MAGIC Meeting Minutes
August 2, 2017

Attendees (*in-person attendance)

Rich Carlson	DOE/SC
Dan Gunter	LBL
Jim Kirby	NRL
Shantenu Jha	Rutgers
Joyce Lee*	NCO
Brian Lyles	ORNL
David Martin	ANL
Stu Martin	Globus
Grant Miller	NCO
Rajiv Ramnath	NSF
Alan Sill	TTU
Kevin Thompson	NSF

Action Items
Joyce Lee will look into MAGIC meeting details at SC17.

Proceedings
This MAGIC meeting was chaired by Rich Carlson (DOE/SC) and Rajiv Ramnath (NSF).

Administrative

- July 2017 Meeting minutes approved
- Group decided on remote access for September and October meetings due to NCO office move

Potential MAGIC Tasking FY 2018
Group members finalized the list of proposed FY18 tasks and Workshop:

- **Task 1**: Explore containerization (container-based virtualization), virtualization technologies that allow the use of resources with a prescribed environment; i.e., an application environment that moves with the job.
    - Subtask: Explore usability for HPC applications.

- **Task 2**: Examine a broad range of challenges and current status of containerization and virtualization issues in the context of creating a federated, distributed cloud computing environment for science.

- **Task 3:** Explore data repositories and data oriented work groups worldwide. How do we constitute, compose and implement resources at the nation's cyberinfrastructure facilities to mesh well with emerging capabilities (e.g., data sharing, data transfer, data management).

    - Subtask: Coordinate with the Research Data Alliance and other relevant resources, as needed.

- **Workshop:** Develop and provide recommendations on how to provide a flexible, accessible cloud environment across applications, user groups, and cyberinfrastructure to support big science.

The group drew from the following list of potential FY 18 tasks and discussion topics (July 2017 meeting suggestions are **bolded**):

- Existing/developing virtual environments: OSG, OGF, GENI, FutureGrid, Internet2Net + environment, supercomputer environments
- Convene the OSG, CERN, OGF… communities to discuss their different approaches and what has worked/what has not worked.
- Bring the NSF funded cloud environments into the MAGIC discussions to represent academic community interests
- University community researchers and providers to identify current capabilities and desired future capabilities.
- SDN developers to identify how their developing technology might impact virtual environments and distributed resources/distributed processing
- Cooperation with commercial cloud providers
- Data movement and data management. Middleware is expediting movement of data across collaborating groups and among science disciplines. An example is cooperation among NSF data hubs for moving data to/from supercomputer centers. CASC is participating in this effort.
- Evolving Identity Management (IdM)
- **Improving the reliability of middleware and grid environments. Software and networking are critical components for improving reliability.**
- **Data intensive science: impact on distributive computing and large scale supercomputing facilities. How is this environment changing (possible workshop)**

Potential FY18 Discussion topics

- Data movement and data management. Middleware is expediting movement of data across collaborating groups and among science disciplines. An example is cooperation among NSF data hubs for moving data to/from supercomputer centers. One member noted that CASC is participating in this effort.
- Evolving Identity Management (IdM)
- **Explore more efficient operation of data centers for universities and labs by incorporating up –to-date knowledge.**
    - **Extracting and building better communication between cloud research projects and data center operation. (e.g., CloudLab and Chameleon and counter examples: Shifter, Singularity).**
- **Identify how commercial resources (e.g., cloud environments) can be used/integrated into science environments, including involving experts from commercial cloud providers**
- **How NSF compute facilities are addressing data intensive science community**
    - Labs are looking into building more comprehensive compute environment that crosses physical domain boundaries of each lab

MAGIC Roundtable

TTU: Allan Sill

Alan circulated updates (FILL IN)

Meetings of Interest

July 30-August 11 Argonne Training Program for Extreme-Scale Computing, St. Charles, IL

Next MAGIC Meeting

Sept 6, 2017, 12:00-2:00 p.m. EDT (Remote)