

BLUE WATERS

SUSTAINED PETASCALE COMPUTING

6/23/13

Blue Waters User Monthly Teleconference



GREAT LAKES CONSORTIUM
FOR PETASCALE COMPUTATION

CRAY®

Agenda

Topics for this webconference:

- XK Upgrade Update.
- Resource Management and Job Scheduling.
- Allocation usage monitoring.
- Request for publications, presentations, ...
- Topics for future Blue Waters Users telecons/webinars?
- Special Presentation – Bob Fielder (Cray) on "Overlapping communication and computation with non-blocking MPI collectives or Coarray Fortran".

XK Upgrade Status

- Upgrade specifics
 - 12 additional XK cabinets moves total to 4,224 XK nodes from 3,072.
 - Increase of overall torus dimension to 24x24x24.
 - Changes to XK node shape: from 8x8x24 to 15x6x24, improves aggregate bandwidth.
 - Relocation of IO blades into XK region.
- Outage to begin July 15th.
- Expect a 4 week interruption of compute systems.
- Login, filesystem, and near-line storage will be available with brief interruptions.

Resource Management and Job Scheduling

- Upgraded to Torque 4.2.3 and Moab 7.2.3.
- Job scheduling priorities completed.
- For all features: xe, xk, x.

QUEUES	Priority (1 highest)	Charge Factor	Preemptible
debug	1	1	No
high	2	2	No
normal	3	1	No
low	4	.5	Yes

Allocation monitoring

- Usage monitoring from portal being enhanced.
 - Improved hierarchical view in progress.
- usage command now available on login nodes.

```
> usage -h
```


```
usage [ -p proj ] [ -u login ] [ -m mach ] [ -t [ pmu ] ] [ -s start-date ] [ -e  
end-date ] [ -l period ] [ -r ] [ -a ] [ -i ] [ -h ]
```

- date – m/d/y (e.g. 05/20/13)
- period – 1d (one day) , 2w (two weeks), 3m ...
- Shows multiple projects that you belong to.
- Provides total project usage.
- Handles queue charging.

Usage

- Utilization of the XE portion of the system has improved. XK usage remains high.
- Want to avoid end of allocation period congestion.
- Continue to refine quarterly “return” concept to promote steady usage.
- We are working to provide “usage rate” tools on the portal, login nodes and notification via email.

Request for publications, presentations, ...

- 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.
- Appreciate updates sooner than annual reports.
- NSF PRAC teams send information to PoCs.
- See the [Share Results](#) section of the portal as well.

Upcoming Events

- Next Blue Waters User webinar July 15th.
- Allinea/NVIDIA webinar: Understanding Dynamic Parallelism at any scale with Allinea's unified tools, Wednesday, 12:00 PM Eastern, June 26, 2013. <https://www2.gotomeeting.com/register/329003250>

Future Topics?

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