ AMI Build-out: 0 db (CSU)/0-133 feet (DSX-1)
SPAN 2: CCS/ AMI Build-out: 0 db (CSU)/0-133 feet (DSX-1)
SPAN 3: CCS/ AMI Build-out: 0 db (CSU)/0-133 feet (DSX-1)
SPAN 4: CCS/ AMI Build-out: 0 db (CSU)/0-133 feet (DSX-1)
Channel map:
Channel 01: Clear channel (Default) (Echo Canceler: none) (Slaves: 01)
Channel 02: Clear channel (Default) (Echo Canceler: none) (Slaves: 02)
Channel 03: Hardware assisted D-channel (Default) (Echo Canceler: none) (Slaves: 03)
Channel 04: Clear channel (Default) (Echo Canceler: none) (Slaves: 04)
Channel 05: Clear channel (Default) (Echo Canceler: none) (Slaves: 05)
Channel 06: Hardware assisted D-channel (Default) (Echo Canceler: none) (Slaves: 06)
Channel 07: Clear channel (Default) (Echo Canceler: none) (Slaves: 07)
Channel 08: Clear channel (Default) (Echo Canceler: none) (Slaves: 08)
Channel 09: Hardware assisted D-channel (Default) (Echo Canceler: none) (Slaves: 09)
Channel 10: Clear channel (Default) (Echo Canceler: none) (Slaves: 10)
Channel 11: Clear channel (Default) (Echo Canceler: none) (Slaves: 11)
Channel 12: Hardware assisted D-channel (Default) (Echo Canceler: none) (Slaves: 12)

2. To check whether it has finished the configuration, please open the system.conf file

```
[root@pbx1 ~]# vi /etc/dahdi/system.conf
```

```
# Autogenerated by /usr/sbin/dahdi_genconf on Fri Aug 10 11:28:22 2012
# If you edit this file and execute /usr/sbin/dahdi_genconf again,
# your manual changes will be LOST.
# Dahdi Configuration File
#
# This file is parsed by the Dahdi Configurator, dahdi_cfg
#
# Span 1: B4/0/1 "ALLO4XXP (PCI) Card 0 Span 1" (MASTER) AMI/CCS RED
span=1,1,0,ccs,ami
# termtype: te
bchan=1-2
hardhdlc=3
echocanceller=mg2,1-2

# Span 2: B4/0/2 "ALLO4XXP (PCI) Card 0 Span 2" AMI/CCS RED
span=2,2,0,ccs,ami
# termtype: te
bchan=4-5
hardhdlc=6
echocanceller=mg2,4-5

# Span 3: B4/0/3 "ALLO4XXP (PCI) Card 0 Span 3" AMI/CCS RED
span=3,3,0,ccs,ami
# termtype: te
bchan=7-8
hardhdlc=9
echocanceller=mg2,7-8

# Span 4: B4/0/4 "ALLO4XXP (PCI) Card 0 Span 4" AMI/CCS RED
span=4,4,0,ccs,ami
# termtype: te
bchan=10-11
hardhdlc=12
echocanceller=mg2,10-11

# Global data

loadzone        = us
defaultzone     = us
```

