

BLUE WATERS

SUSTAINED PETASCALE COMPUTING

3/16/15

Blue Waters User Monthly Teleconference



GREAT LAKES CONSORTIUM
FOR PETASCALE COMPUTATION

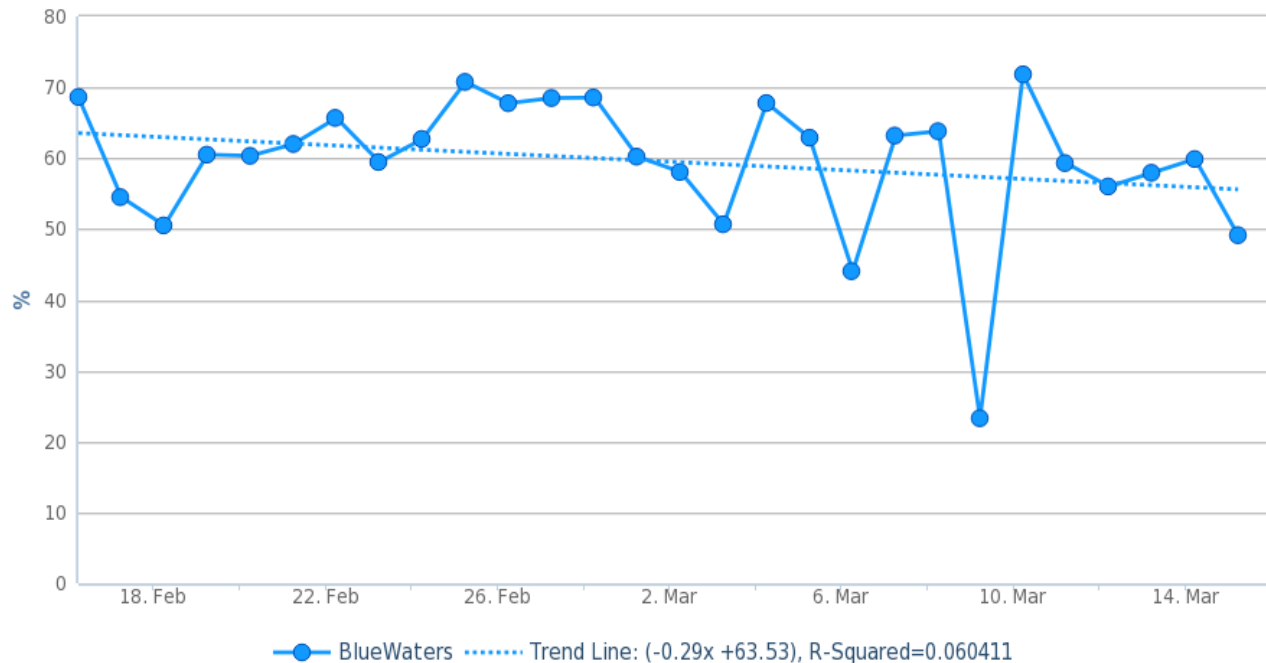
CRAY®

Agenda

- Utilization
- Recent events
- Recent changes
- Upcoming changes
- [Blue Waters Data Sharing](#)
- [2015 Blue Waters Symposium](#)
- [NSF Ebola CFP](#)
- [Blue Waters Undergraduate Internship](#)
- PUBLICATIONS!

System Utilization

- Utilization since last BW User Call (February 16)



2015-02-16 to 2015-03-16 Src: HPCDB. Powered by XDMoD/Highcharts

- Utilization leveled but low. We are investigating.

Recent Issues

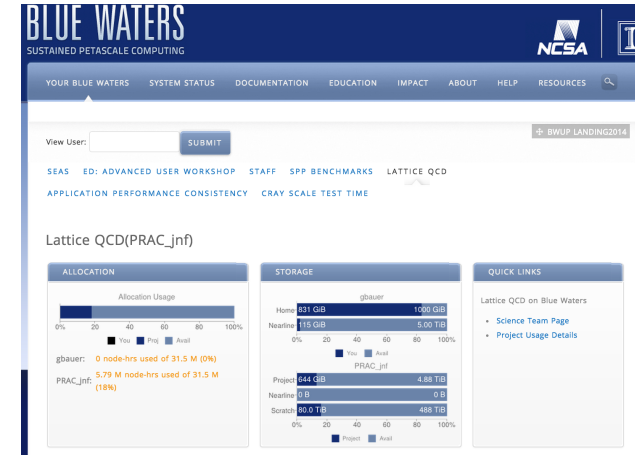
- Login node responsiveness
 - Moved to a consistent login configuration.
 - Obtained a diagnostic
 - Patched Lustre clients on the compute and MOM nodes.

Recent Changes

- Maintenance February 9th.
 - Lustre client patches on compute nodes and MOMs.
 - Configuration change for the login nodes.
 - Nearline: HPSS software upgrade.

Not so Recent Changes

- darshan IO profiling
 - Enabled 1/20
 - See [darshan](#) page on the portal.
- Portal User [summary](#) page
 - Multi-project support
 - Storage use and quotas for online and Nearline



Upcoming Changes

- CUDA 6.5
 - Cray and NVIDIA continue to actively work on the issue. No firm date yet.
- Modules
 - Cleaning out unused modules and old modules.
 - Removing deprecated modules: old xt-xyz replaced with cray-xyz.

Improve job wall clock accuracy

- Topology aware scheduling should reduce run to run variation two ways
 - Reduces job-job interference
 - Provides finite set of node allocation shapes
- Picking best performance/shape can further reduce run to run variation.
- Setting accurate wall clock times helps the scheduler reserve nodes for jobs in the future.
- Very important when reservation depth is “deep”.

Blue Waters Data Sharing Service

- Prototype service for data sharing.
- <https://bluewaters.ncsa.illinois.edu/data-sharing>
- Sharing of data sets from on-line or Nearline / projects/sciteam/xyz/share using Globus Online or web services (http).
- Metadata includes contact information, description, website, size and count, DOI*.

2015 Blue Waters Symposium

- May 10-14, 2015
- PI meeting for NSF PRAC teams.
- Sunriver Resort in Sunriver, OR



- Recreational opportunities: hiking, biking, fly fishing, rafting, canoeing, rock climbing, ...

NSF: Computing About the Ebola Virus

- [Dear Colleague Letter](#) announced November 13, 2014
- software development activities
 - [Computational and Data-Enabled Science & Engineering](#)
 - [Software Structure for Sustained Innovation](#)
- Petascale computing on Blue Waters
 - [Petascale Computing Resource Allocations](#)


Blue Waters Internships

- Engage undergraduate students in petascale computing research. The program provides each student a stipend totaling \$5,000 and a two-week intensive high-performance computing workshop.
- Select students will travel to The Blue Waters Symposium.
- Applications must be submitted by March 20, 2015
- Applicants can identify faculty member as a mentor!
- See <https://bluewaters.ncsa.illinois.edu/internships>

Illinois Allocations Due Today

- Reminder that Illinois Allocations are due today.
- See <https://bluewaters.ncsa.illinois.edu/illinois-allocations> for details.

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

Future Topics?

- Please send us your suggestions on topics for future teleconferences / webinars