Start-up Guide

Environment settings (for /bin/bash).

This is already done for you, but they are handy to know in case you want to use your own shell.

```
export LM_LICENSE_FILE=27020@o3.ics.ele.tue.nl
export CUSTOMER=TUE
export HIVEBIN=/home/hive/sdk/bin
export HIVESYSTEMS=$HIVE_CVSWORK/Linux/systems
export PATH=$HIVEBIN:$PATH
export HIVE_CVSWORK=/home/pd/pd08xx/hive
export HIVECORES=$HIVE_CVSWORK/Linux/cores
```

Every student gets a user-id like *pd08xx*, and a password. In order to login, you would need an ssh client like Putty (Download from www.putty.org). You will also need an X-server; instructions for installing it are available in a separate pdf file on the site. One of the following server addresses can be used to connect

- co4.ics.ele.tue.nl
- co5.ics.ele.tue.nl
- co6.ics.ele.tue.nl
- ~~co7.ics.ele.tue.nl~~ (Removed since it is giving problems)

Upon login, you will see a folder ~/hive. The directory structure looks as follows

- ~/hive/doc – documentation about Silicon Hive
- ~/hive/examples/cores – cores description
- ~/hive/examples/add – a small example that uses cores
- ~/hive/Linux – compiled cores are placed here

Below you see the files that are initially present the home directory.

```
-bash-3.00$ pwd
/home/pd/pd0801
-bash-3.00$ cd hive
-bash-3.00$ ll
total 16
drwxr-xr-x  2 pd0801 pd 4096 Oct 16 14:09 doc
drwxr-xr-x  5 pd0801 pd 4096 Oct 16 14:30 examples
drwxr-xr-x  5 pd0801 pd 4096 Oct 16 14:57 Linux
-rwxr-xr-x  1 pd0801 pd  533 Oct 16 14:32 vlsi_conf.mk

-bash-3.00$ ll examples/
total 12
drwxr-xr-x   5 pd0801 pd 4096 Oct 16 14:12 add
drwxr-xr-x   4 pd0801 pd 4096 Oct 16 14:54 cores
drwxr-xr-x  13 pd0801 pd 4096 Oct 16 14:11 img_conv_3x3

-bash-3.00$ ll doc/
total 0
lrwxrwxrwx  1 pd0801 pd 39 Oct 16 14:09 CustomizerManual.pdf
lrwxrwxrwx  1 pd0801 pd 40 Oct 16 14:09 GenesysUserManual.pdf
lrwxrwxrwx  1 pd0801 pd 30 Oct 16 14:09 HiveSDK.pdf
```

```
lrwxrwxrwx  1 pd0801 pd 41 Oct 16 14:09 TIMDevelopersGuide.pdf
lrwxrwxrwx  1 pd0801 pd 31 Oct 16 14:09 VlsiFlow.pdf

-bash-3.00$ ll Linux/
total 12
drwxr-xr-x  3 pd0801 pd 4096 Oct 16 14:56 cores
drwxr-xr-x  4 pd0801 pd 4096 Oct 16 14:57 release_dir
drwxr-xr-x  3 pd0801 pd 4096 Oct 16 14:57 systems
```

- A quick flow overview can be found in **HiveSDK.pdf**
    1. Chapter 2, Development flows.
    2. Chapter 4, Command line interface, running simulations – this is probably the most relevant and useful chapter for this assignment.
    3. Chapter 8, Optimization cookbook. An example is explained for avispa_demo_1 processor with img_conv_3x3 filter program. It shows the various steps that can be done to optimize the program for a target processor.
- SiHive use a proprietary language called TIM for describing the processors. User-manual for this language can be found in **TIMDevelopersGuide.pdf**

- Basic commands
    - *gmake clean install* (to recompile a processor)
    - *gmake clean crun sched* (to compile program, depending on the desired flow)