Creation review:

**g-Eclipse – an integrated Grid enabled environment (IGE)**

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Harald Kornmayer (Forschungszentrum Karlsruhe GmbH)
Markus Knauer (INNOOPRACT)
Jochen Krause (INNOOPRACT)
Overview

- Grids for e-Science
  - Many infrastructures build over the last few years
    - to integrate seamlessly distributed resources
    - on national and international levels
  - Commercial applications start to move to Grid infrastructures
  - Grid Infrastructures have an inherent complexity

- g-Eclipse will offer easy access to Infrastructures
  - Based on a reliable platform → Eclipse

- Currently no integrated support exists for the different roles of Grid users
  - Grid applications users
  - Grid resources providers and operators
  - Grid application developers

- Currently different Grid middleware systems exist

- With the proposed g-Eclipse project, Eclipse enters the area of Grid applications and e-Science.
**Scope**

- Development of a general framework
  - "core Grid plug-ins" for the g-Eclipse platform.
  - Independent of the underlying middleware

- Supporting different User roles:
  - User
  - Operator
  - Developers
    - See picture

- Exemplary implementation of the integration of the widely deployed EGEE middleware gLite in first year
  - A second middleware in year 2
Participants

- 6 partners
  - 5 academic partners
  - 1 industrial partner with profound Eclipse experience

- 12 committers
  - Harald Kornmayer (project lead) (FZK) Profound JAVA development experience, Eclipse knowledge, Grid expert
  - Markus Knauer (lead architect) (INNOOPRACT) Profound experience in Java and Eclipse development
  - Pawel Wolniewicz (PSNC) Profound JAVA development experience, Grid expert
  - Jochen KrauseEclipse (INNOOPRACT) CEO of Innoopract and member of the Eclipse Board of Directors
  - Katarzyna Bylec (PSNC) Student
  - Thomas Koeckerbauer (JKU) PhD student
  - Rafa Lichwala (PSNC) Solid Java development experience, Grid expert
  - Mateusz Pabis (PSNC) Student
  - Martin Polak (GUP/JKU) Profound development experience, Grid expert
  - Mathias Stuempert (FZK) Profound development experience
  - Ashish Thandavan (RUR) PhD student
  - George Tsouloupas (UCY) Profound Java development experience, Grid expert

- Founded by the European Commission
  - contract number 034327
Community

• Grid infrastructures for e-Science are emerging and will be used by many scientists
  – Currently within the EGEE project, > 150 scientific “Virtual Organizations” started to migrate to the EGEE infrastructure (www.eu-egee.org)
  – Beyond the European Grid projects, the g-Eclipse project was already contacted from
    • Australia
    • Brazil
  – The project created already some awareness in the Grid community
Collaboration

- with PTP
  - Exchange of tools possible
    - PTP develops tools for parallel application development
    - g-Eclipse develops tools for distributed Grid resources
    - Exchange of tools will create synergies

- DSDP and target management
  - Collaboration in “standard” access tools like SSH, SFTP, … in the Target Management subproject (RSE)

- We see potential collaboration and started to contact the other projects
Namespace

- Due to requirements from the funding body
  - eu.geclipse.*
Architecture overview

Architecture with exemplary support of the gLite middleware on top of the g-Eclipse core

![Diagram of g-Eclipse architecture]

- VOMS UI
- VOMS Authent. Impl.
- gLite Middleware UI
- Resource Management UI
- gLite Middleware Resource Management Implementation
- Grid Authentication Core
- Grid Resource Management Core
- Job Management
- Res. Management
- Eclipse Platform
Roadmap

- for each of the releases separate milestones will be defined on 4-6 weekly periods