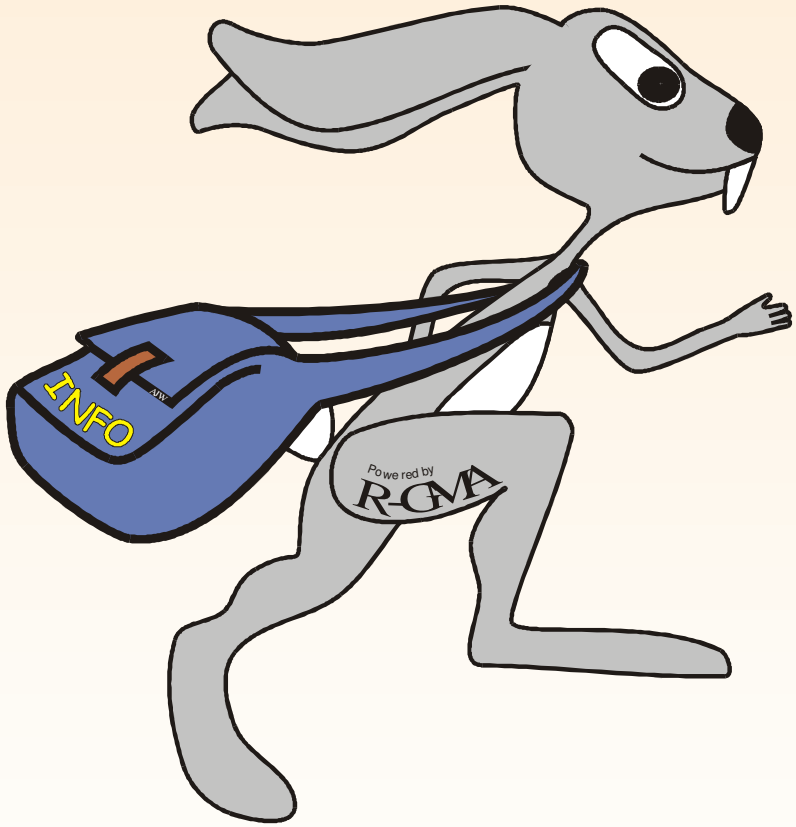

Status of OGSA work relevant to RGMA

Abdeslem DJAOUI

RAL

WP3 meeting 3/4/2003

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Many changes in last 4 months

- TP2, 3, 4, GT3 alpha 1, 2,3
- Technology previews not supported since alpha release
- OGSI specification in draft 26
  - Uses WSDL 1.1 (tooling support limited for WSDL 1.2)
  - OGSI 1.0 to be submitted to GGF in a few days
- GT3 alpha Based on Draft 4 of Grid Service Specification Oct 2002
  - Release GT3 version should be based on OGSI v1.0
- DAI-OGSA also released
  - Since RGMA uses RDMS, why not use DAI interfaces?

Globus Toolkit

- Main GT components
  - Information and Monitoring (MDS)
  - Resource Management / Job Scheduling
  - Data Management
  - Security
- GT3 Alpha released on Wednesday 15 January
  - Basic services
  - Some security features
  - Some C, .Net … client code
- Beta planned for end April
- Official GT3 release planned for end of June

GT3 Information services

- Fundamental change: NO MORE LDAP
- Based on Following OGSA services
  - Service Data Provider Components
  - Registry Components
  - Consumers
- Similar architecture to GMA
- XML based (servicedata, Xpath)
- Currently only following queries
  - The basic OGSA FindServiceData mechanism allows to find data by name and by type.
  - Simple Xpath in alpha 3
- More complex queries possible
  - Xquery?

GT3 Index Service

- A generic framework for aggregation of Service Data
  - Service data coming in from various information provider programs can be aggregated in different ways and indexed to provide efficient query processing
- Provides an interface for connecting external information provider programs to service instances

- A set of available Grid services is maintained in a Registry. A Registry allows for soft-state registration of Grid services.

- It should be possible to interconnect multiple GT3 Index Services together into arbitrarily complex topologies to form both Virtual Organizations and Virtual ServiceDataSets.
  - RGMA could be considered as a virtual distributed RDBMS

Future GT3 information services developments

- Complete security implementation. Possibly include SDE-level ACLs.
- Persistence of ServiceDataSet in XML native database (e.g., Apache Xindice).
- XPath/XQuery functionality for aggregate datasets.

OGSA-DAI

- Interface to XML and relational databases
- Distributed query system
- Grid Data Service Registry, GDSF and GDS
- Client queries GDS with SQL, XPath, XQuery etc …
- GDS interacts with database through an API
- Results of query returned to client as XML

OGSA-DAI future

Release 1

- supports MySQL and Xindice
- Simple synchronous interaction with a data source using a GDS as a proxy
- Uses JDBC and XMLDB
- Databases can be local or remote

Proposed Releases

- Runtime compatible with GT3
- QueryByGridDataServiceXPath:
  - Searching of registration information using XPath queries.
- Notification

Were we are today

- RGMA was ahead, but others are catching up
- OGSI is based on a SOA architecture (so is GMA)
- OGSI provides many building blocks for information/monitoring systems
- Inevitable similarities between OGSAI-based systems
- Identify RGMA strengths and take a leading role in those areas
- We have to make critical choices over the next few months on how to port RGMA to OGSA if we want to be here next year
  - OGSIfication not enough
  - Compliance with GGF standards
  - Interoperability with GT3