OGSA-DAI

Support, Evaluation and Application

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CCLRC e-Science AHM

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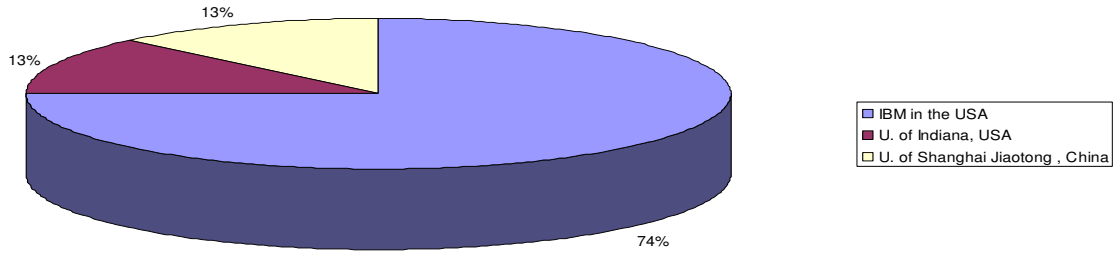
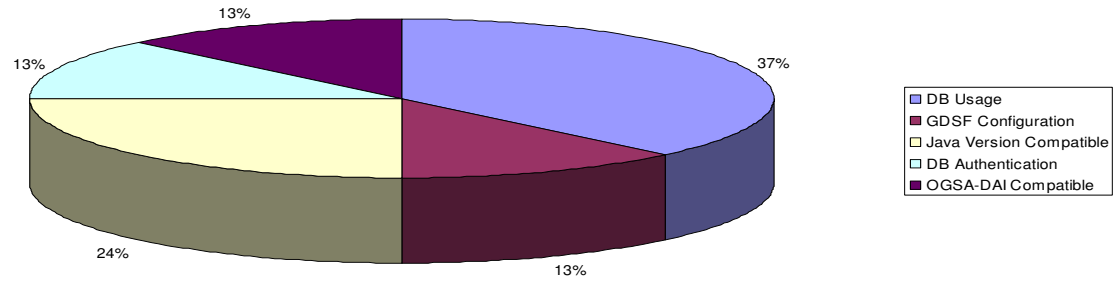
OGSA-DAI Support

- Time: From 10/06/2003 to 04/07/2003
- Software Based: GT3 Alpha3 and Beta, OGSA-DAI v2 and v2.5
- Where the Query Submissions Come From:



- Queries Covered



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GT3/OGSA-DAI Evaluation

- What is OGSA-DAI
  - OGSA Data Access and Integration
  - Within the OGSA Framework
  - GT3 Base Service
- Three Key New Services:
  - GridDataService
  - GridDataServiceFactory
  - DAIServiceGroupRegistry
- Databases Supported:
  - Xindice, MySql, Oracle and DB2
- Languages Supported:
  - SQL92, Xpath, Xupdate

