



OGSA-DAI Client Toolkit

OGSA-DAI Technology Update

GridWorld Community Activity

GGF15, Boston, MA (USA)

Amy Krause
EPCC

a.krause@epcc.ed.ac.uk

Outline

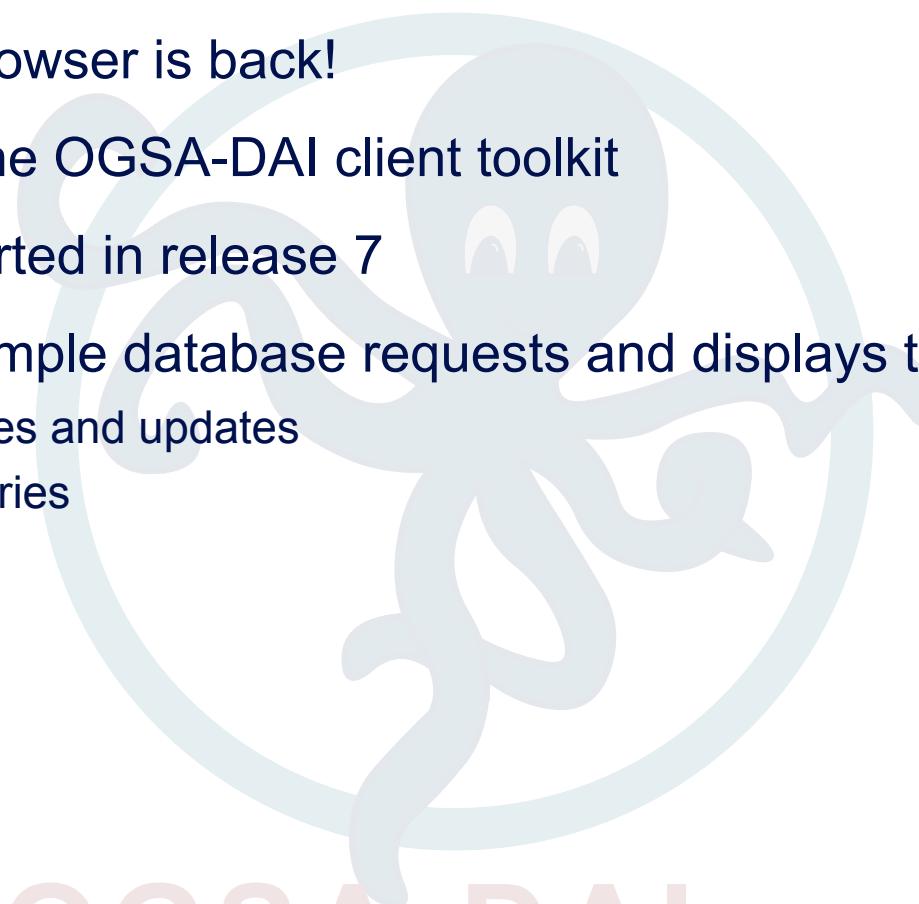
|epcc|

- Client Toolkit



OGSA-DAI

- The DataBrowser is back!
- Build with the OGSA-DAI client toolkit
- Fully supported in release 7
- Performs simple database requests and displays the results
 - SQL queries and updates
 - XPath queries

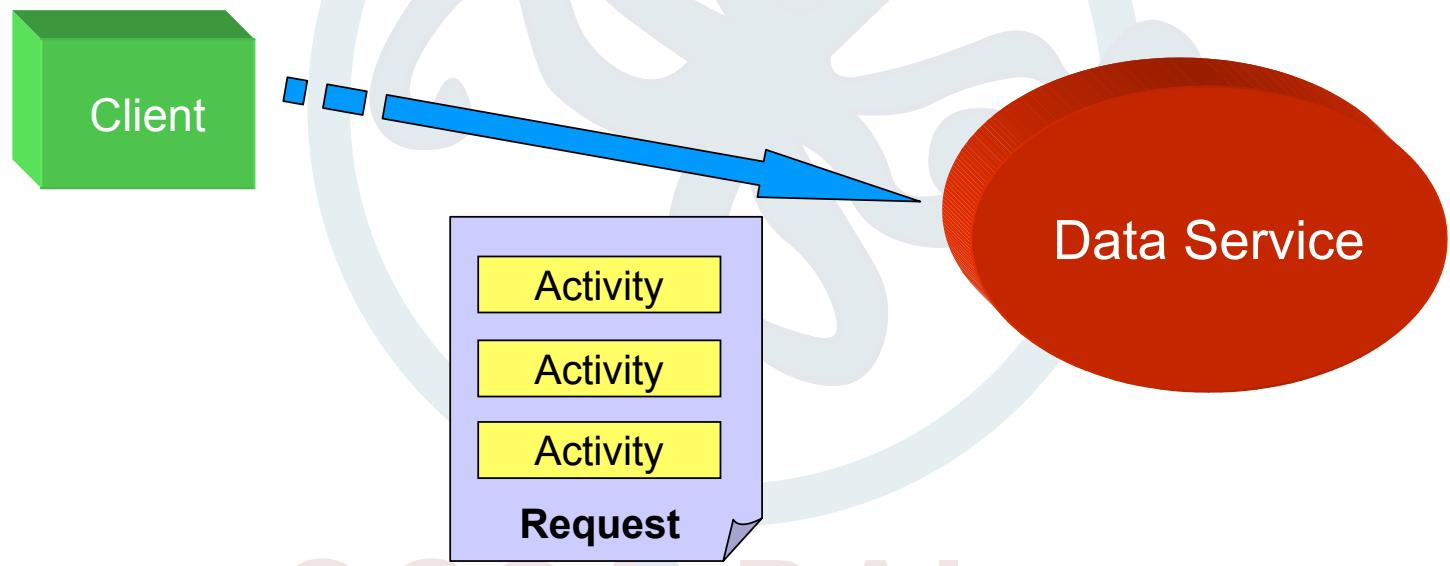


OGSA-DAI

- Client Toolkit was released in WS-RF (GT4), WS-I (OMII) and OGSI (GT3) flavours with release 6 (May 2005)
- Common abstraction level for all flavours
 - R6: Clients must know which version the service supports
 - R7 (October 2005): service version is hidden from the user
- The OGSI (GT3) version will be deprecated in release 7 (end of October 2005)
- This talk will focus on the new features of the upcoming release

