

HP-MPI

HP Message Passing Interface Library



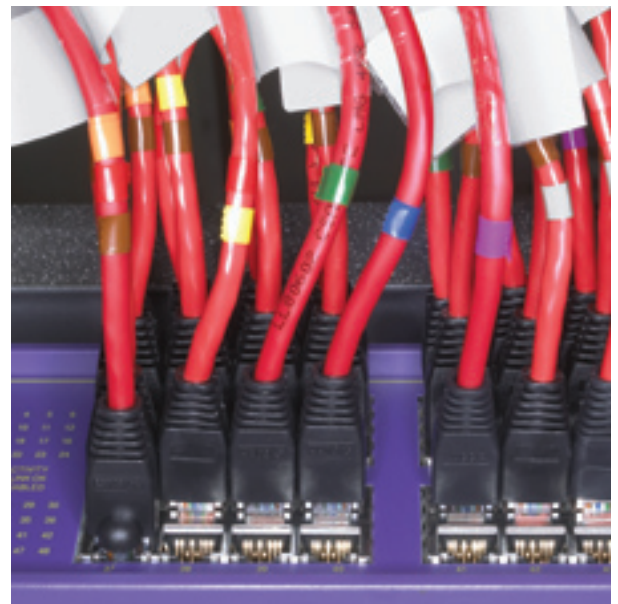
HP-MPI is a high performance, production-quality implementation of the Message Passing Interface (MPI), a de facto standard for developing scalable, parallel applications. HP-MPI supports a broad range of industry standard platforms, popular high performance interconnects, and operating systems. Customers that develop and deploy applications based on HP-MPI realize improved performance and higher quality applications.

Universal, standards-based

Customers and Independent Software Vendors (ISVs) can now take advantage of a superior quality MPI implementation. For years customers using HP-UX and Tru64 UNIX systems have benefited from HP's expertise in MPI. HP-MPI now supports Linux and is available on a wide range of industry standard servers and popular high performance interconnects. HP-MPI fully complies with the MPI-1.2 standard and includes full MPI-2 functionality.

Focus on performance

HP-MPI allows customers to build a single executable that transparently leverages the performance features of each type of interconnect, thereby providing applications with optimal latency and bandwidth for each protocol. Additionally, HP-MPI supports multi-protocol execution of



MPI applications on clusters of shared-memory servers, allowing applications to take advantage of shared memory for intra-node communications.

High quality for production deployment

Because HP tests and packages HP-MPI as a production software product, it provides the outstanding quality, reliability, and robust capabilities demanded in a production deployment. In addition, HP-MPI supports key reliability features such as resource cleanup, signal propagation, and standard I/O (stdio) processing.

The support for multiple interconnect environments reduces the number of combinations of tests that software developers and ISVs face for a production release, lowering costs and improving application quality.

HP-MPI

The HP Message Passing Interface Library

Features and Benefits		
	Feature	Benefit
Simplicity	HP-MPI fully complies with the MPI-1.2 standard and includes full MPI-2 functionality (dynamic processes, one-sided communications, extended collectives, thread safety, and updated ROMIO)	Applications port easily to other platforms Protects ISV software investment
	Complete debugging and profiling tools (diagnostic library provides message signature analysis, object space corruption detection, and multiple buffer-write detection). Light weight profiling tools provide important run-time statistics to help users understand communication patterns and message-passing usages; supports TotalView and Intel Trace	Reduces time-to-market Increases robustness and quality of complex applications
Agility	Supports SMP optimization (intra-node communication via shared memory when appropriate)	Optimizes performance without compromising portability or flexibility
	Supports and transparently recognizes multiple industry-standard interconnects and protocols (InfiniBand®, Myrinet® GM-2, Quadrics QsNet, Elan3/Elan4, and HyperFabric2, RDMA-enabled Ethernet, TCP/IP, uDAPL, VAPI, IT-API)	Provides the highest performance available for an individual interconnect Maintains portability Reduces the number of combinations of binaries that must be tested for application release
Value	Large automated test suite (tested with selected ISV applications prior to general release)	Ensures production quality implementation
	Robust features (stdio processing, signal propagation, application cleanup, exit status gathering, process accounting, auto-double FORTRAN extension for CRAY compatibility)	Accepts applications from a wide range of other programming environments
	Available with both archive and shared libraries	Provides implementation flexibility under different operating environments

Supported platforms, interconnects, and operating systems		
Platform	Interconnect	Operating Systems
HP ProLiant servers Intel® Xeon™-based platforms (32- and 64-bit addressing)	TCP/IP	Linux RH EL 3.0 ¹ ; SLES 9 ² , SLES9.1
	Myrinet GM-2	Linux RH EL 3.0; SLES 9, SLES9.1
	InfiniBand	Linux RH EL 3.0; SLES 9, SLES9.1
	RDMA Ethernet ³	Linux RH 3 WS/ES, SLES 9, SLES9.1
HP Integrity servers Intel® Itanium® 2-based platforms	TCP/IP	Linux RH EL 3.0; SLES 9, SLES9.1; HP-UX 11i, HP-UX 11i v2
	QsNet Elan4/Elan3	Linux RH EL 3.0; SLES9, SLES9.1
	InfiniBand	Linux RH EL 3.0; HP-UX 11i v2 ⁴
	Myrinet GM-2	Linux RH EL 3.0; SLES 9
	HyperFabric2	HP-UX 11i, HP-UX 11i v2
HP ProLiant servers AMD Opteron™-based platforms	TCP/IP	Linux RH EL 3.0; SLES 9, SLES9.1
	Myrinet GM-2	Linux RH EL 3.0; SLES 9, SLES9.1
	InfiniBand	Linux RH EL 3.0; SLES 9, SLES9.1
HP 9000 servers PA-RISC-based servers and workstations	TCP/IP	HP-UX
	HyperFabric2	HP-UX
HP Alpha Servers	TCP/IP	Tru64 UNIX
	Elan3/Elan4	Tru64 UNIX

¹Red Hat Enterprise Linux.
²SUSE Linux Enterprise Server.
³Supported on Ammasso 1100 RDMA over Ethernet Adapter.
⁴Supported on HP InfiniBand solutions for HP-UX.

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For more information: <http://www.hp.com/go/mpi>

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