

MAGIC Meeting

July 7, 2010, 2:00-4:00

Action Items

1. Susan Turnbull will provide contact information for Judy Spencer of GSA who is coordinating iCAM.
2. Grant Miller will inform the MAGIC and LSN members that DOE is looking for additional large-scale applications for the Magellan Testbed.

Proceedings

This meeting of MAGIC was coordinated by Susan Turnbull of DOE.

CineGrid Presentation

Laurin Herr gave a presentation on CineGrid. The complete presentation may be found on the MAGIC Web site at:

<http://www.nitrd.gov/Subcommittee/lsn/magic/index.aspx>

CineGrid was founded in 2004 as an international organization. Its focus is on building an interdisciplinary community to pursue research, development and demonstration of networked collaborative tools to enable the production, use, preservation, and exchange of very high-quality digital media over high-speed photonic networks. CineGrid members include media-arts schools, research universities, scientific labs, post-production facilities and hardware and software developers internationally. It uses 1 GE and 10 GE networks for research and education.

Media technology has historically been driven by:

- Entertainment, media, and culture
- Science, medicine, education and research
- Military, intelligence, security, and police

Digital media serves all three communities by providing:

- Fast networking for distributed applications
- Access to shared devices
- Massive storage and specialized computers
- Collaboration tools for distributed teams
- Security for intellectual property
- Higher quality sound and picture
- Next generation of trained professionals

Many movies are going digital, either using digital cameras or by scanning a 35 mm film. Digital cinema increases picture quality from 2K digital to 4 K digital. Of the 100,000 screens worldwide, only 15% are currently digital capable but the number is increasing fast. In the U.S. 60-70% of American screens are forecast to be digital in 2013.

CineGrid provides a scalable approach, supporting transmission of improved capabilities as available bandwidth is improved. At 20 Mbps to 1.5 Gbps HDTV can be transmitted. At 250 Mbps to 3 Gbps digital cinema may be transmitted. At 1-24 Gbps UHD TV can be transmitted.

4K digital denotes any new format for motion pictures with 8+ Megapixels per frame. Currently 4K is one of two new SMPTE DC-28 standard formats for Digital Cinema Theatrical Distribution. Some 4K is Quad HDTV. Digital motion picture distribution to theaters would require 2-4 GB per digital cinema package. Web download to consumers would require 1.3 GB for features and 600 MB for TV shows. CineGrid projects have been demonstrated over the Global Lambda Integrated Facility (GLIF) backbone. A 4K pure cinema field trial was performed between Hollywood to Japan using CineGrid in 2005-2007. At GLIF 2007, CineGrid demonstrated multiple parallel signal payloads over 10 GE over a distance of 7500 Km. from Toronto to Prague. Many demonstrations of CineGrid capabilities were demonstrated in 2009-2010.

Roundtable Discussions

Earth System Grid: Dane Skow

Earth Systems Grid is fielding Version 1.1 to accommodate data for CMIP 3. ESG is formalizing federations worldwide including the Max Planck Institute, Australia national university, University of Tokyo, and Argonne National Laboratory. Eventually they expect there to be 50 ESG sites around the world linked in the ESG. They are troubleshooting each link in the ESG and are using perfSONAR as one of the measurement tools. They have security concerns in using perfSONAR.

CEDPS: Steve Tuecke

CEDPS is recruiting users of large data systems including exchanges of data between the U.S. and Saudi Arabia. They are integrating Condor into CEDPS with a new release to enable users to use CEDPS for staging.

CDIGS: Steve Tuecke

CDIGS is releasing version 5.2.

TeraGrid

The 5th annual TeraGrid Conference TG10 will be held August 2-5 at the Sheraton Station Square in Pittsburgh. Registration is now open. Over 120 papers have been submitted.

TeraGrid is making small changes to make it more user-friendly.

Identity Management

LBL is coordinating identity management among Federal laboratories. A Letter of Agreement LOA is being developed among 3-4 of the Federal labs. SyBase and InCommon has reached 5 million users. GSA is interested in broadening the use of iCAM. The GSA contact is Judy Spencer.

AI: Susan Turnbull will provide contact information for Judy Spencer of GSA who is coordinating iCAM.

perfSONAR

The perfSONAR Workshop, sponsored by NSF and DOE was just held in Arlington, Virginia. It identified future technology, standards, interfaces, and policies that would provide increased user acceptance and usage of perfSONAR. Four sessions of the workshop focused on:

- Community building
- Security
- User needs and requirements
- New tools and capabilities to make perfSONAR more robust

Magellan: David Martin

23 groups requested and received allocation of Magellan resources. A test of capabilities was completed between Argonne national Lab and NERSC at Berkeley. Magellan is currently specifying the next phase of hardware.

DOE would like more large applications for Magellan

AI: Grant Miller will inform the MAGIC and LSN members that DOE is looking for additional large-scale applications for the Magellan Testbed.

NASA: Hugh LaMaster

The NASA Earth Science program is moving data between Sioux Falls, SD and Ames Research Center. NASA is also working with the Earth System Grid.

Meetings:

July 13 JET Meeting, Columbus Ohio in conjunction with the Joint Techs Meeting

Next MAGIC Meetings

August 4, 2:00-4:00, NSF

September 1, 2:00-4:00, NSF