MAGIC Meeting Minutes
August 3, 2016

Attendees

Rich Carlson	DOE/SC
Joaquin Chung	Ga Tech
Dan Gunter	LBL
Susan Hicks	ORNL
Shantenu Jha	Rutgers
Padma Krishnaswamy	FCC
Peter Lyster	NCO
John McGee	RENCI
David Martin	Argonne
Grant Miller	NCO
John Moore	Internet 2
Mike Nelson	CloudFlare
Ryan Prout	ORNL
Don Riley	U. Md
Alan Sill	U. T
Derek Simmel	PSC
Rangan Sukmar	ORNL
Hao Xu	U. NevReno

Action Items
1. Grant Miller will send the MAGIC Team the suggested MAGIC tasks for FY 2017 and solicit additional inputs form the team.

Proceedings
This MAGIC meeting was coordinated by Rich Carlson of DOE/SC. John Moore of Internet2 gave a briefing on the current and planned Internet2 architecture.

Update/ status on Internet2's Re-architecture Plans: John Moore

Internet2 plans include:
- Aligning their network services portfolio with the evolving community needs
- Developing deeper partnerships (with vendors) where it is mutually beneficial
- Providing leadership in the network services landscape

The goals of the 2016 Internet2 re-architecture are:
- To modify the core network to remove dependency on OpenFlow in the core, to build a rock solid production, single vendor (Juniper), MPLS-based core while maintaining the existing customer service view.
- Providing a more agile platform in an overlay supporting SDN and OpenFlow
- Simplifying the architecture and increasing visibility for planning purposes
- Positioning Internet2 to be more innovative and responsive to community needs looking forward to 2018-2023

Current status of the changes is that several cities have hardware swaps, and many more are planned. StarLight swap is currently in progress. A detailed design, code and test is in process. Overlay deployments have been implemented in New York and Salt Lake City. Installations in Seattle, Los Angeles, Kansas City, Houston, Cleveland and Atlanta are pending. Users at other locations desiring to use the overlay network will be backhauled to the 8 locations via AL2S.

For the forward looking 2018-2023 redesign, the Internet2 Board gave the network architects and planners leeway to define their investment strategy for the future. They would like to ask the community about the services they need delivered. They intend to be as broad as possible in serving the community of users.

Internet2 is working with the network planning subcommittee to define their new approach. A community workshop has been recommended. The upcoming September Internet2 Miami Technical Exchange will offer an opportunity to initiate exchanges with the user community. Internet2 is also extending outreach to individual entities including RONs, NRENs, Campus CIOs, researchers, vendors, federal agencies, and others.

Discussion identified that:

- Network storage services is being studied and is currently a research question. Internet 2 is considering putting storage in various places in the network similar to GENI. Router and switch vendors are beginning to offer storage in their equipment
- Internet2 is talking to international networking organizations such as SurfNet, GEANT, NorduNet, and other NRENs about planning science networking for the next 2-5 years. Internet2 already cooperates closely with ESnet, using a common Layer 1 infrastructure.

For the full briefing, please see:
https://www.nitrd.gov/nitrdgroups/index.php?title=MAGIC_Meetings_2016 under the August Meeting.

MAGIC tasking for FY 2017

Each year MAGIC establishes its agenda and focus topics for the upcoming year. The suggested focus topics are forwarded to the LSN for their consideration. Tasking for MAGIC for FY16 was focused on distributed computing evolution. Potential topics of interest included:

- Existing/developing virtual environments: OSG, OGF, GENI, FutureGrid, Internet2 Net+ environment
- Convene the OSG, CERN, OGF… communities to discuss their different approaches and what has worked/what has not worked.
- Identify how commercial resources (e.g., cloud environments) can be used/integrated into science environments
- Bring the NSF funded cloud environments into the MAGIC discussions to represent academic community interests
- University community researchers and providers to identify current capabilities they have and what additional capabilities they will need.
- SDN developers to identify how their developing technology might impact virtual environments and distributed resources/distributed processing
- Multi-core processing and its implications for research communities

In FY16 MAGIC addressed:

- ALCF (DOE Argonne and Oak Ridge environment)\
- Identity management
- NSF Future Cloud
- NIST cloud computing programs
- Internet2 identity management
- Earth Systems Grid
- NSF programs in Infrastructure for Sustained Innovation
- Open Science Grid
- TIGRES (LBL environment)
- XSEDE computational environment.

Potential tasks for MAGIC in FY17 are a continuation of the topics addressed last year and include:

- Existing/developing virtual environments: OSG, OGF, GENI, FutureGrid, Internet2 Net+ environment
- Convene the OSG, CERN, OGF… communities to discuss their different approaches and what has worked/what has not worked.
- Identify how commercial resources (e.g., cloud environments) can be used/integrated into science environments
- 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

Discussion among the MAGIC members provided additional suggestions for MAGIC focus topics including:

- 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.

AI: Grant Miller will send the MAGIC Team the suggested MAGIC tasks for FY 2017 and solicit additional inputs form the team.

Upcoming meetings of interest:

August 10, Washington, DC: Blackhat and DefCon lessons learned from the Atlantic council

September 15, San Francisco: CloudFlare Internet Summit 16; See: https://www.cloudflare.com/internet-summit/

September 19-22, Xeon Phi User's Meeting, Argonne, Ill.; See https://www.nersc.gov/users/announcements/featured-announcements/xeon-phi-users-group-2016-meeting/

Next MAGIC Meeting

September 7, 2016, 2:00-4:00 Eastern, NSF Room TBD