NERSC Users Group Monthly Meeting
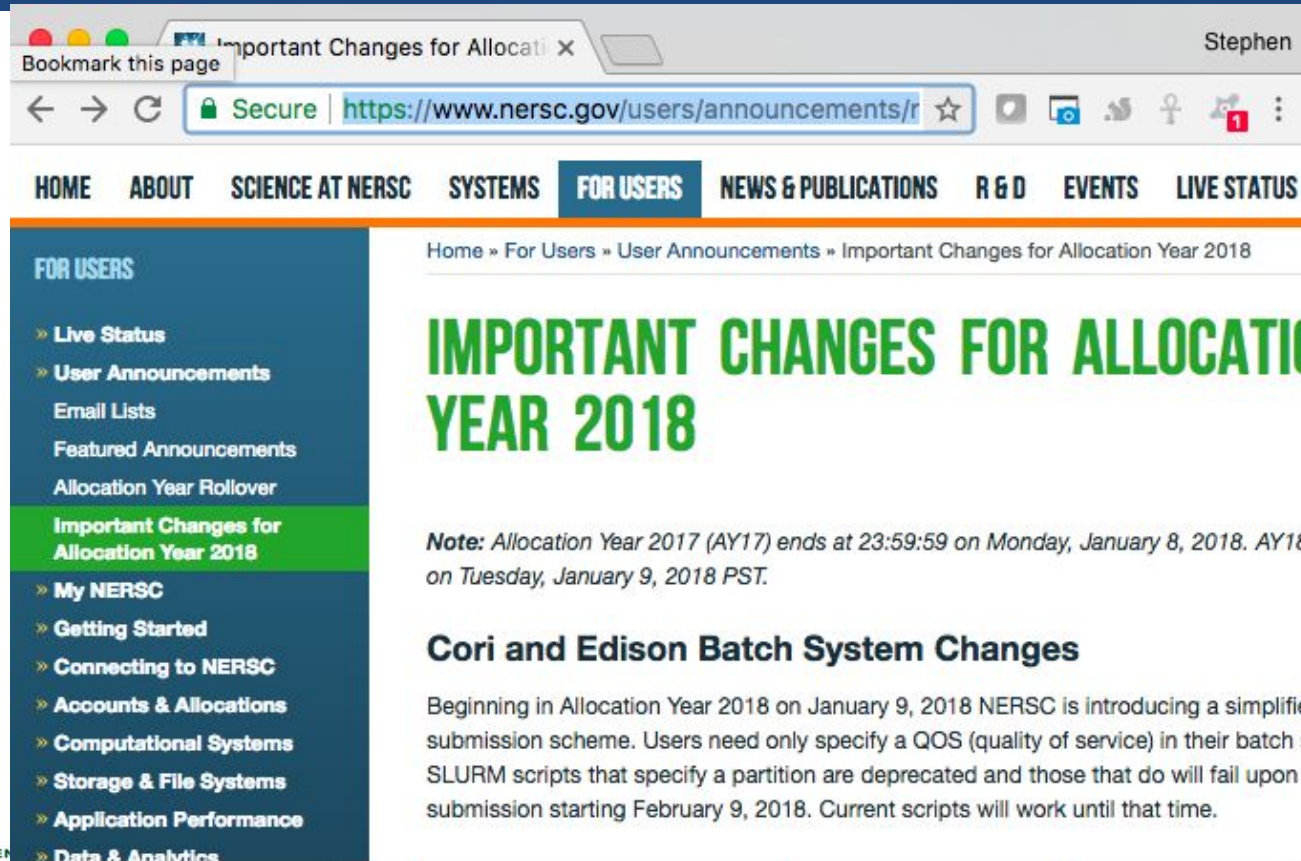
January 18, 2018

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

Announcements and Outages

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

AY2018 Updates

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
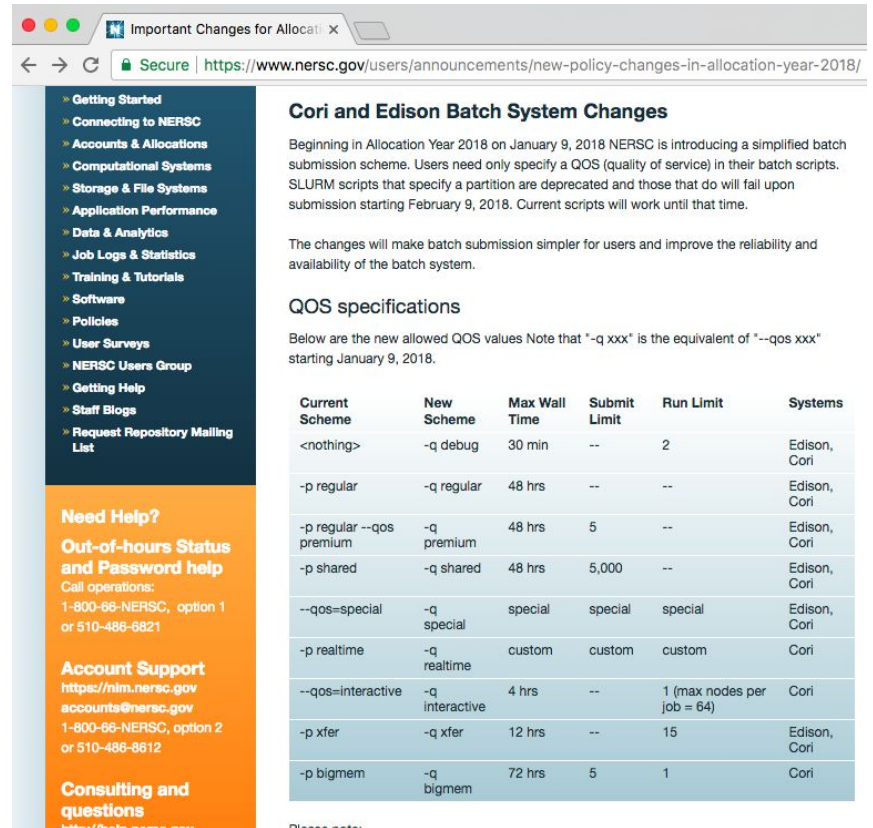

Cori and Edison Batch System Changes

Beginning in Allocation Year 2018 on January 9, 2018 NERSC is introducing a simplified batch submission scheme. Users need only specify a QOS (quality of service) in their batch scripts. 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.

The changes will make batch submission simpler for users and improve the reliability and availability of the batch system.

QOS specifications

Below are the new allowed QOS values Note that "-q xxx" is the equivalent of "--qos xxx" starting January 9, 2018.

Current Scheme	New Scheme	Max Wall Time	Submit Limit	Run Limit	Systems
<nothing>	-q debug	30 min	--	2	Edison, Cori
-p regular	-q regular	48 hrs	--	--	Edison, Cori
-p regular --qos premium	-q premium	48 hrs	5	--	Edison, Cori
-p shared	-q shared	48 hrs	5,000	--	Edison, Cori
--qos=special	-q special	special	special	special	Edison, Cori
-p realtime	-q realtime	custom	custom	custom	Cori
--qos=interactive	-q interactive	4 hrs	--	1 (max nodes per job = 64)	Cori
-p xfer	-q xfer	12 hrs	--	15	Edison, Cori
-p bigmem	-q bigmem	72 hrs	5	1	Cori

Please note:

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"

PS:

- 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**

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

NERSC User Survey - https://goo.gl/fxebNM

- 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**

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