



April 9, 2018

2018 Spring SUG Committee Report – Hardware & Operations

Our Committee's discussions overlap the summary material presented by OSC staff in the general meeting. The Committee discussions include greater detail and alternate approaches. The material below emphasizes topics not discussed in the general meeting.

- OSC operations

Reliable operation with few problems. Scheduler changes provide more predictable execution of parallel jobs. Tape library expansion supports increasing disk capacity and (future) archiving of inactive data. Reduction of OSC's floor space at the SOCC will require capital expenditure and Ruby outage in return for significant annual savings.

- Procurement of new cluster ("C18")

Bids received and reviewed, and vendor selected at an extraordinary Committee meeting on February 20th. Specs announced at general session, but vendor choice still confidential. Shift to "warm water" cooling allows greater rack density (less floor space, over 30 kilowatts per cabinet) and allows room for growth. Improved Infiniband network permits much higher message rate within MPI jobs.

- Future plans

New firewall arriving with 40 gigabit/second capacity. Introduction of "data transfer nodes" on the DOE "Science DMZ" model will allow high-speed bulk data transfers to/from OSC. New lower-cost (and lower-performance) storage devices for less-active data will be purchased from current capital funds, as the Committee has requested. \$6.1 million new capital appropriation for next biennium – replace Ruby; build facilities to store and process sensitive data as requested by several customer groups; provide reliable, inexpensive, and long-lived storage for "cold" data, suitable for data publication and remote access by people not affiliated with OSC.

Please feel free to contact us if you have any questions or concerns.

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