

JRA1 – MIDDLEWARE RE-ENGINEERING AND INTEGRATION

The objective of the Middleware Engineering and Integration Research Activity (JRA1) is to provide robust middleware components, deployable on several platforms and operating systems, corresponding to the core grid services identified and developed in earlier projects. This activity aims to do the minimum original implementation of middleware necessary to achieve this goal. The originality of the activity lies in selecting, potentially re-engineering and integrating a set of reliable production-quality services that together form a dependable and scalable infrastructure that meets the needs of a large, diverse e-Science user community.

The EGEE middleware, labelled gLite (pronounced gee-light), version 1 released at the end of March 2005, includes the following main services: Workload Management, Data Management, Information and Monitoring, Virtual Organisation Membership (VOMS), as well as User Interface components.

The architecture of the next generation grid middleware gLite developed by JRA1 has been defined and documented, and was reviewed by a wide range of international stakeholders, within and outside the EGEE community. The gLite grid services follow a *Service Oriented Architecture* which will facilitate interoperability among Grid services and allow easier compliance with upcoming standards, such as WSRF. The architecture of this service composition is not bound to a specific implementation. The definition of these grid service interfaces is an important step towards interoperability since it opens the possibility for other grid middleware implementations to expose these interfaces allowing services from different suppliers to interoperate and potentially be interchanged.

Several gLite releases have been produced. Each release has gone through a thorough process of integration and testing, including also the verification of the quality of the documentation. Components have been deployed on several environments, including the EGEE pre-production system and the EGEE production system. gLite has been used also by other communities such as the DILIGENT project. The user feedback received has been a valuable driver for improving the functionality, usability and performance of the middleware. The last gLite release (version 1.5) is expected to be available in the first quarter of 2006.

The JRA1 activity is lead by INFN and includes CERN, CESNET, DATAMAT, INFN, CCLRC, the University of South California, the University of Chicago and the University of Wisconsin-Madison. The development activities of JRA3 (Security) are an integral part of JRA1.

Team Contacts

Claudio Grandi (INFN), Middleware Re-engineering and Integration Manager, email: Claudio.Grandi@bo.infn.it

Links

JRA1 Webpage's: <http://cern.ch/egee-jra1/>
Home page: <http://www.glite.org>
gLite Architecture: <https://edms.cern.ch/document/594698/1.0/>
gLite Design: <https://edms.cern.ch/document/606574/1.0/>
gLite discussions: glite-discuss@cern.ch