Open MPI: Collaborate to Innovate

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Open MPI is…

- Evolution of several prior MPI implementations
- Open source project and community
  - Production quality
  - Vendor-friendly
  - Research- and academic-friendly
- Based on collaboration and community
Open MPI World-Wide Members, Contributors, Partners
Why Community?

- Maximize all MPI expertise
  Research / academia
  Vendors
  Customers, enterprise
  ...elsewhere

- Capitalize on years of HPC, MPI research and implementation experience

- The sum is greater than the parts
Community Cycle Drives Innovation

- HPC has long history of collaboration
  - Research / new ideas
  - Open information transfer
  - Fed back into production / real-world usage
- Researchers have ideas; industry has production capability
  - There are smart people in both!
- Without the cycle, it’s just guesswork
“Great discoveries and improvements invariably involve the cooperation of many minds.”

Alexander Graham Bell, 1877
Open Source is Not Free

Ohloh.net default estimate of Open MPI cost
Spread Costs, Resource Requirements
Cisco’s Open MPI Community Role

- Active development
  Design, code
- [Very] Extensive testing
  100K’s regression tests/night
  Data fed back to community
- Logistics support
  Collaboration, facilitation
  Face-to-face engineering meetings
- Member, MPI Forum
Cisco’s Open MPI Goals

**Technical**

- Promote standards
  - MPI Forum leadership
  - Cisco Unified Compute Servers (UCS)
    - Ethernet-based technologies
- Integrate with tools
  - Provide deep insight in to complex problems
  - Make parallel programming [a little] easier

**Non technical**

- Promote community
  - Conferences, tradeshows
  - Contribute on open mailing lists
- Partner with academics and researchers
  - Foster cutting-edge research
- Perform “community service”
  - Example: Fortran API maintenance
Open source is decided by those who show up

Come join us
Together we can innovate and discover

collaborate to innovate