



Project Information			
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Project Title	Grouper to support Federated Identity for Virtual Organisations		
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Lead Institution	Newcastle University		
Project Director	Paul Hopkins		
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Partner Institutions	None		
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Document History		
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V1.1	14/06/07	Changes requested by programme manager
V1.2	20/07/07	Minor changes requested by programme manager.



Overview of Project

1. Background

Web application development for HE at present is overcomplicated. A combination of Shibboleth and Grouper with a Platform of web applications deployed according to SOA principles would go a long way to simplifying development allowing for a much richer set of tools to be deployed. The addition of a virtual identity home to support disenfranchised external collaborators would create a compelling set of solutions that could herald a step change in the value of support that can be deployed to virtual organisations.

Current application provision in many institutes is complex and resource intensive; at present most applications are only developed for large user populations with pressing needs. This is predominantly because most useful applications require authorisation and authentication. Integration with an institute's existing user name and password stores requires a great deal of technical knowledge of the details of the institute's infrastructure. Therefore only large projects like institutional Virtual Learning Environments (VLEs), Portals, and web based email gateways are developed by institutes. Small focused applications designed to provide a facility to relatively small user populations don't have enough institutional leverage to be granted access to the underlying institutional identity management infrastructures, and the technologists that understand them. These factors work against the development of tools to support virtual organisations, the user base is too small and fluid for it to be worth expending the institutional resource to push development through the heavy weight processes. It is therefore highly desirable that tools are found that enable an easier and more flexible approach to the development of applications.

Shibboleth can provide a simple light weight authentication interface that enables developers to leverage and extend existing authentication infrastructures. Shibboleth provides the means to authenticate users and make relevant authorisation information available about that user to web applications. Grouper provides an easy means for developers to augment existing identity infrastructures so that they can be used to pass appropriate authorisation information to an application. Grouper is designed to be populated with existing group infrastructure information. It also allows for augmentation of that information, with the control of the augmentation process being delegated to appropriate users. By combining Shibboleth and Grouper, existing heavy weight, expensive identity management infrastructure can be made easily available to developers and users; this approach has the benefit that it allows users to enhance existing identity infrastructure as needed for use by applications. In other words the approach that these tools allow democratises the control of identity information, promising a much greater engagement by the user population. The pairing of Shibboleth and Grouper has the additional benefit that developers no longer need to develop their own account management and group management systems for each application, meaning that they can focus their effort directly on creating solutions for users

2. Aims and Objectives

The projects core aim is to develop a Grouper group management infrastructure to promote the formation, management of research based Virtual Organisations. The infrastructure will be used by Newcastle researchers and external collaborators to enhance community communication via the use of simple web based tools like wikis, blogs and mailing lists. In order to achieve this the project takes a phased approach to deployment.

The phases are described below:

- 1) Deploy a grouper infrastructure
- 2) Test the use of Grouper for lightweight small flexible internal groups.
- 3) Develop Grouper provisioning connectors.
- 4) Test the use of Grouper with a complex use case
- 5) Provide a "Virtual Home for Identity"

- 6) Augment Virtual Home for Identity with group membership
- 7) Test complex federated virtual organisations
- 8) Exploit Shibboleth 2.0 functionality

3. Overall Approach

Strategy

As detailed above the project will follow a phased approach to deployment. This will enable the project to produce a series of benefits to the University and wider community during it's life cycle rather than producing outputs and benefits in a burst at the end of the project. This will help maintain institutional buy-in for the project by demonstrating the projects value through out it's 2 year lifecycle.

Methodologies, problems encountered and lessons learned will be documented on the project web site as this work proceeds. The documentation will be published in draft form on the project website and community input will be sought; the final documentation will be refined in the light of this community input. Policy, management and legal issues will be identified by the project team and documented at each stage. This documentation will cover issues such as provisioning techniques along with administrative and data protection considerations.

Scope

The project will address group management issues for groups consisting solely of Newcastle users and also groups consisting of Newcastle users and external collaborators. Grouper will be used to inform access control decisions to web based resources. The project will cover all issues related to creating a physical deployment of Grouper as a group management infrastructure. The goal of the project is to develop and document a practical usable group management infrastructure for use by Newcastle University and it's collaborators. The scope of the project will cover technical setup, group population, documentation, user education, usability issues, accessibility, and assessment of fitness for purpose.

Out of scope

The project will not address group management issues and system in use in other HE institutes; however it is expected that the project outputs will be directly beneficial to other HE institutes in their efforts to develop group management systems. The project will not address use of group data outside the sphere of web browser based systems. Desktop applications, alternative protocols e.g. email and P2P, physical access control (building access etc.) will not be addressed.

