

Minutes
MAGIC Meeting
October 6, 2008, 2:00-4:00
NSF, Room II-415

Attendance:

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Susan Turnbull	DOE/SC	susan.turnbull@ascr.doe.gov

Action Items

1. Grant Miller will circulate the preliminary findings of the breakout groups of the Networking Research Challenges Workshop.

Proceedings

This meeting of MAGIC was chaired by Kevin Thompson of the NSF and Susan Turnbull of DOE.

NSF Workshops on Fostering Virtual Organizations

The NSF held two workshops to develop a blueprint for advancing the design, development and use of Virtual Organizations (VOs). The first workshop was a small meeting held in January 2008. The objective was to identify common areas of research to enhance communications to increase the effectiveness of VOs. It considered discipline areas of science, organizational behavior, business processes, sociology, technology, and user communities. They discussed how tools have been used in the science areas, research agendas, and how to make user communities aware of existing tools. They discussed developing models for business and organization communities on how VO structures evolve.

The Grid community, computer scientists, and users participate in the active design of experiments in VOs. Interaction identifies how to make tools more effective and identifies metrics for organizational effectiveness. Existing collaborative environments, such as Second Life, Burning Man, and Google's BEVO provide examples of how collaborations form and evolve.

One class of organizations, emergent organizations, spontaneously develop and evolve in response to situations, particularly disasters such as Hurricane Katrina.

The second workshop was held in Washington, DC, attended by the user community. Plenary-type presentations provided background on what is happening with VOs and provided feedback from users.

The workshops resulted in a document: Beyond Being There; Final Report from Workshops on Building Effective Organizations. This is available at <http://www.ci.uchicago.edu/events/VirtOrg2008/>

Significant issues for VOs include Identity Management and Privacy.

Three types of VO structure exist: Organizations, persistent VOs, and dynamic VOs (often in response to disasters and emergencies). Behaviors of the VOs vary depending on the type of organization involved. The meeting was largely focused on functioning rather on specific tools that might be available. The workshops also identified areas where research is needed to increase the effectiveness of VOs.

Discussion among the MAGIC members indicated that Grid communities are working to identify how to address discipline science VO needs, e.g. what structures need to be in-place to support science. It is more than a matter of tools; it includes metrics, organizations, responsibility, and planning. We need to understand how science, with its increasing emphasis on larger groups, collaboration and distributed science, is changing. We need training programs to inform scientists how to do interdisciplinary science and to inform them of the tools and options available to them. Researchers need to develop an ecosystem to support their research. Once a discipline develops an ecosystem it is difficult for them to switch to a different ecosystem (paradigm). To accommodate the needs of rapidly changing science groups, we need faster means of enabling those groups. We need to identify what they need and how do we make VOs easier for them. We should talk to the VOs that are struggling or have failed to develop lessons learned and to identify ways to better enable the groups. We need to identify a transition plan for developing VOs. The BEVO Website contains talks related to the needs of VOs. Bill Rouse has studied the complexity of the issues. Jonathan Cummings of Duke has studied the ITR problem, what worked and why.

The discussion indicated that we should keep open a dialog on VOs and possibly contact Bill Rouse to discuss the complexity of the needs of VOs.

Expedition Workshop

The October 7 Expedition Workshop is devoted to discussing the IT characteristics of the response to Hurricane Katrina. Identity management and privacy were significant issues. Policies and rules became impediments. People shared with each other how to hack into each other's systems. Documentation is on the BEVO Web site. It calls for coordination among groups responding to disasters. Authors of the papers are Majchrzak, Jarvenpa, and Hollingshead, Volume 18, Number 1 in Organizational Science.

The March 18 Collaborative Workshop was on the topic of the Earth System Grid (ESG). It discussed rules of the road for access to business confidential information.

Roundtable

OSG

Last month the LHC began initial operation. The WLGC fest was held in CERN. DOE representatives attended. The world wide infrastructure for support of the LHC was demonstrated.

OSG is performing 1.2 million jobs per week using 1.5 million hours of computer time. CMS and ATLAS are deploying their own scheduling capabilities. OSG is now 11,000 nodes internationally. The security infrastructure incurs significant overhead since it has to accommodate many different policies.

Under the Engage VO smaller VOs are increasing their use of OSG. They currently use 40-50,000 hours weekly.

Cooperation on response to security incidents was initiated. Log information is needed to support cooperation but privacy issues remain issues. If there is an investigation of a member of a VO, impounding his equipment could affect the operational capabilities of the VO.

Network monitoring tools are being implemented to identify network traffic between LHC Tier 1 and Tier 2 sites.

Earth Systems Grid (ESG)

The ESG supports the IPCC. An informal discussion group has formed among DOE, ESG, OSG, and CEDPS. They plan to hold a workshop in February to address the challenges of the ESG as they become a distributed architecture.

Networking Research Challenges Workshop

The Large Scale Networking (LSN) Coordinating Group held a conference September 28-31 in Seattle on Networking Research Challenges. The workshop focused on the networking research needs over the next 10-15 years to enable visionary capabilities and to support critical technology development. Four breakout groups identified issues, their implications and recommendations for needed research in the areas of:

- Network Security
- Heterogeneous networking
- Federation across optical network domains
- New technology

AI: Grant Miller will circulate the preliminary findings of the breakout groups of the Networking Research Challenges Workshop.

Meetings

October 21-23 Cloud Computing Conference, Chicago sponsored by the University of Chicago and Argonne National Laboratory

October 29-31 Educause Meeting, Orlando, Florida

Next MAGIC Meetings

November 5, 2:00-3:30, NSF, Room 1150

December 3, 2:00-3:30, NSF, Room 1150