Intel Scalable System Framework
Many Workloads One Framework

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Growing Challenges in HPC

“The Walls” System Bottlenecks
- Memory | I/O | Storage
- Energy Efficient Performance
- Space | Resiliency | Unoptimized Software

Divergent Infrastructure
- Visualization
- HPC + Big Data
- Machine Learning

Barriers to Extending Usage
- Resources Split Among Modeling and Simulation | Big Data Analytics | Machine Learning | Visualization
- Democratization at Every Scale | Cloud Access | Exploration of New Parallel Programming Models

Big Data
- HPC Optimized
A Holistic Architectural Approach is Required

Innovative Technologies
- Compute
- Memory
- Fabric
- Storage
- System Software

System
- Tighter Integration
  - Cores
  - Memory
  - Fabric
  - Graphics
  - FPGA
  - I/O

Application
- Modernized Code
  - Community
  - ISV
  - Proprietary
Intel® Parallel Studio XE 2017
Create Faster Code...Faster
Technical, Enterprise & Cloud Compute Software Tools Suite
– Design, build, verify and tune
– C++, C, Fortran, Python* and Java*
– Standards Driven Parallel Models: OpenMP, MPI & TBB

Highlights from 2017 edition
– Faster Python* application performance using Intel® Distribution for Python and Intel® VTune™ Amplifier XE.
– Faster deep learning on IA using Intel® Math Kernel Library and Intel® Data Analytics Acceleration Library
– Quickly assess application performance using snapshot features of VTune™ Amplifier XE and Intel® Trace Analyzer and Collector
– Scale to next generation platforms including latest Intel® Xeon Phi™ processor. Optimizations for Intel® AVX-512, high bandwidth memory and explicit vectorization for compiler and analysis tools.

http://intel.ly/perf-tools
Many workloads | One Framework

www.intel.com/ssf

Modeling & Simulation
High Performance Data Analytics
Machine Learning
Visualization

Intel Scalable System Framework

Intel® Xeon Phi™ Processors
Intel® Xeon® Processors

Intel® Omni-Path Fabric
Intel® Ethernet
Intel® Silicon Photonics Technology

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