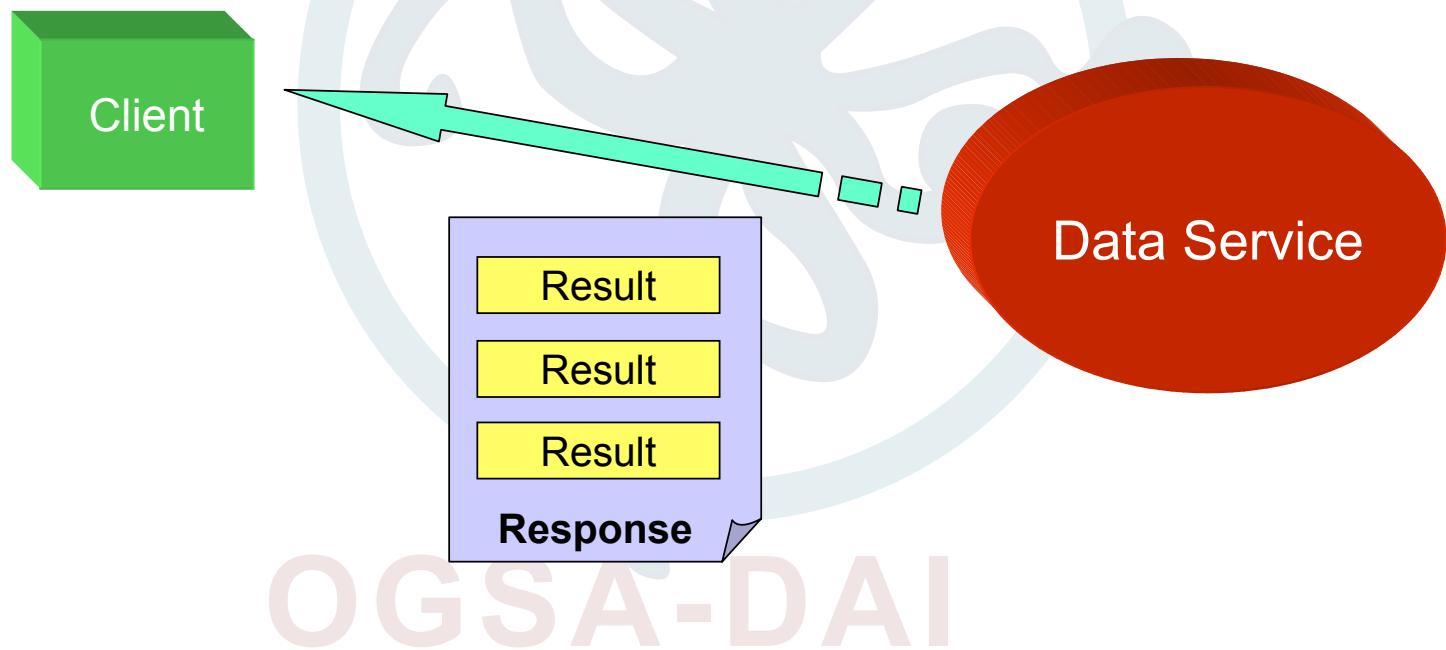
OGSA-DAI

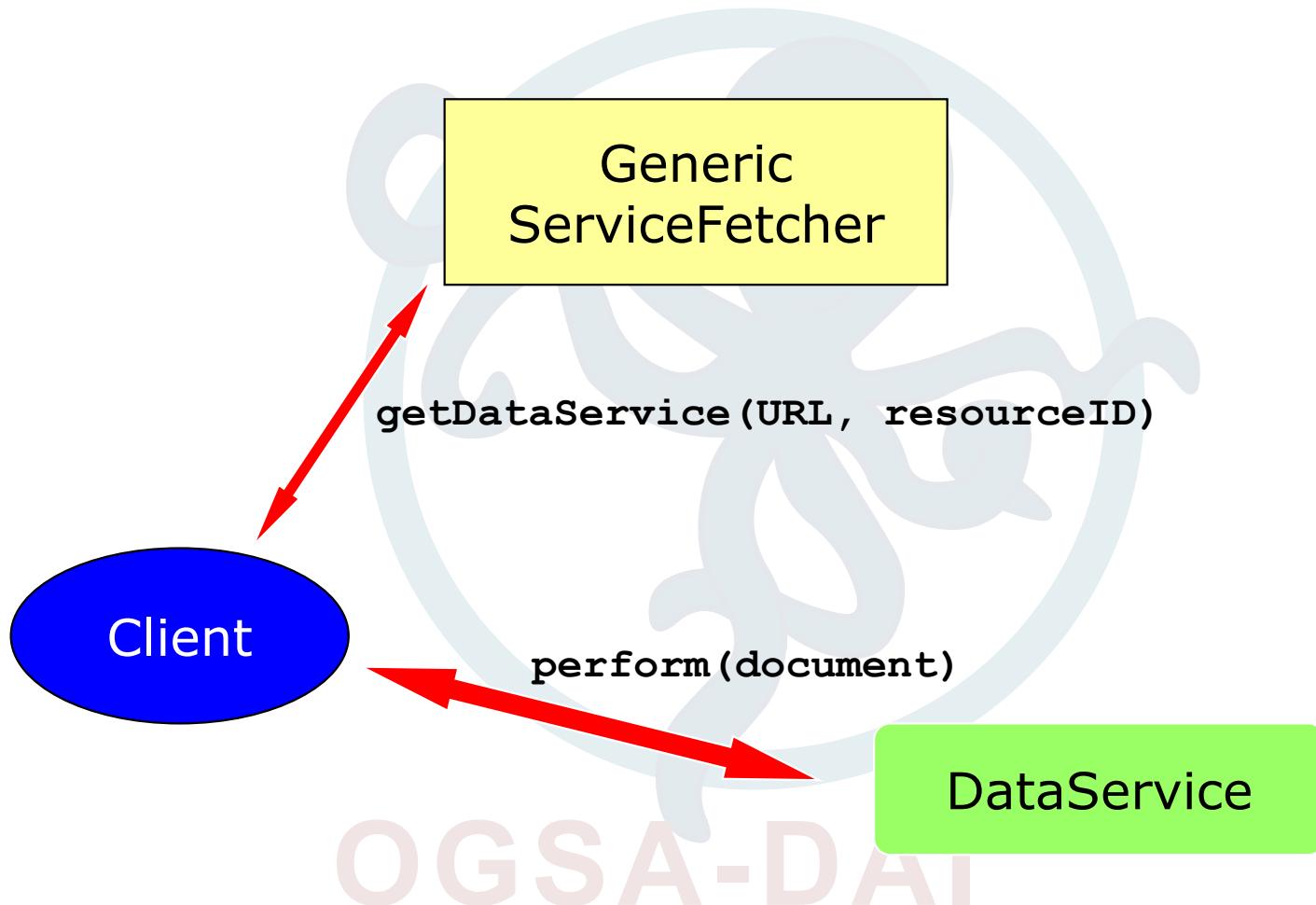
- Client sends a request to a data service
- A request contains a set of activities

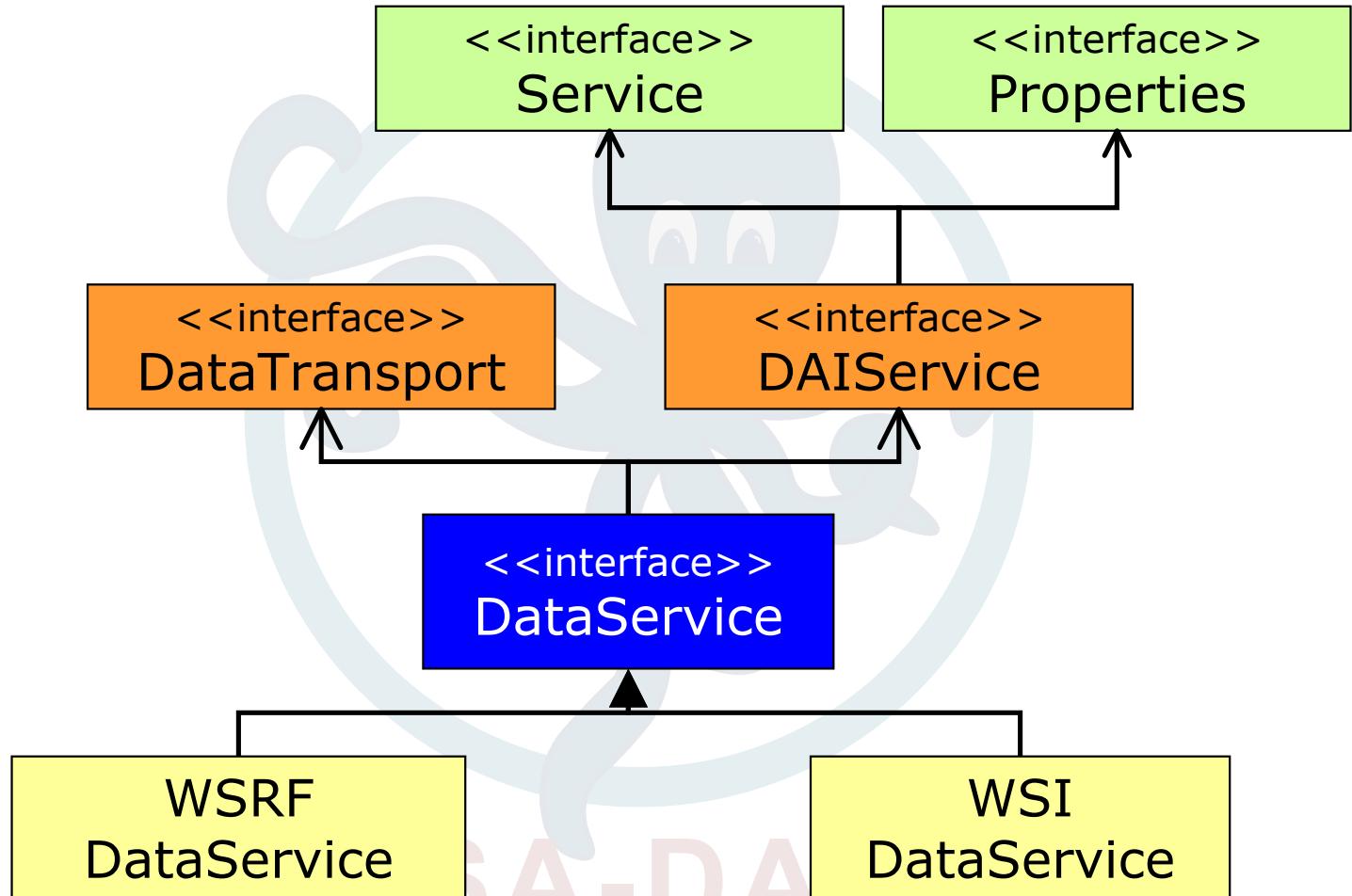


Interaction with a Data Service

- The Data service processes the request
- Returns a response document with a result for each activity







Data Service Operations

|epcc|

- Data Service

getProperties(QName)

getResources()

...

