MAGIC Meeting Minutes
October 4, 2017

Attendees

Dan Gunter	LBL
Kate Keahey	ANL
Joyce Lee	NCO
Brian Lyles	ORNL
David Martin	ANL
Rajiv Ramnath	NSF
Alan Sill	TTU

Proceedings
This MAGIC meeting was chaired by Rajiv Ramnath (NSF).

Administrative
September 2017 Meeting minutes approved

Kate Keahey: Roadmap for Online Data Analysis Platform (Slide presentation available)

Summary of Future Platform Workshop (April 4-5, 2017):
Stage 1: Application requirements and interesting applications that are changing the needs for computing. Establish an understanding of where science is heading.
3 types of applications: Advanced Photon Source, HEPCloud, Smart Cities
See slides for examples of requirements (more in workshop report on experimental and observational sciences).

Stage 2: Challenges and drivers in 7 system/technology areas (systems, storage, network, resource management, frameworks, data, and interactions). See slides for current enablers and challenges to be resolved in order to meet requirements

Stage 3: Define the new platform and how build platform, measure progress and how do we know when done. The future platform is a **distributed** environment that enables **adaptive** allocation and integration of compute, storage and network resources to support complex applications. Application with larger needs require a quicker response time, so reconfigure the cloud with more compute resources. Progress needed in order to build platform: system storage networks, resource management, frameworks, how to manage data, interaction, framework)

Building the Future Platform- 3 phases
1) Exemplars, demonstrators, etc
    a. E.g., HEPCloud is great first step; notes scale on which effort was conducted
2) Pilot – small, but generalized implementations and good for more than 1 community
3) Infrastructure/solution- broad, commodity infrastructures

Metrics
Ultimate metric is publications, time to solution, Nobel prizes, but only once platform is established. As the platform is being built, we could look at other factors: adoption (number of users, etc), level of integration, rate of adoption (difficult to migrate to next use case?)

Summary
Users are attempting to provide solutions for data problems; some partial solutions exist.
We are not past the exemplar stage; need more exemplars and case studies.
Adoption is a significant issue:
- Solutions are insufficient.
- Adoption needs to be motivated by right incentives. Also difficult because users lack access to certain hardware and hardware not configured.
- Importance of testbeds:
    - E.g.: ESnet- networking testbed
    - Chameleon –open production testbed for computer science research just received funding for phase 2. Will install programmable SDN capable CORSA switches on Chameleon sites; also capable of supporting 100G traffic.

MAGIC Tasking –FY18 Speaker suggestions:
- Greg Kurtzer (Singularity project)-Alan Sill will look for his email; Exceed project webinar on containers
- Dennis Gannon and Ian Foster (authors of new book: *Cloud Computing for Science and Engineering*)
- Agave project- use containerization within this project (Rajiv will send a link)
- Possibly connect with DOE Exascale Computing Platform effort as it is a distributed platform

MAGIC Roundtable
TTU: Allan Sill
IEEE /ACM International Conference on Utility and Cloud Computing and co-located with the 4th International Conference on Big Data Computing, Applications and Technologies to take place in Austin, TX). Data center automation analytics and control panel will be held on Tuesday, December 5 and will include academic papers and an industry panel. The panel may launch academic sector involvement in Red Fish (new data center control protocol). Alan will circulate information and ask about WebEx access.

NSF/CISE: Rajiv Ramnath.
Move to the new office is completed.

NCO: Joyce Lee
NCO is scheduled to move into new office in L'Enfant Plaza in mid-October

Meetings of Interest
November 11-16, SC17   Denver, CO
Dec 5-8, 2017, UCC 2017   Austin, TX

Next MAGIC Meeting
November 15, from 1:30-3:30pm (**Mountain Time**) at the Colorado Convention Center (Room 711).