



OGSA – Data Access and Integration Services – WP6

Brian Collins – IBM Hursley

15 April 2002

Agenda

- Background
 - Team
 - Research /Information Gathering
 - Documents
 - Scenarios
- Scope
- Architecture

15 April 2002

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Team

- IBM
 - David Watson
 - Syd Chapman (part time)
 - **Brian Collins**
 - **Neil Hardman**
 - Alan Knox
 - **Simon Laws**
 - **James Magowan** (part time)
 - Manfred Oevers (part time)
 - Ed Zaluska (secondment)
- NeSC/EPCC
 - Malcolm Atkinson
 - Rob Baxter
- Newcastle
 - Paul Watson
- Manchester
 - Norman Paton
- Southampton
 - Vijay Dialani
- Oracle
 - Dave Pearson
- IBM
 - **Tony Storey**

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Research / Info Gathering

- Documents
 - OGSA, NeSC, DBTF, Globus, GGF, etc
- Globus Toolkit Version 2 and 3
 - GSI, CAS, & GridFTP
- “Overlap”
 - OGSA, “Spitfire” (EU DataGrid WP2), Avaki, GDMP, etc
- Technology
 - Linux, RDBMs (SQL, XSQL, etc), JDBC, ODBC, Web Services (SOAP, WSDL, UDDI), GRID Java CoG Kit, SRB, etc
- Legal
 - Open Source Licenses
- People
 - DBTF - 21 March; EU DataGrid WP2 - 9 April; DAI - 15 April



Documents

- I. Foster, C. Kesselman, J.M. Nick, and S. Tuecke, *The Physiology of the Grid: An Open Grid Services Architecture for Distributed Systems Integration*, Globus Project Technical Report, January 2002
- S. Tuecke, K. Czajkowski, I. Foster, J. Frey, S. Graham and C. Kesselman, *Grid Service Specification*, Globus Project Technical Report, February 2002
- P. Watson, *Databases and the Grid*, Technical Report CS-TR-755, University of Newcastle, 2001
- D Pearson, *Data Requirements for the Grid Scoping Study Report*, Technical Report, February 2002
- N.W. Paton, M.P. Atkinson, V. Dialani, D. Pearson, T. Storey, P. Watson, *Database Access and Integration Services on the Grid*, Technical Report, February 2002
- M.N. Alpdemir, N.W. Paton and A.A.A. Fernandes, *An Investigation on the Integration of the Globus Toolkit with Relational DBMSs*, Technical Report, University of Manchester, March 2002
- NeSC, IBM, Oracle, eSNW, NEReSC, *OGSA – Data Access and Integration Services*, Project Proposal V 1.1, March 2002
- European DataGRID –*Data Management (WP2) Architecture Report*, DataGrid-02-D2.2-0103-1_2, September 2001
- European DataGRID –*Data Management (WP2) Data Access and Mass Storage System – State-of-the-Art Report*, DataGrid-02-D2.2-0105-1_0, December 2001

15 April 2002

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Scenarios

- Early Adopter Users
 - Understand Workflows – Set Priorities
 - Dave Pearson – “*Data Requirements ..*”
 - AstroGrid and MyGrid
- Other Scenarios
 - ????



Scope

- Norman Paton, *et al* and Nedim Alpdemir, *et al*
- Data
 - Design for any JDBC-enabled RDBMs
 - Test with Oracle, DB2, MySQL
- Languages and API
 - API based on established standards
 - Java and/or C (using API based on JDBC/ODBC)
- Handle Large Datasets
 - Multiple Protocols for Data Transport
- Globus
 - GSI & GridFTP, Globus-2



Scope (continued)

- Core
 - SQL '92 Standard
- Connections
- Authentication
- Test Suite
- Documentation



