

# Manycore working group

Coming attractions



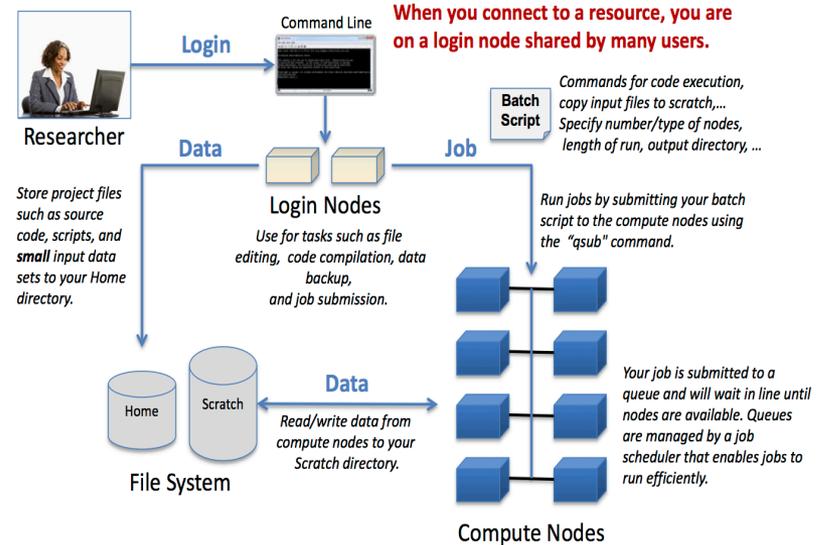
National Center for Supercomputing Applications  
University of Illinois at Urbana–Champaign

# Blue Waters user documentation - review

programming

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

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



XK node job usage hints

<https://bluewaters.ncsa.illinois.edu/accelerator-jobs-on-xk-nodes>

Profiling

<https://bluewaters.ncsa.illinois.edu/openacc-and-cuda-profiling>

# Intel software

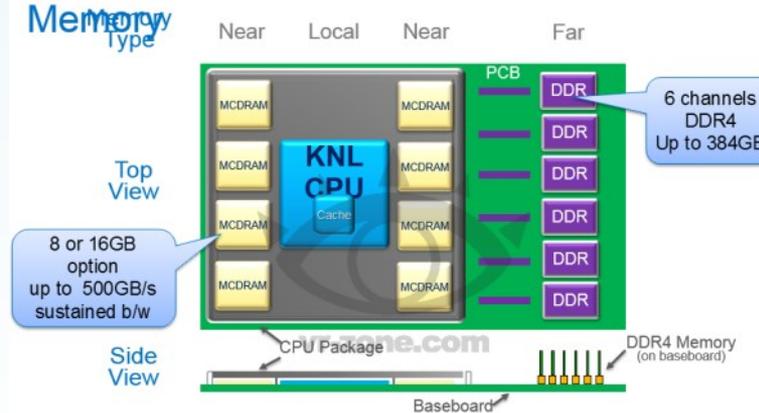
- [OpenMP 4.x support](#)

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://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/>

## Knights Landing Integrated On-Package Memory



**Integrated on-package MCDRAM brings memory nearer to CPU for higher memory bandwidth and better performance**

Diagram is for conceptual purposes only and only illustrates the general architecture. It is not to scale and does not include all functional areas of the CPU, nor does it represent