Agenda

• Tuesday’s Quarterly Maintenance
• Hopper and Edison Status Updates
• NUGEX Elections
• NUG 2015 Meeting Planning
• Training Update
• User Survey
• Queue Committee Topics
Quarterly Maintenance Summary
David Turner, NERSC User Services
Maintenance: November 11, 2014

• Quarterly maintenance
  – Originally to accommodate JGI sequencer operations
  – Opportunistic maintenance on non-JGI resources

• Infrastructure
  – Power
  – Network
    • Internal router upgrades
    • Preparation for 100Gb/s
  – NGF unavailable due to network down
  – Systems unavailable due to NGF down
• **Edison**
  - Cray Developer Toolkit (CDT) 1.20
    - HDF5
    - MPI
    - Trilinos
    - Etc
  - Cray Linux Environment (CLE) 5.2

• **Hopper**
  - Enable “cpusets”
    - Some issues; rolled back 09:50 Thu Nov 13
Maintenance: November 11, 2014

- Carver
  - Torque 5.0.1
  - Moab 8.0
  - Issues
    - Jobs submitted between 02:00 and 19:00 Wed Nov 12 that used “-V” (propagate interactive environment into batch job) likely to fail
      - Now fixed, but –V discouraged
    - Intermittent “Host key verification” errors
      - Jobs run, but sometimes output file cannot be renamed
        10636008.cvrsvc09-ib.OU
        instead of
        myjob.o10636008
      - Working on solution
Maintenance: November 11, 2014

- **PDSF**
  - GPFS upgrade
  - CHOS upgrade

- **Genepool**
  - Upgrades on gpweb cluster
  - GPFS upgrade
Maintenance: November 11, 2014

• **Data transfer nodes**
  – dtn01 and dtn02 hardware upgraded
  – dtn03 and dtn04 will be upgraded later

• **License servers**
  – Networking change
  – Some licensed software products unavailable overnight

• **Web servers**
  – NFS server upgrade
Edison Update
Zhengji Zhao, User Services
Edison CDT 1.20 upgrade on 11/11

cray-hdf5/1.8.13
cray-hdf5-parallel/1.8.13
cray-mpich/7.0.4
cray-mpich-abi/7.0.4
cray-shmem/7.0.4
cray-tpsl/1.4.2
cray-trilinos/11.10.1.0

cce/8.3.4

The bug with cray-hdf5-parallel/1.8.13 intel build is fixed now.
## Queue changes and killable queues

<table>
<thead>
<tr>
<th>Submit Queue</th>
<th>Execution Queue</th>
<th>Nodes</th>
<th>Max Wallclock (hours)</th>
<th>Relative Priority</th>
<th>Run Limit</th>
<th>Queued Limit</th>
<th>Queue Charge Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>debug</td>
<td>debug</td>
<td>1-512</td>
<td>30 mins</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>premium</td>
<td>premium</td>
<td>1-48</td>
<td>36</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>killable²</td>
<td>killable</td>
<td>1-682</td>
<td>48 hrs</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

2 - Jobs in the killable queue are subject to being killed by system reservations or other special higher priority jobs. On the other hand, jobs can start even if requested walltime extends past a scheduled maintenance.

The killable queue is available for you to run jobs right up to the last minute before a scheduled outage or need to run a high-priority job. Your job should be able to deal with being killed without notice.
Edison Waits

Edison Regular Class Average Wait Times 2014

Hours

0 10 20 30 40 50 60 70 80 90
1/1/14 2/1/14 3/1/14 4/1/14 5/1/14 6/1/14 7/1/14 8/1/14 9/1/14 10/1/14
Hopper Update
Helen He, User Services
Update from last month

- The inactive OST (Object Storage Target, one “unit” of Lustre file system) has been recovered and returned to service.
- Under certain conditions, some jobs still may run slowly.
  - Occurs much less frequently than it used to
  - It may affect:
    - Jobs that use shared libraries
    - Jobs jobs use /project, $HOME, or /gscratch
    - Jobs CCM that run the CCM queue
    - Jobs that run in the serial queue
  - The cause is related to Cray’s DVS software layer, but the root cause has not been identified yet
- **Serial queue available and announced**
  - Available on Hopper and Edison
Future plans

• Scratch file systems (Lustre) upgrade was cancelled / delayed due to critical issues discovered at another site.

• Early next year, we will plan the Lustre upgrade again, followed by an OS upgrade.
  – Always back up your important files on scratch file systems!
  – There will no changes in the default Cray Programming Environment until then

• Hopper retirement: ~Nov 2015
Hopper average wait time in hours, 10/13-11/13/14
Hopper Wait Times

Hopper Regular Class Average Wait Times 2014

Hours

1/1/14 2/1/14 3/1/14 4/1/14 5/1/14 6/1/14 7/1/14 8/1/14 9/1/14 10/1/14
Queue Committee Items

• Suggestion to increase premium queue limits on number of nodes and wall time
  – Better turn around for debugging codes and workflows
  – Currently 1024 nodes and 12 hours
  – We increased limits to 36 hours on Edison

• Call for additional topics
NUGEX Elections

• Eight seats on NUGEX are up for election in December 2014
  – Fusion – 2: Ethier, Vay
  – High Energy Physics – 3: Borrill, Gottlieb, Tsung
  – Nuclear Physics – 2: Kasen, Savage
  – At large – 1: Newman

• We’ll open the elections on Nov. 30 for two weeks
• All NERSC users can vote
• We need all candidate statements (Frank Tsung)
NUG 2015

• Time to start planning for NUG 2015
• Site: Berkeley/Oakland
• Call for volunteers for planning committee
  – Committee leader
  – Pick a theme, line up speakers, topics, set agenda
  – Training topics
• Proposed dates
  – Feb 17-19, 2015
Training Update

• Two training events in last month
• Application Readiness for Cori
  – OpenMP & Vectorization
  – 62 attendees
• New User Training
  – 38 Users
• Both highly rated in feedback surveys
  – Audio quality needs to be improved
• We plan to do each of these 4 times/year
• Let us know what topics you want
• Edison focused training from Cray on Dec. 16-18
2014 User Survey

- Opens early December 2014
- Important to NERSC, DOE, and you – so please take the survey.
- If you have questions you think we should ask, or special topics you think we should cover, please send email to ragerber@nersc.gov.
Thank you.