

BLUE WATERS

SUSTAINED PETASCALE COMPUTING

5/20/19

Blue Waters User Monthly Teleconference



GREAT LAKES CONSORTIUM
FOR PETASCALE COMPUTATION

CRAY®

Agenda

- Moving Data: Nearline Best Practices
- Recent Events and Changes to Blue Waters
- Usage, Utilization and other Items
- Upcoming Opportunities
- Request for publications!

Nearline Use Best Practices

- Reminder: Nearline will be offline 12/19/2019.
- Consider short-term use such as for checkpoints.
- Bundle or package many, smaller files into fewer, larger files using utilities like tar, or similar.
- Prefer files in the GB range (1-1000).
- How much and how many files in Nearline project space?

<https://bluwaters.ncsa.illinois.edu/usage-project-details?project=<psn>>

Globus Online Use Best Practices

- When moving lots of data off of Nearline
 - Globus Online (GO) retries on endpoint errors
 - Check your remote endpoint quota
 - Check for endpoint expiration
 - Too many remote endpoint errors
 - Consider transfer from Nearline to Blue Waters scratch.
 - Then from Blue Waters scratch to remote site.
 - For sync diff comparison: use size and date rather than checksum for large files.
 - Monitor your transfer activity <https://app.globus.org/activity>

Globus Online Use Best Practices

- Ask us for assistance with Nearline when:
 - Deleting millions of files.
 - Moving files internally.

Globus Online Use Best Practices

- When using Globus Connect Personal client, consider the following when transferring
 - Speed will depend on the smaller resource: desktop, laptop, VM.
 - Smaller network “pipe” and slower IO speeds.
 - LAN might not be in good shape.

Globus Python SDK or Python CLI

- Use Python SDK or Python CLI to script or automate transfer processing.
- <https://globus-sdk-python.readthedocs.io/en/stable/>
- <https://docs.globus.org/cli/>

Recent Events and Outages

- 5/15/2019 – projects file system issue. Unusual failure mode of OSS-pair.
- 5/12/2019 – Complications from an OSS failover.

Upcoming Changes or Outages

- NPC building power maintenance
 - Sunday, June 23rd.

