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The EELA Project Applications

Thursday 10 May 2007 11:20 (20 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).

EELA runs HEP, Biomed, e-Learning and Climate applications. It uses its own gLite-based e-Infrastructure to deploy EGEE applications (ALICE,LHCb,GATE,WISDOM) and new EELA ones: BiG (alignment of molecules), Phylogenesys (history of an organism), VoD (interactive multimedia server), LEMDist (access to distributed instrumentation), CuGfL (Learning Management System), SATyrus (neurosymbolic application), PILP (Inductive Logic Programming), CAM (Global Climate model) or WRF (Regional Climate model)

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.

All the applications are gLite compatible. BiG and Phylogenetics are going to be run through a web portal with access to the EELA Grid performed through the Gate-to-Grid (an EELA Grid node which provides a WSRF-Based Web interface) using a MyProxy repository for the security. VoD uses a multimedia server installed on entry points of the EELA infra-structure with a VO-box so it retrieves the data from the storage servers. CuGfL uses a LMS-Moodle architecture able to work on the Grid. LEMDist uses several layers; the Grid one uses gLite services. PILP extracts relevant knowledge from structured data starting one random search per machine. SATyrus is multistart metaheuristics: multiple networks are produced, each mapped onto the available grid machine and each starting from a different point in the state space of solutions. The Climate applications need LFC, MPI, AMGA and R-GMA

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)

No limitations are expected

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

The added value for the EGEE applications has been demonstrated. BiG and Phylogenetic processes are very computing-intensive for finding homologous of sequences in huge data bases (with a size higher than a gigabyte) and for calculating large-scale phylogeny studies (a medium size of 50 sequences x 300 nucleotides takes 50 hours on a state-of-the-art PC). Concerning e-Learning tools (VoD, LEMDist, CuGfL), clients can use any UI available and registered on

the EELA VO to retrieve any videos or execute any experiments that may be located elsewhere; even more, EELA plans to use these applications in their tutorials in a future. For HPC tools (PILP, SATyrus) they are more efficient with a distributed use, so Grid is very convenient. Climate applications (CAM, WRF) deal with a large number of datasets stored locally, so grid technology can offer a solution to access them in a transparent way. The whole Latin American scientific community is very interested in these applications

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Session Classification: Users in the wider Grid community - from science to business

Track Classification: Related Projects