CrossGrid Installation Guide

ANN Training

WP 1.3.2

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Abstract: This is the installation guide for the ANN training application developed at task 1.3.2 within the CrossGrid project.

Delivery Slip

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Version	Date	Summary of changes	Author
0-1	aug 13th, 2004	Skeleton und first chapters on integration plan.	
1-0	oct 12th, 2004	ANN application instalation guide	David Rodrguez

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Chapter 1

About the software

Parallel ANN Training is an MPI application that performs a parallelized BFGS gradient descent training of an artificial neural network. This is well known analysis method in HEP.

1.1 software components

The software is provided in two flavours with different graphical output X11 (cg-ann.exe) and XML (cg-ann-svg.exe), and two versions corresponding to the two mpich devices it is compiled: p4 and g2. There is also the possibility of compiling the programs using the Marmot libraries. This is done just defining the environment variable USE_MARMOT.

1.2 Dependencies

Compile time:

The proper compilation of the software requires both mpich p4 and g2 compilers. The selection of it is done using the environment variable CG_MPICH_DEVICE. This is alredy properly prepared in the CrossGrid Development Workstations.

The following libraries are needed also for compilation: Blas, Lapack, expat, libwww and the Doxygen program for the generation of the API documentation.

Of course, for compiling with the Marmot the corresponding libraries should be present.

At run time:

MPICH for running and gnuplot for the graphics in the X11 flavour.

Chapter 2

Installation in the CrossGrid testbed

The CrossGrid testbeds are managed by the LCFG deployment support tool. This tool allows an automatic installation of the software on all the required nodes.

2.1 rpm lists for LCFG

This section will be written in principle by the LCFG gurus from WP4. They know what to write here. The intention is to have that LCFG configuration documented somewhere. But it is the responsibility of the software developer to fill this paragraph by asking the LCFG gurus (or better pump them for this information).

2.2 profile modifications for LCFG

This section will be written in principle by the LCFG gurus from WP4. They know what to write here. The intention is to have that LCFG configuration documented somewhere. But it is the responsibility of the software developer to fill this paragraph by asking the LCFG gurus (or better pump them for this information again and again and .....).

2.3 manual post installation steps

In most cases the installation will be fully automated, so you should tell here that no extra postinstallation steps are required. If they are required (like database setup or initialisation, special config-file), please write here what to do!!!

No post installation steps is needed.

Chapter 3

Manual Installation

3.1 Download

The source code of the ANN training appllication are in the CrossGrid repositories at FZK
http://gridportal.fzk.de/cgi-bin/viewcvs.cgi/crossgrid/crossgrid/wp1/wp1_3-hep/wp1_3_1-ann/

The rpms of the different versions of the application can be downloaded from:
http://savannah.fzk.de/distribution/crossgrid/autobuilt/i386-rh7.3-gcc3.2.2/wp1/RPMS/

The current version (when this guide was last updated is 1.6.2):
http://savannah.fzk.de/distribution/crossgrid/autobuilt/i386-rh7.3-gcc3.2.2/wp1/RPMS/cg-wp1_3_1-ann-1.6.2-1.i386.rpm

3.2 Installation from rpm

The rpm above indicated can be installed using the

$rpm -i

command.

The following files would be installed:
/opt/cg/bin/g2/cg-ann-svg.exe
/opt/cg/bin/g2/cg-ann.exe
/opt/cg/bin/g2/displayHistogram.exe
/opt/cg/bin/g2/histogram.exe
/opt/cg/bin/g2/iClient.exe
/opt/cg/bin/g2/iFilter.exe
/opt/cg/bin/g2/interactiveFilter.exe
/opt/cg/bin/g2/ntupleFilter.exe
/opt/cg/bin/p4/cg-ann-svg.exe
/opt/cg/bin/p4/cg-ann.exe
/opt/cg/bin/p4/displayHistogram.exe
/opt/cg/bin/p4/histogram.exe

/opt/cg/bin/p4/iClient.exe
/opt/cg/bin/p4/iFilter.exe
/opt/cg/bin/p4/interactiveFilter.exe
/opt/cg/bin/p4/ntupleFilter.exe

Although the documentation would be installed (for version 1.6.2) at:
/opt/cg/share/doc/cg-wp1_3_1-ann-1.6.2/

3.3 Installation from source

Describe how to compile and install the software from source/CVS. Don't forget to mention the compile time dependencies here.

The build from the source uses Autotools. The procedure is the following:

1. Go to the main directory of the downloaded sources. Then type the following commands.
2. ./autogen.sh
3. ./configure
   (a) Optionally: if you want to build the rpm, you can specify the directory for it adding:
   –with-rpm-dir=path_to_dir
4. gmake
5. gmake apidoc
6. gmake userdoc
7. gmake install
   (a) Optionally you can specify the installation directory using:
   prefix=path_to_dir

This would build and install both the p4 and g2 versions of the software, then the API documentation, and the user documentation. Then it would install it.

In case you want to build using Marmot, then you should type at step four: gmake USE_MARMOT=1

3.4 Configuration

3.4.1 List of configuration files

There are no configuration files for this application

3.4.2 Editing the configuration files

There are no configuration files for this application

3.4.3 Startup scripts

No scripts are needed for this application.

3.4.4 Other requirements

Environment

No environment variables are needed.

Users

No special user is needed.

Ports

No specific ports are used.

Certificates

A CrossGrid Certificate is necessary if you want to execute the application in the CrossGrid testbed. But not certificates are needed if you install the application in a local machine or cluster.

Folders

No specific folders are used.

Chapter 4

Running and testing

There are no scripts to check the proper installation of the software. It can be checked that the executables are in its proper directory anyway.
The way of running the application is out of the scope of this document, and it is described in the user documentation that should have been also instaled.

4.1 log files

No logs files are generated.

Chapter 5

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