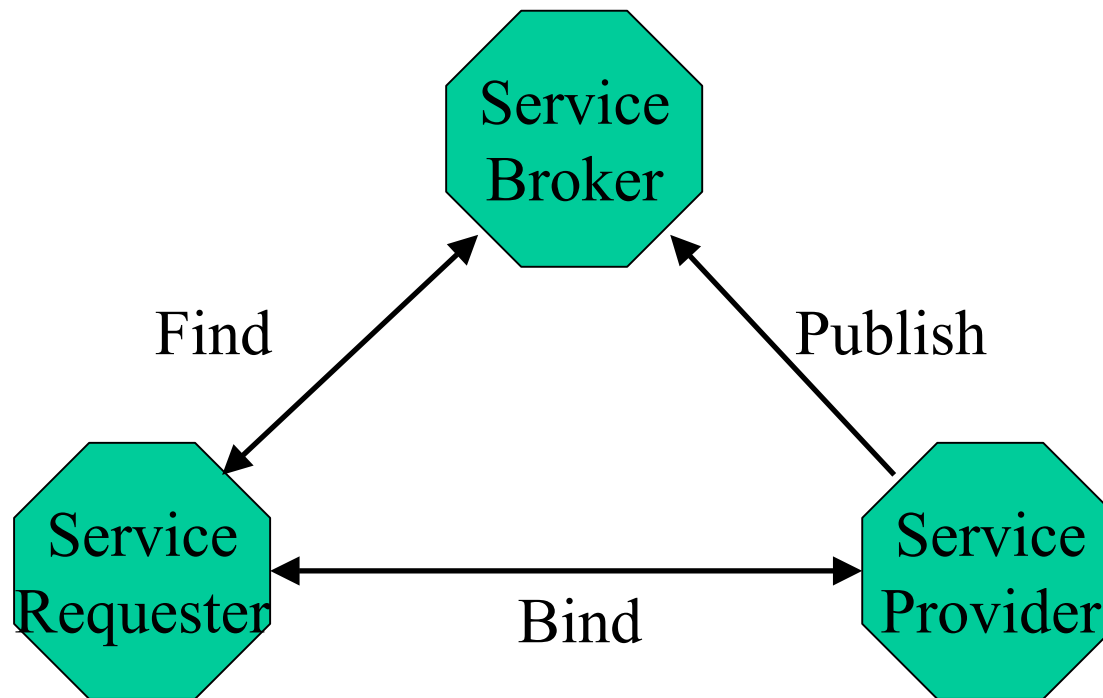
Scope (continued)

- Relationship to Other Grid Projects
 - EU DataGrid (WP2) – Leanne Guy
 - OGSA Database Activities – Inderpal Narang



Architecture

- Web Services Paradigm



- Resources
- Applications
- Data

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Architecture

- After Paul Watson

Service
Interface
Onto
The
GRID

Metadata		DBS DBMS
Query		
Transaction		
Notification		
Bulk Loading		
Scheduling		
Accounting		
Navigation		

