NERSC Users Group Monthly Meeting

January 18, 2018
Agenda

1. Announcements and Outages
   a. Feb 6: Quarterly Maintenance

2. AY2018 updates
   a. Batch system changes
   b. PrgEnv update policy
   c. KNL mode changes limited to reservations
   d. New HPSS charging policy

3. Multi-factor authentication

4. NERSC User Survey
Feb 6 Quarterly Maintenance

NERSC systems will be unavailable during a quarterly maintenance on February 6 between 6am and 7pm

This includes $HOME and /project filesystems
IMPORTANT CHANGES FOR ALLOCATION YEAR 2018

Note: Allocation Year 2017 (AY17) ends at 23:59:59 on Monday, January 8, 2018. AY18 on Tuesday, January 9, 2018 PST.

Cori and Edison Batch System Changes

Beginning in Allocation Year 2018 on January 9, 2018 NERSC is introducing a simplified submission scheme. Users need only specify a QOS (quality of service) in their batch s SLURM scripts that specify a partition are deprecated and those that do will fail upon submission starting February 9, 2018. Current scripts will work until that time.
AY2018 updates: Batch system changes

Simplified job submission:

- No more partitions
- Everything must have a QoS (-q)

ie: ask for the resources you need, no need to guess which partition to target
Aims:
- Predictable update schedules
- Same version remains available throughout an AY

Policy:
- New versions installed quarterly, starting at AY rollover
- Default remains for 6 months
- 3 versions: current default, previous default, latest
  - "normal use", "require stability", "early adopters"
AY2018 updates: PrgEnv update policy

PS:

SAVE AND RESTORE PROGRAMMING ENVIRONMENT VERSIONS

The default programming environment on Cori changes over time. Usually the Cray Development Toolkit (CDT) version is upgraded about every six months on Cori so that users can get benefits from the enhanced software features and performance. However, if you need to compile a code with a specific version of CDT which is not the default version anymore, or if your code works best with a mix of default and non-default software modules and you want to recompile with the same set of modules, then you can use the Cray provided cdt modules or the module snapshot feature to restore the compilation environment where your code was built previous.

Module Snapshot

The module subcommand "snapshot" is available starting from modules/3.2.10.5. The command captures the currently loaded modules and saves the list into a file for later restore. Here is how to use it:

To save the current module environment into a file, do
AY2018 updates: KNL mode changes

- Most jobs use "quad,cache already" - easiest
  - So most users will not be affected
- "Flat" mode requires NUMA-aware code
  - and in most cases provides only a small performance benefit => insufficient to justify the time and disruption of node reboots
- For jobs that really need other modes, mode changes will still be allowed in reservations
AY2018 updates: New HPSS charging policy

HPSS will now charge based only on volume of storage in GBs

- Previously used SRUs which were a function of volume, IO transactions, and number of files
- However, we don’t recommend storing “active” data in HPSS, it’s very inefficient. Please contact us if you find yourself needing to do this
- At some point in the future, when your usage is over quota, you will only be able to access HPSS read only
AY2018 updates: New HPSS charging policy

- Space charges are still spread evenly across repos, you can adjust these in NIM
Multi-factor Authentication (MFA)

Abe Singer, NERSC Networking and Security
Now open - please fill at least some it it out!
  - Helps us to evaluate where to focus effort in the next year
- Access via ServiceNow (next slide) or https://goo.gl/fxebNM
- Survey closes Jan 26
Welcome to the 19th annual NERSC User Survey. This survey covers the 2017 calendar year. Your responses help us judge the quality of our services, give DOE feedback on how NERSC is doing, and point us to areas in which we can improve. We will not disclose your identity outside of NERSC; we use it only for demographic reporting.

We appreciate you taking time to fill out this survey. We’d like as much feedback as possible, but you do not need to fill out every question. *At a minimum, please fill out the ‘Overall Satisfaction with NERSC’ section.* You can save your progress at any time by clicking on the ‘Save’ button at the top of bottom of the survey. When you are finished please click the ‘Submit’ button.

The survey closes on January 26.
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