Critical Success Factors

Critical success factors will be obtaining the required data feeds from existing campus identity stores and developing systems and procedures by which group information can be provisioned into relevant systems like sympa and wikis. Creating a system that is powerful enough to create complex group infrastructures but simple enough to be usable by the general user population is key to the project and represents the greatest challenge in any identity management or security infrastructure.

It is hoped that the phased approach will mean that lessons are learned early in the project and can be integrated into the final system as well as being documented for the community.

4. Project Outputs

Tangible Deliverables

1. Report on the potential of the Subject API for institutional use and its compatibility with existing data sources and architectures. This will consist of a guide for managers on the value and use of the Subject API and a technical guide for administrators outlining how to use the Subject API in a real world use case.
2. Initial findings of lightweight test deployment will be disseminated via website; guides for both users and system administrators on the use of Grouper.

3. Development and documentation of connectors which update applications with group membership details; a guide detailing how to integrate Grouper into existing application infrastructure with connectors and the architectural implications of this approach.
4. Lessons learned from the deployment of Grouper with a complex use case will be disseminated via the project website.
5. Guides on how to use external hosting providers; any alterations or additions to tools for hosting identities will be made available under an open source licence on the project web site
6. Report on how and where to host group information used to augment external hosting provider identity information.
7. Report on issues encountered when testing complex federated virtual organisations, this will cover improvements that can be made and benefits to the community.
8. A fully supported and documented install of Grouper at Newcastle University which will act as a national demonstrator of Grouper and Shibboleth technology

Intangible Deliverables

The community formed around developing and deploying Grouper is expected to benefit greatly from the output of the project in terms of enhanced documentation, user feedback, bug reports and potentially code. Since this is likely to be achieved through collaboration with fellow deployers, via face to face or email discussions it is unlikely to be directly measurable, but nevertheless is one of the key benefits of the project.

The project is expected to be of direct benefit to the user community by fostering easier group communication and collaboration. Again this is not directly measurable but is the main driver of the project. It is expected that online research based communities will be able to form and grow much more easily when supported by this tool set. It should also be noted that disposable one off groups (e.g. conference attendees) should be able to form using the provided tools. Disposable groups is a use case poorly supported by current heavy weight approaches.

5. Project Outcomes

The project is expected to have a direct impact on the Newcastle research community and indirectly impact the wider HE community. A key outcome of the project is to delegate group management to Principal Investigators (PIs). This will enable PIs to control access to resources and to setup and expand the memberships of groups easily. That group membership will then allow for the secure use of collaborative software tools by the research community. This will lead to direct benefit to the research community by allowing groups to use a coordinated access controlled suite of collaborative software to suit their needs. This outcome will be achieved by setting up the Grouper and a suite of collaborative tools, supported by documenting on the setup and use of this system. While this outcome will initially directly benefit Newcastle users, the documentation, reports and dissemination activities will result in the project acting as a demonstrator site for UK and Worldwide HE institutes.

The Teaching community is also likely to benefit from improved collaborations tools and infrastructure to support them. Modern taught courses involve group collaboration exercises which are likely to benefit from the use of tool kit and suite as described above. While the project is aimed at supporting the research community it is expected that similar approaches will work well in supporting the “group exercise” element of modern teaching and learning programmes. The project will therefore stimulate and enable direct use of web based collaborative tools for the support of teaching and learning. As with the research outcome this will initially benefit Newcastle users but will act as a demonstrator to other HE institutes.

Another key outcome of the project will be to enhance and mature the user and developer community involved in Grouper. Communities only mature by increased participation by interested parties. The project strategy of direct engagement and support of the community will help the community to develop. Involvement of a UK based medium sized university (compared to the 100,000 user American universities) will broaden the user community that uses Grouper. The demonstrator installation in Newcastle will show that Grouper is not just useful for the enormous American universities but is directly applicable to UK scale institutes. Improved documentation, use cases, participation in the community will enhance the usability and fitness for purpose of the grouper toolkit. This will enhance the toolkits it's visibility and viability in the HE community.

6. Stakeholder Analysis

Stakeholder	Interest / stake	Importance
Host institution/lead site ISS	Responsible for delivering project – lead site. Project teams needs to work effectively	High
Paul Hopkins (Ncl and NorMAN)	PI – support is essential	High
Host institution senior management including PI	Essential to support implementation of the project	High
Host institution library services	Additional services can be achieved with joined up practice; support is important	Medium
Tom Graham (Director, Library Services)	Support is important	High
Library services	Additional benefit can be achieved with joined up practice	Medium
End users such as research staff, students	Users of the service	High
NorMAN regional network	Important for regional support and dissemination	Medium
Other programmes in funding programme	Projects need to liaise to share good practice, and testing outcomes	Low
Other HE institutions deploying grouper	Key to effective dissemination	Low
JISC	Funding the Project and associated the programme(s):- Communication and engagement with the programme manager and other JISC projects is vital	High

