



omii europe
open middleware infrastructure institute

Grid Interoperability with OMII-Europe

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Talk Outline

- **What is OMII-Europe and what do we mean about Grid Interoperability?**
- **What interoperability do we have now and what will we have later?**
- **When will interoperable solutions be available and how can we get them?**

What is OMII-Europe?

- **2 year EU funded project involving 16 partners to enable-infrastructure interoperability**
 - Comprising major grid middleware providers
 - 9 months remaining
- **Focus is on achieving interoperability through common standards**
 - Common standards long term solution
 - Significant involvement and success in OGF and Oasis
 - Implementations of standards in tandem with standards development on all middleware platforms

Who benefits from Interoperability?

“Interoperable grid middleware allows resource owners to deploy their grid management software of choice that is transparent to end users”

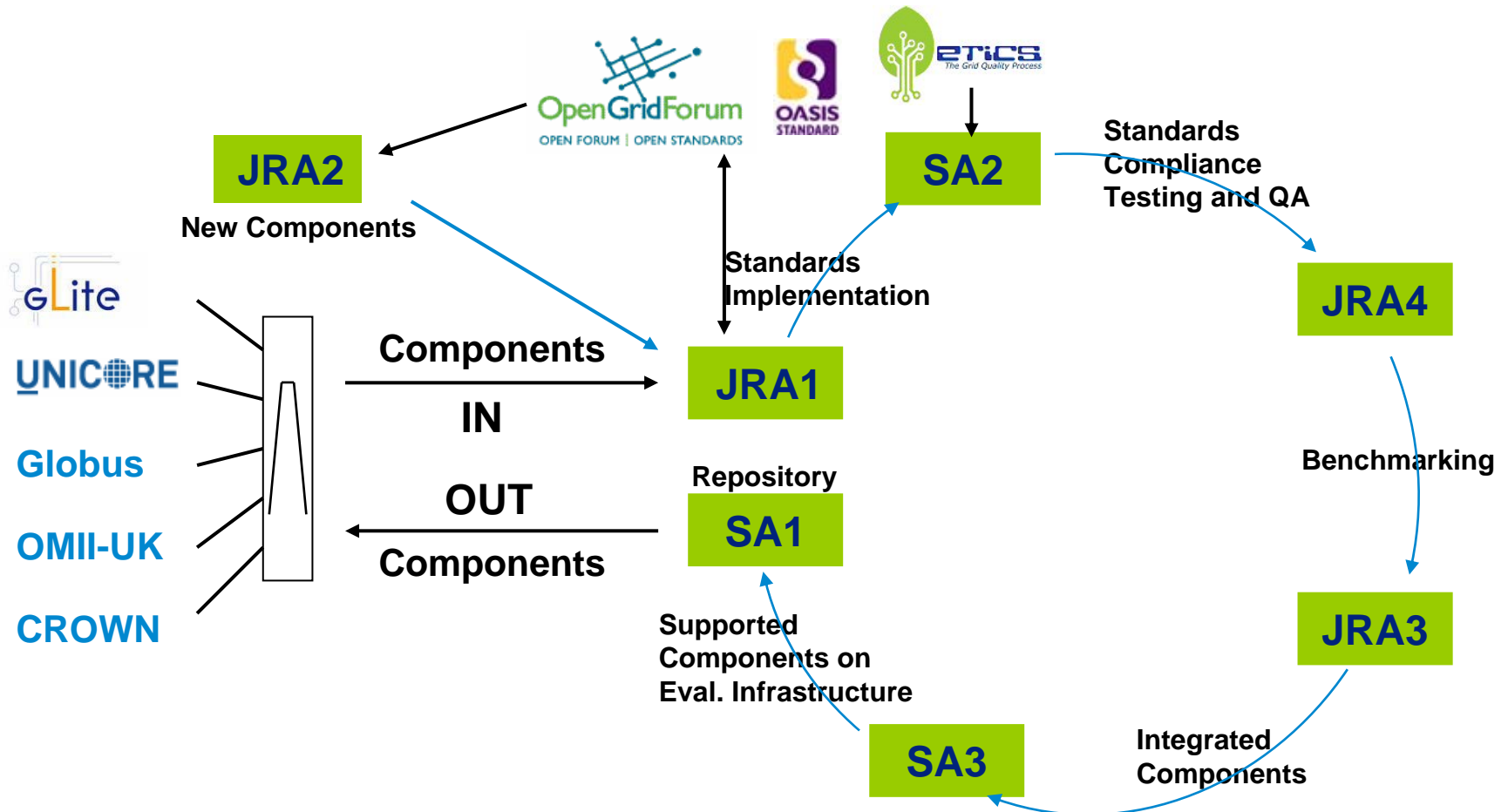
- **Grid Developers**
 - A single standard set of services on all grid middleware systems
 - Applications portable across different grid middleware systems
- **E-Science application users**
 - Common ways for accessing any e-infrastructure resources
 - Potential access to a significantly larger set of resources
- **E-resource owners**
 - Reduced management overheads as only a single grid middleware system needs deployment
 - Potential for greater resource utilisation

