INTEL® PARALLEL STUDIO XE 2017 RUNTIME

Release Notes

26 July 2016

Contents

1 Introduction

The Intel® Parallel Studio XE Runtime includes everything you need to run applications built with Intel® Parallel Studio XE.

By using Intel® Parallel Studio XE Runtime you agree to the terms and conditions stated in the Intel End User Licensing Agreement (EULA) available at https://software.intel.com/en-us/articles/end-user-license-agreement.

1.1 What Every User Should Know About This Release

- This is the initial release for Intel® Parallel Studio XE 2017 Runtime.

2 Product Contents

The Intel® Parallel Studio XE Runtime contains runtime components from the following products:

- Intel® C/C++ Compiler
- Intel® Fortran Compiler
- Intel® MPI Library
- Intel® Threading Building Blocks (Intel® TBB)
- Intel® Math Kernel Library (Intel® MKL)
- Intel® OpenMP Library
- Intel® Integrated Performance Primitives (Intel® IPP)
    - Intel® IPP does not provide libraries for Intel® Many Integrated Core Architecture
- Intel® Data Analytics Acceleration Library (Intel® DAAL)
    - Intel® DAAL does not provide libraries for Intel® Many Integrated Core Architecture

The following additional components are included:

- End User License Agreement (EULA)
- Installation Script
- RPMs for component installation

The table below lists the associated product component versions and related documentation.

Component	Version
Intel® C++ Compiler	17.0
Intel® Data Analytics Acceleration Library (Intel® DAAL)	2017
Intel® Fortran Compiler	17.0
Intel® Integrated Performance Primitives	2017
Intel® Math Kernel Library (Intel® MKL)	2017
Intel® MPI Library	2017
Intel® Threading Building Blocks (Intel® TBB)	2017

3 System Requirements

3.1 Processor Requirements

Systems based on IA-32 or Intel® 64 architecture:

Intel® Core™ processor family or higher

Intel® Xeon® E5 v3 processor families recommended

Intel® Xeon® E7 v3 processor families recommended

NOTE: It is assumed that the processors listed above are configured into homogeneous clusters.

3.2 Disk Space Requirements

5 GB of disk space (minimum) on a standard installation.

3.3 Operating System Requirements

The operating systems listed below are supported by all components on Intel® 64 Architecture. Individual components may support additional operating systems and architecture configurations. See the individual component release notes for full details.

- Intel® Cluster Ready
- Red Hat Enterprise Linux* 6, 7
- SUSE Linux Enterprise Server* 11, 12

For more information on Intel® Cluster Ready and on the alliance of partner vendors, please visit http://www.intel.com/go/cluster.

3.4 Memory Requirements

2 GB RAM (minimum)

3.5 Additional Software Requirements

Running a 32-bit binary on a 64-bit host may require optional library components (ia32-libs, lib32gcc1, lib32stdc++6, libc6-dev-i386, gcc-multilib, g++-multilib) to be installed from your Linux distribution.

4 Issues and Limitations

1. For Intel® Xeon Phi™ coprocessor's offload mode to work properly, the environment configuration scripts must be previously executed for the Intel® C++ and Fortran Compilers and Intel® Math Kernel Library.

5 Technical Support

Your feedback is very important to us. Support for Intel® Parallel Studio XE Runtime is available via the Intel® Developer Zone forums at https://software.intel.com/en-us/forums/intel-software-development-products. Each component product has a separate forum where you can ask questions, discuss usage, and submit issues.

6 Attributions for Intel® Math Kernel Library

As referenced in the End User License Agreement, attribution requires, at a minimum, prominently displaying the full Intel product name (e.g. "Intel® Math Kernel Library") and providing a link/URL to the Intel® MKL homepage (http://www.intel.com/software/products/mkl) in both the product documentation and website.

The original versions of the BLAS from which that part of Intel® MKL was derived can be obtained from http://www.netlib.org/blas/index.html.

The original versions of LAPACK from which that part of Intel® MKL was derived can be obtained from http://www.netlib.org/lapack/index.html. The authors of LAPACK are E. Anderson, Z. Bai, C. Bischof, S. Blackford, J. Demmel, J. Dongarra, J. Du Croz, A. Greenbaum, S. Hammarling, A. McKenney, and D. Sorensen. Our FORTRAN 90/95 interfaces to LAPACK are similar to those in the LAPACK95 package at http://www.netlib.org/lapack95/index.html. All interfaces are provided for pure procedures.

The original versions of ScaLAPACK from which that part of Intel® MKL was derived can be obtained from http://www.netlib.org/scalapack/index.html. The authors of ScaLAPACK are L. S. Blackford, J. Choi, A. Cleary, E. D'Azevedo, J. Demmel, I. Dhillon, J. Dongarra, S. Hammarling, G. Henry, A. Petitet, K. Stanley, D. Walker, and R. C. Whaley.

The Intel® MKL Extended Eigensolver functionality is based on the Feast Eigenvalue Solver 2.0 http://www.ecs.umass.edu/~polizzi/feast/

PARDISO in Intel® MKL is compliant with the 3.2 release of PARDISO that is freely distributed by the University of Basel. It can be obtained at http://www.pardiso-project.org.

Some FFT functions in this release of Intel® MKL have been generated by the SPIRAL software generation system (http://www.spiral.net/) under license from Carnegie Mellon University. The Authors of SPIRAL are Markus Puschel, Jose Moura, Jeremy Johnson, David Padua, Manuela Veloso, Bryan Singer, Jianxin Xiong, Franz Franchetti, Aca Gacic, Yevgen Voronenko, Kang Chen, Robert W. Johnson, and Nick Rizzolo.

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