

## CASC Meeting Minutes

March 7-9, 2006

Washington, DC

**Attendees:** [list posted separately]

### **Tuesday March 7 – CASC/SURA Dinner**

Held at Sheraton Four Points Hotel, 1201 K Street NW, with Daniel Atkins, incoming Director, NSF Office of Cyberinfrastructure, as our guest.

### **Wednesday, March 8 – CASC Meeting**

1201 New York Avenue, NW, 4th Floor

Note: Speaker presentations may be found on the CASC website.

### **Rep. Bart Gordon (D-TN), Ranking Minority Member, House Science Committee.**

Congressman Gordon was not able to attend. Jim Wilson, a permanent staff member on the committee, substituted. Emphasis was on competitiveness and need for better science education as part of the national strategy. There is also great concern about off-shoring of high tech jobs. Reference to *Rising Above the Gathering Storm* (NAS/NAE/IM report). Augustine report recommendations can be found at

[http://sciencedems.house.gov/legislation/leg\\_highlights\\_detail.aspx?NewsID=1009](http://sciencedems.house.gov/legislation/leg_highlights_detail.aspx?NewsID=1009)

Rep. Gordon has introduced 3 bills that follow the report recommendations

**Welcome, Agenda Review, Frank Williams, CASC Chair.** Frank welcomed our members and guest to kick off the meeting.

9:30am Vendor Community Presentations

- **Per Nyberg, Earth Sciences Business Manager, Cray.** Discussed Cray's efforts in this area, including business case for investment in HPC. He noted that earth science simulations are increasing in complexity, with coupling of multidisciplinary models. Showed the Cray "capability" roadmap, mostly related to HPCS model. Cray has established an Earth System Research Center jointly with Korea.
- **George Jones, Engineer, Dell.** Dell's goal is to put more tools in the hands of researchers. Called the NCSA Dell supercluster a "dinosaur" already. Point is, things move very quickly in this arena. Dell is putting **1.5 TF/day** into USA university community – all HPC (no laptops). Even that is not meeting the demand. Dell would like to see universities continue to press forward with making the technology available to all. Cited Cluster Ohio as one example.
- **Dave Turek, Vice President, Deep Computing, IBM.** Focused on observations "beyond Blue Gene." Where is the technology going and what are the limits? There is no "universal architecture." Discussed potential impact of cell processors. This is a partnership with the gaming vendors.

- **Michael Vildibill, Sun Microsystems.** Discussed Sun's efforts in grid computing. Idea is to use grid until applications are ready for production. Discussed 100 TF system at Tokyo Institute of Technology. Looking at advantages of high bandwidth shared memory. Discussed Sun's efforts on HPCS.
- **Stan Posey, Strategy Manager, HPC Applications, SGI.** Spoke to science and engineering challenges (from Boeing) in the 21st century. Noted that software is still the driver in cost – engineering time is expensive. Hardware is getting “cheap,” but the issue is leveraging the less expensive hardware with the software. So productivity is what companies really want. Mentioned initiative in Ohio related to creating new designs for gas turbine engines.

**Council on Competitiveness Software Industry Findings – Melyssa Fratkin, Policy Director.** Discussed COC HPC Application Software Workshop. These included a number of technical barriers. She mentioned several reports on these that are available through their website (<http://www.compete.org/store/products.asp>).

### **CASC Business Meeting**

Frank Williams, Chair CASC, presided.

**Financial Report.** Dick Pritchard, OSC, Secretary/Treasurer CASC, reported on financial accounts as of March 7, 2006. CASC is financially solvent.

We now have a total of 46 members. All but the newest members have paid their FY05-06 dues, and they just received invoices. Discussion followed on possible new members.

There was also a discussion of the CASC website and whether or not it needs to be upgraded or to have a password protected, members only section.

Stan Ahalt reported on the survey being conducted by the Research Committee. The draft survey was passed out for review. Revisions were suggested and the committee was told to proceed. The committee will also explore an outside party to tabulate the results in order to maintain anonymity.

