

# JISC DEVELOPMENT PROGRAMMES

## Project Document Cover Sheet

### PROGRESS REPORT Sep 2005 – Aug 2006

#### Project

<b>Project Acronym</b>	ESP-GRID	<b>Project ID</b>	
<b>Project Title</b>	Evaluation of Shibboleth and PKI for Grids		
<b>Start Date</b>	1 July 2004	<b>End Date</b>	31 Mar 2006 (extended)
<b>Lead Institution</b>	Oxford University		
<b>Project Director</b>	Professor Paul Jeffreys / Mr Matthew Dovey		
<b>Project Manager &amp; contact details</b>	Dr Mark Norman Research Technologies Service, Oxford University Computing Services 13 Banbury Road Oxford OX2 6NN Email: <a href="mailto:mark.norman@oucs.ox.ac.uk">mark.norman@oucs.ox.ac.uk</a> Tel: 01865 273287 Fax: 01865 273275		
<b>Partner Institutions</b>	None		
<b>Project Web URL</b>	<a href="http://wiki.oucs.ox.ac.uk/esp-grid/">http://wiki.oucs.ox.ac.uk/esp-grid/</a>		
<b>Programme Name (and number)</b>	Core Middleware: Technology Development		
<b>Programme Manager</b>	Nicole Harris		

#### Document

<b>Document Title</b>	Progress Report		
<b>Reporting Period</b>	Sept 2005 – Aug 2006		
<b>Author(s) &amp; project role</b>	Mark Norman (Project Manager)		
<b>Date</b>	xxxx 2006	<b>Filename</b>	ESPGRID_ProgressReport_Aug06.pdf
<b>URL</b>			
<b>Access</b>	<input checked="" type="checkbox"/> Project and JISC internal		<input type="checkbox"/> General dissemination

## Overview of Project

### Grant Statement

I can confirm that the project is being conducted in accordance with the terms agreed in the letter of grant.

### 2. Aims and Objectives

The targets set for this reporting period are as presented in the table below. The main achievements and any remaining expected due dates are as presented in the table below.

<i>Target/milestone for reporting period</i>	<b>Delivery due date</b>	<b>Comple-tion date</b>	<b>URL</b> ( <a href="http://wiki.oucs.ox.ac.uk/esp-grid/">http://wiki.oucs.ox.ac.uk/esp-grid/</a> plus...)
<b>(WP2) Evaluation</b>			
Against aims and obj.s	End proj.	Aug 06	See: EvaluationPages
Against BRIDGES project	End proj.	Aug 06	EvalAgainstObjectives
Against CM Programme	End proj.	Aug 06	EvalAgainstObjectives
Evaluating exp. etc. of Developers	End proj.	June 06	DeveloperEvaluation
Ditto – Users	End proj.	June 06	UserPerspective
Ditto – Service Providers	End proj.	June 06	ServiceProvidersEvaluation
<b>(WP3) Dissemination</b>			
Consultation on functional requirements report	Aug 05	Nov 05	GridRequirements
Consultation on PKI evaluation report	Sept 05	Dec 05	ShibPKIEvaluation
Consultation on Shibboleth and grids report	Oct 05	Dec 05	ShibPKIEvaluation
Policy management consultation	July 05	Dec 05	PolicyManagement
Grid/Shib prototypes	Nov 05	Feb 06	NeSC_Shibbolized_Resources
VO work	Unplanned	April 06	VODefinition
'Road map' document	Jan 07		In late draft at Final_recommendations_for_e-Science
<b>(WP4) Grid Architecture Overview</b>			
	Sept 05	Sept 05	RequirementsDoc
			See also: RequirementsBibliography
<b>(WP5) PKI Evaluation</b>			
	May 05	Dec 05	ShibPKIEvaluation
<b>(WP6) Shibboleth Evaluation</b>			
	Sept 05	Dec 05	ShibPKIEvaluation
<b>(WP7) Policy Management</b>			
		May 06	PolicyManagement
<b>(WP8) Grid Prototype</b>			
	Feb 06	Feb 06	NeSC_Shibbolized_Resources
<b>(WP9) Grid integration/Migration</b>			
	Mar 06	Jan 07	In late draft at Final_recommendations_for_e-Science

### 3. Overall Approach

As described in previous reports, some of the outputs of the earlier work packages were delayed, partly due to the situation of work package four being more difficult, and partly due to loss of staff to the project. The overall effect was to delay the final documents but those documents generally reached 'good draft' stage not long after their initial due date.