7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
External suppliers unavailable to review and enhance documentation.	3	1	3	The previous iamsect project advertised for documentation consultants. We therefore have a pool of names to contact should our documentation consultant prove unable to perform the work.
Organisational- Project fails to deliver objectives due to lack of communication and coordination	2	4	8	Develop and effective communication strategy. Implement weekly project meetings to plan and coordinate the project.
Staffing:- Failure to recruit Project officer leads to lack of manpower required to complete objectives.	2	3	6	Offer made and verbally accepted: - work permit applied for. Possible contingency plan of repurposing existing staff identified
Staffing:- Loss of availability of Project officers leads to lack of manpower required	1	3	3	Existing staffing availability already identified. In alignment with institutional policy there is

to complete objectives.				redundant cover of most important aspects of job roles.
Technical: Failure of software due to incompatibility prevent effective system development	1	2	2	Key software already deployed and Shibbolised. Backup choices of tools identified
Legal issues prevent deliverable form being realised, e.g. data protection issues prevent use of required data.	1	1	1	No legal issues identified, licensing of software packages compatible with use. No copyright infringement anticipated The university data protection officer is leased with at regular intervals.
Insufficient benefits- The project fails to produce a system and documentation of sufficient value to the institute resulting in lack of sustainability.	1	4	4	It is clear that this project aligns with institutional strategies and has buy in from the institute.
Scope creep- The project scope increases to an unmanageable level resulting in project overload and failure to deliver required project outputs.	1	4	4	The scope of work outlined is clear and well defined.

8. Standards

Name of standard or specification	Version	Notes
XML	Current	
HTTP	Current	
REST		REST is a technique/approach not a standard. However it is directly comparable to SOAP in many use cases
SOAP	Current	
SQL	--	Version of SQL to be adopted will be decided by compatibility with tools
LDAP	--	Version of LDAP to be adopted will be decided by compatibility with tools

9. Technical Development

The project will adhere to best practice for technical development in the following ways:

- Processes will be documented and revised as the project progresses. These processes will be communicated to the community via the web site, preferably in a format that allows for discussion and contributions,
- Development servers will be used to test and refine software products before deployment onto the delivery platforms,
- Programming languages used will be those necessary to install, test and use the systems and services produced. These include bash shell, Java, PHP.

- Any databases or database integration tools used will be Open Source, such as MySQL or PostgreSQL,
- Any authentication and authorisation technologies used will be sourced from the Internet2 Shibboleth project or be made available under an appropriate Open Source licence,
- Software, documentation and other deliverables will be made available on the project web site in a way that allows easy access for the community.

10. Intellectual Property Rights

This project will be conducted using freely available tools wherever possible, and any outputs made available under the auspices of creative commons licensing (<http://creativecommons.org/>). The creative commons “Attribution” licence will be the preferred licence but other creative commons licences may be contemplated for collaborative works depending on the policies and requirements of collaborators. All outputs will be freely available to the HE and FE community. All resources will be fully acknowledged in project documentation and as comments in any distributed scripts or programs. Third party interests will be respected by notifying them of the work of the project and requesting their permission to reproduce, if necessary and where appropriate. ‘Document status’ guidance will indicate the reproduction rights of all documents, and any permissions granted will be indicated in an appendix to documentation.

Project Resources

11. Project Partners

Lead site and partners

University of Newcastle upon Tyne

Contractual Issues

Director of Research Information Services
1 Park Terrace
Newcastle upon Tyne
NE1 7RU

Technical/Management Issues

Mr Paul Hopkins
Director
Information Systems and Services
University of Newcastle upon Tyne
Claremont Tower
Newcastle upon Tyne
NE1 7RU
Tel: 0191 2228040

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Sub-contracted partners

Technical Authorship

TBA

Contractual Issues

TBA

TBA

A documentation consultant will be commissioned to enhance the “Technical Authorship” of the reports produced from work packages 4, 9 and 12 (packages defined in section 15). This role will take the preliminary reports and enhance them so they are more relevant to IT managers. This will be achieved by editing the content so it uses language more familiar to IT managers and by setting the content in the context of current trends in IT provision. This will enhance the value to IT decision makers in the wider HE community, ensuring that the project has the maximum impact in the community.

There is no need for a consortium agreement as all project staff come from the University of Newcastle upon Tyne.

12. Project Management

A project board will be convened quarterly by the Project director to direct the project, The Project board will liaise with the project manager:

- To provide a forum for consultation and discussion, raise issues of relevance,
- To provide strategic advice and guidance,
- To act as advocates for the project and promote the project elsewhere,
- To receive and comment on biannual and other project reports and documentation,
- To monitor the project performance against the objectives set out in the project plan (in conjunction with monitoring undertaken by the JISC programme manager),
- To offer guidance and advice to the project team on issues relating to evaluation and dissemination, especially in relation to the region and the Further/post 16 education communities,
- To offer guidance and advice on future funding opportunities and make recommendations for appropriate exit strategies.

