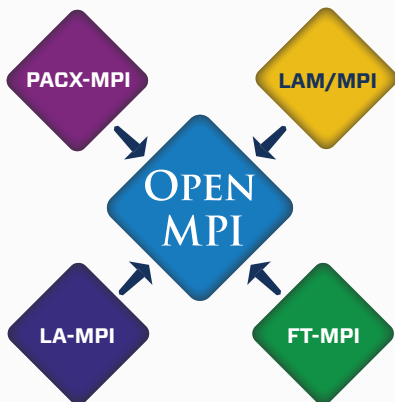




# OPEN MPI



## A HIGH PERFORMANCE MESSAGE PASSING LIBRARY

The Open MPI Project is an open source MPI-2.2 implementation that is developed and maintained by a consortium of academic, research, and industry partners. 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 collectives, ...).
- 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-2.2 standards conformance
- Thread safety and concurrency
- Dynamic process spawning/management
- Component-based design, documented APIs
- Single library supports all networks
- Reliable and fast job management
- Supports network and network heterogeneity
- Multiple job schedulers and OS’s supported
- Network and process fault tolerance
- Portable, tunable, and maintainable
- Multicore aware
- Exascale ready

### OPEN MPI ARCHITECTURE



### RUN-TIME COMPONENT ARCHITECTURE

