DART INSTALLATION AND ENVIRONMENT SPECIFICATIONS

Technical Document

Reference:	DARTInstallationAndEnvironmentSpecifications
Release date:	22/03/2011
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I Introduction

This document guides the user for installing DART on linux and windows systems, and explain the environment specification

II DART installation

II.1 Operating systems:

DART System was validated for the following operating systems:

OS	Version	Architecture
LINUX Mandrake	**10.1**	**I686 and X86_64**
LINUX Ubuntu	**2.6.15**	**I686**
LINUX Debian	**All stable versions**	**32 and 64 bits**
LINUX Red Hat	**Enterprise v.4**	**X86_64**
WINDOWS	**2000**	**32 bits**
WINDOWS	**XP**	**32 bits**
WINDOWS	**7**	**32/64 bits**

Note: - If you have the choice, we advise you to install DART on a Linux platform because the execution of the components is faster.
- DART works on Windows 7 64bits systems with 32bits binaries, however the Java Interface can have some graphical bugs.

II.2 Linux installation

II.2.1 Prerequisite installation of java

Java JRE 6 must be installed. If you already have installed an older version (to know that, type **java –version**), you must uninstall it first. You will find an installation program in the directory "**tools/java**" of the Dart distribution archive:

Note: You must replace *xxx* by the corresponding version of Java.

- Copy file **jre-xxx-linux-i586-rpm.bin** into the directory **/usr**. For example:

  cd /usr
  cp /mnt/cdrom/tools/java/jre-xxx-linux-i586-rpm.bin .

- Run the application by typing the command:

  ./jre-xxx-linux-i586-rpm.bin

This execution creates a directory java. The command **java** must be present in the PATH. To check that and also to check the java version, type **java -version** with a line command. If it isn't present, add to the **PATH** the directory **bin** of java:

- Edit the file **.bash_profile** located in the user home directory. For example (replace ***<user>*** by an account name of the system):

cd ~<*user*>
emacs .bash_profile&

- Add the line

  PATH=$PATH:/usr/java/jrexxx/bin

after the line

export PATH

It must look like this:

```
PATH=$PATH:/usr/java/jre1.5.0_06/bin
export PATH
```

- After that, you will need to update those modifications. To do that, type:

  source .bash_profile

II.2.2 DART software Linux installation

II.2.2.1 Installation of Dart binaries

In order to install Dart binaries on your system, you must be logged as root (su)

Then you can run the administrator script:

./install_root.sh

Description:
- Copy of "distribution files" in system directory: /usr/local/dart ...
- Copy of "distribution files" in system directory: /usr/local/dart/bin ...
- Copy of "database files" in system directory: /usr/local/dart/database ...

II.2.2.2 Installation of user files

In order to install local files on your system, you must be logged as the user who want to use Dart.
Then run the user installation script:

./install_user.sh

Description:
- Copy of "dart_local files" in your home directory

II.3 Windows installation

To install DART, unzip the DART distribution archive and run the setup *dart_install.exe*.
Please note these 2 points:

- To run the setup, you must be logged as a user who belongs to an administrators group.

- WARNING: Dart and dart_local directories MUST NOT CONTAIN spaces characters in their path. For example, "C:\Dart" is OK, but "C:\Program Files\Dart" is not valid.

The setup will check for valid versions of Java on your system, and will install it if it cannot be found.

Once the setup is completed, Dart installation is achieved. Then, you can run Dart using the shortcut in the starting menu (or on your desktop).

III Specifications of the execution environment

III.1 DART tree

All the data related to the execution of DART are in 2 directories defined by the variables of the system environment: DART_HOME and DART_LOCAL.

Example Windows: DART_HOME = "D:/DART"

Example Windows: DART_LOCAL = "D:/DART_LOCAL"

Example Linux: DART_HOME = "/usr/local/dart"

Example Linux: DART_LOCAL = "/home/userId/dart_local"

On Linux systems, these environment variables are set into the "setDartVariables.sh" script, which is in the "/usr/local/bin" directory by default. In windows, see the windows documentation about environment variables.

Of course you can modify the differents paths of installation by re-setting these environment variables

III.1.1 Root directory : DART_HOME

Under the root directory "DART_HOME", there are 2 sub-directories:

- Directory "**bin**": it contains all executables (C or batch for running Java modules) and associated dynamic libraries (DLL, DSO or java package) useful for executing DART,
- Directory "**database**": it contains all files of data bases for all DART users.