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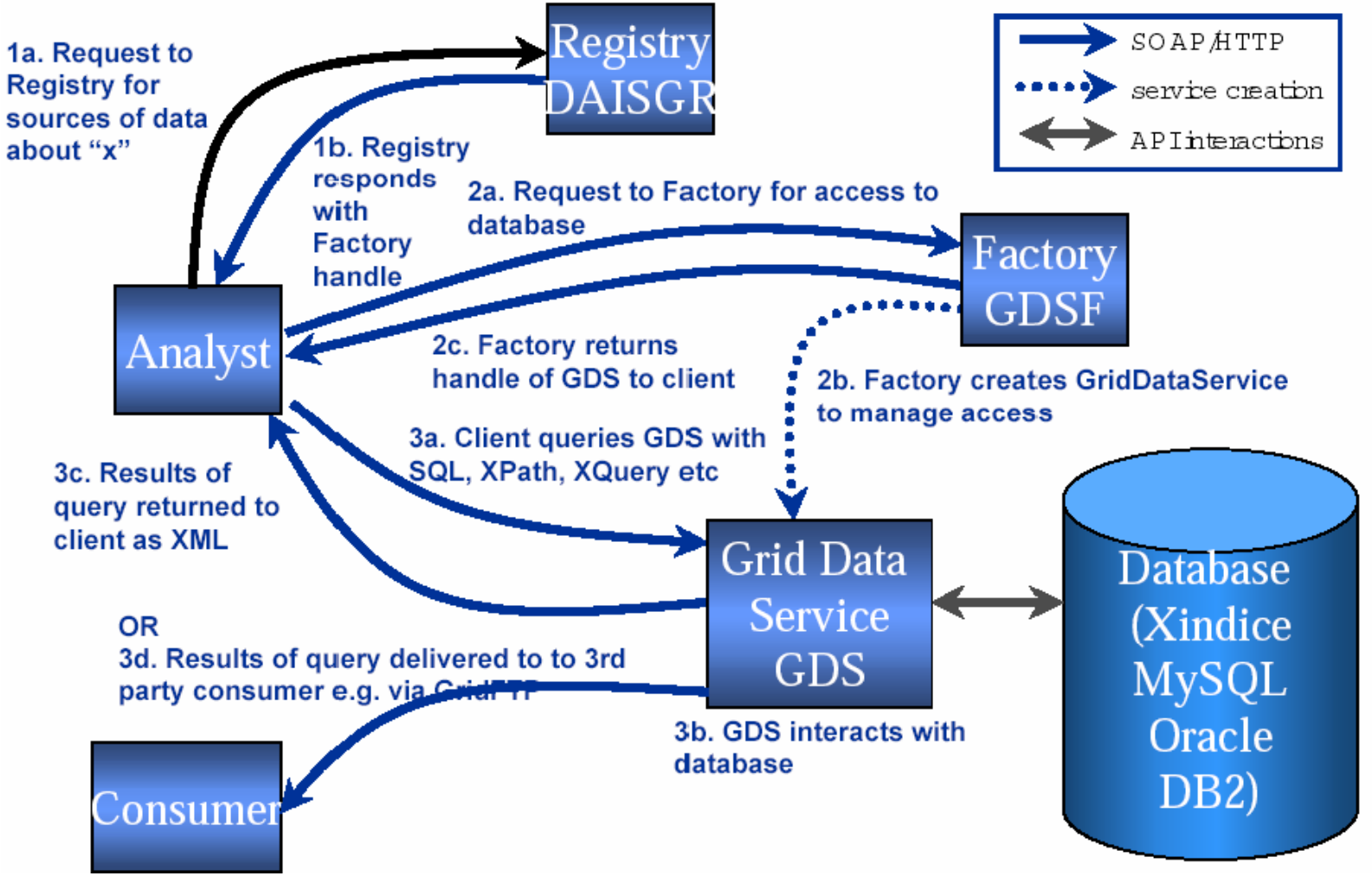
GT3/OGSA-DAI Evaluation



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GT3/OGSA-DAI Evaluation

OGSA-DAI (v 3.0.2) Performance Test Suite

- **Setup1**

Each OGSA-DAI test client executes the following steps:

Step1: Calls DAIServiceGroupRegistry to find GridDataServiceFactory

Step2: Calls GridDataServiceFactory to create instance of GridDataService

Step3: Calls instance of GridDataService to search Xindice DB. A 2KB size XML data will be got.

Step4: Calls instance of GridDataService to destroy itself.

With and without authentication via GSI message level security

OGSA-DAI service hardware: one Intel Pentium III 450MHz processor, 384MB RAM ------ esc4.dl.ac.uk

OGSA-DAI test client hardware: one Intel Pentium III 450MHz processor, 384MB RAM ------ esc5.dl.ac.uk

GT3/OGSA-DAI Evaluation

OGSA-DAI (v 3.0.2) Performance Test Suite (cont.)

- **Setup2**

  Same with Setup1, but Step2 consists of 200 cycles, each of them calling GridDataServiceFactory to create new instance of GridDataService

- **Setup3**

  Same with Setup1, but Step3 consists of 200 cycles, each of them searching Xindice DB to get a 2KB size XML data

- **Setup4**

  200 clients talking to OGSA-DAI service were run serially on one node.

