



omii europe

open middleware infrastructure institute



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Davy Virdee, EPCC, University of Edinburgh

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Authorship	Written by:	Davy Virdee (UEDIN)
	Contributors:	Valerio Venturi/INFN Morris Riedel/FZJ Vivan Li/FLE
	Reviewed by:	Andrea Caltroni, Sergio Andreozzi (INFN)
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Executive Summary

This document describes the management issues and challenges of the JRA1 Data Access activity of OMII-Europe during the first year of the project, May 2006-May 2007; that is:

- Working with partners to identify the need to amend milestones due to the fluid nature of external and internal activity dependencies; that is emerging gLite, UNICORE and OGSA-DAI products.
- The success of releasing a UNICORE OGSA-DAI 2.2 integration at project month 8.
- Releasing alpha versions of UNICORE, EGEE/gLite and OGSA-DAI 3.0.
- A summary of the partner effort for the first project year.
- A statement of our interactions with out unfunded partners at Tsinghau University

The document describes the current status of the OMII-Europe developed software, the status of OGSA-DAI 3.0 and finally our plans for project year two.

It concludes that the activity has had challenges with resources, but has managed to produce software as per the amended milestones; and that the projected goals of project year 2 remain valid and achievable.

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1 Introduction

The JRA1 Data Access activity's goal is to make OGSA-DAI available under other Grid middleware distributions available throughout Europe and China. OGSA-DAI is currently available to run under the Globus Toolkit middleware environment using Web Service like addressing. This activity will make OGSA-DAI available under:

- UNICORE
- gLite/EGEE
- CROWN

The activity has the following deliverables and milestone associated with it:

Date	Deliverable/Milestone	Description
M12 (April 2007)	M:JRA1.1	Availability of OGSA-DAI under EGEE and UNICORE at a minimal “alpha version” quality at M12
M24 (April 2008)	M:JRA1.2	Availability of OGSA-DAI under EGEE and UNICORE at release “1.0” quality M24
M12 (April 2007)	D:JRA1.3	Month 12 report (this document)
M24 (April 2008)	D:JRA1.4	Month 12 report

2 Partners and effort

JRA1 Data Access is a collaborative activity between the following institutions:

- The University of Edinburgh (UEDIN, lead partner)
- Fujitsu Laboratories Europe (FLE)
- Istituto Nazionale di Fisica Nucleare (INFN)
- Forschungszentrum Juelich (FZJ)
- Tsinghua Universitu (TU)

The table below summaries the total effort in **staff months** for the first 12 months of the JRA1 Data Access activity. Key: F=Funded U=Unfunded. Bracketed figure denotes expected effort.

Organisation Effort	FLE		FZJ		INFN		UEDIN		TU	
	F(0.25)	U(0)	F(0.15)	U(0)	F(0.2)	U(0.2)	F (1.5)	U(2)	F(0)	U(0.5)
May-06	0.15		0.15		0	0	1.5	0		0.5
Jun-06	0.1		0.15		0	0	1.85	0		1
Jul-06	0.1		0.15		0	0	0.15	0		0.5
Aug-06	0.25		0.15		0	0	2.2	2		0.5
Sep-06	0.25		0.15		0	0	1.8	2		0.5
Oct-06	0.25		0.15		0	0	1.5	2		0.5
Nov-06	0.25		0.15		0	0	1.5	2		0.5
Dec-06	0.25		0.15		0	0	1.5	2		0.5
Jan-07	0.25		0.15		0	0	1.5	2		0.5
Feb-07	0.25		0.15		0	0.2	1.5	2		0.5
Mar-07	0.25		0.15		0	0.2	1.5	2		0.5
Apr-07	0.25		0.15		0	0.2	1.5	2		0.5
Total	2.23ⁱ		1.8		0	0.6	18	18		6.5

3 Progress

3.1 May 2006-December 2006

The JRA1 Database activity has two deliverables, from page 80, final Description of Workⁱⁱ:

- M:JRA1.1: Availability of OGSA-DAI under EGEE at M12
- M:JRA1.2: Availability of OGSA-DAI under UNICORE at M24 - (Errata in Annex stating M12)

This delivery schedule suggests that this activity should concentrate on delivering OGSA-DAI for EGEE in the first 12 months, and then move onto OGSA-DAI for UNICORE in the final 12 months.

After initial discussions with the activity partners, it was proposed that that it would be better to concentrate on a UNICORE version to begin with. There are several good reasons of this:

1. There exists OGSADAI4UnicoreGSⁱⁱⁱ - a prototype port by the Unigrids consortium. This project is coming to an end, and it would be beneficial if the JRA1 Database team could pick up this code base and move forward with it.
2. UnicoreGS is now had a final release at version 2.0.3 3. The UNICORE experts from FLE and FZJ were engaged and ready to begin work with the UEDIN team
3. From our understanding, gLite was in slight flux at that point, and it would be best to wait for some time until we have some stability. INFN were having staffing issues, and an initial focus on UNICORE was therefore justified.

