Installation guide

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1   System requirement

Currently, MCMAS has been compiled on the following configurations:

1. Platform: x86 compatible 32 bit or 64 bit processor;

2. Operating system: Windows, Linux and Mac OSX 10.4;

3. Compiler: flex 2.5.4 or higher, GNU bison 2.3 or higher, GNU g++ 4.0.1 or higher;

4. Cygwin 1.5.25-14 or higher (Windows platform only).

5. Eclipse 3.2 or higher (optional) and Graphviz 2.16.1 or higher.

2   Installation

1. (Windows platform only) Install cygwin and the packages *g++*, *flex* and *bison* on Windows XP/Vista. Detailed instructions can be found from `http://www.cygwin.com/`.

2. Install the CUDD library. This library can be obtained from `http://vlsi.colorado.edu/~fabio/CUDD/`. Assume the library package is located in the directory "/XXX/XXX". Extract the source using the command `tar xfz cudd-2.4.1.tar.gz`. Then enter the directory "cudd-2.4.1" and use the command `make` to compile the library. Finally, enter the subdirectory "obj" to compile the C++ interface of the library with the command `make testobj`.

   Note that in order to install the library in 64 bit Linux, the file "Makefile" in "cudd-2.4.1" needs to be modified as follows: comment line 65, i.e., insert "#" in front of the line,

   ```
   XCFLAGS = -mcpu=pentiumpro -malign-double -DHAVE_IEEE_754 -DBSD
   ```

   and uncomment line 71, i.e., remove the first character "#".

   ```
   #XCFLAGS = -DHAVE_IEEE_754 -DBSD -DSIZEOF_VOID_P=8 -DSIZEOF_LONG=8
   ```

   To install the library on Windows, comment line 65 and uncomment line 153.

   ```
   #XCFLAGS = -mcpu=pentiumpro -malign-double -DHAVE_IEEE_754 -DHAVE_GETRLIMIT=0
   -DRLIMIT_DATA_DEFAULT=67108864
   ```

   To install the library on Mac OSX, comment all the `XCFLAGS` lines.

3. Install MCMAS. Modify the file "Makefile" located in the same directory as this guide in order to match the path to the CUDD library created in the first step: change the line

   ```
   CUDD = /usr/local/cudd-2.4.1/
   ```

to

```
CUDD = /XXX/XXX/cudd-2.4.1/
```

where "/XXX/XXX" is the directory containing the CUDD library. Then use the command `make` to compile MCMAS.

On Windows, the directory "bin" in the cygwin installation must be added to the system path. For example, append `c:\cygwin\bin` to the system path if cygwin is installed in `c:\cygwin`.

4. Install the GUI (optional). Download the Graphviz package from `http://www.graphviz.org/` and follow the installation instruction there. Move the file "org.mcmas.ui_1.0.0.jar" to the Eclipse plugin directory and restart Eclipse. Note that starting Eclipse with the option "-clean" for the first time. Once Eclipse is started, specify the path to MCMAS and the path containing the "dot" program in the MCMAS preference (Eclipse menu: Window –> Preference). In Windows platform, also specify the bin directory of Cygwin in the MCMAS preference.

   Note: In order to allow the GUI to edit ISPL files, these files must be put in an Eclipse project. MCMAS projects can be generated using the GUI.