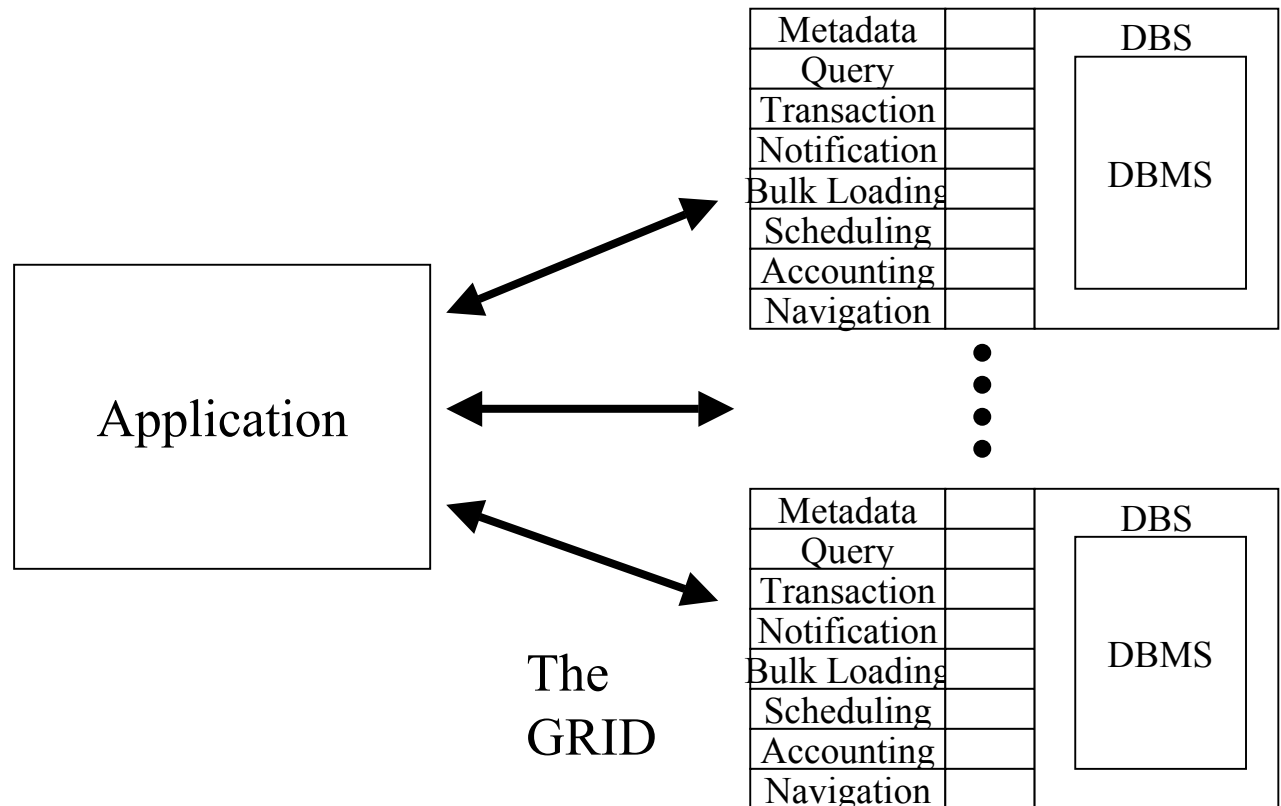
Services Interface Code

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Architecture



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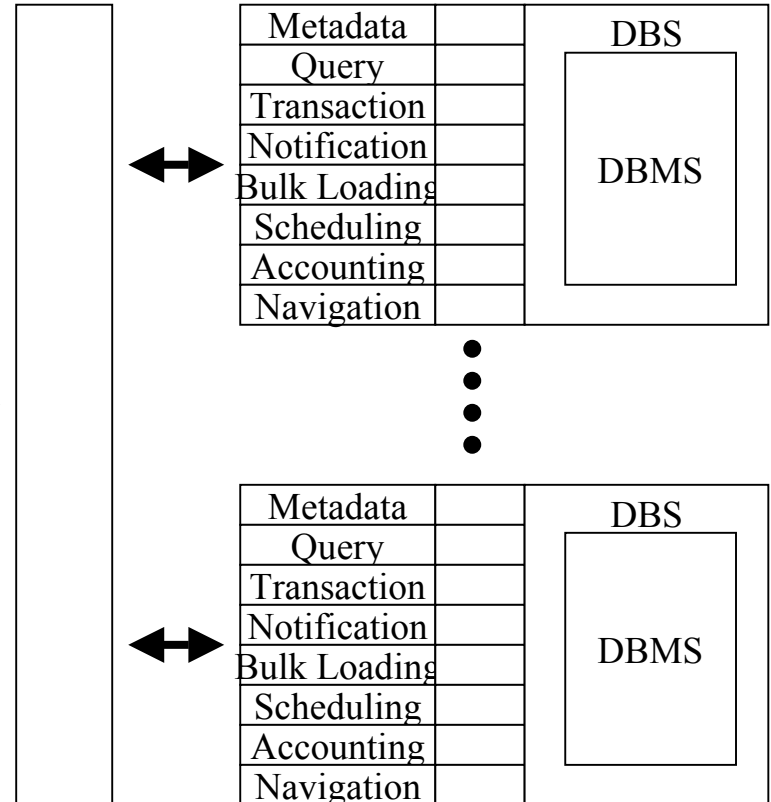
Architecture

Service Federation Middleware

Service Interface
Onto
The
GRID

Metadata	
Query	
Transaction	
Notification	
Bulk Loading	
Scheduling	
Accounting	
Navigation	

Virtual DBS



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