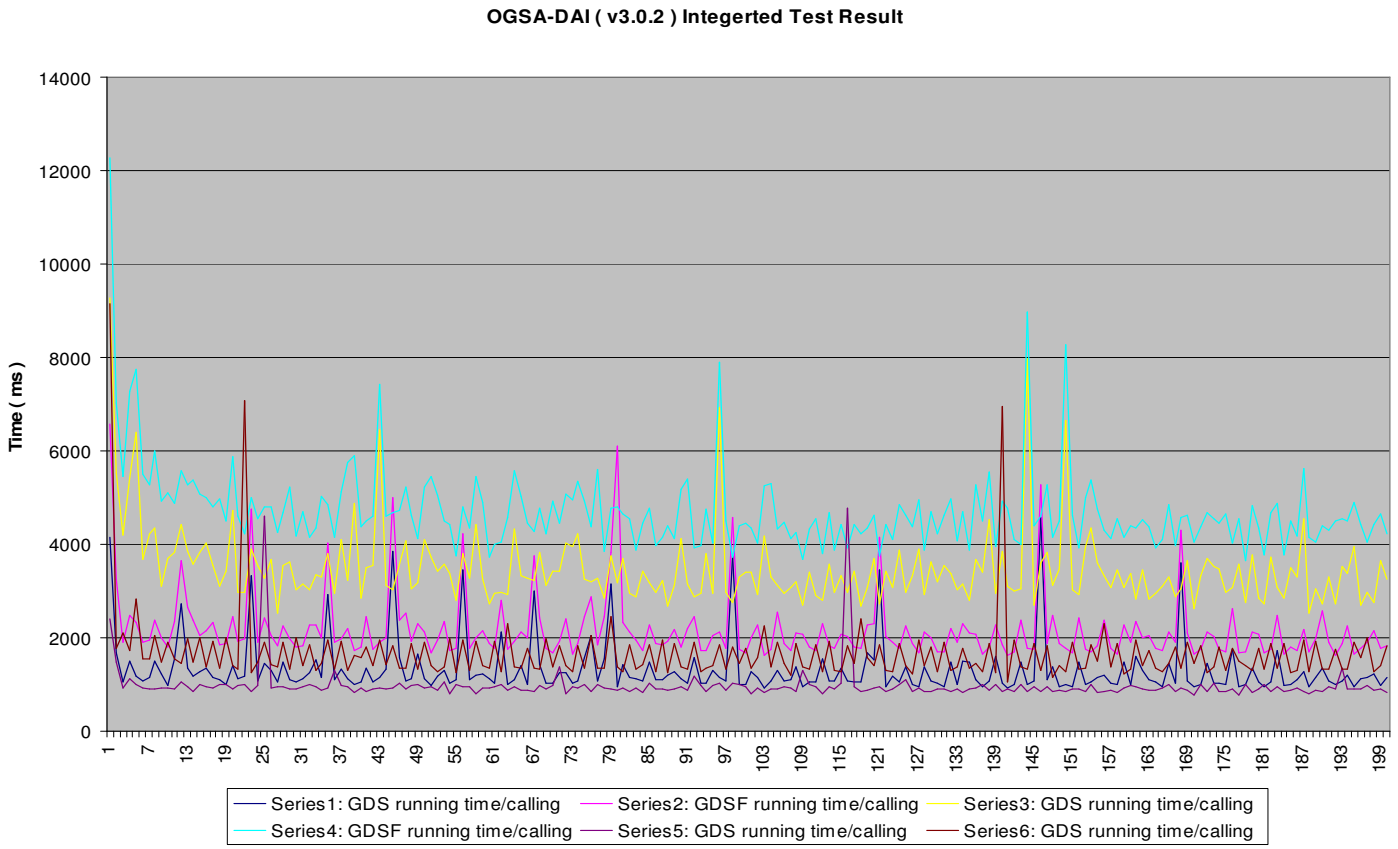
GT3/OGSA-DAI Evaluation

General Results of the Performance Test

Setup	Authentication	Service Container	Average Running Time	Average CPU u+s usage
1	No	Tomcat 4.1.24	25302 ms/service	99.9%
1	Yes	Tomcat 4.1.24	33362 ms/service	99.9%
2	No	Tomcat 4.1.24	1322 ms/service	99.9%
2	Yes	Tomcat 4.1.24	3487 ms/service	99.9%
3	No	Tomcat 4.1.24	973 ms/service	99.9%
3	Yes	Tomcat 4.1.24	1671 ms/service	99.9%

GT3/OGSA-DAI Evaluation

Test Results of the Client



Test results of Setup1 to Setup3

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GT3/OGSA-DAI Evaluation

Test Results of the Client (cont.)

