Agenda

• Changes and Recent Events
• Utilization and Usage
• Opportunities
• PUBLICATIONS!
Recent Events and Outages

- 6/29 - Emergency Maintenance
  - Addressed security updates to software
    - Address “stack clash” vulnerability.
    - Non-user systems updated for older exploits.
- 6/20 - two cabinets emergency powered off (EPO)
  - Impacted only jobs using nodes on those cabinets.
  - Suspected cooling cabinet (XDP) issue.
Recent Changes

• Enabled memory resource control on login nodes using cgroups per user totals.
• Resolved issue with signal propagation from scheduler to applications in batch jobs.
  • Take advantage of preemptee and minwclimit discounts with less data loss.
  • Reduce losses if/when job runs into wallclock limit.
• Following slides from https://bluewaters.ncsa.illinois.edu/signal-handling
Signal handling
3+ step process

1. Enable a delay between SIGTERM and SIGKILL emitted by scheduler to job. 
   #PBS –K seconds

2. Enable signal handling in the job shell script using `trap` (not in tcsh).

3. Enable signal handling in application using `signal(2)`.
The + step

- Need to decide what action to take when getting signal.
- Could set a counter to tell current iteration to checkpoint and resume.
- Could go directly to checkpoint routine if code supports exiting mid-step.

```c
// signal handler, execution jumps here on receipt of SIGTERM anytime after signal()
// has setup this function as the handler
void mysig(int sig) {
  switch (sig) {
  case SIGTERM:
    printf("myapp caught SIGTERM\n");
    // some cleanup routine or checkpoint activity
    break;
  default:
    printf("myapp caught signum \%d\n", sig);
  }
}
```
Usage, Utilization and other Items

- Utilization since last BW User Call (June 16)
Backlog

- Since BW User Call 06/16
- Vertical axis in units of nodes. Colors are different users. Red below the x-axis indicates unreserved nodes. Blue below the x-axis indicates draining.
- Data feed dropped after emergency maintenance.
- XE region continues with substantial backlog.
- XK region has lower backlog, less potential backfill.
Workload Details

- Data combines XE and XK jobs.
- Since last BW User Call (June 16).
Workload Details of last two weeks

- Data combines XE and XK jobs.
- Last two weeks (6/30 – 7/14)
Blue Waters Weekly Webinar Series

- Started Wednesday, March 1. Webinars will begin at 10 a.m. Central Daylight Time.
- For more information about the webinar series, including registration, abstracts, speakers, as well as links to Youtube recordings, please visit the Blue Waters webinar series webpage.

<table>
<thead>
<tr>
<th>July 26, 2017</th>
<th>Scientific Visualization in Houdini</th>
<th>Kalina Borkiewicz, A. J. Christensen</th>
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<tbody>
<tr>
<td>August, 2017</td>
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<td>August 2, 2017</td>
<td>Awarding Badges as Incentives for Self-Assessment of Scientific Visualization Expertise</td>
<td>Jeff Sale</td>
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Request for Science Successes

- We need to be current on products that result from time on Blue Waters such as:
  - Publications, Preprints (e.g. arXiv.org), Presentations.
  - Very interested in data product sharing.
- Appreciate updates sooner than annual reports.
  - Send to gbauer@illinois.edu
- NSF PRAC teams send information to PoCs.
- See the Share Results section of the portal as well.
- Be sure to include proper acknowledgment
  - Blue Waters - National Science Foundation (ACI 1238993)
  - NSF PRAC – OCI award number