A High Performance Message Passing Library

Open MPI integrates technologies and resources from several other projects (HARNESS/FT-MPI, LA-MPI, LAM/MPI, and PACX-MPI) in order to build the best MPI library available. A completely new MPI-2 compliant implementation, Open MPI offers advantages for system and software vendors, application developers and computer science researchers.

GOALS

Create a free, open source (new BSD license), peer-reviewed, production-quality complete MPI-2 implementation.
Provide extremely high, competitive performance (latency, bandwidth,...).
Offer a stable platform for 3rd party research and commercial development.
Help prevent the "forking problem" common to other MPI projects.
Support a wide variety of HPC platforms and environments.
Work with and for the HPC community to make a world-class MPI-2 implementation that can be used on a wide range of systems.

FEATURES

Full MPI-2 standards conformance
Thread safety and concurrency
Dynamic process spawning
Component-based design, documented APIs
Single library supports all networks
Reliable and fast job management
Supports network heterogeneity
Multiple job schedulers and OSs supported
Network and process fault tolerance
Portable, tunable, and maintainable

Run-time Component Architecture

User Application
MPI API
Modular Component Architecture (MCA)
Framework
Framework
Framework
Framework

Point to point
Shared memory
Open IB
MX.

We are actively seeking input from HPC vendors, integrators and users:

http://www.open-mpi.org/community/contact.php