

# Research Computing Advisory Committee

Minutes Dec 3, 2012 (taken by Erik Deumens)

**Present:** Sophia Accord, Paul Avery, Hai-Ping Cheng, Mike Conlon, Erik Deumens, Bill Farmerie, Rob Ferl, Eric Ford, Bill Millard, Dave Pokorney, Alberto Riva, Laurie Taylor

## Discussion

### Announcements from the Nov 5<sup>th</sup> meeting

- 1) The University of Florida is preparing a major infrastructure enhancement for research computing in the first months of 2013:
  - a. Upgrade the connection to the Internet from 10 Gbps to 100 Gbps, with partial funding from an NSF CC-NIE grant.
  - b. Upgrade the Campus Research network from 20 Gbps to 200 Gbps with funding from an NSF MRI grant.
  - c. Opening of the new data center on the Eastside Campus with 5,000 sq. ft. of floor space for research computing.
- 2) Research Computing is working with the UF GeoPlan Center on campus to provide a new service for researchers in the form of high performance execution of ArcGIS tasks. GeoPlan manages the site license and has expertise to support the users. Research Computing will provide the hardware and storage systems for computations that go beyond the capability of desktops.
- 3) The third Research Computing Day was held on Oct 29 with the focus on the new developments in high-speed and software define networking capabilities coming to UF.
- 4) SSERCA has a 20 ft. x 20 ft. booth at Supercomputing 2012 in Salt lake City. See <http://www.sserca.org> for a picture. The booth was a success with many people visiting and asking questions on how SSERCA enables collaboration between researchers across the state.

### New Research Computing Website

Research Computing has been working with Academic Technology to develop a new web site that conforms to the new UF web brand. You can see it at the temporary URL <http://www.testhpc.hpc.ufl.edu>. The members gave various useful suggestions that already have been implemented in the week between the meeting and the completion of these minutes.

### Refining the services needed for supporting research computing

There is a growing need among almost all disciplines for more research data storage capacity, more bandwidth to move large data sets, and more computing capacity to perform data analytics and computational modeling. Although technology is getting cheaper, the most advanced technology is still costly and is getting more complex to manage. This increases the need for professional management of cyberinfrastructure.

The cost to provide proper network, storage, and computing infrastructure in many labs is prohibitive. However, cloud computing shows that it can be cost effective to provide flexible and responsive provisioning of resources in central locations that can be easily and effectively used by many researchers distributed.

Research Computing is building such a cloud-like infrastructure on campus. The model is for researchers to upload their data once to secure storage in the data center that has the fast network connectivity to the Internet2 for collaboration with colleagues across the world. Then computations can be done on the HPC resources that are architected to have very fast access to that storage. The computations and data movements can be easily controlled from any desktop, laptop, or hand held device using available software interfaces, such as remote desktop login with VNC ([http://en.wikipedia.org/wiki/Virtual\\_Network\\_Computing](http://en.wikipedia.org/wiki/Virtual_Network_Computing))

Further discussion is needed in this committee to clearly define the most needed and most useful services.

### **Research Computing supporting teaching**

Prof. Hai-Ping Cheng reports that she taught a class on advanced computing this semester and used the HPC cluster in the assigned work. She said she and her students received great support from the HPC Center staff.

The agenda for the winter and spring 2013 semester can be found at <http://www.it.ufl.edu/governance/advisorycommittees/researchcomputing.html>.

Next meeting will be on January 7 or February 4 at 1:30 pm in NPB 2205.