

E1/T1 PRI Card 2nd Generation

Quick Installation Guide

E1/T1/J1 PRI Card

Second Generation

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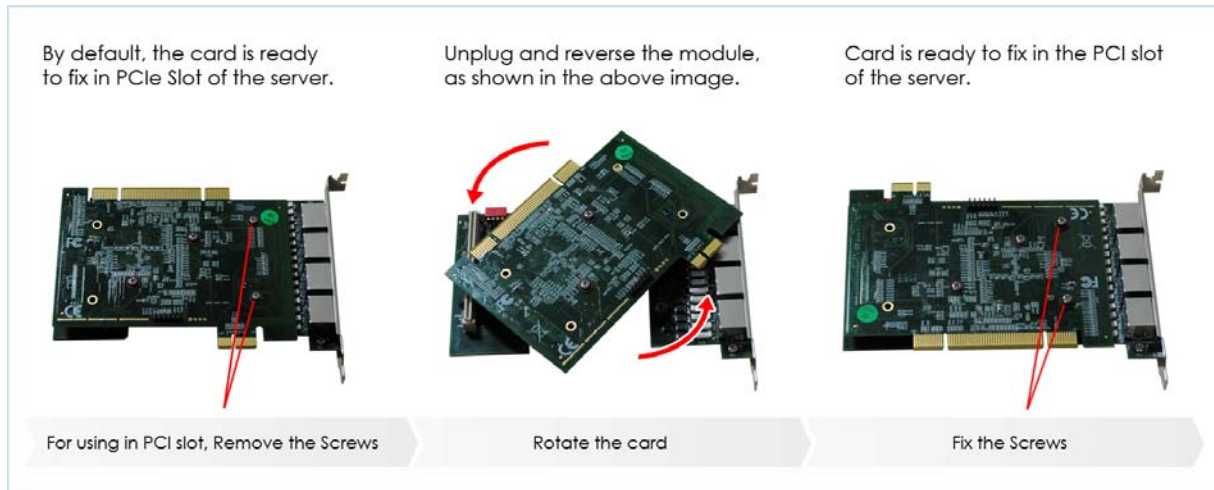
Version 1.0

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Hardware Setup

1) Customization of the Second gen PRI card to use in PCI / PCIe server slot.



2) Insert the Second Gen 4 port PRI (PCI/PCIe) card in the corresponding PCI/PCIe slot of the Server.



3) Check if the installed PRI card is detected using the below command

lspci

If the card has been recognized, it will be displayed in the output information.

```
[trixbox1.localdomain ~]# lspci
10:00.0 Non-VGA unclassified device: Digium, Inc. Unknown device 1420
1a:00.0 Non-VGA unclassified device: Digium, Inc. Unknown device 1420
```

Note: If the PRI card is not recognized by the system, you have to power off and take out the card, and then insert it into another PCI-E slot.

Software Installation Steps:

Test Environment

Libpri-1.4.14
 dahdi-linux-complete-2.7.0
 asterisk-11.4.0
 centos 6.2 (kernel version: 2.6.32)

Installation of Pre requisite packages:

Install all of Asterisk's dependencies that are required to compile asterisk.
 Run the followings commands to install the required packages needed for compiling drivers from source.

```
[root@localhost ~]# yum install bison bison-devel ncurses ncurses-devel zlib zlib-devel openssl openssl-devel gnutls-devel gcc gcc-c++ libxml2
```

Installation of Libpri package

Go to /usr/src directory and Download libpri by running the following command

```
[root@localhost src]# wget http://downloads.asterisk.org/pub/telephony/libpri/libpri-1.4.14.tar.gz
```

After downloading LibPri extract the LibPri tar file by the command

```
[root@localhost src]# tar -xvzf libpri-1.4.14.tar.gz
```

Install the LibPri by following the commands

```
[root@localhost src]# cd libpri-1.4.14
# make clean
# make
#make install
```

Installation of Dahdi Driver

Download the DAHDI driver with tools, which are available at <http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/>

