



INTEL[®] CODE MODERNIZATION WORKSHOP 2016

Version 1.2 – 14th October

Inspiration for Developers - New Agenda!

1-DAY WORKSHOP IN HELSINKI

Tennispalatsi, Salomonkatu 15, 00100 Helsinki

More information and registration: <http://www.inteldevconference.com>

AGENDA

1. 11. 2016

08:30 09:00 Registration and Breakfast

DELIVERING LEADING PERFORMANCE IN COMPUTING, ANALYTICS AND MACHINE LEARNING – ALL ABOUT INTEL[®] XEON[™] & XEON PHI[™]

09:00 09:45 Learn about the parallel architecture, technical advances and features of the latest and future Intel processors, especially Intel[®] Xeon[™] and Intel[®] Xeon Phi[™] (aka Knights Landing, KNL).
Presenter: Janko Strassburg, Bayncore

WHATS NEW IN INTEL PARALLEL STUDIO XE 2017?

09:45 10:15 Learn about some of the new features of Intel Parallel Studio XE 2017. We'll also take a look at some upcoming technologies, such as the roofline model support in Advisor
Presenter: Janko Strassburg, Bayncore

10:15 10:30 Coffee Break

CODING HIGH PERFORMANCE PYTHON* FOR DATA-INTENSIVE ALGORITHMS

10:30 11:15 This talk will introduce the recently released Intel[®] Distribution for Python which delivers high performance acceleration for scientific computing, data analytics, and machine learning. Learn how NumPy/SciPy can now leverage the full performance potential of parallel CPU architecture by linking performance libraries like Intel[®] MKL (Math Kernel Library), Intel[®] MPI (Message Passing Interface), Intel[®] TBB (Threading Building Blocks) and Intel[®] DAAL (Data Analytics Acceleration Library).
Presenter: Stephen Blair-Chappell, Bayncore



PROFILING AND TUNING PYTHON* CODE FOR MAXIMUM PERFORMANCE

11:15 12:00 Performance bottlenecks and underutilization of compute resources result in higher cost per performance unit and watt. In this session you will learn how to identify and eliminate hotspots and realize performance potential in Python code using Intel[®] VTune[™] Amplifier XE.
Presenter: Stephen Blair-Chappell, Bayncore



12:00 12:45 Lunch

VECTORIZATION – NEW APPROACHES FOR PARALLELISM AT CORE LEVEL (SIMD)

12:45 13:30 Vectorization is one of the critical elements to maximize parallel performance. In this session we will show how to get started with vectorization and avoid common pitfalls. We will review cases where automatic vectorization fails, providing tips and best known methods for effective vectorization. This session is also illustrated with a couple of real-world case examples by using Intel[®] Parallel Studio XE suite.
Presenter: Janko Strassburg, Bayncore

TUTORIAL - PROFILING AND IMPROVING ADVANCED VECTORIZED CODE

13:30 14:15 Using the latest enhancements to Intel Vectorization Advisor, this session shows how to detect vectorisation issues and strategies to overcome them. Included in this session is a practical hands-on example using DL_MESO Lattice Boltzmann code from Daresbury Labs.
Presenter: Stephen Blair-Chappell, Bayncore

SCALING DEEP LEARNING ON INTEL ARCHITECTURE AND SCALABLE SYSTEMS FRAMEWORK

14:15 15:00 In this talk, we will cover the elements of deep learning training and inference which map to Intel's multi-core and many-core platforms and present recent results which show the order of magnitude of improvement in performance and TCO.
Presenter: Janko Strassburg, Bayncore

15:00 15:15 Coffee Break

PREPARING FOR THE LATEST GENERATION OF INTEL ARCHITECTURE BEFORE HAVING ACCESS TO HARDWARE

15:15 16:00 In this session we'll show how to prepare for the latest generation of Intel architecture before you have access to the real hardware. We will give practical examples of how to prepare for the Intel[®] Xeon Phi[™] Knights Landing to make sure that your code is 'KNL ready'.
Presenter: Stephen Blair-Chappell, Bayncore

CASE STUDY - IMPORTANCE OF CURRENT SOFTWARE TOOL CHAINS AND LIBRARIES

16:00 16:30 This session will show the impact on performance brought by up-to-date compilers and high performance libraries. Multiple examples of common software and custom code will be used to demonstrate how speed-ups can be achieved on various target platforms by using current software.
Presenter: Janko Strassburg, Bayncore

16:30 16:45 Open Q&A

17:00 20:00 Movie Doctor Strange

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