

**MAGIC Meeting**  
**October 4, 2006, 2:00-4:00**  
**NSF, Room 1150**

**Attendance:**

Keith Jackson	LBL	KRJackson@lbl.gov
Ken Klingenstein	Internet2	kjk@internet2.edu
Miron Livny	OSG	miron@cs.wisc.edu
David Martin	IBM	martinde@us.ibm.com
Grant Miller	NCO	millier@nitrd.gov
Sara Murphy	HP	sara.murphy@hp.com
Mike Nelson	IBM	mrn@us.ibm.com
Dane Skow	TeraGrid	skow@mcs.anl.gov
Kevin Thompson	NSF	kthompso@nsf.gov

**I. Action Items**

1. Grant Miller should work with Ruth Podres to provide a briefing on OSG at the November 1 MAGIC meeting.
2. Ken Klingenstein will share his response to the GSA RFI on federation
3. Ken Klingenstein will identify a point of contact with the E-Authentication group
4. MAGIC should arrange a briefing on NSF's workforce issue solicitation.
5. Grant Miller will provide Kevin Thompson with suggestions for MAGIC inputs to the LSN Annual Coordination meeting of October 10.

**II. Proceedings**

This meeting of MAGIC was chaired by Kevin Thompson of the NSF and the Vice-chairs, Mike Nelson from IBM and Ken Klingenstein from Internet2.

**Program/Project Roundtable**

**TeraGrid. Dane Skow**

TeraGrid has completed the rollout of the Globus toolkit for services and service definitions. They are now building the next layer of services on top of that toolkit. They are using MPIG. TeraGrid is working with GridShib of Internet2 to enable authentication and authorization. They are discussing, with Internet2 (I2), moving the GridShib capabilities to a testbed toward deploying a production environment employing common federation facilities. They are working toward attribute-based deployment of authorization and authentication and will be meeting with I2 at the December I2 meeting.

TeraGrid is looking at commercial services to identify what they offer, such as Amazon E2 and E3 services. They will be meeting with Amazon next month to

determine how Amazon service might be deployed for research users. Potentially, Amazon might be used as mass services to provide an entry level for compute cycles and storage for a fee. TeraGrid might help users with a tutorial and a starter grant. In aggregate Amazon could offer petabyte storage and large amounts of compute power. TeraGrid is considering if users might be migrated to Amazon if their peak demands exceed TeraGrid capabilities. The cost of computational cycles looks attractive but network provisioning costs for researchers to reach Amazon look prohibitive. Amazon computational capabilities are based on Zen Globus technology. Computers are about 2 generations back from current supercomputer capabilities. An issue is whether the JCL of TeraGrid can be configured to work on Amazon.

TeraGrid currently provide a 100 TFlops at 9 sites around the U.S. NCAR in Boulder, Colorado has a 50 TFlop machine that was just added as a site. The next site to be added will be a Tier 2 site at the University of Texas at Austin, which will have a 400 TFlop machine in production in the spring of 2007.

TeraGrid partners with the Open Science Grid (OSG). They are exploring how to integrate into a common infrastructure. TeraGrid is focusing on HPC centers usually serving small teams of researchers. Some LHC researchers are using the TeraGrid resources.

See: [www.teragrid.org](http://www.teragrid.org)

Researchers from the physical sciences are heavy users of TeraGrid. Users are clustered around Los Angeles, Chicago, and the Eastern seaboard. Common Grid authorities are being discussed. TeraGrid is not yet reaching out to commercial users through grant requests. Commercial access is generally through direct arrangement with host organizations.

### **Open Science Grid (OSG), Miron Livny**

The NSF has funded OSG for \$6 million per year for five years. There is no budget for hardware; OSG does not own any hardware. Money goes to projects to be implemented on the OSG. OSG is a consortium of researchers and providers interested in open science Grids. There are a few large users and many small user groups. Facilities are shared across administrative domains. Some of the larger applications have to be run across multiple facilities. There currently is no industry participation. HEP plans to move huge amounts of data among its Tier 1 and Tier 2 sites. OSG uses whatever network resources are available such as HOPI, Abilene, and NLR. They primarily coordinate the endpoints of a collaboration and networking has not been an issue. The CEDS facility is an OSG participant.

