



Expanding the NGS

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Overview

- Goals
- Benefits
- Membership Processes



NGS

Membership Programme

Goals:

1. Increase the range and depth of services and resources that NGS can offer to its users
2. Provide leadership and sources of best practice to sites needing to put their resources “on the Grid”
3. Create communities able to exploit the connected resources for interdisciplinary research



Benefits to the research community

- Access by local researchers to local resources through standard interfaces
- Access to resources of a type that may not be locally available
 - Software unlicensed in the institution
 - Data is generated at an international facility and needed on local resources
 - Different partners are able to provide different resources into a collaboration
- Usage of resources independent of location insulating them from local downtime and periods of resource instability
- Creation of community practitioners
 - Pioneers within a subject are able to lead initially collaborators and then finally the field towards enlightenment
 - Push capability and advance methods of research



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Benefits to the institution

- Links into national e-infrastructure framework
 - Provision of value added services that a single institution wouldn't want to run
 - Removing the possibility of needing to arrange NxN custom agreements with different collaborating institutions
- Allows for creation of inter-institutional economy
 - smooth usage of resources allowing increased utilization of resource, increasing efficiency
 - external accounting & quality assurance frameworks
 - standard interfaces allowing users to see no change
- Access to top up resources
 - Out of band resources, beyond normal requirements need beyond normal resources
- Access to expertise
 - Systems Administration
 - User training materials

Connecting Infrastructure

Connecting Research



Organisational Membership

- Personnel
 - Appointment of an institutional Campus Champion
 - Liaison between HEI/research organisation and NGS



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Campus Champions

- As the first level of NGS membership, they are;
 - A source of information regarding NGS resources and services
 - A source of user accounts on their campus
 - A conduit for the campus e-infrastructure needs, requirements and challenges
 - A local contact for running an NGS training event giving visibility to the institutions commitment
 - The direct access to the outreach and training group in the NGS



Organisational Membership

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- Resource Exchanging
 - Regularly tested installation of NGS defined interfaces as described in the NGS Sits Level Services Document



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NGS Site Level Services

- Description of the different solutions to service requirements challenges
- A set of different modules describing a particular function, each with a number of solutions which are grouped together as profiles
- Supported interfaces are community driven, we will not/cannot dictate what is made available, limited only by available effort
- For example we are currently supporting the following
 - Computational interfaces:
 - VDT, gLite, Globus 4, GridSAM
 - Data Management and access interfaces:
 - Database (Oracle & MySQL), Metadata(SRB), Global Filesystem (AFS), Relational Data access (OGSA-DAI)



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- Resource Exchanging
 - Regularly tested installation of NGS defined interfaces as described in the NGS Sits Level Services Document
 - Affiliate
 - Maintains control over permitted users
 - Partner
 - Supporting access to a 'significant' service
 - Publish a service level description (SLD) detailing the services offered



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Membership Process

- Buddy works with site to install software as per a compliant profile
- Use manual INCA tests to determine installation success
- Add to automated compliance testing framework
- After 7 days successful conformance testing has been completed
- Site is then recommended to the board



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Specialist services

Westminster

- Operates and supports P-GRADE portal and GEMLCA legacy application support services



Belfast e-Science Centre

- Web Service Hosting Container Service
 - Web service containers into which projects or VOs can deploy their own Web or Grid services, using automatic deployment technology

Oxford e-Research Centre

- OMII-UK GridSAM
 - OGF HPC-Basic Profile compliant Job submission
 - Promoting interoperability with international grids
- Eucalyptus Cloud system
 - Exposing AWS compatible interfaces and functionality to NGS users

Edinburgh

- Eucalyptus Cloud system

STFC Rutherford Appleton Laboratory

- Visualisation using specialised cluster from within the STFC e-Science Viz group

Connecting Infrastructure

Connecting Research



NGS

Process for a New Service

1. User/Research community propose new service
2. Research and Development Team
 1. Deploy test service, working with community
 2. Develop appropriate service documentation
 3. Final test service deployed on further NGS sites
 4. Service ready for production deployment
3. Operations Team
 1. Deploy operational production service
4. Liaison Team
 1. Publicize the availability of the new service
 2. Training materials developed with the community and training events held



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Concluding remarks

- Partnership programme important for expansion of UK e-infrastructure
 - integration of standard as well as specialist resources and services (e.g. datasets, visualization, instruments)
- Looking at methods to incentivise partners e.g. through illustration of value given through user support etc.
- Providing a significant number of best practice documentation for existing and new types of services
- Accommodate fEC through accounting based on virtual organisations