Sue Fratkin discussed CASC participation in outside activities and organizations, including CNSF, ASTRA and COC. Also what's happening on the legislation front, and plans for the CASC booth at CNSF Hill Day.

Frank Williams accepted a motion by Craig Stewart to host the next CASC meeting in Indianapolis July 13-14, 2006.

**Cray Henry, Director, DoD HPC Modernization Program.** Gave us an update on HPCMP. This included a review of the DoD Computational Technology Areas (CTAs) and documented user requirements. Great little movies on the stores separation problem. HPCMP has successfully modeled this issue computationally and resolved the issue. Also use of HWIL and HPC for missile testing and validation. And predictions of UAV (like Predator) performance. Structural analysis of 9-11 attack on the Pentagon. And

application of same to attacks on US embassies. He described the center structure of the program and how the centers are distributed geographically. He discussed cross-center initiatives that allow users to seamlessly access the DoD assets. Cray says that we are now in a time of transition – we are moving from a time when HPC is part of the development process to one when it is *essential* to the process. Thus the investments DoD is making in HPC are critical.

**William Harrod, HPCS Program Manager, DARPA Information Processing Technology Office.** Update on HPCS program. Showed the “Productivity Framework” for HPCS – includes all the factors that impact productivity in a system. Program is getting ready to move from Phase 2 to Phase 3. New “beyond LINPACK” HPC Challenge Benchmarks are being developed for release.

**Charles Holland, Director, DARPA Information Processing Technology Office.** HPCS is one of the IPTO programs. Spoke about GALE (Global Autonomous Language Exploitation) project that allows instant translation of broadcasts from other nations.

**Dinner.** Held at The Caucus Room Restaurant, 401 Ninth St NW.

#### **Thursday, March 9**

1201 New York Avenue, NW, 4th Floor

**Geoffrey Grant, “Science and Security” Staff Director, Research Business Models Subcommittee, National Science and Technology Council.** Geoff gave us his thoughts on export control issues, especially as related to software. First, he went through the various perspectives on this issue, related to trade, graduate students, national security, etc. There are many potential consequences associated with this issue. Basically, he makes the points that we need a dialogue between the university community and government that makes this relatively simple to understand and implement. Much discussion followed.

11:30 am **Peter Lyster, NIH – NCIBI program manager.** Discussion of modeling and simulation to support biomedical sciences and bioinformatics at NIH. Description of National Center for Integrative Biomedical Information (NCIBI). Located with our colleagues at the University of Michigan. Also Software Development Integrated Working Group (SDIWG) and similar groups within the agency.

12:30pm **Washington Representatives Panel: Discussion of pending legislation on innovation and competitiveness, budget.** Considerable discussion about the innovation issue from ASTRA, an organization CASC has recently joined. Excellent summary briefing by Engels Milbergs. Other issues include immigration laws making it difficult to hire new graduates from other countries. Panelists were:

- Bob Boege, ASTRA, Moderator
- Engels Milbergs, Center for Accelerating Innovation
- Amy Burke, Texas Instruments

**Sue Fratkin, Fratkin Associates.** Sue gave us her usual timely and informative report on the Hill and DC happenings.

\* Legislation references

- 10,000 Teachers, 10 Million Minds Science and Math Scholarship Act – H.R. 4434
- Formation of Advanced Research Projects Agency – Energy – H.R. 4435
- Sowing the Seeds Through Science and Engineering Research Act – H.R. 4596
- National Innovation Act – S.2109
- Protecting America’s Competitive Edge (PACE) Acts – S. 2197, S. 2198, S. 2199
- American Competitiveness Initiative (President Bush)
- “The Promise of Information Technology” –  
<http://lazowska.cs.washington.edu/promise/>

**Next Meeting(s):** July 13-14 at the University of Indiana Indianapolis campus. This would be right after the COC HPC summer meeting in DC.

Respectfully submitted,

Dick Pritchard  
CASC Secretary/Treasurer  
OSC