Intel® Cluster Toolkit for Linux*

The Developer’s Toolkit for Cluster Systems
Create applications for Intel® processor-based cluster systems with performance-enhancing tools that include performance libraries, performance analyzers, and benchmark tests—integrated into one easy-to-install software bundle. Intel® Cluster Toolkit 3.0 for Linux* adds more than 20 new features to the core libraries and tools to efficiently develop, optimize, run, and distribute parallel applications on clusters with Intel processors. The toolkit includes:

• Intel® MPI Library 3.0
• Intel® Math Kernel Library (Intel® MKL) Cluster Edition 9.0
• Intel® Trace Analyzer and Collector 7.0
• Intel® MPI Benchmarks 3.0

Features
• Conventional installation
  The master installer supports a distributed install option that provides installation on the head node and compute nodes of a cluster, in one operation.
• Simple license administration
  Intel Cluster Toolkit is a single integrated package that provides a set of tools with a single license.
• Easy access to help
  Online documentation with index and hyperlinked documentation for all toolkit libraries and tools.

Boost Cluster Performance
Use these advanced performance solutions to speed parallel computing development and deliver high performance on cluster systems, whether they are small or large:

• Intel® MPI Library 3.0 provides a flexible and high-performance implementation of MPI for easy MPI application development on multiple network architectures, now with full thread safety.
• Intel Trace Analyzer and Collector 7.0 applies event-based tracing in cluster applications and offers scalable analysis of performance data, recording of statistics, and multithreaded traces on all Intel® platforms.
• Intel® MPI Benchmarks 3.0 is a comprehensive set of MPI benchmarks, formerly known as Pallas MPI Benchmarks (PMB).

Case Study:
SimCenter Redux–64-bit Intel® Xeon® Processor-Based Cluster and Optimized Intel® Solution Services Yield Compelling Price/Performance.

The Company:
The SimCenter, a research facility at the University of Tennessee.

The Challenge:
Optimize price/performance in a cluster computing environment.

The Answer:
Intel® Solution Services helped SimCenter researchers make optimal use of the 64-bit Intel® Xeon® processor during the platform evaluation phase for their new supercomputing cluster.

The Result:
Faster simulations on a highly reliable and scalable platform helped researchers at the SimCenter provide more accurate results and complete more work in less time.

Learn more about this case study at:
Performance

- Efficiently build scalable parallel MPI applications that can execute across multiple network architectures.
- Tune applications with powerful mathematical library functions in the Intel® MKL Cluster Edition.
- Easily collect trace information and analyze runtime behavior in detail, using the leading tools for performance analysis on clusters.

Compatibility

Create parallel-computing software that has a high degree of compatibility with current standards as well as with Intel® tools and architecture:

Linux Functionality for Intel® Architecture-based Clusters
- Supports Red Hat Enterprise Linux 3.0 and 4.0
- Supports SUSE Linux Enterprise Server* 9 and 10

Intel® Compiler Compatibility
- Compatible with the Intel® Compilers 9.0 or 9.1 for Linux for both the C/C++ and Fortran programming interfaces on Intel processors.

MPI-2 Standard Compliance and Portability
- Full MPI-2 standard with the exception of dynamic process management and user-defined data representations for file I/O.

Processors
- Intel® multi-core processors
- Intel® Pentium® 4 processor
- Intel® Itanium® 2 processor
- Intel® Xeon® processors (32- and 64-bit)
- Intel® Celeron® processor

View concurrent behavior of parallel applications using Intel® Trace Analyzer and Collector.

Download a trial version today.

www.intel.com/software/products/cluster/clustertoolkit