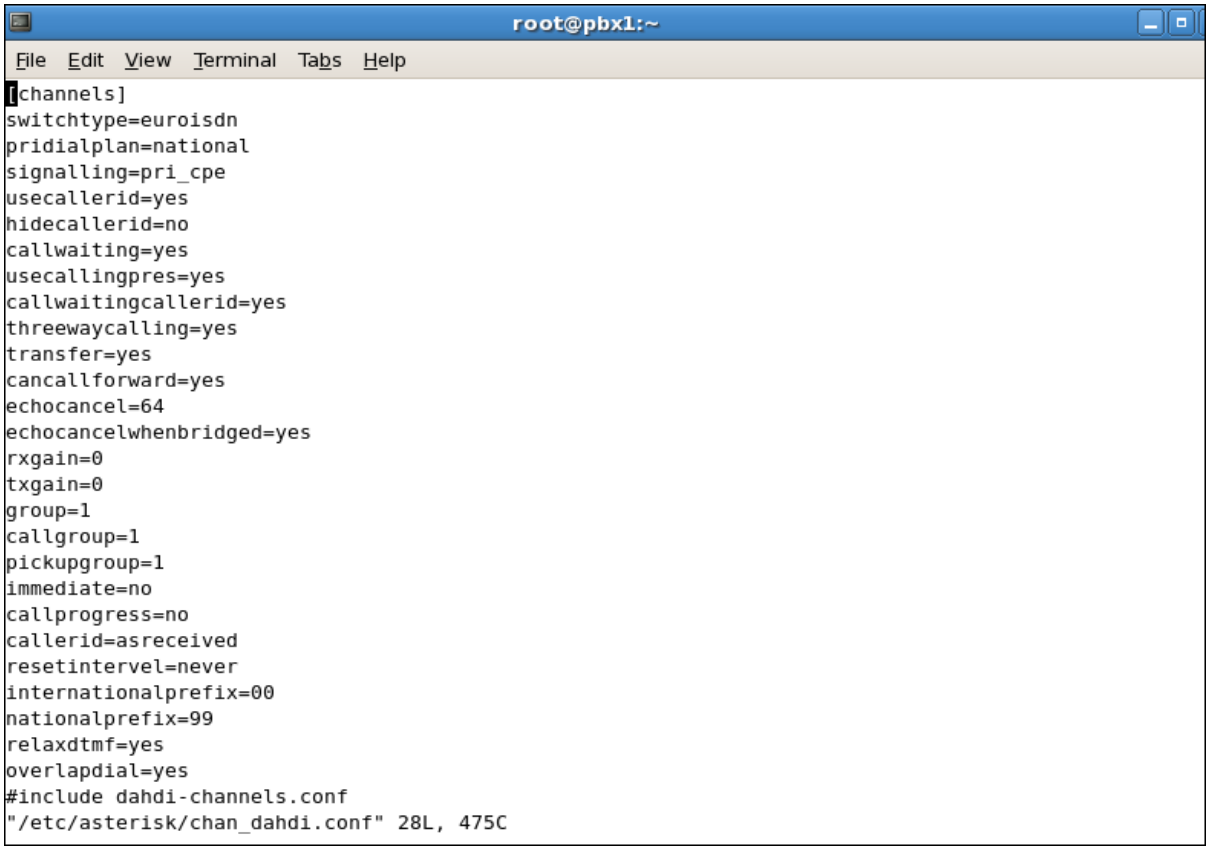
3. Configure file /etc/dahdi/system.conf and /etc/asterisk/dahdi-channels.conf manually,

   If you are using E1, you can configure the two files like the following:

   Here is an example of `dahdi-channels.conf` file

```
; This is not intended to be a complete chan_dahdi.conf. Rather, it is intended
; to be #include-d by /etc/chan_dahdi.conf that will include the global settings
;

; Span 1: B4/0/1 "ALLO4XXP (PCI) Card 0 Span 1" (MASTER) AMI/CCS RED
group=0,11
context=from-pstn
switchtype = euroisdn
signalling = bri_cpe_ptmp
channel => 1-2
context = default
group = 63

; Span 2: B4/0/2 "ALLO4XXP (PCI) Card 0 Span 2" AMI/CCS RED
group=0,12
context=from-pstn
switchtype = euroisdn
signalling = bri_cpe_ptmp
channel => 4-5
context = default
group = 63

; Span 3: B4/0/3 "ALLO4XXP (PCI) Card 0 Span 3" AMI/CCS RED
group=0,13
context=from-pstn
switchtype = euroisdn
signalling = bri_cpe_ptmp
channel => 7-8
context = default
group = 63

; Span 4: B4/0/4 "ALLO4XXP (PCI) Card 0 Span 4" AMI/CCS RED
group=0,14
context=from-pstn
switchtype = euroisdn
signalling = bri_cpe_ptmp
channel => 10-11
context = default
group = 63
```

