

UC Shared Research Computing Services Pilot

Overview, Update

December 2, 2008

The Proposal

- Goals
 - Address needs of growing base of researchers who require computational and data storage resources that exceed what can be provided through individual grants and local resources.
 - Aggregate individual investments for greater overall research capability.
 - Enable UC researchers to more effectively compete for grants involving team-based research.
 - Help stem spiraling energy costs by finding an alternative to current practice of allowing the proliferation of distributed compute cluster systems throughout campuses in sub-optimal remodeled locations.
- \$5m of startup funding, and \$1.5m annual recurring funding
 - Establish and maintain two shared compute cluster facilities, one at LBNL, one at SDSC.
 - Provide access through the “UC Grid.”

The Proposal

- 24 UC research projects have been identified to participate in the pilot
 - One from UCI; 7 from UCB/LBNL, 5 from UCLA, and 1 or 2 are from each of the other campuses.
 - Projects were selected for participation by LBNL and UCLA staff under the direction of a VCR/CIO committee.
 - Selected based on their capacity to
 - 1) Advance research in priority areas, such as global health and environmental science;
 - 2) Become more competitive for obtaining extramural support;
 - 3) Nucleate new communities of cyber-enabled research in areas like the social sciences, arts, and humanities.
- Motivation
 - Many UC competitors are now investing heavily in common computational resources for their researchers.
 - Institutions like U. Illinois, U. Texas, U. Southern California, and U. New Mexico each recently made investments of \$5-15M to centralize their resources and capitalize upon the resulting economies of scale.
 - UC will simply not be competitive without investing in research computing.

The Proposal

- Governance

- Establish a Cyber infrastructure Governance Council (CGC), comprising technical staff, faculty, CIOs, and VCRs, which will provide guidance on determining how best to allocate resources, ensure broad participation, and evaluate the success of the pilot projects.
- The CGC will also advise on future UC investments for advancing research CI, which could include, for example, data storage, visualization and virtualization.
- Success will be measured through standard metrics used in research computing facilities, such as usage, client satisfaction, additional funding secured by faculty and/or publications stemming from research conducted in facilities.
- The CGC will report back on an annual basis, with an expected decision point at the end of three years, when the decision to refresh hardware and to continue or expand the support must be made

UCI Concerns

- Proposal not defined well enough to support \$9.5m allocation
 - Current documents are high-level and leave out important details
 - Older, detailed documents are out of date
 - UC entity with administrative oversight unspecified
- Pilot selection process was flawed
 - Favored UCLA and LBNL through direct participation of their staff
 - Poor communication of expectations to participants
- Cyber infrastructure Governance Council must be formed before important decisions are made
 - Research projects that participate
 - Hardware, software, service functionality
- \$9.5m is a lot to invest in tight budget years; it is unclear that amount a requirement to achieve the goals of the pilot

Update

- UCI Feedback
 - Sought from CORCL, Cluster faculty, NACS FAC, OR's Research Advisory Council (Email; discussion in December)
 - Generally aligned with NACS position
 - Generally supportive of goals of proposal, but had questions
- UCI Concerns expressed to organizers
 - Art Ellis, UCSD VCR
 - Jim Davis, UCLA CIO
 - David Ernst, UCOP CIO

Response to UCI

- The CGC
 - Will be formed as soon as possible (probably in parallel with allocating funds, not before allocating them)
 - Will have opportunity to validate objectives, review research participants, and flesh out the plan
- The funding request will be downsized by 40%
 - \$3.5m up front, \$1m/year; 2 years rather than 3
- The 24 selected research projects
 - Essentially all those submitted by UC VCRs that required the cluster-computing environment planned for the pilot
 - This was not clear at UCI at the time of project solicitation

Going Forward

- Recommend Chancellor support the proposal with caveats:
 - CGC formed, participant selection is reviewed
- CGC representative strategy?
 - Faculty member desired
 - Alternative: Dana + small faculty committee
- Identify 1 or 2 additional research projects to put forward as participants should the opportunity arise