- Data Service with Resource

perform(Request)

perform(RequestComponent)

openSession()
closeSession()

putBlock(data)
getBlock()

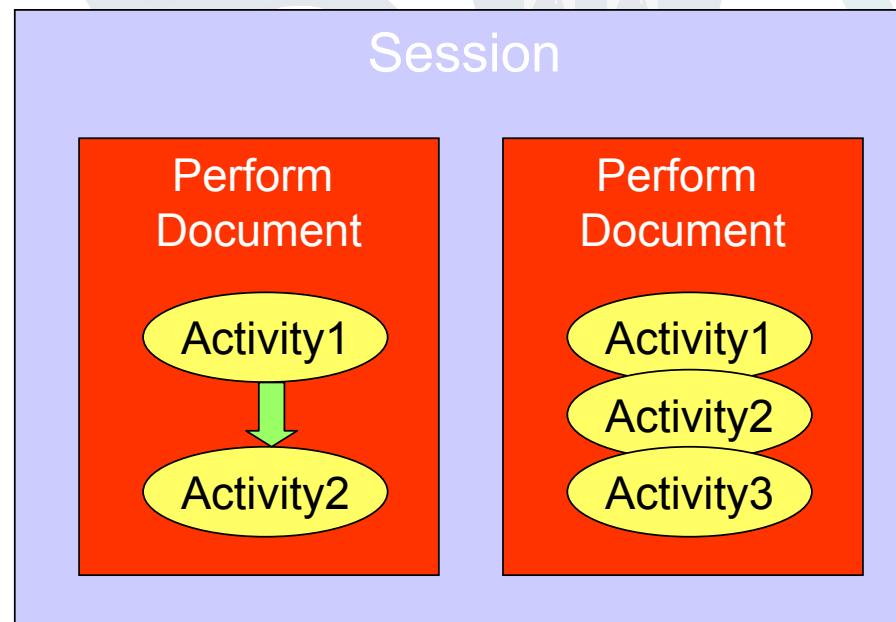
getProperties(QName)

- A request contains a set of activities
- Activities can be performed in sequence or in parallel
- An activity dictates an action to be performed
 - Query a data resource
 - Transform data
 - Deliver results
- Data can flow between activities



OGSA-DAI

- Activities are collected into requests
- Requests can be processed within a session



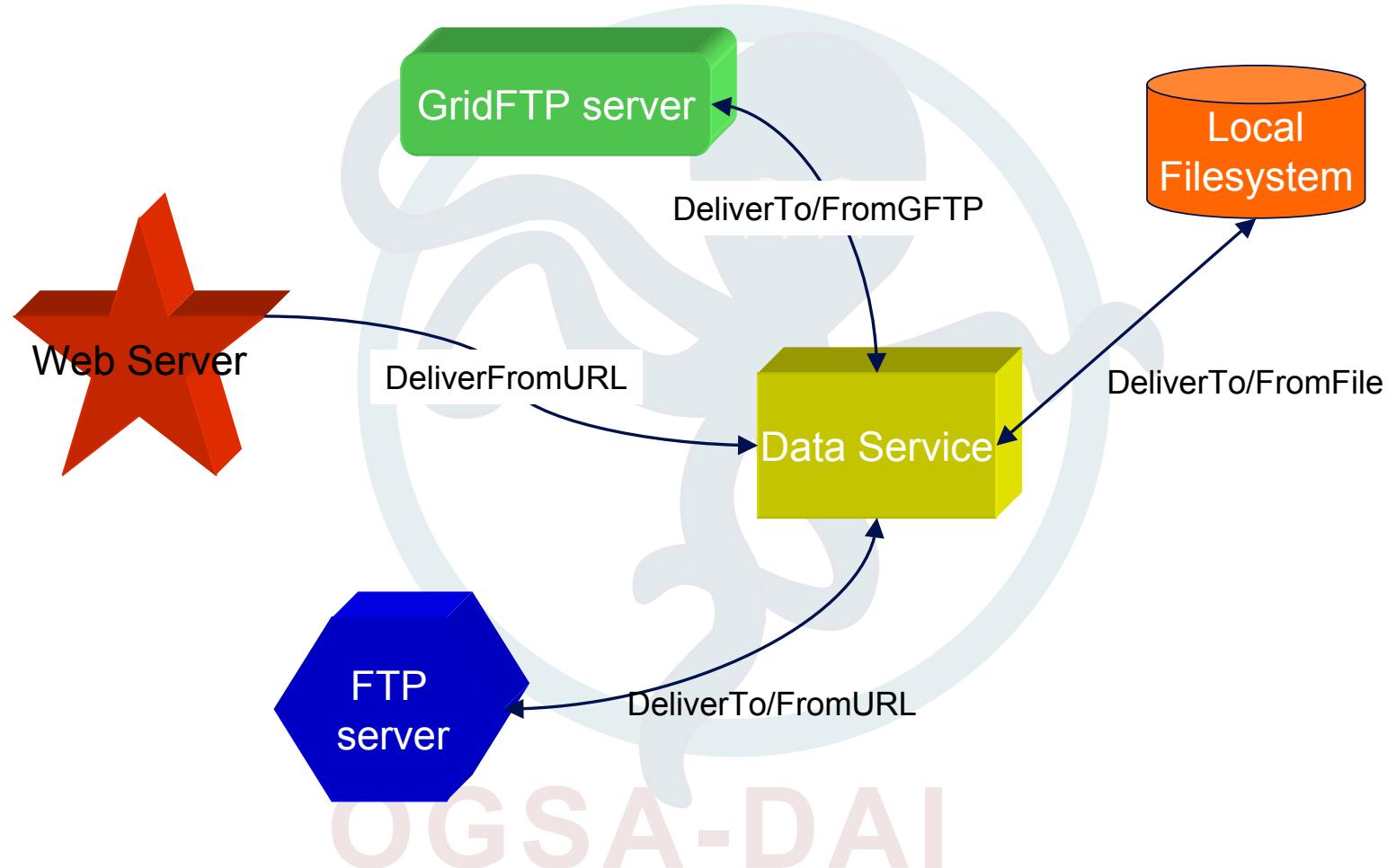
- Client-side activities are independent of the service version
- Properties are represented in the same way
 - Although published properties may differ between data services
- Can use the same client for both service versions