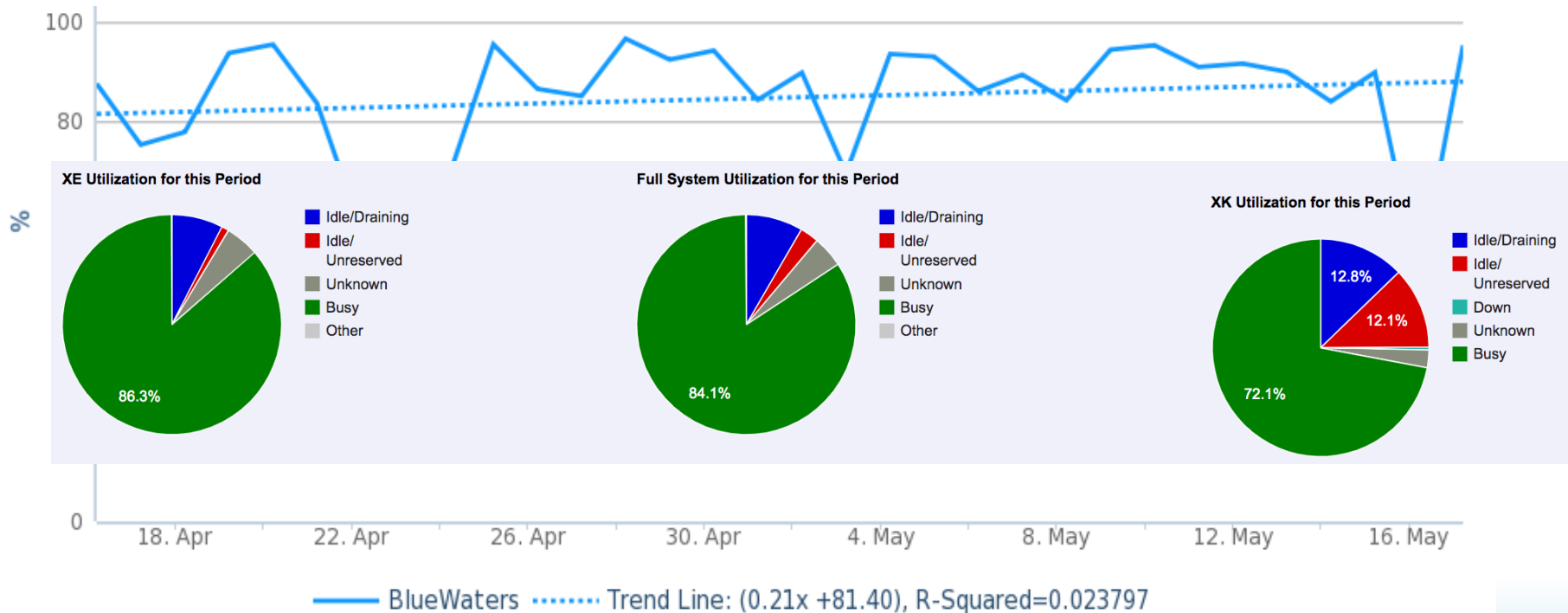
Upcoming Changes

- See <https://bluewaters.ncsa.illinois.edu/pe-updates>.

Usage, Utilization and other Items

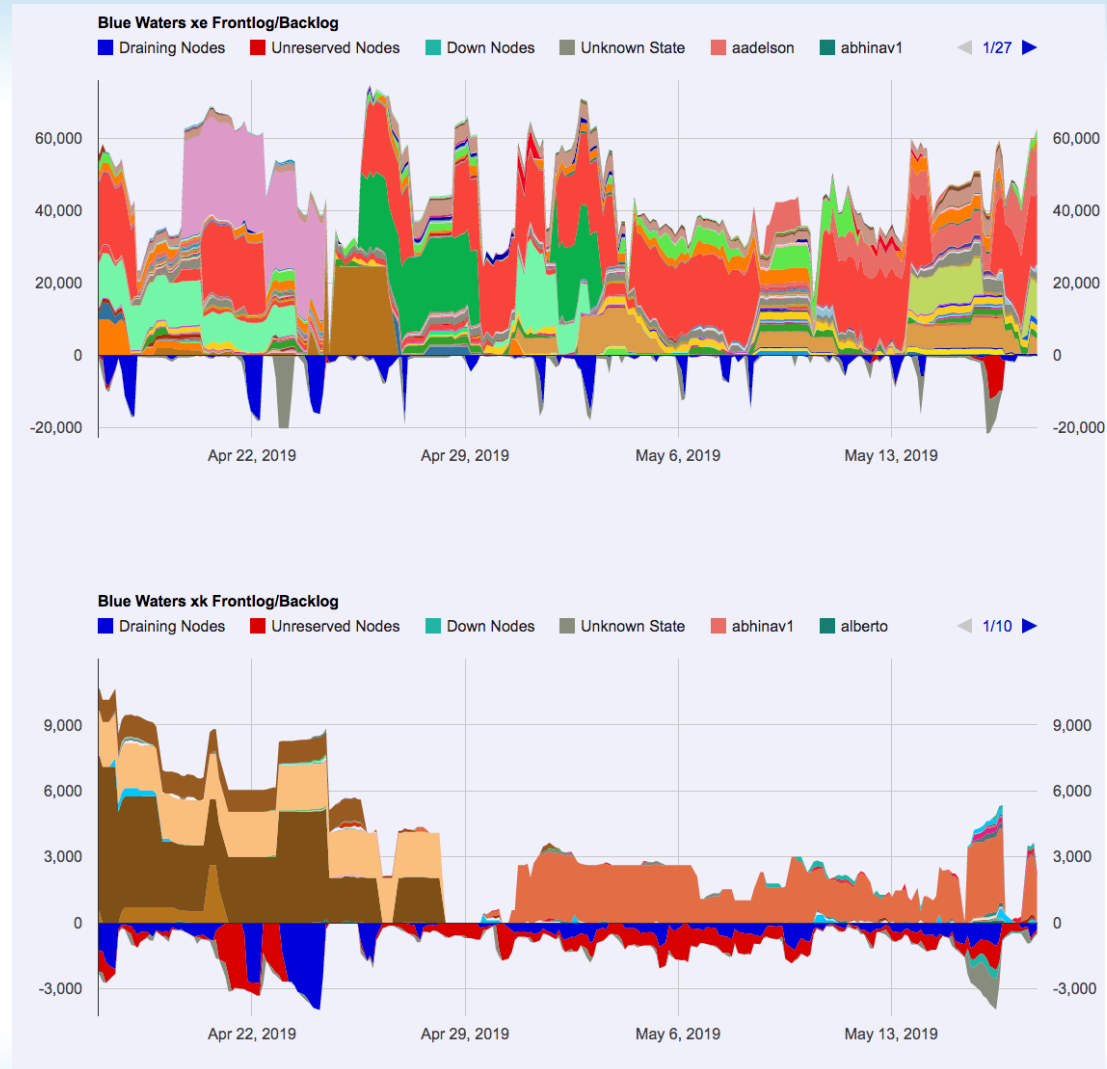
- Overall Utilization since last user call