Series1: one GDSF creates one instances of GDS. 200 cycles of calling GDSF, without security

Series2: same with Series1, but refer to GDSF

Series3: same with Series1, but with security

Series4: same with Series2, but with security

Series5: one GDSF creates one instance of GDS. 200 cycles of same instance of GDS, without security

Series6: same with Series5, but with security

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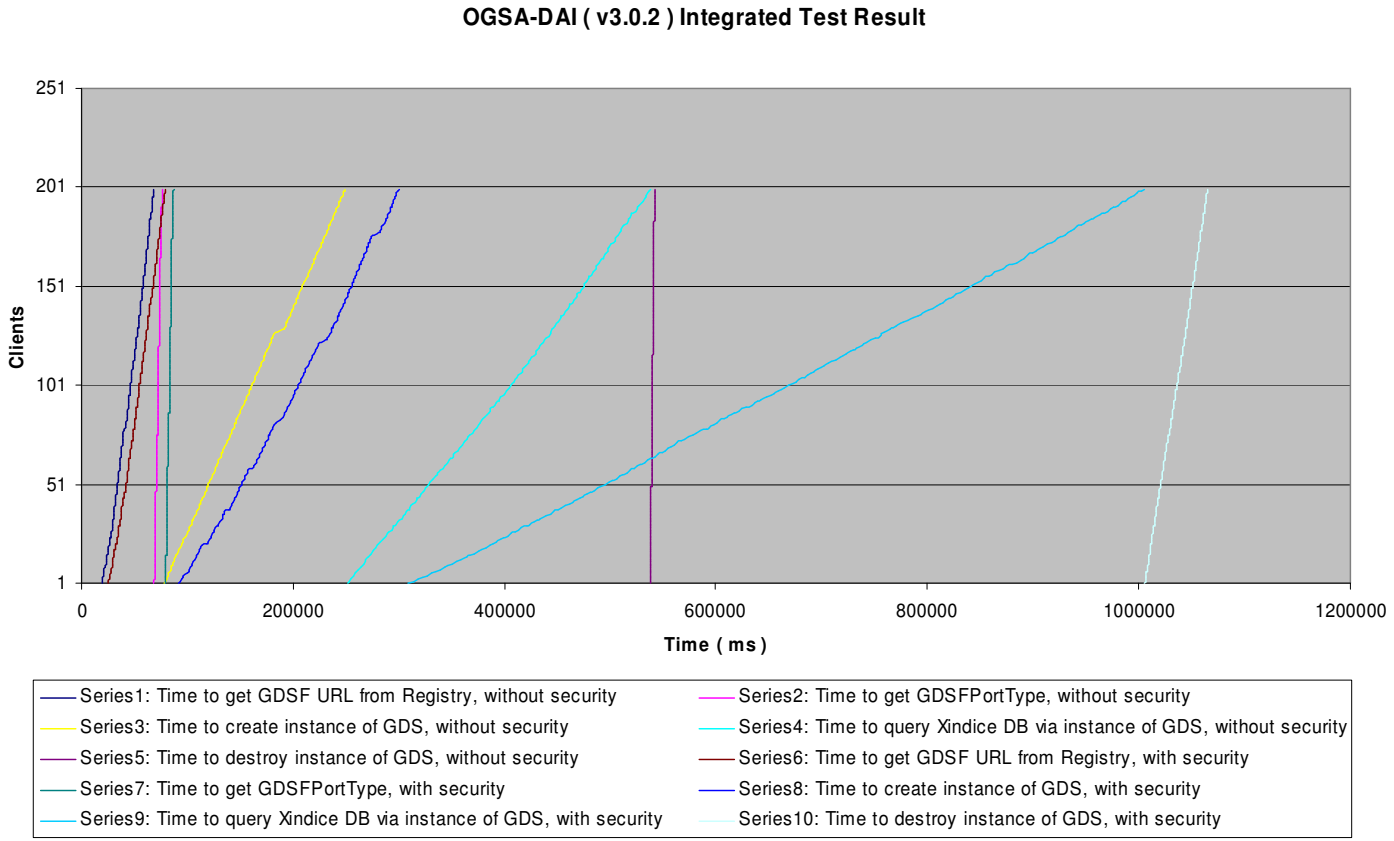
GT3/OGSA-DAI Evaluation

Test Results of the Client (cont.)



