New system (valid starting from 2012)

The complete manual is available online at: Online GRID Validation Manual Version 3 ☑

OLD Documentation

Some documentation is available here:

- Summer 2010 Student report ☑. This report describes at higher level the tool used to validate Geant4 on the GRID. It also includes a section on job monitoring (work done with IT)
- Developer Manual ☑. Manual for the Grid Validation application that runs on the GRID (the application actually steering Geant4 application). Check this if you need to modify or extend the GRID validation application
- Manual for running ☑. This manual contains very practical step-by-step instructions to run the application. It does not contain description of the tools, but it serves as a real practical guide.

Externals

This are some links on the tools that are used by the Geant4 GRID Validation application. These are tools developed by people external to Geant4

- DIANE ☑. This is the high level application on which our application is built on. To modify and use the Geant4 application a minimum knowledge of DIANE (for example looking at the tutorial: DIANETutorial) is **needed**.
- GANGA ☑. This is the front-end used by DIANE for job definition and submission. Even if you can run the application without even knowing what GANGA is, in case of problems you will probably need to deal with it.
- CERN certification authority ☑. Go here to get a GRID certificate. **See later**
- Geant4 VOMS manager ☑. Go here to register your valid GRID certificate. **See later**

Results

- Geant4 9.4 December 2010 Validation Report ☑

Getting a GRID certificate and using it

1. Get a GRID certificate at: https://ca.cern.ch ☑
2. Registering it to Geant4 VO at: https://lcg-voms.cern.ch:8443/vo/geant4/vomrs ☑ (safari gives a lot of problems, so I suggest firefox)
3. From Firefox backup your certificate and save it in .p12 format somewhere, copy it on a .globus directory on your AFS home
4. In this directory issue the following commands (in a SLC5 or LXPLUS machine):

```
openssl pkcs12 -in mycert.p12 -clcerts -nokeys -out usercert.pem
openssl pkcs12 -in mycert.p12 -nocerts -out userkey.pem
chmod 400 userkey.pem
chmod 444 usercert.pem
```

The two freshly created .pem files are the GRID certificates that will be used on the GRID. For the GRID certificate to be valid allow few days (communications are done by mail). To test if everything works on LXPLUS:

```
source /afs/cern.ch/project/gd/LCG-share/newest/etc/profile.d/grid_env.sh   (to setup GRID run
voms-proxy-init --voms geant4   (to actually "login" on the GRID) if you get something like:
===========================================================================================
Cannot find file or dir: /afs/cern.ch/user/a/adotti/.glite/vomses
Enter GRID pass phrase:
Your identity: /DC=ch/DC=cern/OU=Organic Units/OU=Users/CN=adotti/CN=612198/CN=Andrea Dotti
Creating temporary proxy .................................................................
Contacting voms.cern.ch:15007 [/DC=ch/DC=cern/OU=computers/CN=voms.cern.ch] "geant4" Done
Creating proxy ..........................................................................
Your proxy is valid until Tue Apr 5 23:37:58 2011
===========================================================================================
```

Congratulations, you are GRID enabled!

Testing with DIANE/GANGA

It may be very useful to test everything with the DIANE tutorial. Please read Externals for more information of the DIANE tutorial. The first time you start GANGA (note that when you use diane submitters GANGA is started for you under the hood), a (hidden) configuration file is created in your home directory. Edit

```
.gangarc
```

where the default virtual organization is set. Make sure the variable VirtualOrganisation is set to geant4. This is how the relevant two lines should look like:

```
#  sets the name of the grid virtual organisation
VirtualOrganisation = geant4
```

-- AndreaDotti - 03-May-2011

This topic: Geant4 > GridValidDocs
Topic revision: r4 - 2012-07-03 - AndreaDotti