BlueWaters Utilization (%)

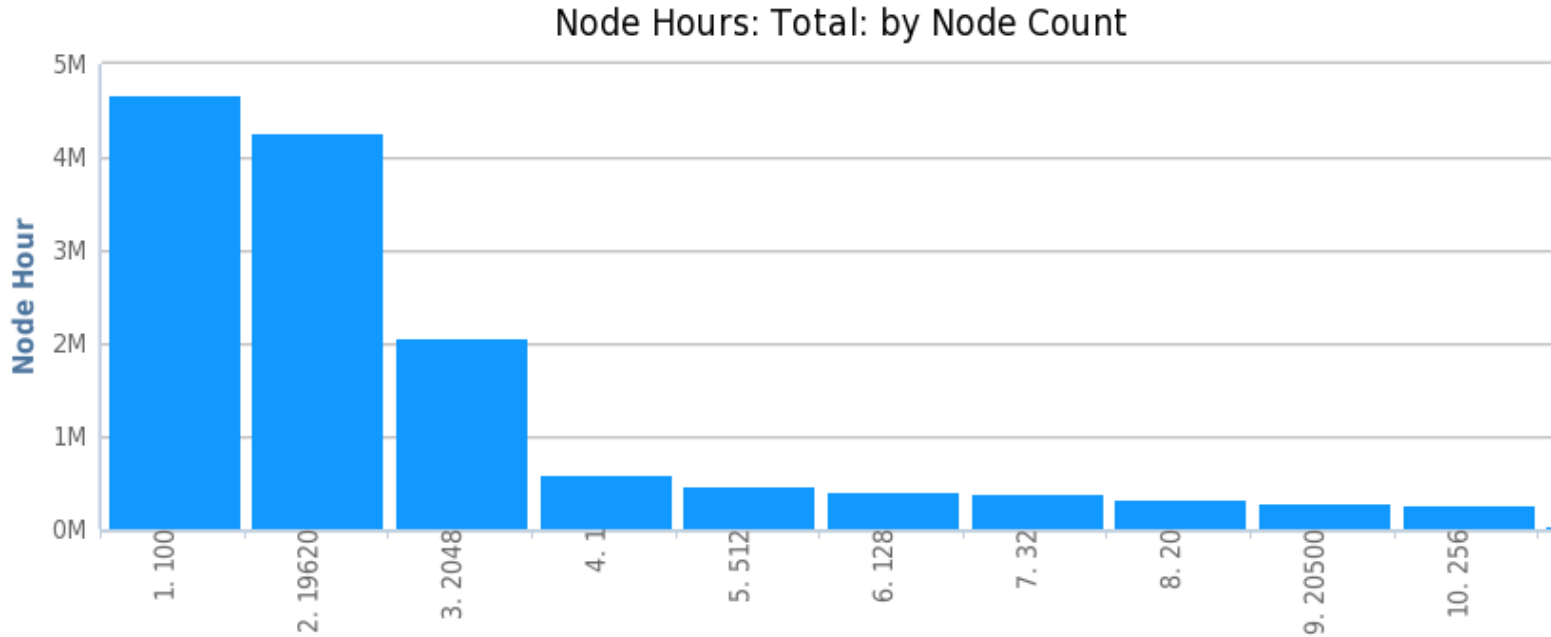


Backlog

- Since last user call.
- 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.
- Change in project workload profiles.