The day to day running of the project and delivery of work packages will be coordinated by the project team in conjunction with the project manager in weekly meetings.

Project Team

Project Director: Paul Hopkins (ISS) is the Director of Information Systems and Services (ISS) at the University of Newcastle. It is estimated that Paul will spend 0.5 days per month on meetings and outcomes for the project.

Project Manager: Caleb Racey (Webteam ISS), is senior web development officer with 6 years experience of web application provision. He will act as both Project manager and key technical implementer in the project. Caleb will spend 3 days a week (60% of his time) on the project, of that 1 day will be spent on project management 2 days on project implementation.

Project officer: To be recruited (This position is currently advertised) The project officer will spend 100% of their time on the project.

Project Officer: Jon Dowland (UNIX team ISS) is a system administrator with 2 years experience in the University. Jon will spend 10% of his time on the project.

Project Officer: Chris Franks (Webteam ISS) is a Web Development Officer within the ISS Web Team. Chris will spend 30% of his time on the project.

Project Officer: Gavin Younger (UNIX team ISS) is a system administrator with 10 years experience in the university. He ran the infrastructure of the JISC National Mailbase service prior to its re-location to JISCMail. Gavin will spend 10% of his time on the project.

There are no specific training needs for the project, if needs are identified they will be addressed by in house training resources or by external training suppliers. The Training will be met from the institutional training budget.

13. Programme Support

There are no specific areas where the project needs support of the programme manager.

14. Budget

There are no deviations for the agreed project proposal in terms of budget, see Appendix A for budget plan

Detailed Project Planning

15. Work packages

See Appendix B for tables and timings

Description of work packages.

WP1 Recruit staff. Recruit a project officer whose primary responsibility will be to develop the grouper systems and provide back fill to other project members.

WP2 Setup. Setup project finance account and oversight on account to ensure project finance are controlled. Create project board to provide oversight and input into the project. Finalise initial project plan and complete stakeholder analyses. Communicate plan to stakeholders

WP3 Review/mapping. Review current state of the art in Grouper deployments. Identify specimen virtual organisations. Identify required data.

WP4 Deploy a Grouper infrastructure. Populate with users via the subject API provisioning connector. The subject API is vital to development of both Grouper and Signet based infrastructures. It is becoming a common standard in the two projects and may become a generic provisioning connector for use by many different tools that need to interface with existing institutional data sources. It is therefore an important tool in the provision of next generation authorisation infrastructures. The project will investigate the use of the Subject API in a real world institutional setting comprising 4700 staff and 17000 students with multiple data sources of user information. In the unlikely event that the subject API is deemed unfit for purpose then Grouper will be provisioned from static uploads of user details.

WP5 Test the use of Grouper for lightweight small flexible internal groups. Groups will be setup for several small groups of Newcastle University users. Delegation functionality inherent in Grouper will be used to delegate control of group membership to the most appropriate user group. This delegation will follow two models: first user self service where users will be allowed to control their own registration in a group; secondly control of some groups will be delegated to appropriate “power users” who will control who is registered on a group. These groups will be used to populate Shibboleth attributes to grant access to group blogs, wikis and calendars. This will be an important first test of Grouper functionality. Initial use with small simple groups providing access to simple resources will provide an important learning experience in the use and deployment of Grouper, it will also be an opportunity for early success helping the project to gain momentum and raising its profile in the user community. Lessons learned in this phase will inform procedures in the more complex following stages. Open source Shibbolised blog, wiki and calendar software has already been developed by Newcastle University and is ready to be augmented with Grouper based information for authorisation. By using open source software the applications developed during this phase will be deployable at low cost by the JISC community.

WP 6 Develop Grouper connectors. This will allow group information and membership to be made available to applications. Many applications require knowledge of which users are in a group in order to function. For instance mailing list managers like Sympa can be used to provide mailing lists to groups. In order to send mail to all group members the mailing list manager need to be provisioned and de-provisioned with the email address of all group members as group membership changes. In accordance with the JISC e-framework, connectors will make use of REST or SOAP based Web Services where appropriate for the provisioning of systems. This will allow for use of the connectors with future services that comply with the e-framework model, connector source code will be open sourced and published on the project website in compliance with JISC’s open source policy. The provisioning connectors will allow for a loosely coupled framework of applications to be made

available to group members to support communication and collaboration within the institute. This stage will encourage virtual organisations to form within the institute, thus providing a technology and user interaction test bed which will inform the more complicated goal of virtual organisation provision.

