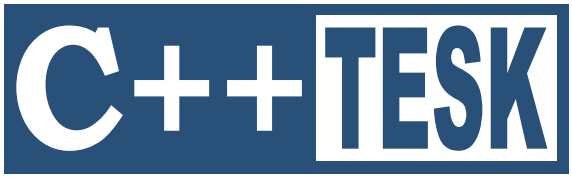

C++TESK Hardware Edition: **Installation Guide**

Version 1.3, 2011/09/26

C++TESK Hardware Edition is a part of C++TESK Testing ToolKit, which can be downloaded from the page http://forge.ispras.ru/projects/cpptesk-toolkit.

Please let us know about your proposals and problems while using C++TESK Hardware Edition and C++TESK Testing ToolKit sending them to cpptesk-support@ispras.ru. The forum http://hw-forum.ispras.ru can be also used for such a purpose.

Introduction

This document contains the steps should be followed during the installation process of toolkit C++TESK Hardware Edition (later simply C++TESK). In addition to C++TESK the following tools are recommended to be installed. The first one is the simulator Icarus Verilog (http://iverilog.icarus.com). The second one is VeriTool (http://forge.ispras.ru/projects/veritool) based on Icarus Verilog and used for generation of auxiliaries components of test systems.

System Requirements

1. 32/64-bit Linux OS;
2. GNU GCC 4.1 or higher;
3. Package libxml2-dev;
4. Java Runtime Environment (JRE) 1.6 or higher[1];
5. Browser Mozilla Firefox 4.0 or higher[2];
6. Packages which are dependencies of Icarus Verilog 0.9.4[3]: gperf, bison, flex, and g++.

Installation

To have C++TESK installed you should pass the following steps:

1. Download the latest version of C++TESK from page http://forge.ispras.ru/projects/cpptesk-toolkit/files. It'll be an archive named `cpptesk-toolkit-src-*.tar.gz`.
2. Unzip the file (`tar xf cpptesk-toolkit-src-*.tar.gz`) and start executable script named `install.sh`, using the following parameters:
   a. *`no parameters`* — install C++TESK only (version 1.0);
   b. `--install-veritool` — install[4] C++TESK (version 1.0), simulator Icarus Verilog (version 0.9.4), and VeriTool (version 0.2.1), if they haven't been installed[5];
   c. `--force-install-veritool` — install[5] C++TESK (version 1.0), simulator Icarus Verilog (version 0.9.4), and VeriTool (version 0.2.1) (Icarus Verilog and VeriTool will be installed even if they have been installed already).

The installation catalogues for all the tools will be chosen according to the following rules:

1. If the environment variable `ISPRAS_HOME` is not defined, the installing C++TESK user's home folder path will be assigned to the variable.

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[1] To ensure execution of report generator.

[2] To ensure execution of distributed testing Web-interface.

[3] To ensure execution of VeriTool.

[4] Internet connection is required for the automatic installation of Icarus Verilog and VeriTool. In the other case they are to be installed manually, see chapter *Manual installation of Icarus Verilog and VeriTool*.

[5] Availability status of Icarus Verilog and VeriTool is checked by means of environment variables `ICARUS_HOME` and `VERITOOL_HOME` respectively: if the variables are set the installation will not be started; in the other case, the tools will be installed and the variables will be set.

2. If the environment variable `CPPTESK_HOME` is not defined, `$ISPRAS_HOME/`**`tools/cpptesk-toolkit`** will be assigned to the variable.
3. If the environment variable `ICARUS_HOME` is not defined, `$ISPRAS_HOME/`**`tools/verilog`** will be assigned to the variable.
4. It the environment variable `VERITOOL_HOME` is not defined, `$ISPRAS_HOME/`**`tools/veritool`** will be assigned to the variable.
5. C++TESK is installed into the folder `$CPPTESK_HOME`.
6. Icarus Verilog (if it is required) is installed into the folder `$ICARUS_HOME`.
7. VeriTool (if it is required) is installed into the folder `$VERITOOL_HOME`.

Manual installation of Icarus Verilog and VeriTool

If the computer is not connected to the Internet, manual installation of Icarus Verilog and VeriTool is required. First, the installation packages are to be downloaded by means of a different computer using the following addresses: http://sourceforge.net/projects/iverilog/files/iverilog/0.9.4/verilog-0.9.4.tar.gz and http://forge.ispras.ru/projects/veritool/files.

For manual installation of Icarus Verilog the following steps should be passed:

1. If the system variable `$ICARUS_HOME` is not set, the path where you want Icarus Verilog to be installed should be assigned to. E.g., try the following command sequence:

```
export ICARUS_HOME=<path_for_Icarus_Verilog_installation>
echo "export ICARUS_HOME=$ICARUS_HOME" >> "$HOME/.profile"
echo "export ICARUS_HOME=$ICARUS_HOME" >> "$HOME/.bashrc"
```

2. It the folder $ICARUS_HOME does not exist, it should be created:

```
mkdir -p "$ICARUS_HOME"
```

3. Change the directory to the one with installation package of Icarus Verilog and apply the following commands:

```
tar xf verilog-0.9.4.tar.gz
cd verilog-0.9.4
./configure --prefix="$ICARUS_HOME"
make && make install
```

For manual installation of VeriTool the following steps should be passed:

1. If the system variable `$VERITOOL_HOME` is not set, the path where you want Veritool to be installed should be assigned to. E.g., try the following command sequence:

```
export VERITOOL_HOME=<path_for_VeriTool_installation>
echo "export VERITOOL_HOME=$VERITOOL_HOME">>"$HOME/.profile"
echo "export VERITOOL_HOME=$VERITOOL_HOME">>"$HOME/.bashrc"
```

2. It the folder `$VERITOOL_HOME` does not exist, it should be created:

```
mkdir -p "$VERITOOL_HOME"
```

3. Change the directory to the one with installation package of VeriTool and apply the following commands:

```
tar xf veritool-<version-number>.tar.gz
cd veritool-<version-number>
./configure --prefix="$VERITOOL_HOME"
make all && make install
```