Draft Minutes
MAGIC Meeting
March 7, 2007, 2:00-4:00
NSF, Room 1150

Attendance:

Jim Bound	HP	
Ken Klingenstein	Internet2	kjk@internet2.edu
David Martin	IBM (on the phone)	martinde@us.ibm.com
Grant Miller	NCO	miller@nitrd.gov
Mike Nelson	IBM	mrn@us.ibm.com
Chris Ramming	DARPA	james.ramming@darpa.mil
Donald Riley	Univ. of Maryland	drriley@umd.edu
Jennifer Schopf	ANL	jms@mcs.anl.gov
Kevin Thompson	NSF	kthompso@nsf.gov

This meeting of MAGIC was chaired by Kevin Thompson of the NSF. Chris Ramming of DARPA gave a briefing on his developing initiative in Assured Global Networking.

Characterization of Users at Computational Sites

Ken Klingenstein discussed the need by computational sites to identify their users. The user information, citizenship, green card status, SSN,… is not standardized across computational sites at labs and university computational centers. MAGIC should undertake a survey to understand what sites need to know about their users and to develop a user information profile and a standardized process for identifying users so that users could be certified across computational sites.

AI: Grant Miller will place the topic of Computational Site User Information on the April MAGIC agenda.

AI: Grant Miller will place the issue of Computational Site User Information on the March LSN agenda.

Assurable Global Networking

DARPA (Chris Ramming) issued an RFI to identify why Internet security is so fragile and what we can do about it. We need the Internet to be reliable, secure, and to support non-repudiation. Federal research programs, DoD Net-Centric Warfare, and Federal agency missions in general are increasingly dependent on the Internet. Firewalls, IPSEC, intrusion detection, S-BGP, and other mechanisms currently provide patches to problems on the Internet. We need to revisit design principles to build accountability and authentication into the network. New protocols should consider Byzantine threats ab initio. Internet functions should continue regardless of the loss of nodes or links. VPNs need to support dynamic communities with multiple layers of security. Mobile ad hoc networks need to be assurable.

One approach is network coding where packet fragments are mixed, broadcast, and combined at each node until they are fully received. We need to test the tradeoffs in this concept in a realistic context.

The RFI asked nine questions including:

1. What should be the prioritized list of design criteria?
2. What are technology shortfalls?
3. What concepts from the current Internet would need to evolve or change?
4. What elements of the present-day Internet design should we keep?
5. What are the most appropriate abstractions and separations of concern in a future Internet? Consider both vertical layering and horizontal end-to-end considerations.
6. Can network design help to guard against threats like software bugs, the complexity of system configuration, the susceptibility of people to social engineering attacks, and the inevitability of human error?
7. Are the needs of the DoD so different from users of the present Internet that a separate network architecture is needed?
8. What overall R&D roadmap (key milestones and general timeline) might lead to a deployable Assurable Global Network?
9. What cornerstone high-payoff project or experiment should be executed in the short term to best create a foundation for a future AGN?

For details of the briefing please see the NCO Web site: www.nitrd.gov for the MAGIC Team.

Next MAGIC Meetings:

April 4, 2:00 - 4:00, NSF, Room 1150
May 2, 2:00 - 4:00, NSF, Room 1150