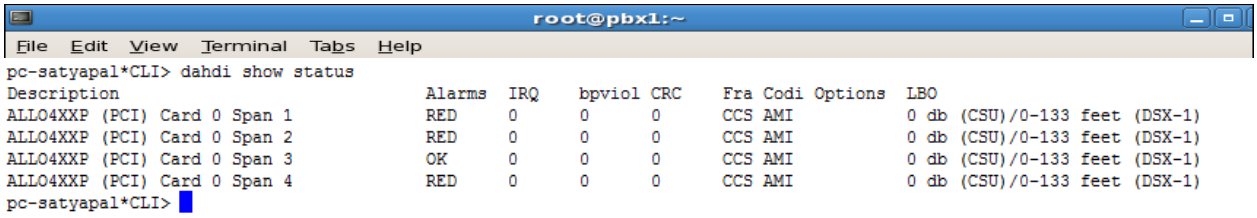
Another example of a typical `chan_dahdi.conf` file



4. Start the asterisk and connect the Asterisk CLI

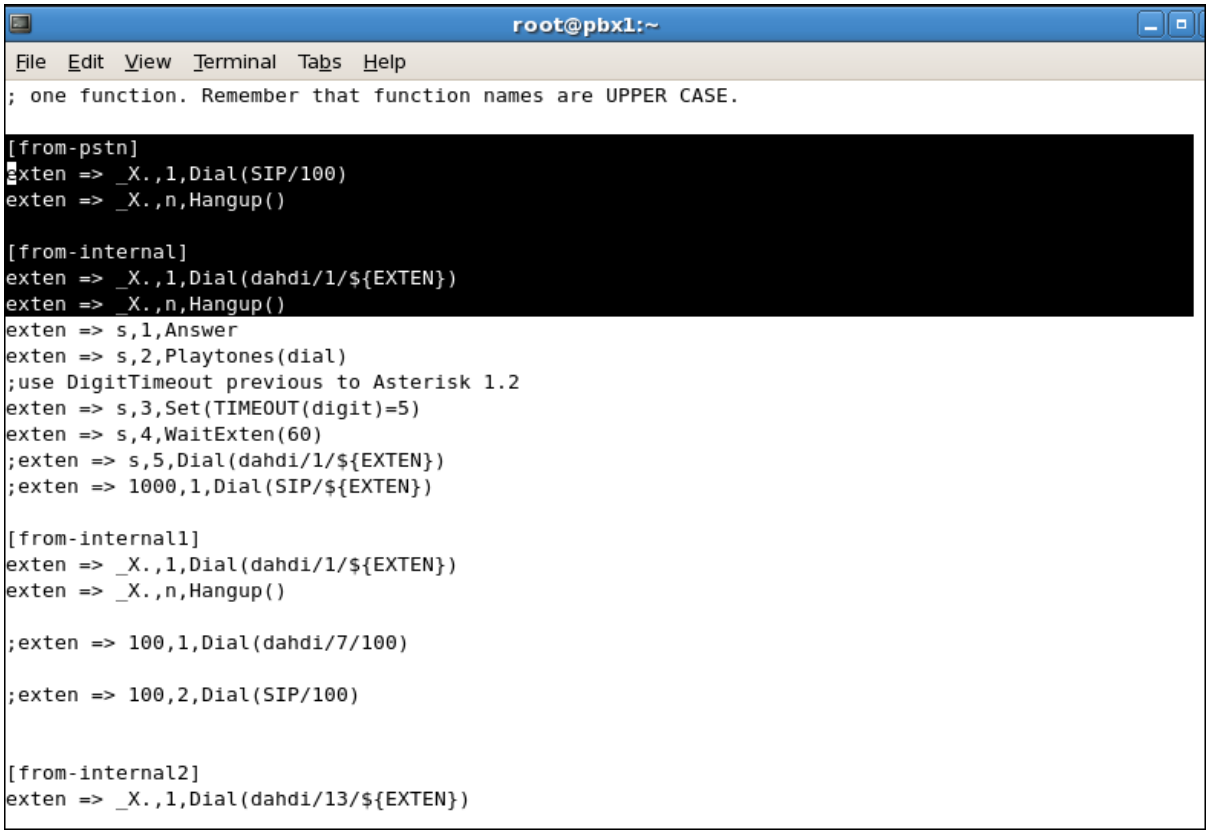
```
[root@pbx1 ~]# /etc/init.d/asterisk start
```