III.1.2 Sub-directories of DART_HOME

Under the root directory "DART_HOME", there are 3 sub-directories:

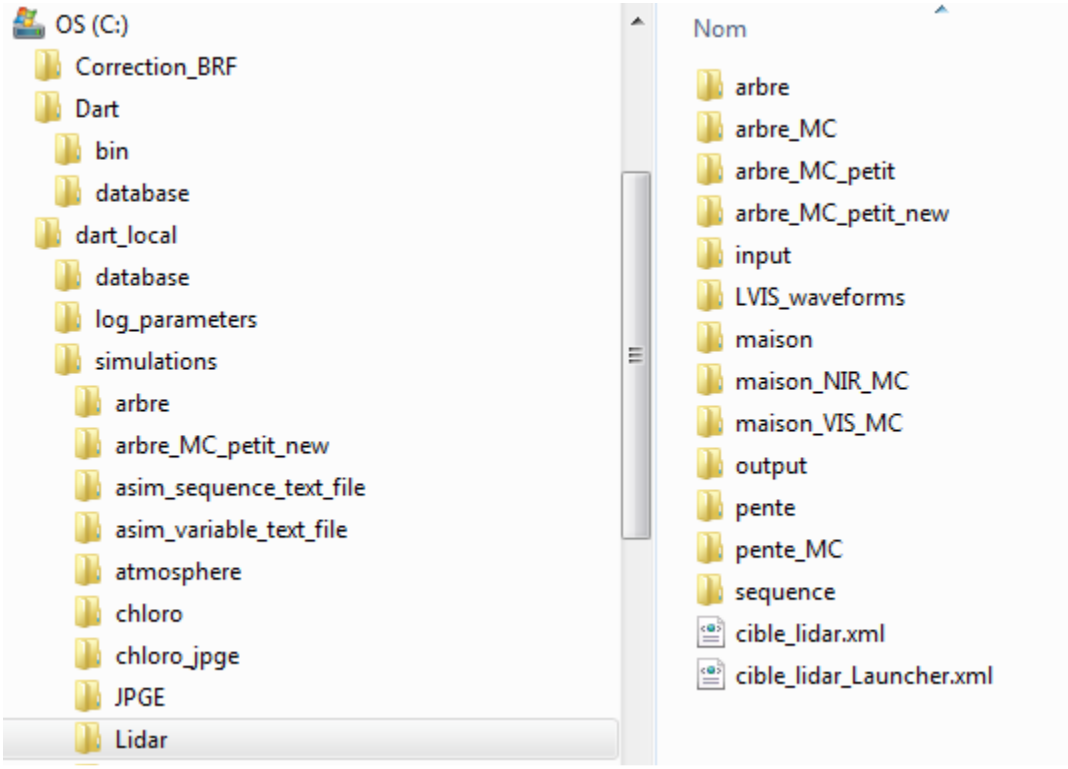
- Directory "**bin**": it contains all executables (C or batch for running Java modules) and associated dynamic libraries (DLL, DSO or java package) useful for executing DART,
- Directory "**database**": it contains all files of data bases for all DART users.

III.1.3 Sub-directories of DART_LOCAL

There are 3 sub-directories defined for each DART user in the local directory "DART_LOCAL":

- sub-directory "**database**": it contains all files of data bases that belong to the user.
- sub-directory "**log_parameters**" : it contains configuration files for DART log
- sub-directory "**simulations**": It contains all the simulations.
    - sub-directories : subdirectories can be simulations (a simulation is a directory which contains an "input" and an "output" subdirectory) or directories with simulations into.

III.1.4 Example of DART tree



IV DART batch launcher

You can use the GUI to launch different modules. The command lines to launch different modules will be written in the console. You can use these commands as examples, but beware, In Linux, before launching a module in a command line, you must set the environment variables with the command : "source setDartVariables.sh" which is in the "/usr/local/bin/" directory

DART executable modules (direction, phase, maket, dart) can be individually run. Their execution does not require the knowledge of DART arborescence. Their interface looks like:

program -path [nameOfSimulation] + options.

example Windows : to run "dart.exe" module on a simulation in "c:\dart_local\simulations\Forests\forest1\ " (which contains an "input" directory)
execute the command:
"dart.exe -path Forests\forest1"

example Linux : to run "dart.exe" module on a simulation in "/home/user/simulations/Forests/forest1/ " (which contains an "input" directory)
execute the commands:
"source setDartVariables.sh "
"dart.exe -path Forests/forest1"