The OGSA-DAI logo consists of the text "OGSA-DAI" in a large, bold, sans-serif font. The letters are colored in a gradient from light red at the top to light blue at the bottom. Behind the text is a stylized, faint watermark of a DNA double helix structure.

OGSA-DAI

Delivery Methods

epcc1



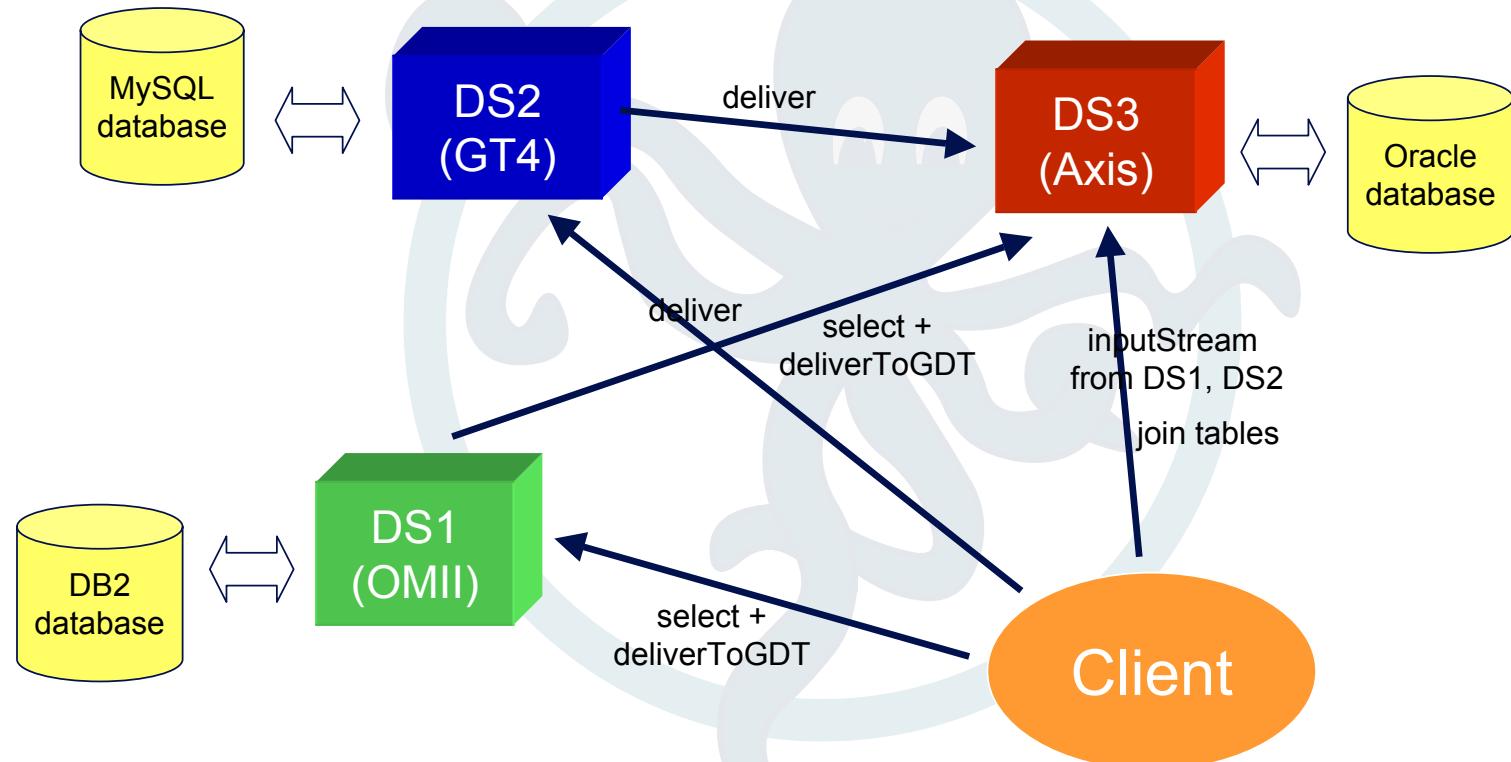
- The DataTransport port type allows to transfer data from one data service to another.
- Supported by any combination of WSI and WSRF services



OGSA-DAI

Data Integration Scenario

epcc1



- Get a service object from the ServiceFetcher:

```
DataService service1 =  
    GenericServiceFetcher.getInstance()  
        .getDataService("http://...", "id1");
```

OGSA-DAI

- Construct a new request:

```
ActivityRequest request =  
    new ActivityRequest();
```