“For the Grid to deliver on it’s promises interoperability needs to be taken for granted like network interoperability”

Participation in middleware standardisation

- **Most project participants involved as member/observer in many OGF WG**
- **11 project participant hold senior positions in**
 - OGSA DAIS WG (Database Access and Integration Services)
 - OGSA RUS WG (Resource Usage Server)
 - OGSA BES WG (Basic Execution Service)
 - OGSA JSDL WG (Job Submission Description Language)
 - GIN CG (Grid Interoperability Now)
 - OGSA-AuthZ-WG (Authorization)
 - GLUE WG
 - GFSG WG (Grid File System)
 - RM WG (Reference Model)
 - OGSA Naming WG
 - Technical Standards Committee
 - GSA RG (Grid Scheduling Architecture)
 - GRAAP WG (Grid Research Agreement Allocation Protocol)
 - OGSA BYTE IO WG
 - OGSA D WG (Data)
 - OGSA DMI WG (Data Movement Interface)

The OMII-Europe Standardisation process



Some progress to date...

- **Alpha BES and JSDL implementations for UNICORE 6, gLite 3.1, Globus 4, OMII-UK, CROWNgrid available**
 - Interoperability demonstrated through use of a BES compliant meta-scheduler
- **VOMS service extended to support SAML and integrated into UNICORE**
 - SAML support available for integration into EGEE
- **Initiated development of a common security profile acceptable to all grid middleware systems**
 - gLite, Globus and UNICORE to accept x509 Proxy cert.
 - Interoperability demonstration with UNICORE and gLite using proxy cert, a common VOMS SAML service and BES/JSDL
- **Alpha versions of client and server RUS (common accounting service) for gLite (DGAS), Globus (SGAS) and UNICORE available**
- **OGSA-DAI 3.0 alpha version for UNICORE and gLite available**
- **Portal demonstrator access to gLite and UNICORE providing single sign on and access to resources**

And also available now and ongoing...

- A number of training courses to date giving hands on experience of middleware systems, and interoperable services. See <http://training.omii-europe.org>
- Evaluation infrastructure and support available to try out different middleware systems and interoperable services. See <http://support.omii-europe.org>

What can you do now... and later...

- **Now**

- Most products at Alpha stage not publicly available
- They provide basic interoperability of multiple grid middleware systems focusing on job execution
- Available to early adopters working with OMII-Europe partners

- **Spring 2008 (end of current project)**

- Further security integration work between different middleware platforms
- Completed QA'd services and demonstrated end-to-end solutions
- Availability of GLUE II information model service implementations

- **Late 2008/9 (anticipated new project)**

- Addition of further data management and grid management capabilities in addition to job execution management

OMII-Europe implications for UNICORE

- **UNICORE will additionally/optionally provide a BES interface for job submission and management using JSDL**
 - Existing users unaffected
- **UNICORE can optionally be configured to use SAML assertions from the new version of the VOMS server**
 - This enables VO's to span gLite and UNICORE systems
- **UNICORE can optionally be configured to use x509 proxy certificates**
 - This is necessary for transparent use of Globus, gLite and UNICORE systems
- **Additional common services will be deployable on UNICORE**
 - OGSA-DAI, RUS, GLUE II Information model, others...

Obtaining the services

- **Primary route to deployment is through grid middleware suppliers**
 - Long term strategy
 - Bundle OMII-Europe grid middleware components with standard middleware distributions
 - **Outline plans for 2 components in UNICORE 6.1 by end 2007 (BES and VOMS)**
 - **One component already part of gLite, further discussions scheduled**
- **Secondary strategy is to provide additional interoperable components to existing e-infrastructures**
 - Short to mid term strategy
 - Integrate components into major European e-infrastructures
 - **EGEE discussions started in July**
 - **DEISA discussions after September**
- **Finally software also available from OMII-Europe repository**
 - primarily targets early adopters and those people deploying their own e-infrastructures

Summary

- **OMII-Europe is a 24 Month EU funded project with 16 partners to establish grid infrastructure interoperability through implementing a set of agreed open standards on all middleware platforms**
- **OMII-Europe is implementing a common Job submission system, Accounting service, Database service, Virtual Organisation service, Information Service and Security model for major middleware platforms. This will allow identically specified jobs to be run, managed and migrated to different middleware platforms thus enabling “the Global Grid”**
- **Initial versions of BES, VOMS and security service have already enabled UNICORE and EGEE resources to be used by the same job**
- **A complete set of fully interoperable services will be available in spring 2008 with early versions of some services available already**
- **Users can try interoperability on the OMII-Europe evaluation infrastructure, or obtain services for installation on their own resources from the OMII-Europe repository**
- **We anticipate OMII-Europe services to be integrated into standard middleware distributions as well as deployed on large scale e-infrastructures such as EGEE and DEISA**
- **OMII-Europe will request continuing funding in the September EU call to support the existing services and provide further services in the areas of data and grid management**
- ***OMII-Europe brings interoperability and standardisation to UNICORE***

Further Information

- <http://www.omii-europe.org>