# Manycore working group

Coming attractions





### Blue Waters user documentation - review

#### programming

https://bluewaters.ncsa.illinois.edu/cuda

https://bluewaters.ncsa.illinois.edu/openacc

When you connect to a resource, you are Command Line on a login node shared by many users. Login Commands for code execution, copy input files to scratch,... Specify number/type of nodes, Researcher **Data** Job length of run, output directory, ... Store project files Run jobs by submitting your batch **Login Nodes** such as source script to the compute nodes using code, scripts, and Use for tasks such as file the "qsub" command. small input data editina, code compilation, data sets to your Home backup, directory. and job submission. Your job is submitted to a **Data** aueue and will wait in line until Scratch Home nodes are available. Queues Read/write data from are managed by a job compute nodes to your scheduler that enables jobs to Scratch directory. run efficiently. File System **Compute Nodes** 

### XK node job usage hints

https://bluewaters.ncsa.illinois.edu/accelerator-

<u>jobs-on-xk-nodes</u>

**Profiling** 

https://bluewaters.ncsa.illinois.edu/openacc-andcuda-profiling



## Intel software

OpenMP 4.x support

OpenMP\* 4.0 adds new features for controlling vectorization and execution on coprocessors. Intel® [Visual] Fortran Composer XE 2013 Update 2 (compiler version 13.1) supports most of these new features. Most of them provide functionality to existing Intel-specific compiler directives.

## **Intel hardware**

- NCSA staff under NDA so only public URLs presented
- Next Generation of PHI (Knights Landing)
  - http://en.wikipedia.org/wiki/Xeon\_Phi#Knights\_Landing
  - http://hothardware.com/News/Intels-Knights-Landing-Xeon-Phi-Will-Target-3TFLOPs-Offer-16GB-of-RAM/
  - http://www.realworldtech.com/knights-landing-details/