WP7 Test the use of Grouper with a complex use case. This will duplicate the existing Athens “medic restrict” group present in the University. This will be a comprehensive test of real world deployment of automatically populated groups and groups created by user input. It will also be a test of composite group formation and the delegation of group setup to appropriate staff. Newcastle can readily identify medical students via course information databases; these data sources will be connected to Grouper to populate a “medical students” group. Newcastle has no automatic means to identify medical staff; at present they are granted access to medical resources via manual Athens registration by library staff. A “medical staff” group will be setup and control of it delegated to library staff, this will be used to register medical staff to the group. A composite group of “all medics” will be formed from the two groups using Grouper’s group maths functionality. This group will be used to populate a Shibboleth medical restrict attribute designed to grant access to medic only resources at Film and media online EDINA service. The Shibboleth attribute is already setup and in use with this archive but presently is only populated for medical students.

WP8 Provide a “Virtual Home for Identity” by investigating, implementing and reporting on options for external users who have no Identity provider. Report on appropriateness and feasibility of outsourcing provision of identity to these users to commercial providers like Protect Network. In addition Newcastle will develop an internally hosted home for virtual identities by adapting existing open source tools like deadlock and user management systems. We will setup policies and procedures for registering and expiring user accounts and establish appropriate levels of trust for various registration scenarios. The need for virtual home for identity is a hot topic in many web communities at present and it is likely that new services and approaches may be made available before this stage is initiated. This phase will therefore start with a review of provision of these services, this review will identify the most appropriate tools and services and they will be examined in this stage. It is likely that the core comparison of externally and internally hosted services will remain valid.

WP9 Augment Virtual Home for Identity with group membership information for external users. This phase will investigate implement and report on options for augmenting identity information. It will focus on whether it is appropriate and technically possible for group information about “foreign users” to be maintained by the institute responsible for the Service Provision and/or by the Virtual Identity Provider. The technical infrastructure for this phase will have already been deployed in previous phases, this phase will therefore focus on the practical and organisational issues that relate to the appropriate location to “home” federated group information.

WP10 Test complex federated virtual organisations provision. Examine use cases where virtual organisation membership spans several institutes and setup the full set of collaborative tools described in the previous phases. Integrate the setup with access control and provisioning infrastructure. Roll out a Service Oriented Architecture (SOA) platform of wikis, blogs, calendars and mailing lists for virtual organisations. Run the service and survey users as to its effectiveness and usability.

WP11 Exploit Shibboleth 2.0 functionality to enhance use of existing tools and allow for the development of new usage scenarios. Due to the ongoing and changing nature of the development of Shibboleth 2.0 it is not possible to accurately predict which enhancements its release will bring to existing Shibboleth 1.3 deployments. However it looks likely that there will be enhancements to the protocol that may make the use of non browser http based clients feasible. In this way Shibboleth could potentially be used by webDAV clients, calDAV connectors, subversion clients, and pod-cast subscription clients which are currently excluded from Shibboleth use. The ability to integrate Shibboleth access control with these clients would greatly enhance the tool set that can be deployed to users. Other potential area of exploration is in the potential of Shibboleth to support multiple identity homing for individuals where their identity can be built up from multiple sources, this would be directly applicable to the “virtual home for identity” described above. The exact goals and aims of this phase will be decided after release of Shibboleth 2.0 and will be discussed with the program manager.

WP12 Review grouper usage The fine detail of this work package will be informed by the outputs and lessons learned from previous work packages. However it will involve a survey of the user population to assess fitness for purpose and lesson learned, The project outcomes will also be reviewed and where necessary updated. A final review to ensure all deliverables are in a sustainable form will be undertaken, however sustainability issues will be addressed throughout the project. A report on lessons learned, benefits accrued will be published.

16. Evaluation Plan

While there is no formal method of Evaluation being used on the project. Project deliverables will be reevaluated by the project team to ensure suitability for purpose, feedback will also be solicited from the community. Where appropriate, focus groups will be conducted with practitioners to ensure that emerging tools and methodologies are usable and viable as part of standard working practice. Particular attention will be paid to formulating meaningful and useful questions, choosing the right methods to obtain answers, incorporating these answers into the Project Plan, involving stakeholders in the project, and adhering closely to the JISC Project Management Guidelines Evaluation Plan. Qualitative and quantitative methods will be used so as to address both the impact that the project has on the University community.

