



## **SURAGRID and OSG Statement of Shared Interest Guidelines for Exploration of Grid-to-Grid Integration between SURAGRID and the Open Science Grid April 2009**

Through this document, SURAGRID and Open Science Grid (OSG) are stating their intention to explore several areas of mutual benefit to their respective communities, with the goal of collaborating to advance each initiative's objectives for effective use and advancement of grids. Collaboration is intended to leverage the current infrastructure, operations, technologies and policies of each initiative where possible, with the potential to co-develop new mechanisms when needed to enhance integration and scalability.

Since both of the initiatives and their underlying technologies are parts of a rapidly changing field, foci may change over time. Both initiatives are also heavily dependent on resources that are transient by nature (community participation and volunteer contributions, external funding with attendant obligations). Given this context, objectives and tasks may be specifically defined for clarity towards implementation but it is mutually understood that work will take place on a best effort basis.

These initial Guidelines have been developed to cover the time period from March 2009 through April 2010 and are focused on the following areas:

- Facilitating **reciprocal access to resources by SURAGRID and OSG application users** using the identity context of the originating communities. We will investigate how users of both SURAGRID and OSG can run jobs on each other's resources such that identity can be conveyed between environments in a form acceptable within the target environment and support each community's need to account usage. We will also investigate shared policies and services to provide ease and efficiency from the user's perspective (e.g. resource discovery, scheduling and job monitoring).
- Pursuing **interoperability** between SURAGRID and OSG **to facilitate inclusion of the same resource** in both grids when desired by the resource owner. We will investigate how a site can be both a SURAGRID and an OSG site, specifically we will look at the software stack and identify commonalities and discrepancies. A set of recommendations for interoperability will be made at the end of this effort with a prototype site being a member of both grids.

SURAGRID has identified needs within its community to extend support of the SURAGRID software stack to different platforms and different configuration profiles. Based on a significant corporate partnership with IBM, SURAGRID has a need to support AIX as an operating system on some SURAGRID resources. Additionally, most SURAGRID sites contribute COTS clusters to the shared resource pool and frequently leverage ROCKS to simplify management of these systems. Providing native support for ROCKS and common schedulers like SGE within the SURAGRID stack would further benefit our sites. SURAGRID plans to review and likely revise its stack specification within the term of these Guidelines and would like to engage with OSG as part of that process to maximize interoperability and developer resources.

- Collaboration on *other mutually beneficial activities*. SURAGrid and OSG have identified mutual interest in community development, education and training, and extending the use of cyberinfrastructure to under-represented groups. Given the broad vision and unique perspectives of both initiatives, there is also the potential for shared research or co-development of technologies and policies to scale cyberinfrastructure. Finally, since each initiative is also interested in expanding its user community, there may be collaborative opportunities to expand awareness of both initiatives, and to leverage grid-to-grid integration as a value-added aspect of participation.

Some pre-identified areas of mutual interest include:

- Leveraging institutionally vetted identities to access grid resources, specifically the ability to leverage InCommon and technologies like GridShib to provide a conduit for attributes into the grid fabric. Given the scope of this problem it seems beneficial to develop a common solution that can satisfy requirements of both organizations.
- Leveraging the established experience of both organizations in migrating applications to grid environments to develop a program that extends this expertise to the broader campus communities.
- Share experience and identify issues using the GridWay meta-scheduler, being explored by the SURAGrid community, for scheduling jobs on the resource pool of the OSG.

## About the Initiatives

OSG is a US grid computing infrastructure that supports scientific computing via an open collaboration of science researchers, software developers and computing, storage and network providers. The OSG Consortium builds and operates the OSG, bringing resources and researchers from universities and national laboratories together and cooperating with other national and international infrastructures to give scientists from many fields access to shared resources worldwide.

SURAGrid is a consortium of organizations promoting excellence for research and education enterprises through collaborative engagement in cyberinfrastructure across the SURA region. The intention is to orchestrate access to a rich set of distributed capabilities in order to meet diverse users' needs. Capabilities include locally contributed resources, project-specific tools and environments, specialized applications such as HPC access, and gateways to national and international cyberinfrastructure. SURAGrid's major goals are to: a) Develop a scalable infrastructure that leverages local institutional identity and authorization while managing access to shared resources across institutional boundaries, b) Promote the use of this infrastructure for the broad research and education community, creating a whole that is greater than the sum of its parts, and c) Provide a forum for participating institutions to gain additional experience with grid technology and to support collaborative project development.

## Structure for Activity Under These Guidelines

To facilitate progress under these Guidelines, SURAGrid and OSG are designating Principle Contacts as follows. These Principle Contacts are responsible for representing their respective community and identifying appropriate subgroups to carry out agreed-upon activities.

Principle Contact for SURAGrid:	John-Paul Robinson, University of Alabama at Birmingham
Principle Contact for OSG:	Sebastien Goasguen, Clemson University

The SURAGrid Governance Committee and OSG management will also meet at least twice during the

term of these Guidelines (in-person or via remote conference) to evaluate the ongoing relevance of these guidelines and the efficacy of the activities that result. These dialogs will also consider how the collaboration between initiatives has benefited the user community at large (both research and education), improved efficiency of operations and capabilities of the infrastructures, and contributed to the broader goal of interconnection towards a global cyberinfrastructure. Conclusions from these evaluations will be used to review and evaluate overall progress after these Guidelines expire (April 2010) and determine next steps for collaboration.

While both parties recognize the benefits of collaboration and intend to work together under these Guidelines to bring these benefits to their respective communities, this is not a legally binding agreement. Either initiative may discontinue collaboration at any time by relaying that intention between Principle Contacts. These Guidelines can also be amended or extended via mutual decision at any time, with the updated Guidelines to become effective on a mutually acceptable schedule.

### **Timeline for Activity Under These Guidelines**

While collaboration under these Guidelines is voluntary and also dependent on availability of resources within either initiative, the following is a suggested timeline for use as a guide and driver for progress. Specific definition and resources to be applied to each activity will be determined over time, through the Principle Contacts acting in coordination with others as needed within their respective initiative.

- By end of March 2009
  - Agree on joint intentions and document as necessary (these Guidelines)
- By end of April 2009
  - Develop initial specification for bi-directional resource access (longer term goal but should guide nearer-term actions)
  - Determine basic blueprint & requirements for sub-areas needed for user and resource interoperability
  - Identify resources in the respective communities for moving forward in each sub-area above
- By end of September 2009
  - Demonstrate grid interoperability – ensure basic blueprint developed above can be executed and ensure that all technical challenges are being identified..
- May 2009 through March 2010
  - Complete work in sub-areas where resources are available
  - Explore other areas of mutually beneficial collaboration
  - Seek additional resources for other areas of progress as needed/desired