Test results of Setup4

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OGSA-DAI Application

JetSpeed

- Portal Framework
- Portlets Abstraction
- Java Based
- Open Source (Apache)
- Built Upon the Servlet API, Turbine, Torque and Velocity

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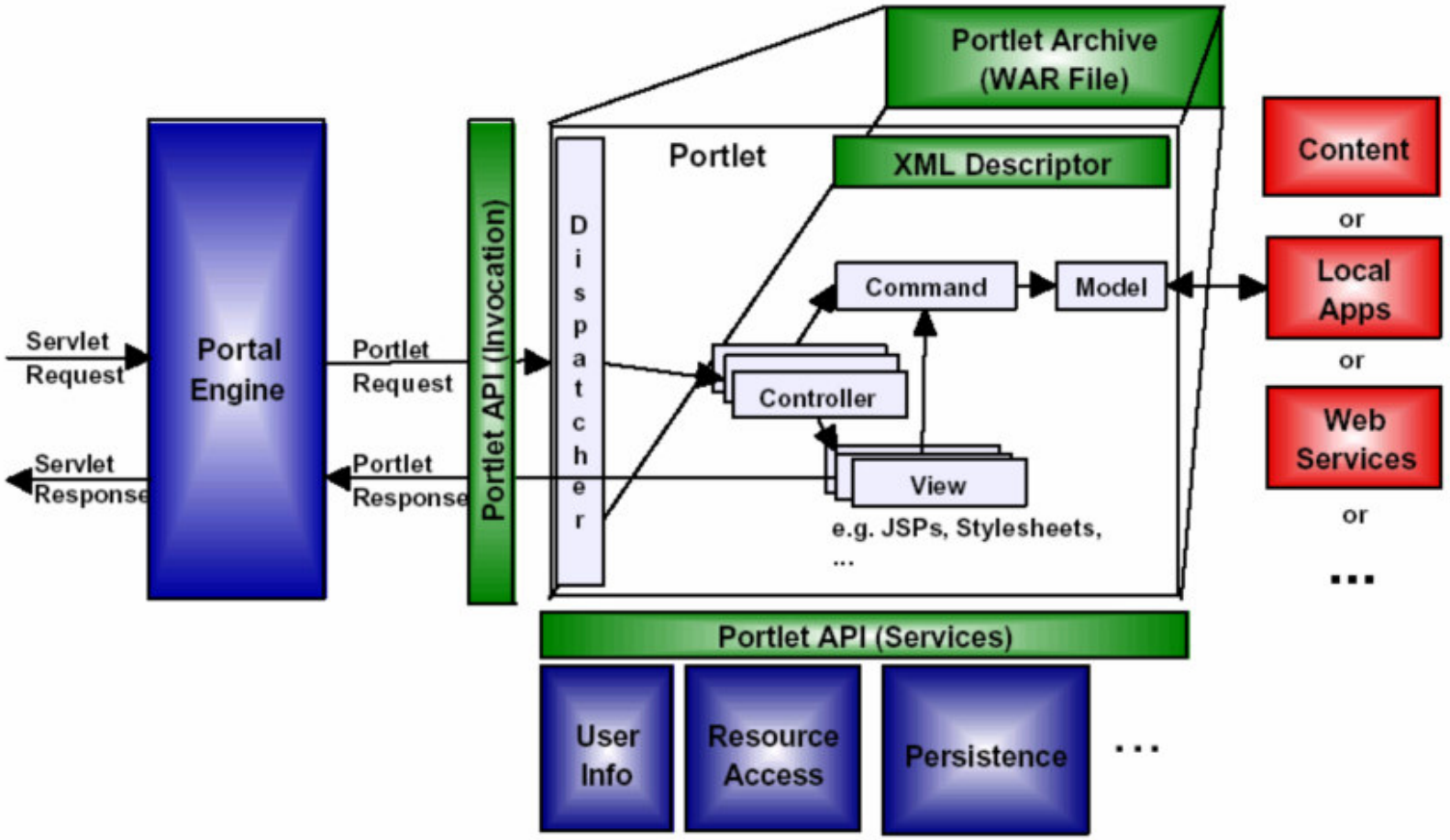
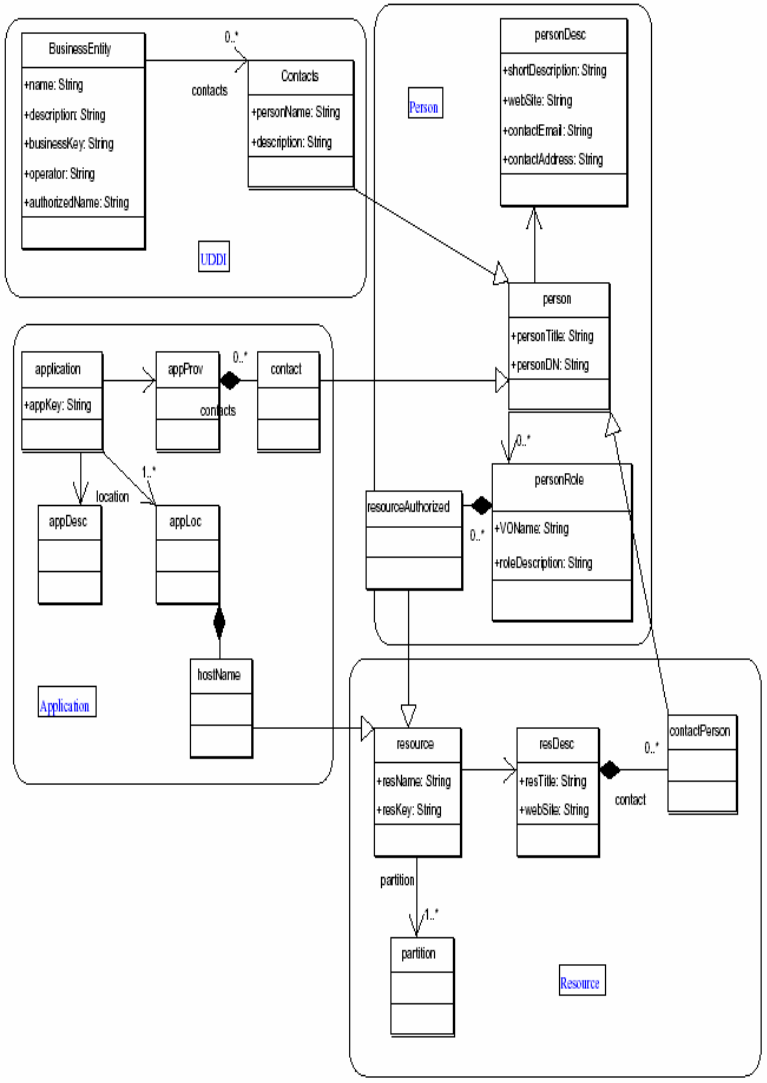
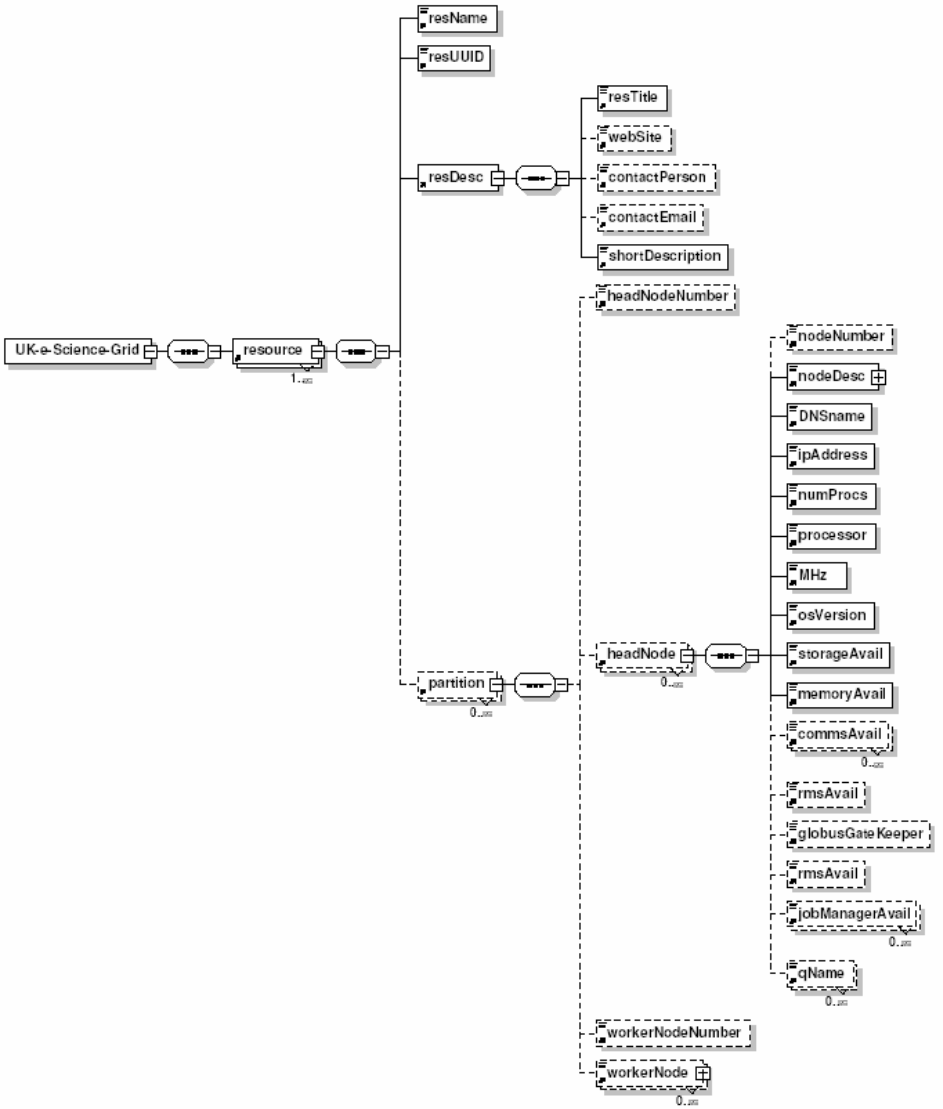
OGSA-DAI Application

