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Service-Oriented Applications development support in gLite

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Basic characteristics of service-oriented architectures are self-describing interfaces in platform-independent XML documents and interoperability between different systems and programming languages. gLite provides a lot of grid services but very few of them have self-describing interfaces with endpoints and WSDL documents. The lack of WSDL files for main gLite grid services make them very hard to use in service-oriented grid application. And moreover, the end user often needs more complex functionality, which can be achieved as composition of grid services or grid processes.

3. Impact

The evolution of gLite to SOA support will permit development of SOA based Grid applications and something more – deployment of SOA based application to Grid environment. One of the most important tools for SOA based applications is process orchestrator tool. After some consideration of available tools for such purpose in grid middleware we decide to use Oracle BPEL PM. The tool is installed on SLC 4.5 operating system. An example process was developed as composition of gLite grid services.

URL for further information:

http://www.mff.cuni.cz/veda/konference/wds/contents/pdf07/WDS07_113_i2_Goranova.pdf

4. Conclusions / Future plans

Integration of process orchestration tool in Grid middleware will facilitate the deployment of Grid application in grid middleware and will better the possibilities for more effective use of Grid through portals.

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

grid, service-oriented architecture, process management, grid processes,

1. Short overview

Service-Oriented Architecture (SOA) is an architecture within which all functions are defined as independent services with well-defined invokable interfaces, which can be called in defined sequences to form processes. gLite is by idea service-oriented grid middleware, but do not provide the whole set ot tools for development of end-to-end processes.

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