

Interfacing gLite services with the Kepler scientific workflow

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The interfacing process has been realized with the different operations made by an end-user in mind, when he wants to authenticate and submit a job on the grid. First the creation of an actor making the voms-proxy-init operation was needed to create a temporary proxy as well as returning informations concerning his role in his Virtual Organization. Then the creation of several separate actors making all the operations of the job lifecycle was mandatory to build a complete and modular workflow. After having validated all the actors on the Pre Production Service infrastructure, the creation of a workflow representing the complete job lifecycle has been possible.

3. Impact

This work will be used to build complex workflows simulating the plasma and the whole fusion device. These simulations are highly computation demanding and require to launch many tasks on the GRID environment. The gLite-based middleware and the actors which have been developed and implemented in Kepler will allow the end-users to easily build scientific workflows and submit jobs on the EGEE grid infrastructure. As soon as they have their application integrated into Kepler, they can chain pre and post-processing to grid submission without the need to create an interface directly with their application.

4. Conclusions / Future plans

The deployment of Kepler could be done on any UI or computer with the gLite librairies embedded. While interfacing the tool to the middleware we learnt that gLite has several well-designed APIs but also a lack of documentation for others like the VOMS services.

In the future, Several other gLite services like the data managment ones are planned to be interfaced with Kepler as well as other middleware to improve the interoperability.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

Workflow, Kepler, Job Submission, Fusion

1. Short overview

End users want to use services hiding the complexity of the grid as well as easing the integration of their application into this environment. If they can also have a workflow service to build the chaining of jobs with pre and post-processing for their applications the benefit would be even higher. The aim of the integration of gLite services in Kepler fits perfectly the need for users to have a simple and powerful tool to build a workflow submitting jobs on grid infrastructure.

Primary author: Mr METERY, Rene (CS)

Co-author: Dr GUILLERMINET, Bernard (CEA)

Presenter: Mr METERY, Rene (CS)

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