We have also proposed that a small (no cost) follow-up project be initiated in order to test some of the use-cases and look into some usability issues arising from the project. This has been accepted and

the project is now under way and is expected to complete in January 2007. (See section 5 below for more details).

#### 4. Project Outputs

During this reporting period, most of the remaining milestones of the total project have been achieved. These outputs are available on line at <http://wiki.oucs.ox.ac.uk/esp-grid/>.

#### 5. Project Outcomes

The objective of work package four (Grid Architecture Overview) was the “production of an overview of functional requirements specification for grid authentication and authorisation informed by the UK e-Science community (with bibliography of relevant documents). This was achieved (eventually) in full.

The objective of work packages five and six (PKI Evaluation and Shibboleth Evaluation) were “a critical evaluation of how components of PKI fit within a grid infrastructure” and “a critical evaluation of how components of Shibboleth fit within grid infrastructure”, respectively. We found that it was most convenient to combine these two work packages and the objectives were achieved in full.

Work package seven was modified early in the project, but this turned out to be a major unexpected outcome of ESP-GRID. A survey of policy management tools and techniques was undertaken, and the developers of each of the tools were asked for their feedback. This resulted in a resource that should be of great utility for grid and information environment researchers and developers for the medium term. Initially it was difficult separating the aims of development projects from the reality of what the current versions of their tools delivered. However this work helped to establish the current state of play and was very well received.

As discussed in our previous interim report, work package eight (Grid Prototype) was out-sourced to the NeSC team at the University of Glasgow. This work went well and helped to inform this team of many issues surrounding the deployment of Shibboleth with Grids. The NeSC team also produced much ‘cook-book’ like documentation which may be of interest to the community. These have been added to their general output at <http://labserv.nesc.gla.ac.uk/projects/etf/>.

The objectives of the Grid integration/Migration work package (9) were less clear as we could not predict the exact nature of the prototype arising from work package eight. It was initially envisaged that a ‘Road map’ integration or migration document would be produced at the end of the project. Part of the essence of the project was that we were to keep an open mind regarding the eventual architecture that we would build, prototype or recommend. With our rather - some would say - simplistic approach of a Customer-Service Provider model of grid use benefiting the vast majority of grid users, and the applicability of Shibboleth therein, a ‘Road map’ seemed inappropriate. We are not recommending a ‘migration’ and the ‘integration’ is straightforward. Nevertheless, the project is establishing some recommendations for the UK e-Science community and these are in good draft form at [http://wiki.oucs.ox.ac.uk/esp-grid/Final\\_recommendations\\_for\\_e-Science](http://wiki.oucs.ox.ac.uk/esp-grid/Final_recommendations_for_e-Science).

A notable outcome of the project is the formation of a small follow up that is focussing on usability and the types of users in a future grid. This is to be pursued using the under-spend accrued during the project and accounts for the final extension to January 2007. This mini-project is entitled ‘Barriers to Initial Involvement for Novice Grid Users’ and is detailed at [http://wiki.oucs.ox.ac.uk/esp-grid/JISC\\_Proposal\\_for\\_Phase\\_2](http://wiki.oucs.ox.ac.uk/esp-grid/JISC_Proposal_for_Phase_2).

#### 6. Stakeholder Analysis

- the project has continued to engage with the ‘Shib and Grid BOF’ at GGF/OGF (see <http://www.federation.org.au/cgi-bin/mailman/listinfo/shibgrid-bof> and, e.g., <http://www.ggf.org/documents/GFD.79.pdf>)
- the project took part in a Usability in e-Science Workshop at the National e-Science Centre over January 26-27, 2006 (see <http://www.nesc.ac.uk/esi/events/613/scheduleUWS06.pdf>) and we prepared a paper for this event – see <http://wiki.oucs.ox.ac.uk/esp-grid/UsabilityWorkshopNeSC> -

that was a precursor to the two papers submitted – and accepted – for the All Hands Meeting 2006). This was a good opportunity to talk about security and usability to this community.

