



Embedded simulation for a safer world

CETRAC PCIe End System solutions

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QUICK-START-GUIDE-DOMYNIK

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This document describes how to set up a PCIe card and how to use it with our CetraC Technology.

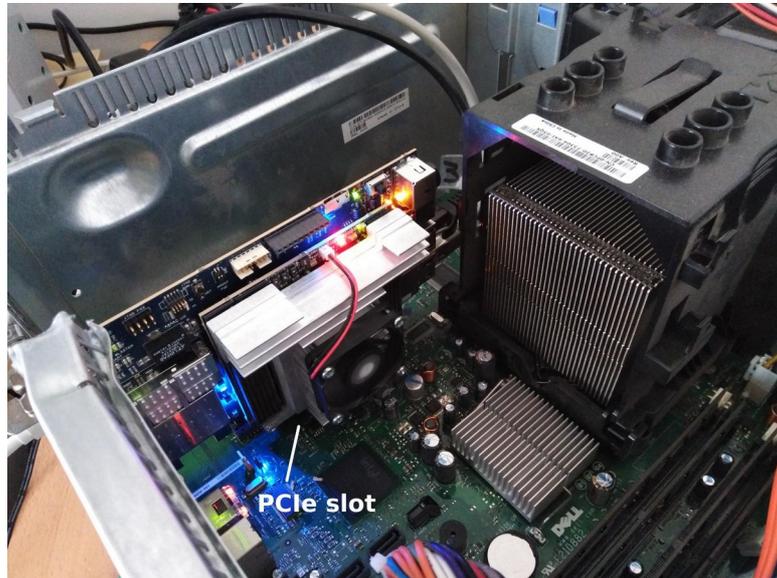
Several steps are required before launching applications using a PCIe card. These steps are described in the table of contents below.

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I. Install the PCIe card in your hardware system

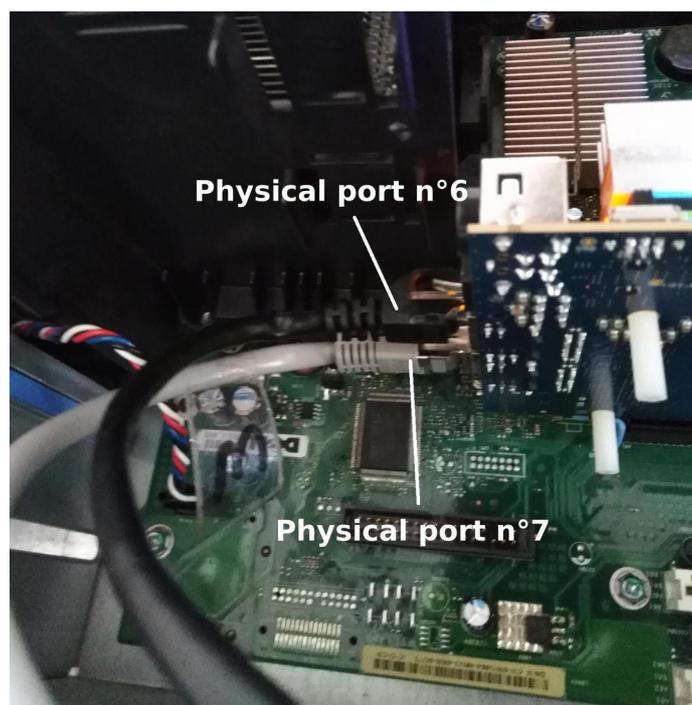
Install your PCIe card in a PCIe slot as showed in the picture below:



The PCIe card has two ethernet physical ports with a speed of 1G. These ports have particular numbers: 0x06 and 0x07. These numbers are used in cetrac configuration files, in format xml. To get more information, see the document of Konfyguratr named: [CETRAC_KONFYGURATR_XML_DEFINITION_XX.YY.ZZZ.pdf](#).

