

Parallel and Distributed Computing

Lecture 10

News from the last week



Using Intel® Math Kernel Library with MathWorks* MATLAB* on Intel® Xeon Phi™ Coprocessor System

Submitted by Ying H (Intel) on Sun, 05/18/2014 - 23:18

Overview

This guide is intended to help developers use the latest version of Intel® Math Kernel Library (Intel® MKL) with MathWorks* MATLAB* on Intel® Xeon Phi™ Coprocessor System.

Intel MKL is a computational math library designed to accelerate application performance and reduce development time. It includes highly optimized and threaded dense and sparse Linear Algebra routines, Fast Fourier transforms (FFT) routines, Vector Math routines, and Statistical functions for Intel processors and coprocessors.

MATLAB is an interactive software program that performs mathematical computations and visualization. Internally MATLAB uses Intel MKL **Basic Linear Algebra Subroutines (BLAS)** and **Linear Algebra package (LAPACK)** routines to perform the underlying computations when running on Intel processors.

Intel MKL now includes a new Automatic Offload (AO) feature that enables computationally intensive Intel MKL functions to offload partial workload to attached Intel Xeon Phi coprocessors automatically and transparently.

As a result, MATLAB performance can benefit from Intel Xeon Phi coprocessors via the Intel MKL AO feature when problem sizes are large enough to amortize the cost of transferring data to the coprocessors. The article describes how to enable Intel MKL AO when Intel Xeon Phi coprocessors are present within a MATLAB computing environment.

Prerequisite

Prior to getting started, obtain access to the following software and hardware:

1. The Latest Version of Intel MKL or Intel® Composer XE, which includes the Intel® C/C++ Compiler and Intel MKL available from <https://registrationcenter.intel.com/regcenter/register.aspx>, or register at <https://software.intel.com/en-us/> to get a free 30-day evaluation
2. The Latest Version of MATLAB available from <http://www.mathworks.com/products/matlab/>
3. An Intel Xeon Phi Coprocessor Development System as described at <https://software.intel.com/en-us/mic-developer>

http://www.linkedin.com/redirect?url=https%3A%2F%2Fsoftware%2Eintel%2Ecom%2Fen-us%2Farticles%2Fusing-intel-math-kernel-library-with-mathworks-matlab-on-intel-xeon-phi-coprocessor-system%2F&urlhash=Zw8h&t=tracking_anet

Europe Wants a Supercomputer Made From Smartphones

An international consortium hopes to build exaflop supercomputers from mobile CPUs

By Mark Anderson

Posted 20 May 2014 | 19:00 GMT

[+](#) Share | [✉](#) Email | [🖨](#) Print

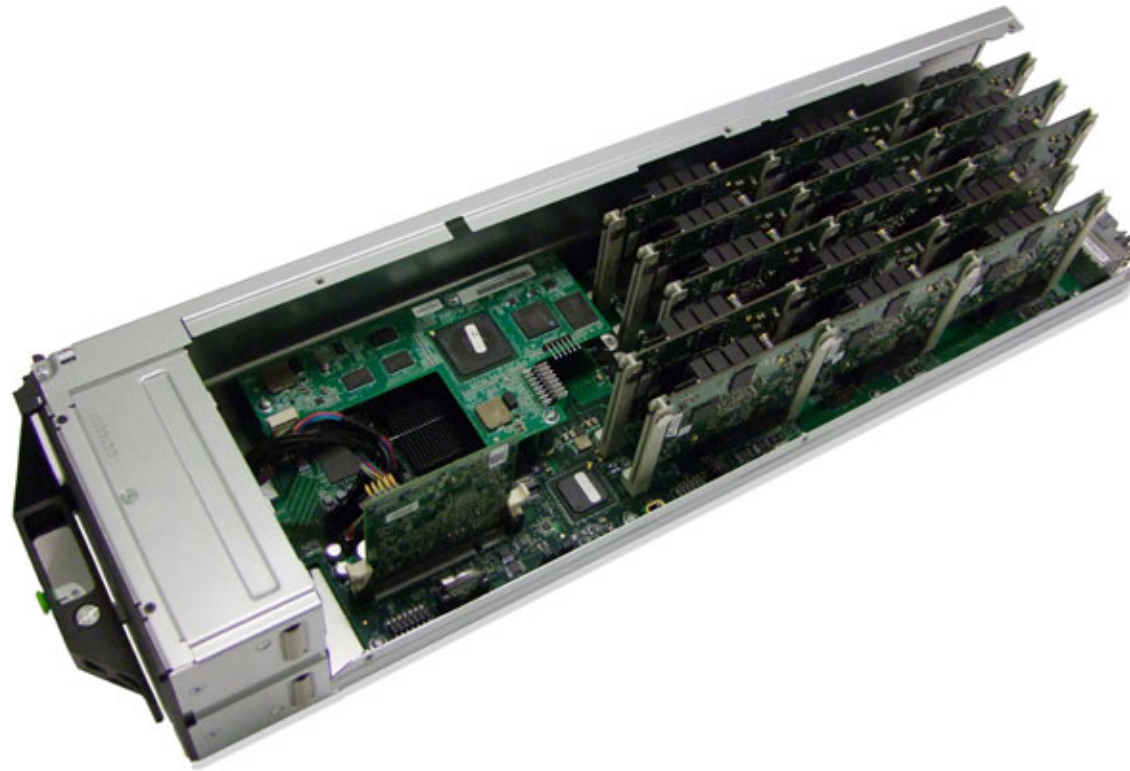


Photo: Mont-Blanc

Blades of glory: Mont-Blanc's prototype contains 15 nodes made up of ARM cores

Agenda for today

- Final Projects
 - Final List
 - Sweep3D examples with Allinea's MAP - demo
- Re-do the first demo from Lab3
- Grid Security, see material at: lecture #8, slides 4-1, 4-2, 5.1
- Open Nebula
- Open Stack



OpenNebula

- An Introduction to Cloud Computing with OpenNebula
- Installing and Basic Usage
- VirtualBox demo (~Images/opennebula-4.6...vdi)
- <http://opennebula.org/tryout/sandbox-testdrive/>
- user: root password: opennebula
- su - oneadmin

OpenStack

- OpenStack Training Guides
- TryStack