Portal Architecture

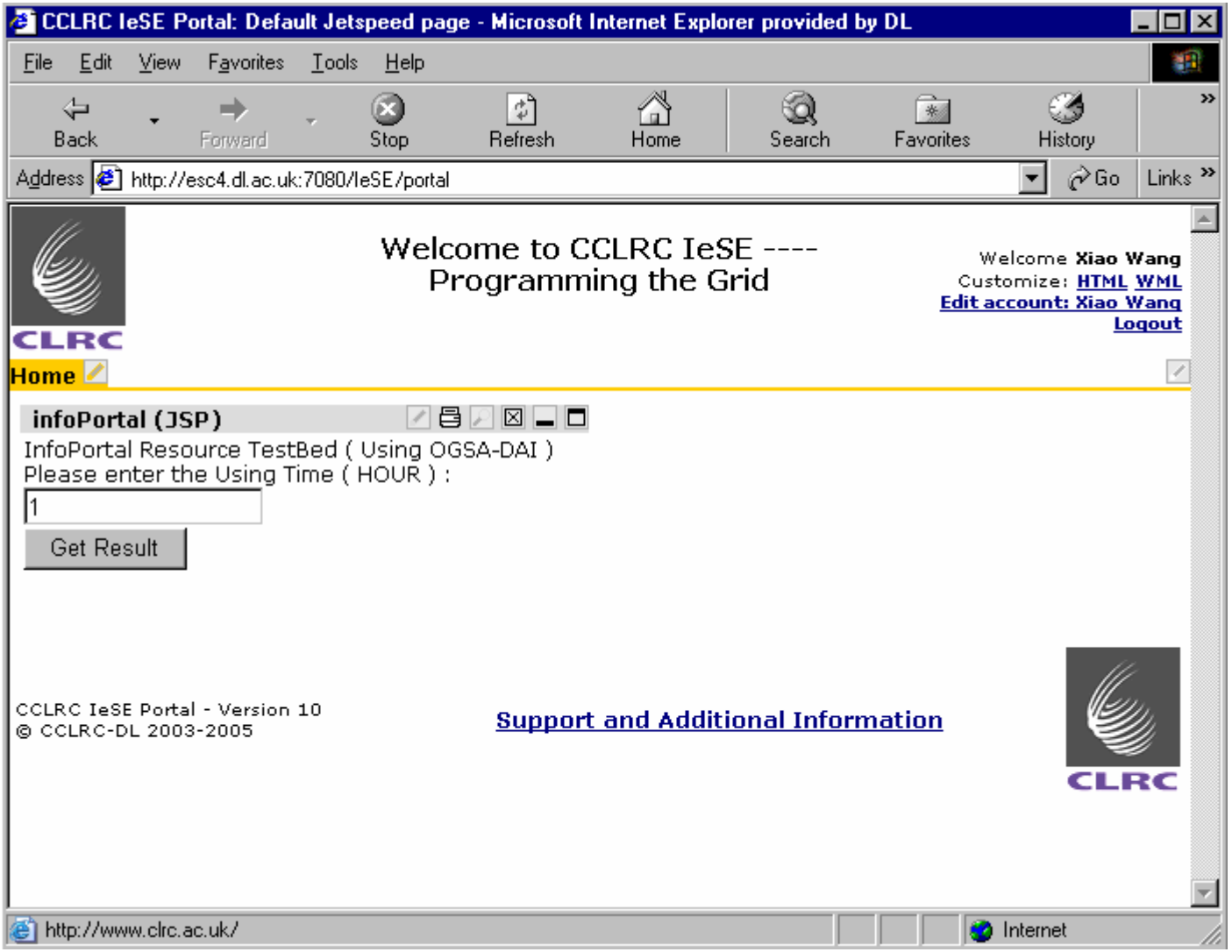


OGSA-DAI Application





OGSA-DAI Application