- Set up the SQL query and delivery instructions:

```
SQLQuery query = new SQLQuery(  
    "select * from table where ...");  
WebRowSet rowset = new WebRowSet(  
    query.getOutput());  
DeliverToDT deliver = new DeliverToDT(  
    "http://host/services/DataService");
```

- Connect input and outputs:

```
deliver.setInput(rowset.getOutput());
```

- Register activities with the request:

```
request.add(query);  
request.add(rowset);  
request.add(deliver);
```

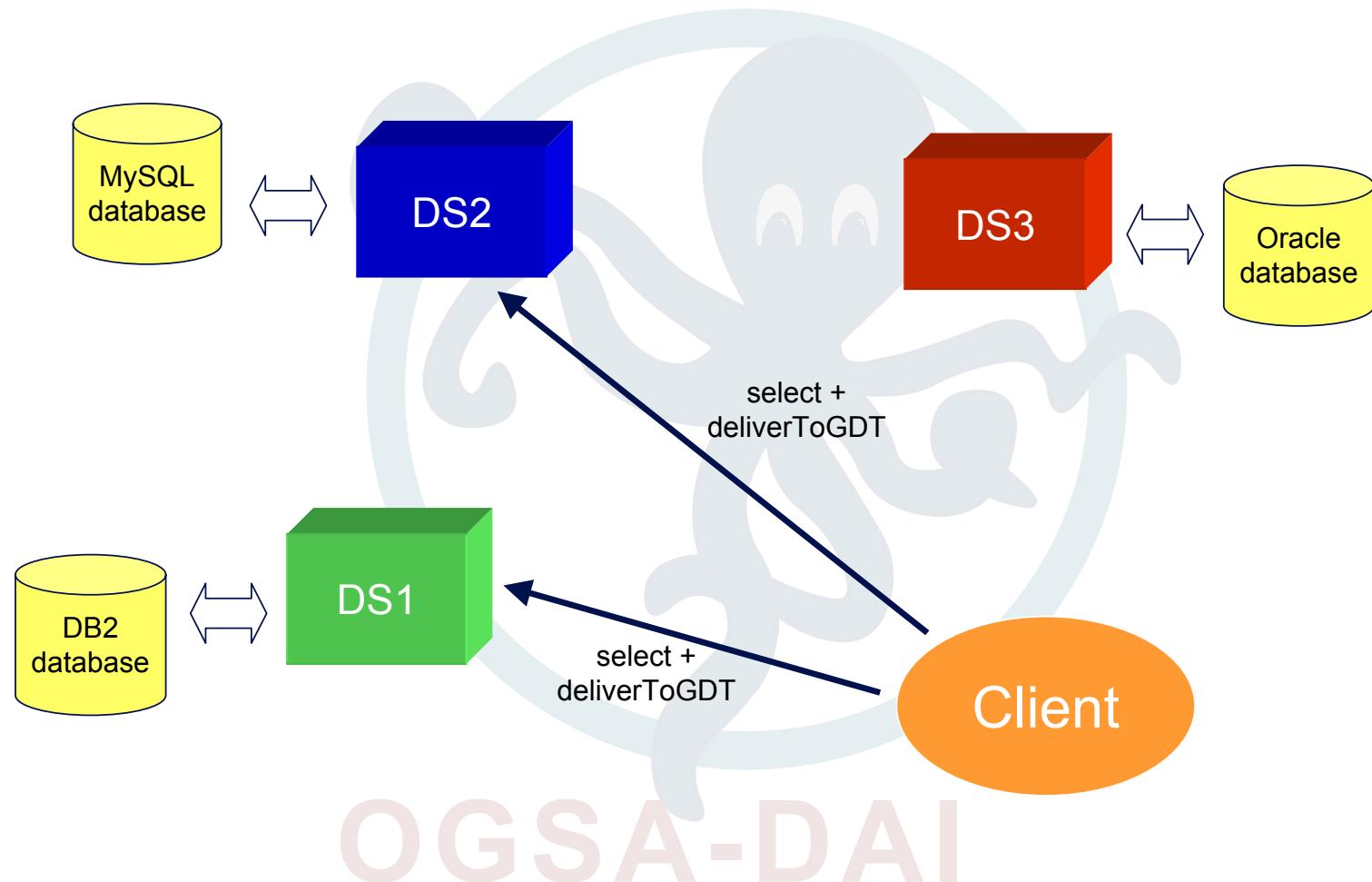
- Perform the request:

```
service1.perform(request);
```

