

A WS-DAIR Compatible Interface for gLite-AMGA

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The addition of a WS-DAIR interface to the gLite AMGA metadata service will greatly improve the extensibility and interoperability with other Data access services based on the Open Grid Service Architecture. As the standard also defines the interaction of relational database services among each other, it will allow to integrate data access services of different types.

We will present as an example the Avian Flue Drug Discovery application implemented by Academia Sinica Grid Computing (ASGC), which has been used as a test case for validation and evaluating the new interface, compared to the older TCP-Socket based of AMGA with respect to performance, scalability, fault tolerance, interoperability and ease of use for Grid applications.

The result of the evaluation has also been presented at SC '07.

As AMGA is in fact the first metadata service to adapt the WS-DAIR standard, we will present our findings on the usability of this standard as well as on its overall design.

3. Impact

Adapting WS-DAIR in AMGA, which began as an exploratory project by the EGEE user community, and now is a part of glite 3.1 release, is another step towards interconnecting this data access system with other similar services. In other words, AMGA can communicate with other database access services on the grid which has adapted to the WS-DAIR and vice versa, improving interoperability among database access services on the grid by defining standard operations and encoding format of data, separating the functionality of the data access service from its operational representation, using service oriented architecture. On the other side, clients can use the service based on their own business logic. This will greatly improve the freedom of application writers to choose among suitable grid services without the need to adapt the application. In addition, data source that are newly introduced to the grid will be readily accessible with existing clients.

URL for further information:

<http://cern.ch/amga>

4. Conclusions / Future plans

We intend to further intensify the collaboration with the OGF in order to improve the WS-DAIR standard as it has already started, making AMGA fully compatible with the standard, such as supporting the Web Service Resource Framework. Interoperability test with other implementations of the WS-DAIR standard should be done in the future, which should further strengthen the growing community working on relational database access on the grid.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

Relational database access, Standardization, metadata catalogue, Interoperability

1. Short overview

AMGA is the gLite 3.1 Metadata catalogue and a widely used database access system by many groups and communities, ranging from High-Energy Physics to Biomedical and Earth Sciences. It recently started to offer the Web Service Data Access and Integration - The Relational realization(WS-DAIR) standard proposed by the Open Grid Forum. In our presentation we present the status of this work, which will greatly improve interoperability with other WS-DAI compliant components.

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