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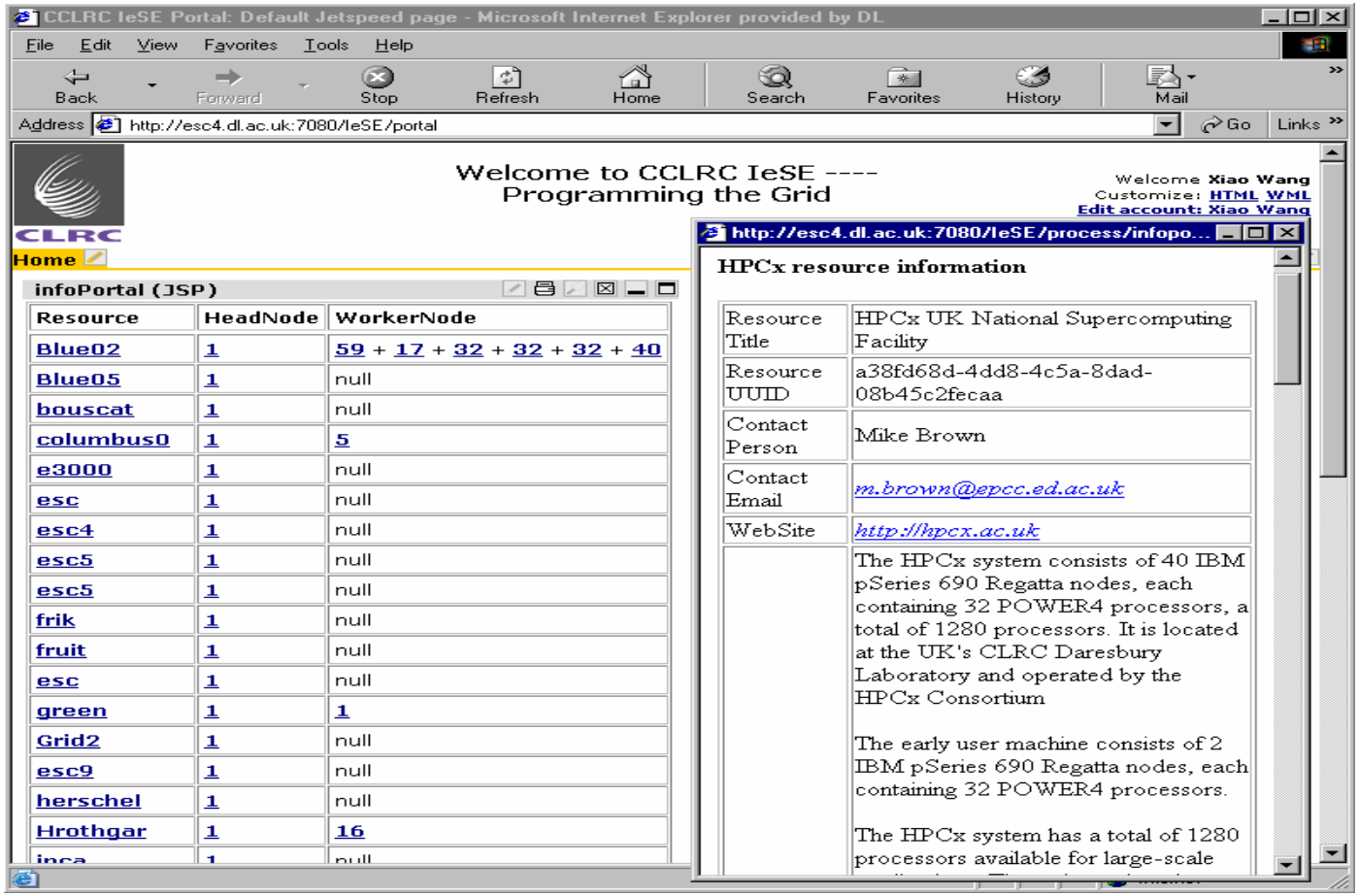

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