An example of this approach will be the evaluation of grouper usage, access logs will be monitored to assess the level of usage of the service and provide quantitative data about how much it is being used, this will be followed by a qualitative approach where users identified as key stakeholders will be interviewed about grouper usage. Focus groups will also be used to bring together users

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
Jun 07	Current services	What are the good/bad aspects of the current service?	Interview users and administrators	Brief report of current status (in annual report)
Ongoing	Project steer / management	Is project steering / management adequate?	Monitoring deliverables	Work packages and reports completed on time
Aug 07	Does the grouper system function properly	Does the grouper setup work? is it usable?	Observation	The systems function correctly
ongoing	Clarity of documentation and support	Are stakeholders able to use the documentation the project produces to set up their own groups effectively?	Online Questionnaires Interviews Focus Groups Observation	Users can set up usable groups by using the documentation and support.
ongoing	User acceptance testing	Is the group management service acceptable to users?	Interviews Focus Groups Observation	Service users making use of service provided, positive feedback

17. Quality Plan

While there is no formal method of quality assurance being used on the project. Project deliverables will be reviewed by the project team to ensure quality, feedback will also be solicited from the community and from the programme managers.

Timing	Compliance With	QA Method(s)	Evidence of Compliance
Ongoing	Fitness for purpose	Observation, Interviews, Focus Groups	The tools and documentation created are usable in the environments they are

			designed for, i.e. HE, FE and other institutions.
Ongoing	Adherence to plan	Observation, Peer Review.	No scope creep
Ongoing	Adherence to standards	Observation, Involvement in standards discussions, Peer Review	Use existing tools to ensure web and (where relevant) other standards are being complied with.
Ongoing	Adherence to programme requirements	Respond to programme deliverables (documentation, external evaluation, etc.)	Deliverables and programme reports submitted on time, comply with evaluation
Ongoing	Complies with institutional web publishing standards	Project output will be reviewed by work project team to ensure spelling grammar and readability is up to standard before publishing	Readable, grammatical properly spelled documentation.

18. Dissemination Plan

Key to long term sustainability of both the GFIVO project outcomes and the Grouper project as a whole is engagement with the Grouper community. Community is the most important factor to consider when assessing the long term viability of an open source project and therefore the viability of any project that uses those tools.

The project team will therefore devote a large portion of it's dissemination efforts on engaging with and supporting the Grouper community of developers and users. Engagement will take many forms primarily will be participation on relevant email lists, by participating in email lists the project will directly engage with the community and will embed the benefits and lessons learned from the project in the community as they happen. This open development and participation strategy is the major benefit of working in open source communities, the immediate nature of emails also means that lesson learned are integrated in to the community .

The project team will also make strenuous effort to attend relevant conferences to spend face to face time engaging with the community. There is a substantial travel allowance in the project budget to facilitate conference attendance as many of the key conferences will occur in the U.S.A. An example of this is the first dissemination activity which will be 3 presentations on Shibboleth and Grouper given at both internet2 CAMP and internet2 Advanced CAMP in Portland Oregon 24th-28th June. Since Grouper is an internet2 project this is seen as the best way of engaging with the relevant community and should help to forge good links that will stand the project in good stead in it's future development.

Advocacy will also be an important factor in the dissemination plan. The project team will engage in advocacy of the project at all given opportunities. The project team has a good track record of advocacy at a regional and national level and will build on experience and reputation gained from the IAMSECT project to advocate Grouper usage in the HE community. It is expected that the project team will present and several national conferences such as the Institutional Web Managers Workshop IWMW (e.g. <http://www.ukoln.ac.uk/web-focus/events/workshops/webmaster-2007/>).

Timing	Activity	Audience	Purpose	Key Message
24/06/07 to 28/06/07	Presentation to Internet2 CAMP and Advance CAMP Portland Oregon	Grouper developers and community	Engage with grouper community.	JISC and Newcastle are engaging in the community.
To be decided	Presentations to Internet2 Conferences (possibly Spring or Fall conferences, see note below)	Grouper developers and community	Engage with grouper community and HE community	JISC and Newcastle are engaging in the community. Grouper is a viable tool.

To be decided (2008 probably)	Presentation at Institutional web managers workshop (IWMW, see note below)	Institutional Web Managers in UK HE.	Inform web managers and Promote project outputs.	Grouper is a solution to the group management need of H.E. and is fit for purpose.
ongoing	Keep an up to date and informative website at http://gfivo.ncl.ac.uk with monthly project news updates	All interested parties	Make all relevant information available (Engage, Promote, Inform, Awareness)	The GFIVO project and the grouper tool have momentum and are relevant to H.E. needs.
ongoing	Reports published on website	All interested parties	Inform	The issues encountered and benefits reaped from Grouper usage in H.E.
ongoing	Community engagement via email lists and wiki post	All interested parties	Make all relevant information available (Engage, Promote, Inform, Awareness)	The grouper community is robust enough to be relied on in the long term.
Autumn 07	Internal dissemination via Institutional "Newslink" news letter and via university "message of the day"	Newcastle users and developers	Awareness Inform Promote	Raise awareness of Grouper as a tool for organising collaborative groups.

