

## **MAGIC Meeting May 2, 2012**

### **Attendees**

Gabrielle Allen	NSF
Bob Bonneau	AFOSR
Scott Brim	Internet2
Shane Canon	Berkeley Labs
Rich Carlson	DOE/SC
Geoffrey Fox	Indiana University
Mohammed Gouta	NSF/CMS
Shantenu Jha	Rutgers Univ.
Dan Katz	NSF
Mark Luker	NCO
Bryan Lyles	NSF
David Martin	Northwestern Un.
Grant Miller	NCO
Mike Nelson	Georgetown Univ.
Manish Parashar	Rutgers Univ.
Dane Skow	NSF/OCI
Alan Sill	TTU
George Strawn	NCO
Michaela Taufer,	Univ. of Delaware
John Towns	NCSA
Von Welch	Indiana Univ.

### **Action Items**

1. Manish Parashar and Geoffrey Fox will consult with MAGIC member volunteers to refine the description of research needs.

### **Proceedings**

This MAGIC meeting was chaired by Gabrielle Allen of the NSF and Rich Carlson of DOE/SC. This meeting was a follow-on to last month's MAGIC meeting which discussed integrating cloud and cyberinfrastructure. It addressed needed areas of research for cloud computing infrastructure. This review was organized by Manish Parashar and Geoffrey Fox.

### **Overview: Manish Parashar**

Clouds join traditional CyberInfrastructure as viable platforms for scientific exploration and discovery. They offer opportunities for:

- Simplifying the deployment of applications and management of their execution
- Supporting new classes of algorithms and enable new applications formulations

Possible uses include:

- Emerging applications, e.g., data-intensive life science
- Addressing the long tail of science- democratization

- Science driven approaches, not resource-constrained approaches. This includes cloud abstractions for science beyond PaaS/IaaS/SaaS

Research Challenges include:

- Application and algorithm formulations
- Programming systems and abstractions
- Middleware stacks/Management policies
- End-to-end challenges and Best practices in building a cloud application
- Security policies and mechanisms
- Deployment/transition to practice
- Performance(cost, time, energy) management/engineering
- Management- Standard interfaces within science and externally: Automation of service agreements
- Networking: GENI, SLA for networking, virtualization of networks/dynamic paths, integrating with CI, IPv6 issues.

Each of these areas was discussed in greater detail among the MAGIC members to refine the understanding and documentation of needed research. The detailed outline presented by Manish Parashar and Geoffrey Fox is located on the MAGIC Wiki Website at:

<https://connect.nitrd.gov/nconitrdwiki/index.php/MAGIC>

AI: Manish Parashar and Geoffrey Fox will consult with MAGIC member volunteers to refine the description of research needs.

Volunteers for working on the research needs descriptions and documentation include:

Manish Parashar

Geoffrey Fox

Scott Brim

Alan Sill

Kate Keahy

Ian Foster

Rich Carlson

Gabrielle Alan

Grant Miller

### **Other MAGIC Items**

Mike Nelson indicated that pending legislation on cybersecurity has provisions that could seriously impede Internet services. Eric Berger of Georgetown University could speak to this issue.

GENI has many areas of common interest to MAGIC. Jeff Chase of GENI has experience in both the GENI and cloud computing communities.

### **Access to MAGIC Wiki**

Information for MAGIC has been migrated to the new NCO/NITRD Wiki.

The URL to the new NCO/NITRD Wiki is:

<http://connect.nitrd.gov/nconitrdwiki/>

As a MAGIC member you may access JET and MAGIC. Please specify all of these groups you are requesting access to!

To use the NCO/NITRD Wiki, you must first request a new account.

#### Instructions to Request a New Account

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1. In the Login box, click on the “click here” link where it says “To request a new account, please click here.” (top right of login box).
2. Enter the following:
  - a – Your desired Username (case sensitive) in the Username field in the “User account” box
  - b – Your email address in the E-mail address field in the “User account” box
  - c – (Optional) Your real name and biography in the “Personal Information” box
  - d – Type PCA name/names you belong to (LSN, JET, MAGIC) in the “Other information” box
  - e – Solve the math problem
  - f – Click “Request account.”
3. Check your email inbox (and possibly junk folder) for an account creation confirmation email. This email will also contain a link to confirm your email address.
4. After you verify your email address, please wait until the IT team grants access to your account. Please note this is a manual process and may require a few hours to validate and confirm your account.
5. When permission is granted, you will receive an email with a temporary password, which you should change at first login.

#### Instructions to Request Access to (LSN, JET, MAGIC) When You Already Have an Account

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If you already use the NCO/NITRD Wiki and have a username and password, you will only need to submit a request for permission to access the (LSN, JET, MAGIC) area. (Click “Contact Web Master” at the bottom of the page, or follow this link:

<http://connect.nitrd.gov/nconitrdwiki/index.php?title=Special:Contact> to make the request).

For additional information please contact Adrian Baranyuk:

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#### Upcoming Meetings of Interest

October: E-Science conference of IEEE, Chicago

IEEE Computing in Science and Engineering Magazine – Special Issue on Cloud Computing in Science and Engineering - <http://www.computer.org/portal/web/computingnow/cscfp4>

#### Future MAGIC Meetings

June 6, 2:00-4:00, NSF, Room II-415

July 4, 2:00-4:00, NSF, Room II-415 (to be rescheduled or canceled)