

Grid Middleware Interoperability Solution For Nordugrid And Glite

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The essence of the Grid is the software that enables the user to access computers distributed over the network. The Grid middleware task is to organize and integrate the distributed computational resources to a single whole. Different types of middleware (Nordugrid (<http://nordugrid.org>), EUROGRID (<http://www.eurogrid.org>), gLite (<http://www.glite.org>), etc.) are used around the world and cause of interoperability issue. Grid job can't use resources that integrated by different middleware, because these middlewares have various architectures and use diverse methods.

This paper contains review of interoperability problem resolving approaches, based on different abstract layer model: Information Systems Interoperability, Conceptual Interoperability Model, Coalition Interoperability, Systems Interoperability Model. Next point is most widely used middleware comparison result that is the base of proposal solution.

Important requirement of interoperability solution is end-user transparency without substantial job performance reduction. This work analyses job performance loss level regarding to interoperability solutions.

As result, this paper presents interoperability solution architecture for Nordugrid and gLite (as two widely used middlewares) that includes performance loss estimates.