Download latest Dahdi Driver (Dahdi 2.7.0) from the using the following command

```
#wget http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/dahdi-linux-complete-2.7.0+2.7.0.tar.gz
```

Extract the downloaded file and enter into that directory

```
# tar -xvzf dahdi-linux-complete-2.7.0+2.7.0.tar.gz
```

Use the following commands to install DAHDI drivers

```
# cd dahdi-linux-complete-2.7.0+2.7.0
```

```
#make
#make install
#make config
```

Successful Dahdi Driver installation shows the similar output & list the detected Dahdi devices

```
#####
###
### DAHDI tools installed successfully.
### If you have not done so before, install init scripts with:
###
###   make config
###
#####
make[1]: Leaving directory `/usr/src/dahdi-linux-complete-2.7.0+2.7.0/tools'
make -C tools config
make[1]: Entering directory `/usr/src/dahdi-linux-complete-2.7.0+2.7.0/tools'
install -D dahdi.init /etc/rc.d/init.d/dahdi
install -D ifup-hdlc /etc/sysconfig/network-scripts/ifup-hdlc
/sbin/chkconfig --add dahdi
DAHDI has been configured.

List of detected DAHDI devices:

pci:0000:01:00.0      wct4xxp-      d161:1420 Wildcard TE420 (5th Gen)
pci:0000:02:00.0      wct4xxp-      d161:1420 Wildcard TE420 (5th Gen)

run 'dahdi_genconf modules' to load support for only
the DAHDI hardware installed in this system.  By
default support for all DAHDI hardware is loaded at
DAHDI start.
make[1]: Leaving directory `/usr/src/dahdi-linux-complete-2.7.0+2.7.0/tools'
```

Installation of Asterisk:

Download the latest version of asterisk. Asterisk is available for download from:

<http://downloads.asterisk.org/pub/telephony/asterisk/>

After downloading asterisk, extract the asterisk tar file by giving following command.

```
#wget http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-11-current.tar.gz
```

Go to asterisk folder and compile the packages as shown in the screenshot

To install asterisk give the following commands:

```
[root@pbx1 asterisk-11.4.0]# ./configure
#make
# make install
# make config
```

If this is your first Asterisk Install, you should install the sample configuration files, to do this run:

```
# make samples
```

Software Configurations:

After compiling and installing DAHDI and Asterisk, load the Dahdi driver by running:

```
# /etc/init.d/dahdi start
# dahdi_genconf -vvv
```

If there is any error, please trace the cause. Until all errors are clear up, you should execute "dahdi_genconf" again, and then go to the next step.

By running "**dahdi_genconf**", it will generate /etc/dahdi/system.conf and etc/asterisk/dahdi-channels.conf automatically. Checking whether the generated files information agrees with your hardware setup, if not, you should modify to your specific requirements.

```
[root@localhost ~]# dahdi_genconf -vvv
Default parameters from /etc/dahdi/genconf_parameters
Generating /etc/dahdi/system.conf
Generating /etc/asterisk/dahdi-channels.conf
```

Do not forget to confirm dahdi-channels.conf is included in chan_dahdi.conf to configure dahdi channels with asterisk, if not, run command:

```
# echo "#include dahdi-channels.conf" >> /etc/asterisk/chan_dahdi.conf
```

Execute the following command:

```
# dahdi_cfg -vvvvvv
```

This command is used for reading and loading parameters in the configuration file system.conf and writing to the hardware.

Start the Asterisk by executing

```
# asterisk -gvvvvvvvvvc
```

Makesure that PRI spans are up and active, before making calls. Here is the command to check the pri span status

```
CLI> pri show spans
```

```
trixbox1*CLI> pri show spans
PRI span 1/0: Provisioned, Up, Active
PRI span 2/0: Provisioned, Up, Active
PRI span 3/0: Provisioned, Up, Active
PRI span 4/0: Provisioned, In Alarm, Up, Active
```

If you face any issues, please contact the reseller from whom you have purchased the CEM product or submit a support ticket <http://support.allo.com/>

Thank You for choosing CEM Solutions!