5. Check the status of configured DAHDI channels in asterisk console



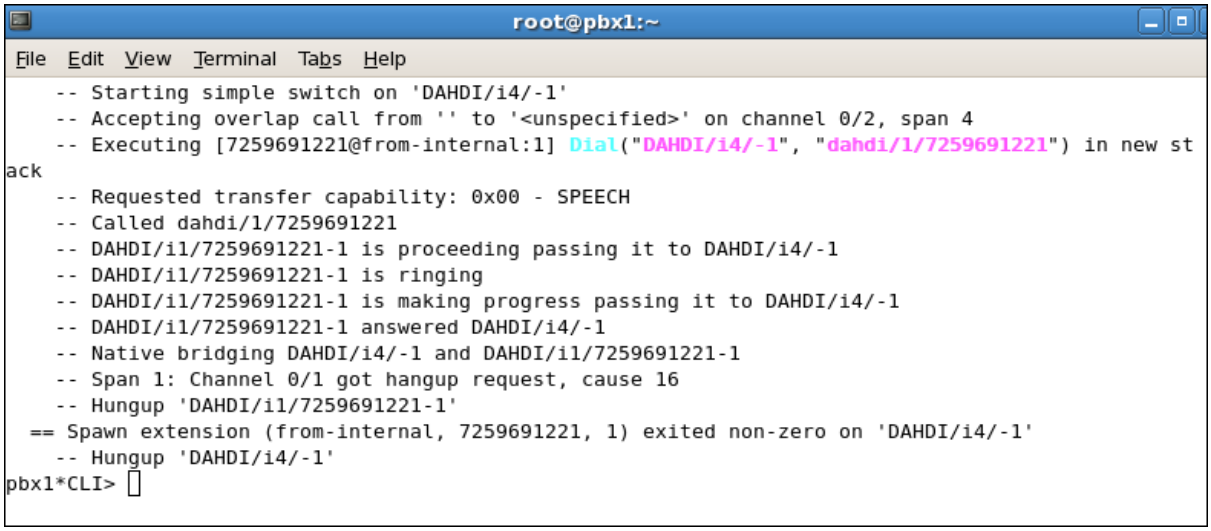
6. If you can see the four spans, that means CB400P/CB400E is OK now. At this point we are ready to write a Dial Plan in /etc/asterisk/extensions.conf.

Here is an example of writing Dial Plan syntax to make a outbound and inbound calls.



Now the system is ready to make calls.

Here is an example output of outbound call which is using DAHDI channel 1.


root@pbx1:~
File Edit View Terminal Tabs Help
-- Starting simple switch on 'DAHDI/i4/-1'
-- Accepting overlap call from '' to '<unspecified>' on channel 0/2, span 4
-- Executing [7259691221@from-internal:1] Dial("DAHDI/i4/-1", "dahdi/1/7259691221") in new st
ack
-- Requested transfer capability: 0x00 - SPEECH
-- Called dahdi/1/7259691221
-- DAHDI/i1/7259691221-1 is proceeding passing it to DAHDI/i4/-1
-- DAHDI/i1/7259691221-1 is ringing
-- DAHDI/i1/7259691221-1 is making progress passing it to DAHDI/i4/-1
-- DAHDI/i1/7259691221-1 answered DAHDI/i4/-1
-- Native bridging DAHDI/i4/-1 and DAHDI/i1/7259691221-1
-- Span 1: Channel 0/1 got hangup request, cause 16
-- Hungup 'DAHDI/i1/7259691221-1'
== Spawn extension (from-internal, 7259691221, 1) exited non-zero on 'DAHDI/i4/-1'
-- Hungup 'DAHDI/i4/-1'
pbx1*CLI>