Konfyguratr generates configuration files for hardware and software components.

The picture below, show you where are these ports on the PCIe:



Ethernet ports are back. So, hardware additional connections are required. Four ethernet cables with four adaptators RJ45 to RJ45 are supplied. You can connect the PCIe card with the adaptators according to the pictures below:



II. Check if your host recognizes the PCIe

To check if your host recognizes the PCIe card, launch the command below:

lspci | grep Altera

```
silkan@TstSoft:~$ lspci | grep Altera
08:00.0 Non-VGA unclassified device: Altera Corporation Device 0000
silkan@TstSoft:~$
```

An indication with «Altera» shows that the card is recognised by the computer.

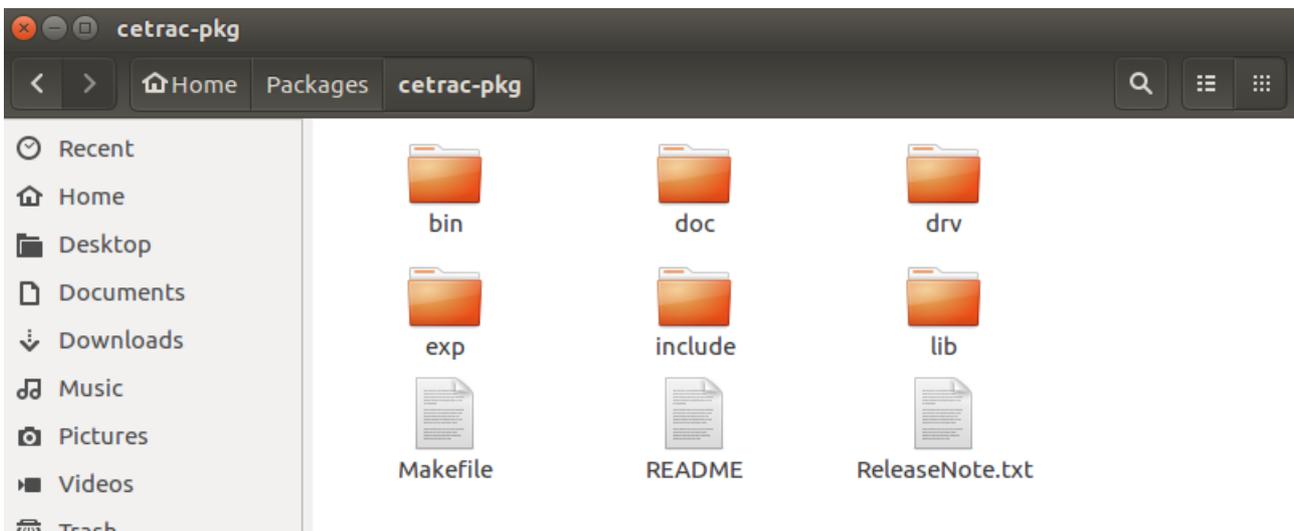
If any result appears, set up again your PCIe card in the slot PCIe and be sure that all physical connections are done.

III. Install the driver for the card

1. Where to find the driver source files

The driver is available in the Cetrac software package is named:

cetrac-pkg_x86_x64_vXX.YY.ZZZ with a folder called cetrac-pkg. A folder drv contains driver source files.



2. Compile, install and load the driver

A README file is available to help you for installing the driver. The README contains the instructions below.

To compile the driver, the linux headers are required, it can be obtained with the following command on a debian like system :

```
apt-get install linux-headers-$(uname -r)
```

Once the linux headers available, the following 3 commands can be executed in order to compile, install and load the driver :

```
make
```

```
make install
```

```
make load
```

Note that administrator rights are necessary to install and load the device driver.