OGSA-DAI

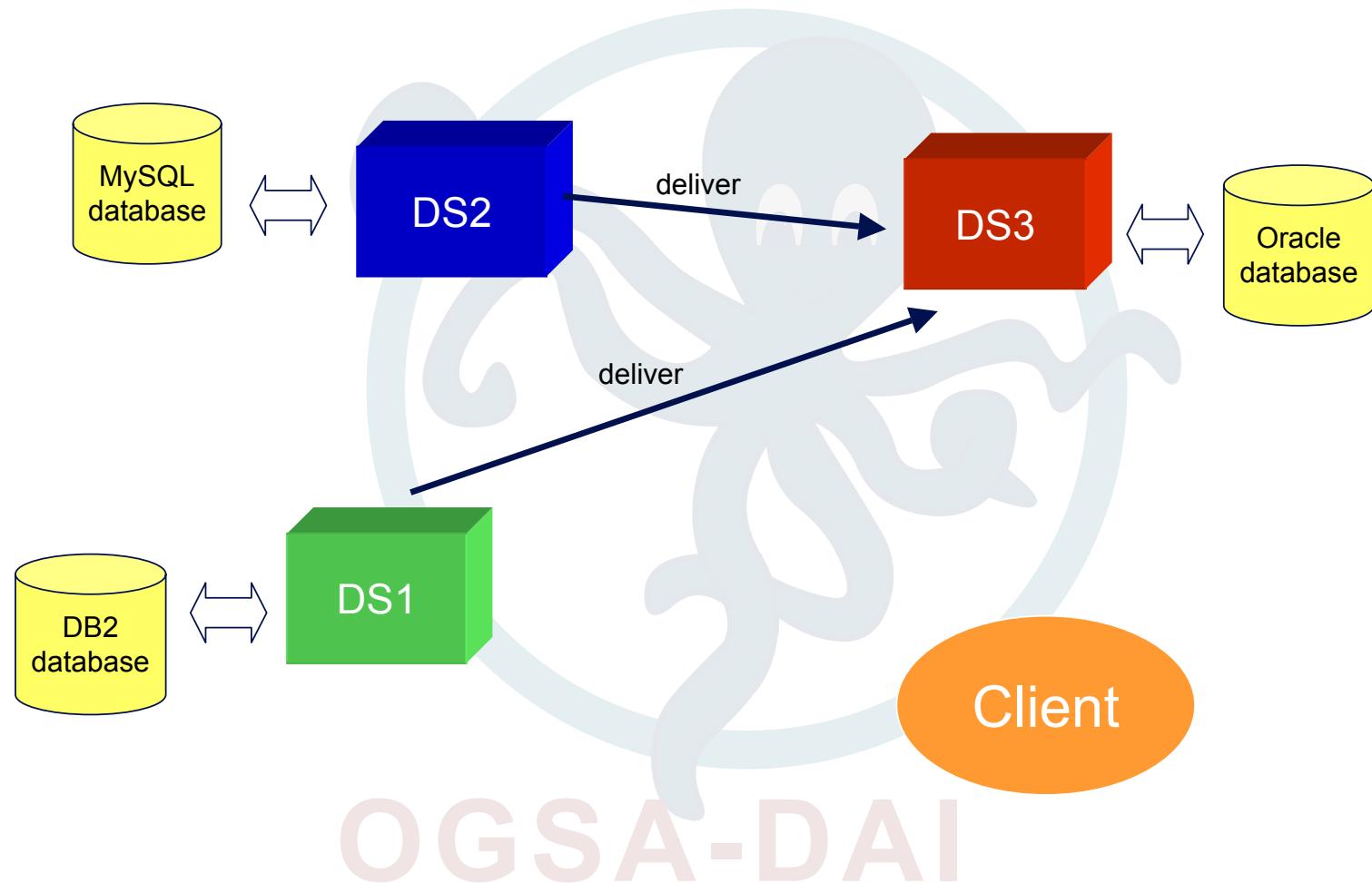
Data Integration Scenario

epcc1



Data Integration Scenario

|epcc|



- Set up the input stream that listens for incoming data and bulk load the data into the database

```
InputStream input = new InputStream("inp1");

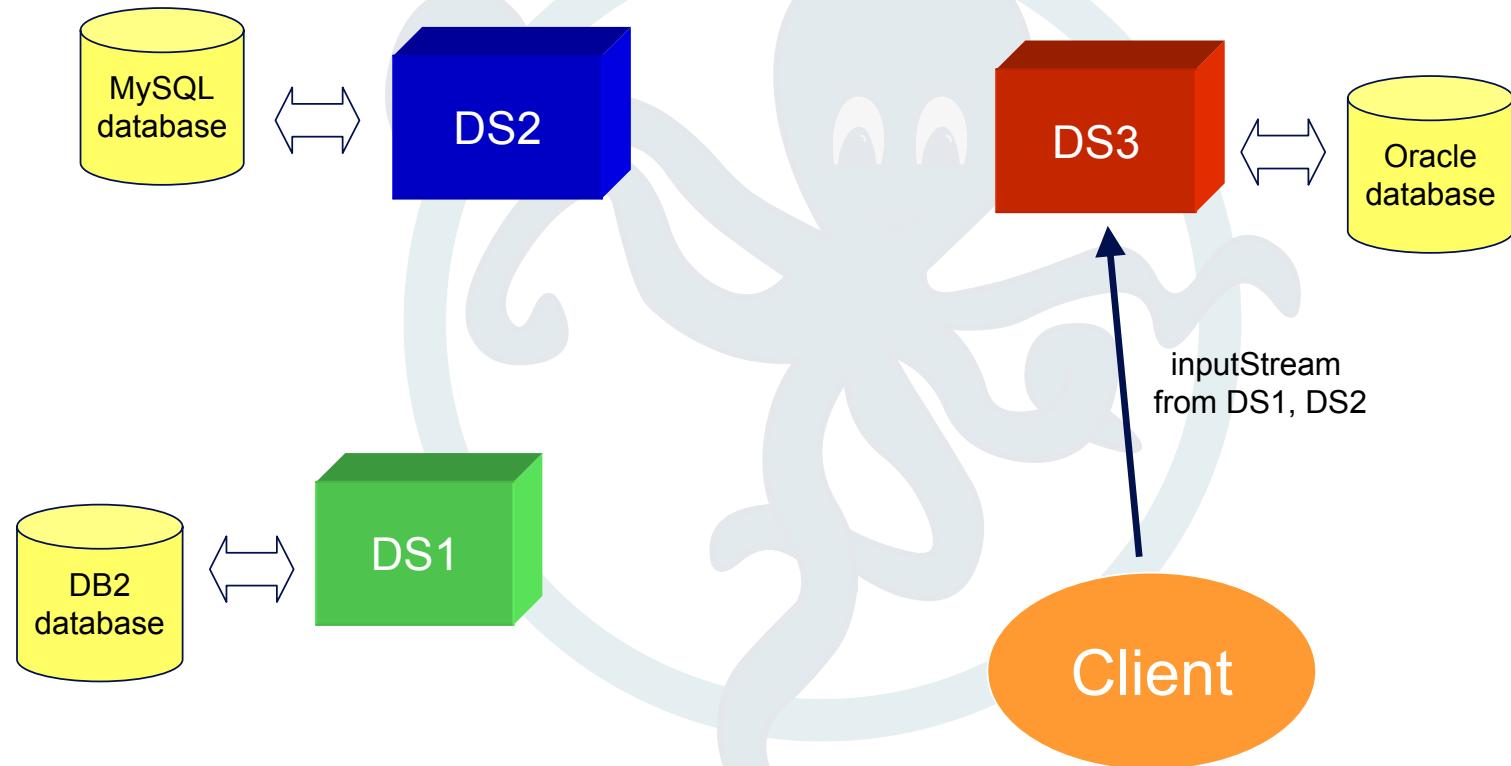
SQLBulkLoad bulkload =
    new SQLBulkLoad("table");
bulkload.setInput(input.getOutput());

request.add(input);
request.add(bulkload);

service3.perform(request);
```