- the project has been represented at various UK e-Science and JISC meetings.

## **7. Risk Analysis**

Much re-scheduling took place but, as noted in section three, above, many of the outputs were substantively completed by their planned delivery dates. The final versions were a little delayed due to the extra work involved in obtaining technical feedback (as much of the local technical input had been removed).

## **8. Standards**

Nothing to report.

## **9. Technical Development**

No changes to report.

## **10. Intellectual Property Rights**

Nothing to report.

## ***Project Resources***

### **11. Project Partners**

As mentioned above, the project formed a partnership with the University of Glasgow National e-Science Centre and, in particular, Dr Richard Sinnott and many of the researchers based at the NeSC@Glasgow.

### **12. Project Management**

No changes.

### **13. Programme Support**

The project continues to have good support from the programme management.

### **14. Budget**

See Appendix A.

## ***Detailed Project Planning***

### **15. Workpackages**

Section 2 gives the dates when the outputs were completed and further details are given in Section 5. The project is substantially finished. As noted at the end of Section 5 a small-scale follow up is under way now to look at some usability aspects, especially regarding new users. This should be a no-cost follow up, but will extend the project until the end of January 2007. Full details can be found at [http://wiki.oucs.ox.ac.uk/esp-grid/JISC\\_Proposal\\_for\\_Phase\\_2](http://wiki.oucs.ox.ac.uk/esp-grid/JISC_Proposal_for_Phase_2).

### **16. Evaluation Plan**

A self-led evaluation has taken place and may be found at <http://wiki.oucs.ox.ac.uk/esp-grid/EvaluationPages>.

### **17. Quality Assurance Plan**

As development took place at the University of Glasgow, this activity was carried out using procedures local to the development team. The work has been demonstrated at meetings many

times and was inspected by Curtis and Carwright in July and August of this year (both at Oxford and Glasgow).

## **18. Dissemination Plan**

The main dissemination activity for us has been through GGF meetings and the two papers [to be] presented at the UK e-Science All Hands meetings in September. See <http://wiki.oucs.ox.ac.uk/esp-grid/AllHandsPapers2006> for further details.

## **19. Exit/Sustainability Plan**

The main operational outputs of the project appeared at NESC@Glasgow as the Shibboleth component of their portalised access to BRIDGES, VOTES and DyVOSE. These components will still be used after the project is over. Our small follow-up project (as mentioned in sections 5 and 15, above) should also help to establish some of the concepts of Service End Users and Service Providers for grids, that we developed as part of the requirements gathering stages.

As part of the sustainability of the ESP-GRID project, we have continued to influence the ShibGrid project. The ShibGrid project is aimed at what we would express as Power Users, but it is clear that some less computing-technical users may benefit from the use cases that hide the certificates from the users. Nevertheless, we have some reservations about mixing Shibboleth and X.509 in this way.

The findings of the project may also influence campus grid developments at Oxford with our emphasis on usability. Currently, the campus grid favours Power Users heavily but this may change.

### Appendix A. Project Budget

The budget reports expenditure for financial years one, two and three (July 2004-July 2005). Balances are presented as carrying over from year to year.

	YR1 Budget	YR1 Actual July 04	YR 2 br. fw	YR 2 budget	YR 2 Actual July 05	YR 3 br. fw	YR3 Budget	YR 3 Actual July 06	YR 3 Balance
<b>Staff costs</b> (incl. outsourc)	994.00		994.00	57,798	41,057.69	17,734.31	66,265	74,614.91 (33,970.23)	9,384.40
<b>Travel/Subsist.</b>	200		200	2,000	116.26	2,107.74	500	2,456.70	151.04
<b>Equipment</b>	8,000		8,000	1,000	2,587.92	6,412.08	0	0	6,412.08
<b>Dissemination</b>	0			2,000	170.17	1,839.91	1,000	0	2,839.91
<b>Consumables</b>	100		100	500		600	300	0	900.00
									Underspend (budget for mini-project) : £19,687.43

Submitted by Mark Norman, Research Technologies Service, Oxford University.