By default the driver is installed using the root group. It is generally a good idea to create a dedicated group (for example arion) to authorize a group of users to access the driver. The command to do so are listed below :

```
addgroup --system arion
```

```
adduser User1 arion
```

```
adduser User2 arion
```

```
chgrp arion /dev/arion0
```

3. Check if the driver is installed

To check if the driver is set up, launch the command below:

```
ll /dev/*
```

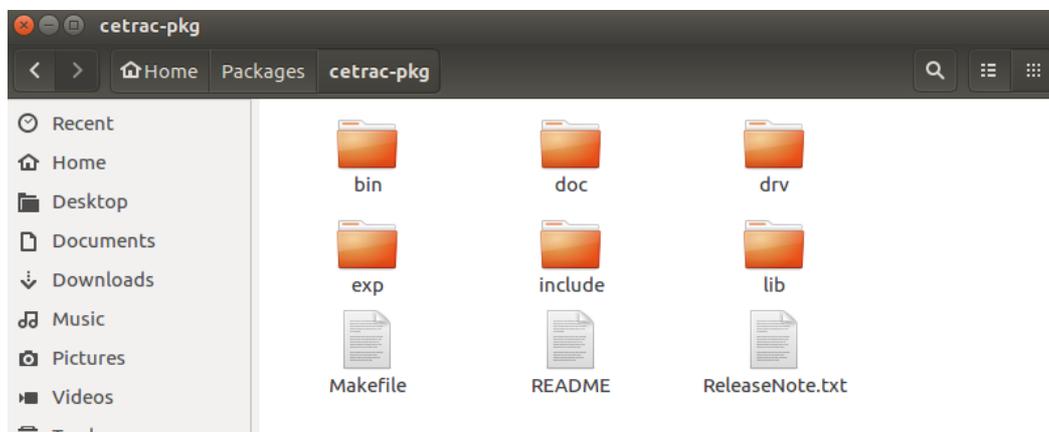
```
silkan@TstSoft:~$ ll /dev/*
crw----- 1 root root    245,   0 Apr  4 13:31 /dev/arion0
crw----- 1 root root     10, 235 Apr  4 13:31 /dev/autofs
crw----- 1 root root     10, 234 Apr  4 13:31 /dev/btrfs-control
lrwxrwxrwx 1 root root         3 Apr  4 13:31 /dev/cdrom -> sr0
crw----- 1 root root      5,   1 Apr  4 13:33 /dev/console
lrwxrwxrwx 1 root root     11 Apr  4 13:31 /dev/core -> /proc/kcore
crw----- 1 root root     10,  60 Apr  4 13:31 /dev/cpu_dma_latency
crw----- 1 root root     10, 203 Apr  4 13:31 /dev/cuse
crw----- 1 root root     10,  61 Apr  4 13:31 /dev/ecryptfs
```

An indication /dev/arion0 shows that driver is installed.

If the driver is not installed; contact our company at support@cetrac.io.

IV. Install the whole CetraC software package

The CetraC software package is named: `cetrac-pkg_x86_x64_vXX.YY.ZZZ` with a folder called `cetrac-pkg`:



To install it, a Makefile is available in cetrac-pkg, launch the command below:

make

```
rakotomalala@henitsoa-pc:~/Packages/cetrac-pkg$ make
sudo cp bin/cetrac_konfyguratr /usr/bin
[sudo] password for rakotomalala:
sudo cp bin/cetrac_loader /usr/bin
sudo cp bin/mydlewr /usr/bin
sudo cp bin/cetrac_supervyvr /usr/bin
sudo cp -dp lib/*.so* /usr/lib
sudo rm -rf /usr/include/arion
sudo cp -rp include/arion /usr/include
sudo rm -rf /usr/include/cetrac
sudo cp -rp include/cetrac /usr/include
sudo rm -rf /usr/include/mitrac
sudo cp -rp include/mitrac /usr/include
sudo rm -rf /usr/include/xercesc
sudo cp -rp include/xercesc /usr/include
rakotomalala@henitsoa-pc:~/Packages/cetrac-pkg$
```