

NERSC Site Report

Cary Whitney

Continuing Items

- Removal of Edison
- Partitioning of the room from Edison to the unused portion. Walled off to keep dust from getting into the production side of the computer floor.



- N9 Perlmutter
 - Addition of an extra pump, heat exchanger and assorted plumbing.
 - The removal, addition and modification of the mechanical level plumbing that supported Edison and the under floor components.
 - In two weeks a tower type crane installed to lift additional cooling towers to the cooling pad on the right side of the building. This fills out all cooling slots.

More Continuing

- With N9 also comes a new direction
 - Center of Excellences (COE) where NERSC works closely with other labs and the vendors to direct computing to better meet the supercomputing goals.
 - Networking COE (Slingshot) fabric to try and be a high speed interconnect and a general IP network in one.
 - Lustre COE which is trying to make Lustre fast and resilient on NVME hardware. This is based on the Burst Buffer work and tries to combine both internal filesystem and external filesystem.
 - System Configuration COE is trying to build a best practice to configuration deployment, upgrading and reliability of larger systems. Rolling upgrade and no downtime are key in this area.
 - Software environment development. Facilitating work between Cray, Nvidia and the scientist in code development and porting. (Workshops and dungeon sessions.)

More Continuing

- HPSS tape libraries
 - 2 IBM TS4500 libraries (16 frames each) installed at NERSC. These are environmentally isolated units since the NERSC machine room is outside air cooled.
 - Transfers from the Oracle SL8500x4 libraries in Oakland to the IBM libraries in Berkeley are going over a dedicated 400Gb link and should be finished in December.
 - The second class of storage service (backup) is still going to Oakland via the same 400Gb link but those tapes are scheduled to come to Berkeley in November when the 3rd IBM TS4500 library is ready. This would be a transport of tapes.
 - Once these functions are done, decommissioning of the Oakland facility will start. The building has already been sold.

Events

- Well it would not be NERSC if we did not have a major event right before HEPiX.
 - 2 years ago it was the Tubbs Fire that hit Santa Rosa and stressed our air quality.
 - Last year it was the Campfire Fire that hit Paradise with devastating effects. Again proving our air management.
 - This year, NERSC has just come back from a 3 day power outage and PGE has proactively shutdown power to many areas in the North, East and South bay to protect them from fire. This actually tested our UPS and generator setup. Refueling capability and endurance. We slowly brought things down and kept essential services like ESnet up for multiple days.
 - <https://twitter.com/BerkeleyLab/status/1182317173034741763>

Changes

- Mendel system (Turned off)
 - JGI portion has moved to Cori and is using Shifter to support it's workflow.
 - Some JGI workload moved to LBL computing.
 - Georg has left NERSC and now works for JGI.
 - PDSF/HEP portion has moved to LBL computing. LBL computing is where PDSF started life at the lab and moved very early 1998? timeframe to NERSC.
 - This will probably be my last foreign HEPiX. I will be talking with Jackie, in LBL computing, about someone from LBL to continue in HEPiX with Georg.
 - It has truly been an honor getting to know everyone and watching HEPiX change over the years. I started in 1999 and hosted my first HEPiX in October of 2001 right after Sept 11. Through it all, you have all made me a better person. Thank you.