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Demonstration of Application Migration to EGEE using GridWay

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The EGEE project has created the largest production-level Grid infrastructure in the world, which provides a level of performance and reliability never achieved before. The efforts made in the project includes a wide range of activities from the deployment and management of this vast infrastructure or middleware development, to user training. Among them, application porting is of crucial interest to the scientific community. In this context, we have seen a proliferation of web portals and ad-hoc middleware developments to ease the use of Grid by different scientist communities. However the actual infrastructure lacks of a common, consistent and general application development framework.

The use of standard Grid Application Programming Interfaces (APIs) could aid the rapid development and distribution of applications across the Grid. Moreover, the use of a standard API will help new users to port their applications to an unfamiliar environment; and will minimize the impact of the modifications on the EGEE middleware, as the interfaces would remain unchanged.

In this sense, the Distributed Resource Management Application API (DRMAA) GGF specification constitutes an homogeneous interface to different Distributed Resource Management Systems (DRMS) to handle job submission, monitoring and control, and retrieval of finished job status. The DRMAA standard represents a suitable and portable framework to express scientific distributed computations. Also, DRMAA could reduce the application development cycle. A Grid application could be

developed, tested and debugged using the organization local cluster
-DRMAA implementations includes Condor, SGE and PBS- and then executed on the EGEE Grid using the GridWay Metascheduler.

In this demonstration we will show how to use DRMAA to develop Grid applications. As an example we will consider a Fusion Ray Tracing application, part of the NA4 Fusion activities. In particular, we will use the DRMAA C and JAVA implementations provided by GridWay, and resources from the Fusion VO. GridWay is an open-source meta-scheduler which gives end users, application developers and managers of Grid infrastructures a scheduling functionality similar to that found on local DRMS. Additionally, we will show in this demonstration GridWay scheduling and resource management functionality, and command line interface.

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