

Contact: Andrea Anania

IOWA STATE UNIVERSITY EQUIPMENT PURCHASE

Action Requested: Consider approval for Iowa State University to purchase a High Performance Computing Cluster (HPCC) for approximately \$1.143 million. (The final amount is subject to completion of a Request for Proposal; bids are due June 2nd.)

Executive Summary: Equipment purchases at the Regent institutions costing more than \$1 million are required by Board policy to be approved by the Board of Regents.

Description of the Equipment

The HPCC cluster:

- ▶ Consists of a series of compute and storage nodes, industry standard clustering software, high performance InfiniBand networking, and an infrastructure that tightly integrates the system to enhance computational power;
- ▶ Will have room for expansion;
- ▶ Will be available for general faculty use on a shared basis;
- ▶ Will allow other computer nodes to be purchased by (1) individual researchers, both initially and for grants they are pursuing; and (2) faculty, who can become part of this shared cluster;
- ▶ Will have an architecture tuned to meet the high performance computing needs of science applications found at ISU;
- ▶ Will become part of the central high performance computing operation at ISU; and
- ▶ Be supported by information technology and research staff.

Justification of the Need for the Equipment

The University reports that:

- ▶ The HPCC cluster is needed to support computationally-intensive research at ISU;
 - ▶ By consolidating management and infrastructure of the cluster, individual nodes can be added as needed;
 - ▶ Nodes can be purchased to meet average needs rather than peak needs, lowering acquisition costs;
 - ▶ The HPCC cluster will allow individual researchers/faculty to compete more successfully for grants and allow them to compete for larger grants; and
 - ▶ An increase in efficiency also comes from the economies of scale as a large cluster is less expensive to build and manage than several small clusters.
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Any Known Alternatives to the Equipment Proposed

There are no known alternatives at this performance level.

Estimated Cost and Source of Funding

A Request for Information (RFI) was conducted on March 10, 2014, to research the best available technology, pre-qualify vendors, and estimate the final cost.

After reviewing and assessing the responses, a Request for Proposal (RFP) with final specifications was issued on May 7, 2014, to the 13 pre-qualified vendors who responded to the March RFI; bids are due June 2, 2014.

The final cost for the HPCC is estimated to be approximately \$1.143 million. The source of funding is state appropriations.

To assure completion of installation prior to the beginning of classes in August, an award needs to occur promptly after the RFP closes on June 2nd. ISU expects that the proposed costs and a final vendor selection will be provided to the Board immediately prior to the June meeting.

Board Policy: Chapter 7.06B(12) of the Regents Policy Manual requires that:

- ▶ Equipment costing more than \$1,000,000 must be submitted to the Board for approval; and
 - ▶ Requests submitted to the Board Office for approval must include the following information:
 - ◆ Description of the equipment;
 - ◆ Justification of the need for the equipment;
 - ◆ Any known alternatives to the equipment proposed; and
 - ◆ Estimated cost and source of funding.
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