OSG is working on middleware to support sustained transfer. They are implementing incremental upgrades on software stacks. Forty to fifty sites now have OSG software. Updating them all in a consistent manner is an issue. If you shut down the system it takes several weeks to restart it. You need a capability to implement changes on the fly with configuration control. They are checking the compliance of software, integration of the latest upgrades and patches. An important issue is how to provide and maintain higher quality security software. W\How well are we prepared to upgrade and patch software? How do we identify and communicate to users, the vulnerabilities we need to fix? How do we assure the timeliness of fixes? Who owns the software to apply patches?

AI: Grant Miller should work with Ruth Podres to provide a briefing on OSG at the November 1 MAGIC meeting.

### **Shibboleth**

Shibboleth continues to grow in its use by Virtual Organizations (VOs). VOs are more broadly defined than Grids. General support tools for scientific collaborations are not necessarily associated with one of the large Grid programs. Shibboleth is working on federated identity for WIKIs and laboratories.

There are a number of commercial releases, including Oracle. SAML 2.0 is compatible with Shibboleth. Shib compatible means you can accept assertions by Shib sites at your site. You can issue assertions that are Shibboleth compatible so sites can process them and grant access, or not.

Federated identity is different from federation of authentication and authorization. It is less rigorous. SIP added a header that indicates an address to obtain a key. Shibboleth does not require a key; your local federation provider provides the keys.

GSA is developing guidelines for peering federations. MAGIC should coordinate with GSA to reinforce with GSA the importance of federation in an increasingly complex environment. GSA issued an RFI on federation with responses due back this Friday.

AI: Ken Klingenstein will share his response to the GSA RFI on federation.

Several commercial products are becoming Shibboleth compatible. There is an upcoming conference on how to facilitate science projects with federated authorization and authentication. There is a meeting in tow weeks in Spain on Federation Operations Groups (FOGs).

To facilitate federation we need commonality of attributes and definitions. EGEE is not consistent with Shibboleth. Privacy issues are critical. They are likely to be addressed at a national level based on privacy laws and regulations.

AI: Ken Klingenstein will identify a point of contact with the E-Authentication group.

### **Open Grid Forum meeting**

Grid World and Globus World were held at the same time. Most of the work was carried out in topic groups of these organizations. The Data Group of Grid World addressed the meaning of virtualization and solidifying business requirements for the Grid. Several data standards are close to being completed. The operational and business orientation of OGF is increasing. There was significant discussion on Shibboleth issues. A community section, attended by Alan Blatecky, focuses on interGrids that e-science tends to use. Alan Blatecky is hosting the next e-science forum meeting at the University of North Carolina, Chapel Hill.

Georgetown University maintains a Web site listing Grid projects, called Grid Watch.

### **Workforce issues**

Discussion among the MAGIC members identified that there is an inadequate workforce to support Grids in the future (as well as in computer science and distributed computing). The NSF, Office of CyberInfrastructure (OCI) has a \$10 Million solicitation for addressing workforce issues. The awardees and abstracts of their research proposals are on the NSF Fastlane Web site.

AI: MAGIC should arrange a briefing on NSF's workforce issue solicitation.

### **MAGIC Representation**

Discussion among the MAGIC members identified that membership at MAGIC meeting should be increased to include DOE, DoD, and NIH Grid programs.

### **CyberInfrastructure for Environmental Observatories**

This program is implementing infrastructure including collaboratories for environmental research. Five awards were made from \$500 K- 2 M for 2-4 years. It is developing regional systems, data product development, prototype systems, and management analysis.

AI: Grant Miller will provide Kevin Thompson with suggestions for MAGIC inputs to the LSN Annual Coordination meeting of October 10.

### **Future MAGIC Meetings**

November 1, 2006, 2:00-3:30, NSF Room 1150

December 6, 2:00-3:30 NSF Room 1150