Note: Dissemination in the manner described above is by its nature an opportunist undertaking. It is dependant on suitable conferences, suitable timings, and invites to present and/or accepted proposals. Therefore hard commitments to timings are not possible. However the project team has experience and a reputation for presenting at conferences and are confident we can continue and improve on the dissemination activities exhibited during the IAMSECT project. If we are unable to present at the suggested conferences we will seek similar conferences to present at. This will be discussed with the programme manager to ensure alternatives are appropriate, should this contingency become necessary.

19. Exit and Sustainability Plans

The Project is located in the Information Systems and Service department and as such is well placed to become a sustainable service. The Grouper infrastructure and the Framework of collaboration tools will be deployed as fully supported and documented services in accordance with the institute's service provision strategies. Documentation and reports and written deliverables will be published on the Gfivo website and kept for a period of 5 years. Efforts will also be made to embed those documents into the core Grouper documentation in order to ensure community sustainability and benefit.

Project Outputs	Action For Take up and Embedding	Action for exit
Establish project web site	The intention is to ensure the community contribute to the website with content. This will be enabled by an extensive dissemination and reporting effort on the part of the project officers.	The website will be kept live for no less than three years after the end of the project.

Deploy Grouper as a group management system for use in Newcastle University	Run the system as a fully deployed and documented system in Newcastle University embedded in the Information Systems and Services (ISS) department.	Embed the project in ISS and develop according to ISS service delivery strategies (<i>i.e.</i> Newcastle's interpretation of ITIL).
Widespread uptake of Grouper in the HE community.	Project designed to encourage widespread uptake of outputs. Project deliverables designed to be directly usable to inform other HE institutes deployment plans	Ensure that other institutions have adopted the technologies/approaches
Enhance grouper community	Engage with grouper community, develop and document system in a clear and open fashion.	Integrate project outputs into Grouper documentations via wikis, flyers, presentations and mailing lists

Appendixes

Appendix A. Project Budget

Directly Incurred Staff	March 07	April 07– March 08	April 08– March 09	TOTAL £
Total Directly Incurred Staff (A)	£3,237	£41,622	£39,676	£ 84,535
Non-Staff	March 07	April 07– March 08	April 08– March 09	TOTAL £
Travel and expenses for dissemination	£0	£4,000	£4,000	£8,000
Hardware/software (servers)	£0	£3,000	£3,000	£6,000
Personal Computers and Software	£0	£2,000	£0	£2,000
Server SSL Certificates	£0	£200	£200	£400
Other	£0	£0	£0	£0
Total Directly Incurred Non-Staff (B)	£0	£9,200	£7,200	£16,400
Directly Incurred Total (A+B=C)	£3,237	£50,822	£46,876	£100,935
Directly Allocated	March 07	April 07– March 08	April 08– March 09	TOTAL £
Directly Allocated Total (D)	£4,353	£53,158	£50,725	£108,236
Indirect Costs (E) (£6274 per FTE per annum)	£1,098	£13,176	£12,078	£26,352
Total Project Cost (C+D+E)	£8,688	£117,156	£109,679	£235,523
Amount Requested from JISC	£3,237	£50,822	£46,876	£100,935
Institutional Contributions	£5,451	£66,334	£62,803	£134,588
Percentage Contributions over the life of the project		JISC 41%	Newcastle 59%	Total 100%

Appendix B. Work packages

WORKPACKAGES	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP1 Recruit staff		x	x	x																					
WP2 Setup		x	x	x																					
WP3 Review/mapping				x	x	x																			
WP4 Develop Grouper infrastructure				x	x	x	x																		
WP5 Use with simple groups					x	x	x	x	x	x															
WP6 Provisioning connectors							x	x	x	x	X	x	x												
WP7 Complex group use case											X	x	x	x											
WP8 Assess virtual IdP infrastructure													x	x	x	x	x	x	x						
WP9 Review strategies for location of group info for virtual organisations with users from multiple institutes															x	x	x	x	x	x	x				
WP10 Role out framework for support of cross institute virtual organisations																			x	x	x	x	x	x	x
WP11 Exploit Shibboleth 2.0 enhancements																			x	x	x	x	x	x	x
WP12 Review use of Grouper																					x	x	x	x	x

Workpackage and activity	Earliest start date	Latest completion date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
YEAR 1					
WORKPACKAGE 1: Recruit Staff <u>Objective:</u>					
1. Submit post requisition to registrar	Completed	Completed			CR
2. Create job description for HR grading panel	Completed	Completed			CR
3. Create person specification	Completed	Completed			CR
4. Create job add and get approval of HR	Completed	Completed			CR
5. Advertise job via website jobs.ac.uk and monster.co.uk	Completed	Completed			CR
6. interview + recruit	May 24th	Offer made and accepted verbally 25 th May. (Awaiting work permit - application submitted)	Recruit project officer		CR
WORKPACKAGE 2: Setup <u>Objective:</u>					

