Berkeley Research Computing
Town Hall Meeting May 28

Patrick Schmitz
Associate Director, Research IT
BRC Program Director
Research IT: Mission

Research IT provides research information technologies, consulting, and community for the Berkeley campus. Our goal: Advance research by providing faculty and students the best IT services possible.
Research IT: Services

*Current Programs:*
- Berkeley Research Computing
- Research Data Management
- Digital Humanities
- Museum Informatics
Research IT: Future

**Reviewing now for Future:**

- Data Analysis: Quantitative and Qualitative Tools
- Data Visualization and GIS
- Research Application Development Support
- Software Licensing and Distribution
- Web Publishing and Collaboration
How we got here...

MAY 21 2013 LETTER FROM PI ELIOT QUIATAERT, ET AL. TO VCR FLEMING

Dear Graham,

We are writing to propose that UC Berkeley adopt a condominium computing model, i.e., a more centralized model for supporting research computing on campus. Analogous models have been used successfully at a number of other major research universities, including, e.g., Princeton, Maryland, Harvard, Northwestern, and UCSD (we have canvassed our colleagues at these institutions in particular about what has worked well).

The basic premise is that PIs provide the funding to purchase compute nodes, e.g. via grants or startup. The University either fully pays for, or significantly subsidizes, the cost of housing and operating the resulting cluster. Economies of scale help ensure that this is significantly cheaper than having different groups on campus separately purchasing, housing, operating, and maintaining their own clusters. In addition, we believe that it would make the purchasing of hardware far more efficient.

To minimize heterogeneity of hardware, many institutions seem to have settled on a plan in which the University (in consultation with faculty) decides on a modest number of hardware options that would cover the vast majority of users’ needs (e.g., nodes for embarrassingly parallel calculations, high memory nodes, and nodes with infiniband for fully parallel calculations).

A number of us have existing grant money that we would be interested in using towards purchasing nodes in such a system, with the particular goal of funding a cluster for theoretical astrophysics, geophysics, and cosmology (a successor to our current Henyey cluster). Note that for many of us, our grants will pay for hardware but not for maintenance or operations, making it all the more important to have a coherent and sustainable model for the latter. In addition, note that although we are committed to buying some hardware with existing funds, we also fully intend to apply to the NSF for a renewal of the grant that allowed us to purchase the Henyey cluster. We believe that it greatly increases our odds of getting funded if we have a commitment from the University for maintenance and support of the cluster.

We suspect that the centralized model for supporting and operating research computing clusters that we are advocating would also be of considerable interest to others on campus.

We would be happy to meet with you and/or members of IST to discuss this.

Best,
Eliot Quataert, Josh Bloom, Bruce Buffett, Eugene Chiang, Dan Kasen, Phil Marcus, Chris McKee, Burkhard Militzer, Uros Seljak, Martin White
Condo/Institutional Cluster
Public/Private/Hybrid Cloud

- Cloud Computing
- Consulting
- Condo/Institutional Cluster
- Virtual Workstations
Analytics Environments on Demand

- Cloud Computing
- Consulting
- Condo/Institutional Cluster
- Virtual Workstations
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