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Gridification: Porting New Communities onto the WLCG/EGEE Infrastructure

Thursday 10 May 2007 09:00 (15 minutes)

Describe the scientific/technical community and the scientific/technical activity using (planning to use) the EGEE infrastructure. A high-level description is needed (neither a detailed specialist report nor a list of references).

The computational and storage capability of the Grid are attracting several research communities and we will discuss the general patterns observed in supporting new applications, porting them on the the EGEE environment.
In this talk we present the general infrastructure we have developed inside the application and support team at CERN (PSS and GD groups) to merge in a fast and feasible way all these applications inside the Grid, as for example Geant4, HARP, Garfield, UNOSAT or ITU.

Report on the experience (or the proposed activity). It would be very important to mention key services which are essential for the success of your activity on the EGEE infrastructure.

As general submission, tracking and monitoring tool we have chosen the Ganga/DIANE infrastructure as official tool for all new gridifications. This infrastructure is adapted to the requirements of each production with a minimum impact in the general tool. It also includes a layer to MonALISA to monitor the status of the jobs at each site and keep processing history information.
We have also created a whole VOMS infrastructure for a new VO called "gear" (applied for generic applications). This VO hosts a whole EGEE infrastructure, which enables the full and immediate immersion of new communities inside the Grid. At any moment the production of these communities and also the behavior and use of the VO policy is strictly observed by the ARDA team.
The main value of the work presented in this talk is the large level abstraction of the Grid that we have achieved with the infrastructure that we have created for new communities.

With a forward look to future evolution, discuss the issues you have encountered (or that you expect) in using the EGEE infrastructure. Wherever possible, point out the experience limitations (both in terms of existing services or missing functionality)

The successful execution of all productions requires a minimum amount of dedicated computational resources and robust and fully supported services. This includes RBs and CEs being in an unconditional stable shape throughout the entire period of each production. Particular attention has to be given to a stable and fully supported computing and storage systems which do not compromise the basic services.

Describe the added value of the Grid for the scientific/technical activity you (plan to) do on the Grid. This should include the scale of the activity and of

the potential user community and the relevance for other scientific or business applications

All these communities have different goals and requirements and the main challenge is the creation of a standard and general software infrastructure for the immersion of these communities onto the Grid. This general infrastructure is effectively “shield” the applications from the details of the Grid (the emphasis here is to run applications developed independently from the Grid middleware). On the other hand, it is stable enough to require few control and support by the members of the Grid team and also of the members of the users communities. Finally, it is flexible and general enough to match the requirements of the different productions without including mayor changes in the design of the tool.

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