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g-Eclipse - Easy access to Grid infrastructures

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The usage of a common and reliable tool eco system will help the developers from different domains to port their legacy applications to Grids. But not only developers will benefit from a general tool Eco System, but also Grid users and Grid resource operators can integrate their use cases in such a general Grid Tool Eco System. The g-Eclipse project built such an general, middleware independent tooling framework for Grid infrastructures on top of the well known Eclipse Eco System. The first release of the framework is available and exemplary support for the gLite middleware is available. The GRIA middleware support is currently be implemented.

The g-Eclipse framework requires stable and reliable basic Grid services like information systems, data replication systems and resource brokers. g-Eclipse is a JAVA application and requires either JAVA APIs or well defined WS descriptions for the basic Grid services, which are independent of the Grid operation system.

3. Impact

The g-Eclipse framework provides an extensible architecture based on the Eclipse mechanisms of extension points, plugins and bundles. By defining the extension points the g-Eclipse framework gets middleware independence and can connect to every middleware service available. The framework is flexible enough to develop plugins to new and emerging Grid services.
g-Eclipse provides already plugins and bundles to interact with existing Grid resources running gLite (i.e. EGEE, D-Grid). These implementation use existing API, WS interfaces or - where needed - own implementations to access the gLite services.
g-Eclipse extends the eco system of the Eclipse framework by using its components and by providing extension points for Grid functionality. i.e. g-Eclipse provides a new Grid Project View analogue to the Java Project View of Eclipse. The development of Grid applications is not limited to JAVA only, but to other programming languages too, as g-Eclipse is using results from other projects.

URL for further information:

www.geclipse.org
www.eclipse.org/geclipse

4. Conclusions / Future plans

With the help of the g-Eclipse framework, the Chinese wall between local and Grid resources will be broken and the Grid user can access Grid resources seamlessly by managing data, defining and submitting jobs, visualize data, etc. Furthermore the time-to-application will be shortened with the help of Grid development and Grid deployment tools. Last but not least, the Grid resources provider will be able to reduce the time-to-service of their offered resources and services.

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

Tooling, Eclipse, middleware independent, Generic applications, Visualisation, Development, deploy.

1. Short overview

Grid infrastructures, build over the last years, offer basic service (i.e. computing, storage) as well as high level services to make the underlying infrastructure transparent (i.e. RLS, RB). Many different application domains started to use Grid infrastructures for their research, but at the same time facing the common problems due

to the inherit complexity of Grid infrastructures. The g-Eclipse framework will help the developers from different domains to port their applications to the Grid.

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