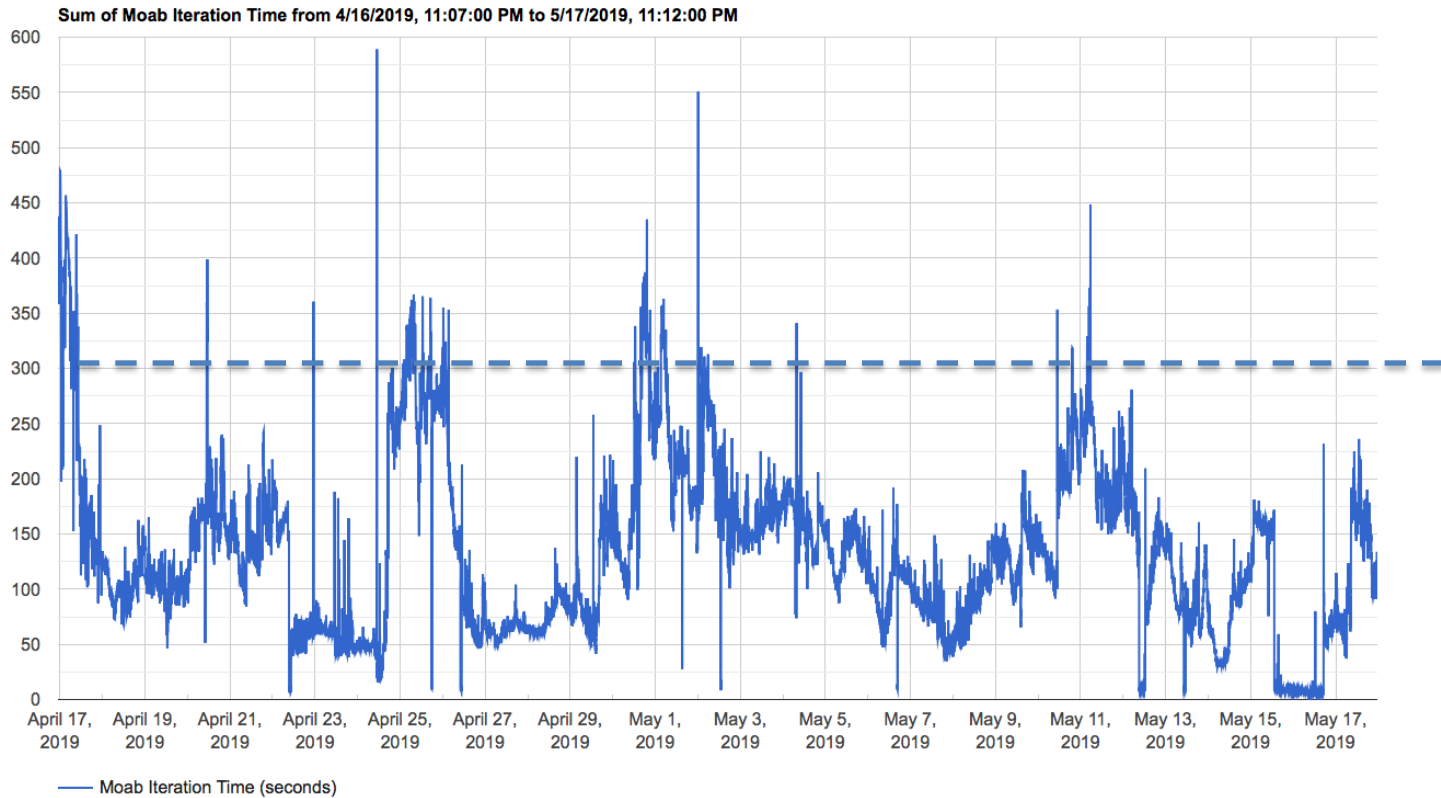


Workload Details



- Data combines XE and XK jobs.
- Since last user call.

Job scheduler iteration time

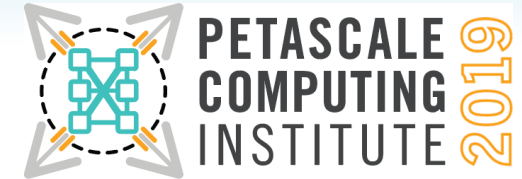


- Keeping iteration time mostly under 5 minutes.

XSEDE Training Events

- <https://portal.xsede.org/course-calendar>

Petascale Computing Institute



- August 19-23, 2019
- Still looking for additional host sites.
- Keynote speaker: Gordon Bell.



- <https://bluwaters.ncsa.illinois.edu/petascale-computing-2019>


Blue Waters Symposium

- When: June 3-6, 2019
- Where: Sunriver, OR.
- Serves as the PRAC annual meeting.
- Registration emails sent February 15th.

Blue Waters Weekly Webinar Series

- 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](#).
- Make sure to [RSVP on Facebook](#) and on the [Blue Waters Portal](#)
- We welcome suggestions for topics that will benefit the petascale community. Send your suggestions to bw-eot@ncsa.illinois.edu.

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](https://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