



MAGIC Meeting Minutes

February 5, 2014

Attendees

Casey Averill	RENCI
Rich Carlson	DOE/SC
Bob Cowles	Indiana U.
Chip Elliott	BBN/GENI
Shantenu Jha	Rutgers U.
Bryan Lyles	NSF
David Martin	Northwestern U.
John McGee	RENCI
Grant Miller	NCO
Jonathan Mills	RENCI
Alan Sill	TTU
Marcin Sliwowski	RENCI
Von Welch	Indiana U.

Action Items

1. Grant Miller will send MAGIC last year's OSTP Science Priorities memo
2. Alan Sill in conjunction with Inder Monga and Chip Elliott, will identify opportunities for key individuals to discuss unified approaches to IdM for U.S. and international scale collaborations.

Proceedings

This MAGIC Meeting was chaired by Rich Carlson of DOE/SC. John McGee, Jonathan Mills, and Casey Averill of RENCI discussed the RENCI architecture, and support for high performance clusters including storage, data, compute, identity management and other resources.

RENCI: John McGee

RENCI is an applied research institute of UNC-CH supporting NC State, Duke and UNC-CH. They build new collaborations and accelerate research activities across the three universities.. They develop and deploy new cyberinfrastructure capabilities and host leading0-edge services and platforms for research. The Europa data center facility of RENCI supports 40 racks and backbone networking to enable VLANs. Storage facilities support a very diverse set of requirements, e.g., fiber channel, iSCSI, NAS. The storage capabilities instantiate flexibility and supports compute and data analytics clusters with bulk data transport to/from other data centers. Users represent genomics, environmental science and national collaborations. Current storage capabilities include 1.1 PB of NetApp FAS, 50 TB of NatApp FAS , 1.5 PB of NetApp FAS (March 2014), Quantum StorNext (2-3.5 PB), Kaminario (6TB), Croatan data analytics cluster (1PB and other resources).

RENCI has a Hatteras compute cluster designed for HPC ensembles. It has 4 x (512 cores with 6GB per core packaged in 32 nodes). It is supported by 40Gb FDR-10 Infiniband

FOR OFFICIAL GOVERNMENT USE ONLY

c/o National Coordination Office for Networking and Information Technology Research and Development

Suite II-405 · 4201 Wilson Boulevard · Arlington, Virginia 22230

Phone: (703) 292-4873 · Fax: (703) 292-9097 · Email: nco@nitrd.gov · Web site: www.nitrd.gov

interconnect. A Blue Ridge Cluster has 160 nodes, each with 8 cores, 3GB per core and 40 Gb Infiniband interconnect. The Croatan cluster has 30 Dell R720xd each with 16 cores at 3 Ghz and 256 GB of memory.

Virtual machine demand has soared. There are more than 350 VMs in the server farm. ACIS Core services include AD controllers, HA Clustered MSSQL, MySQL, Postgre SQL, DNS, and cluster login and service nodes. VMs are project based. ExoGENI has about 35 VMs. Example of VM applications include a Secure Medical Workspace, an environmental sciences program, and a Coastal Hazards Community of Practice.

Project specific hardware includes assisting researchers with access to OSG, VMs for associated services, and RENCi Identity Management for access to submit host, OSG credentials.

- The Manning Data Center is the UNC Central IT. RENCi partners with UNC Research Computing to support primarily genomics and medical informatics.
- The Duke Social Computing Room is a collaborative visualization environment for researchers and students that is deployed at RENCi's Engagement Center at UNC-CH and NCSU. It supports scientific visualization, melanoma image analysis, and the arts and humanities.
- The Genomic Sciences Building hosts 400 nodes, 3200 cores, 600T disk storage and 400Gbps of Hadoop bandwidth.
- The National Consortium for Data Science supports workforce development
- The Galapagos Science Center supports a remote branch office scenario
- Directory services and identity management use LDAP and Active Directory supporting a large number of external collaborators.

For the complete briefing, please see the MAGIC Website at:

[http://www.nitrd.gov/nitrdgroups/index.php?title=Middleware_And_Grid_Interagency_Coordination_\(MAGIC\)#title](http://www.nitrd.gov/nitrdgroups/index.php?title=Middleware_And_Grid_Interagency_Coordination_(MAGIC)#title) under our February meeting

OSTP Science Priorities input

Each year OSTP provides guidance on science priorities for the upcoming year. MAGIC has the opportunity to suggest topics for consideration by OSTP for possible inclusion in their science priority memo. Discussion among the MAGIC members indicated that a uniform approach to Identity Management (IdM) is needed to enable the increasing scale of collaborations both nationally and internationally. Discussion should take place between GENI, XSede, and OGF on a unified approach to IdM for U.S. and international collaborations. Opportunities for this discussion include the upcoming GENI Engineering Conference March 17-19 in Atlanta, Georgia (Georgia Tech), XSEDE meeting, July 22-25 in San Diego, and OGF to be held in conjunction with the XSEDE meeting.

AI: Grant Miller will send MAGIC last year's OSTP Science Priorities memo

AI: Alan Sill in conjunction with Inder Monga and Chip Elliott, will identify opportunities for key individuals to discuss unified approaches to IdM for U.S. and international scale collaborations.

Upcoming Meetings:

February 20-21, perfSONAR Workshop, NSF: By invitation only

Feb 28-29: Operating Innovative Networks (OIN) Workshop Hands-on Training in SDN,
Science DMZ, DTNs and perfSONAR: LBL, Berkeley California,
<http://www.oinworkshop.com>

March 17-19 GENI Engineering Conference, Atlanta, Georgia

April 30-May 1, CCNIE PI meeting at the NSF

July 22-25, XSEDE, San Diego

Next MAGIC Meetings:

February 5, 2014, 2:00-4:00 EST, NSF

March 5, 2014, 2:00-4:00 EST, NSF