7. Setup project finance account	Completed	Completed			CR
8. Ensure project funds arrive and go into appropriate account	Completed	Completed			CR
9. Create project board	May 1st	June 30 th			CR
10. Finalise initial project plan	May 1st	June 30 th	Project Plan		CR
11. Stakeholder analyses	May 1st	June 30 th			CR
12. Communicate plan to stakeholders	May 1st	June 30 th			CR
<i>WORKPACKAGE 3: Review/mapping</i>					
<u>Objective:</u>					
13. Review current state of the art in Grouper deployments	May1st	Jul 30 th			CF
14. Identify specimen virtual organisations	May1st	Jul 30 th			CF GY
15. Identify required data	May1st	Jul 30 th			GY CR CF
<i>WORKPACKAGE 4: Develop Grouper infrastructure</i>					
<u>Objective:</u>					
16. Deploy Grouper	June1st	Sep 30th			CF PO CR
17. Populate with subject (user) data	June1st	Sep 30th			CF GY JD PO
18. Alter User interface to meet project needs	June1st	Sep 30th			CF PO
19. Report on the potential of the Subject API for institutional use and its compatibility with existing data sources and architectures.	June1st	Sep 30th	Report published on website.		CF PO
<i>WORKPACKAGE 5: Use with simple</i>					

groups					
<u>Objective:</u>					
20. Setup self service groups	Jul 1 st	Dec 30 th			CF PO
21. Setup groups controlled by an admin	Jul 1 st	Dec 30 th			CF PO
22. Setup corpus of tools controlled by group access (blogs, wikis, mailing lists)	Jul 1 st	Dec 30 th			
23. Report on initial finding	Jul 1 st	Dec 30 th	Initial findings report disseminated via website; will include guides for both users and system administrators on the use of Grouper		PO CR
WORKPACKAGE 6: Provisioning connectors					
<u>Objective:</u>					
24. Identify which systems need provisioning connectors	Sep 1st	March 30 th			PO CF
25. Develop provisioning connectors	Sep 1st	March 30 th			PO CF JD
26. Document connectors	Sep 1st	March 30 th	Document connectors on website		PO CF
YEAR 2					
WORKPACKAGE 7: Complex group use case					
<u>Objective:</u>					
27. Duplicate existing medic restrict student group - feed for course database	Jan 1st	Apr 30 th			PO CF
28. Duplicate existing medic staff student group - manual data entry by librarian	Jan 1st	Apr 30 th			PO CF

29. Form composite group and test access	Jan 1st	Apr 30 th	Lessons learned disseminated on website		PO CF
WORKPACKAGE 8: Assess virtual IdP infrastructure <u>Objective:</u>					
30. Investigate Outsourced Identity Providers	Mar 1st	Sep 30 th			PO CF
31. If necessary develop in house virtual identity system	Mar 1st	Sep 30 th			PO CF
32. Develop policies and procedures for using virtual identity homes	Mar 1st	Sep 30 th	Lessons learned from this use case will be disseminated via the project website		PO CF
WORKPACKAGE 9: Review strategies for location of group info for virtual organisations with users from multiple institutes <u>Objective:</u>					
33. Investigate appropriate home for group info for virtual users	May 1st	Nov 30 th	Report on findings on project website		PO CF
WORKPACKAGE 10: Role out framework for support of cross institute virtual organisations <u>Objective:</u>					
34. Identify framework of services to support user collaboration	Sep 1 st	Mar 30 th			PO CF CR
35. Deploy Framework of blogs, wikis, calendars etc.	Sep 1 st	Mar 30 th			PO GY JD CR
36. Run the service and survey users as to it's effectiveness and usability	Sep 1 st	Mar 30 th	Report on issues encountered, improvements that can be made and benefits to the community.		PO GY JD CR

WORKPACKAGE 11: Exploit Shibboleth 2.0 enhancements <u>Objective:</u>				
37. Investigate and use possible enhancement brought by Shibboleth 2.0	Sep 1st	Mar30th	Report on issues encountered, improvements that can be made and benefits to the community.	CR PO CF GY JD
WORKPACKAGE 12: Review use of Grouper <u>Objective:</u>				
38. Review the use of Grouper in the institute	Nov 1 st	Mar 30th	Report Detailing the use of Grouper in the institutes, benefits gained lessons learned.	CR PO CF

Members of Project Team:

CR: Caleb Racey

CF: Chris Franks

PO: Project officer (to be appointed- job advertised)

GY: Gavin Younger

JD: Jon Dowland