From an engineering point of view, it also makes good sense to prioritise on a UNICORE version in the first instance, and then begin to develop the EGEE version in parallel. Having parallel development would have a positive advantage in that we can maintain full partner interaction over the duration of the project. It has a disadvantage in that a parallel development could mean double work-load on some staff, and failure to deliver. However, careful staged delivery and using the partner “experts” would mitigate this risk. The new milestones we agreed by the project committees and are as follows:

- **M:JRA1.1:** Availability of OGSA-DAI under EGEE and UNICORE at a **minimal “alpha version” quality** at M12
- **M:JRA1.2:** Availability of OGSA-DAI under EGEE and UNICORE at **release “1.0” quality** M24

Between May and December, staff at UEDIN analysed and decimated the OGSADAI4UnicoreGS code and migrated from OGSA-DAI 2.1 to 2.2 with help and assistance mainly from FLE. UEDIN staff also attended training sessions in gLite/EGEE and began a technology evaluation of gLite and OGSA-DAI to see how the two could fit together. By December 2006 we made available a technology preview of OGSA-DAI UGS – an OMII-Europe branded prototype of OGSA-DAI 2.2 running on UNICORE.

During this time our partners at TU conducted a similar analysis and dissemination of OGSA-DAI and Crown.

UEDIN unfunded effort has been exclusively the development of OGSA-DAI 3.0

3.2 January 2007-April 2007

In discussion with our partners, it was decided that the M12 alpha releases of the activity would use OGSA-DAI 3.0, scheduled for release in March 2007.

UEDIN and FLE have spent this period working towards making OGSA-DAI 3.0 available under UNICORE. FZJ have been able to supply us with guidance about the evolution of Unicore over the course of the next 12 months. The current status is that the activity has released an alpha version of OGSA-DAI running on UNICORE at M12.

INFN have been able to supply unfunded effort, including an analysis and proposal document which allowed UEDIN to conduct some preliminary work to get OGSA-DAI 3.0 working with gLite/EGEE based solutions. We expect to be able to release an alpha version of OGSA-DAI running on gLite/EGEE at M14 – this we have branded OGSA-DAI GL.

UEDIN's unfunded work has again been exclusively on OGSA-DAI 3.0. At the time of writing the release of OGSA-DAI 3.0 has put back until June 2007 due to unforeseen staffing issues at UEDIN. This obviously has a knock-on effect on our M12 deliverables as they depend 100% on OGSA-DAI 3.0 being available. However, internal releases of OGSA-DAI 3.0 will be available OMII-Europe to evaluate and test. We therefore plan to release evaluation versions of OGSA-DAI UGS and OGSA-DAI GL prior to the formal release of OGSA-DAI 3.0.

TU report that their unfunded to date has allowed them to make OGSA-DAI 2.2 available under CROWN. Their work will begin to focus on OGSA-DAI 3.0 once this is made public.

In addition to the above work, the activity has spent time developing good software engineering practices, and also ensuring documentation and installation is of high-quality to enhance the OMII-Europe brand.

For technical information about the work carried out to date, please see the M:JRA1.1^{iv} implementation notes.

4 Forward Plans

In the immediate short term, the JRA1 Data Access activity plans to release alpha version of OGSA-DAI GL – OGSA-DAI 3.0 working with EGEE. At the time of writing, a proof-of-concept alpha version of UNICORE and OGSA-DAI 3.0 is available to download.

Medium term, months 12-24 will be primarily focused on making both the UNICORE and EGEE interfaces to OGSA-DAI 3.0 robust and scalable. This will be achieved through monitoring and tracking the emerging UNICORE and gLITE/EGEE versions, the evolution of OGSA-DAI 3.0 and also through thorough and continued testing. Coupled with this, we can carry out performance engineering to improve use.

We intend to release beta versions of UNICORE and EGEE versions post-M18, with final 1.0 release by M22. This gives the activity two months to fix defects and improve documentation. It also will allow us to work closely with other activities – especially the training activity – to broaden adoption of OGSA-DAI GL and OGSA-DAI UGS.

Short to medium term we continue to interact and share knowledge with our Chinese partners at TU with the goal being for them to develop and release OGSA-DAI 3.0 running on CROWN by M24.

5 Conclusion

JRA1 Data Access will deliver versions of OGSA-DAI 3.0 running on UNICORE and gLite/EGEE between M12 and M14. Resource issues have critically affected the timing of these milestones, although our dependency on OGSA-DAI 3.0 will so affect any potential take up before early summer 2007

ⁱ Note – FZJ's monthly figures add up to 2.6, however an internal audit at FZJ reveals a reporting error somewhere, thus the effort figures are reported above as 2.23

ⁱⁱ <http://www.omii-europe.org/OMII-Europe/partners/OMII-Europe%20Intranet/OMII-Europe%20Partners/Proposal/DoWFinal21March06Approved%20by%20the%20EC%20on%2022032006.pdf>
31/5/2007

ⁱⁱⁱ www.sf.net/projects/unicore unicare/unigrids/incubating/OGSADAI4UnicareGS

^{iv} <http://omii-europe.com/wiki/PageInfo.jsp?page=JRA1Database/MJRA1.3.doc> 31/5/2007