Data Integration Scenario

epcc1



- The Client Toolkit provides easy access to OGSA-DAI data services
- Provides a common abstraction level for the supported service interfaces (WSI and WSRF)
- Hides service interaction and XML from users

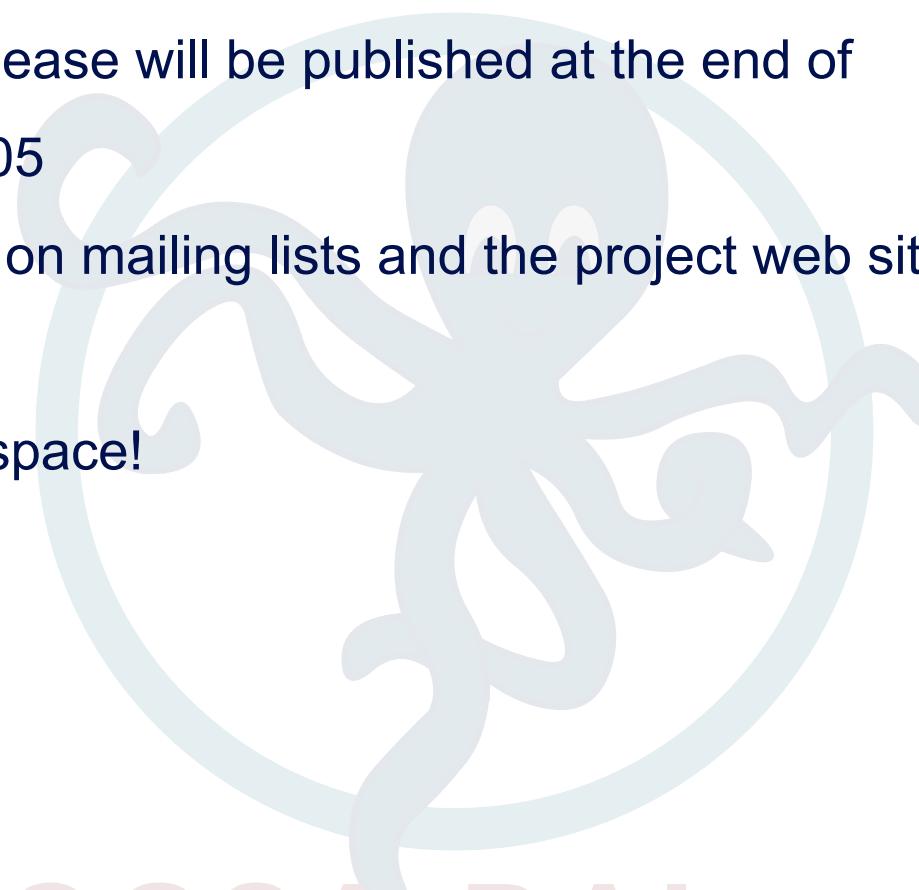
The OGSA-DAI logo features a stylized, circular emblem composed of three interlocking rings. The rings are light blue and white, creating a sense of depth and motion. Below the emblem, the words "OGSA-DAI" are written in a large, bold, sans-serif font. The letters are a light pink color, which complements the logo's overall aesthetic.

OGSA-DAI

- The OGSA-DAI Project Site:
 - <http://www.ogsadai.org.uk>
- The DAIS-WG site:
 - <http://forge.gridforum.org/projects/dais-wg/>
- OGSA-DAI Users Mailing list
 - users@ogsadai.org.uk
 - General discussion on grid DAI matters
- Formal support for OGSA-DAI releases
 - <http://www.ogsadai.org.uk/support>
 - support@ogsadai.org.uk
- OGSA-DAI training courses

OGSA-DAI

- The next release will be published at the end of October 2005
- Announced on mailing lists and the project web site
- Watch this space!



OGSA-DAI

- Thanks for attending
- Questions?



OGSA DAI Plans for 2005

- Transition to new platforms and standards
 - WS-RF (GT4), WS-I+ (OMII)
 - Alignment with published DAIS specifications
 - Deprecation of OGSI version
- Data Integration
 - Implement simple patterns (e.g. AND, OR, PREFERRED, PARTIAL) within service code
 - Tighter integration of relational, XML and other resources
 - Better performance for inter-service data transfer
- Releases, support and community
 - Next release planned for September
 - Seek contributions in various areas of new architecture
 - Moving forward to new versions of OGSA-DAI

OGSA-DAI