



Maximizing Application Performance and Scalability



Leading Supplier of End-to-End Interconnect Solutions



Comprehensive End-to-End Software Accelerators and Management



Comprehensive End-to-End InfiniBand and Ethernet Portfolio



Technology Roadmap – One-Generation Lead over the Competition



Mellanox → 20Gbs → 40Gbs → 56Gbs → 100Gbs → 200Gbs →

Terascale

3rd



TOP500 2003
Virginia Tech (Apple)

1st



“Roadrunner”
Mellanox Connected

Petascale



Exascale



2000

2005

2010

2015

2020

VPI

| | | | | |
|--|--|---|---|------|
|  |  |  |  | |
| 2011 | 2012 | 2013 | 2014 | 2015 |

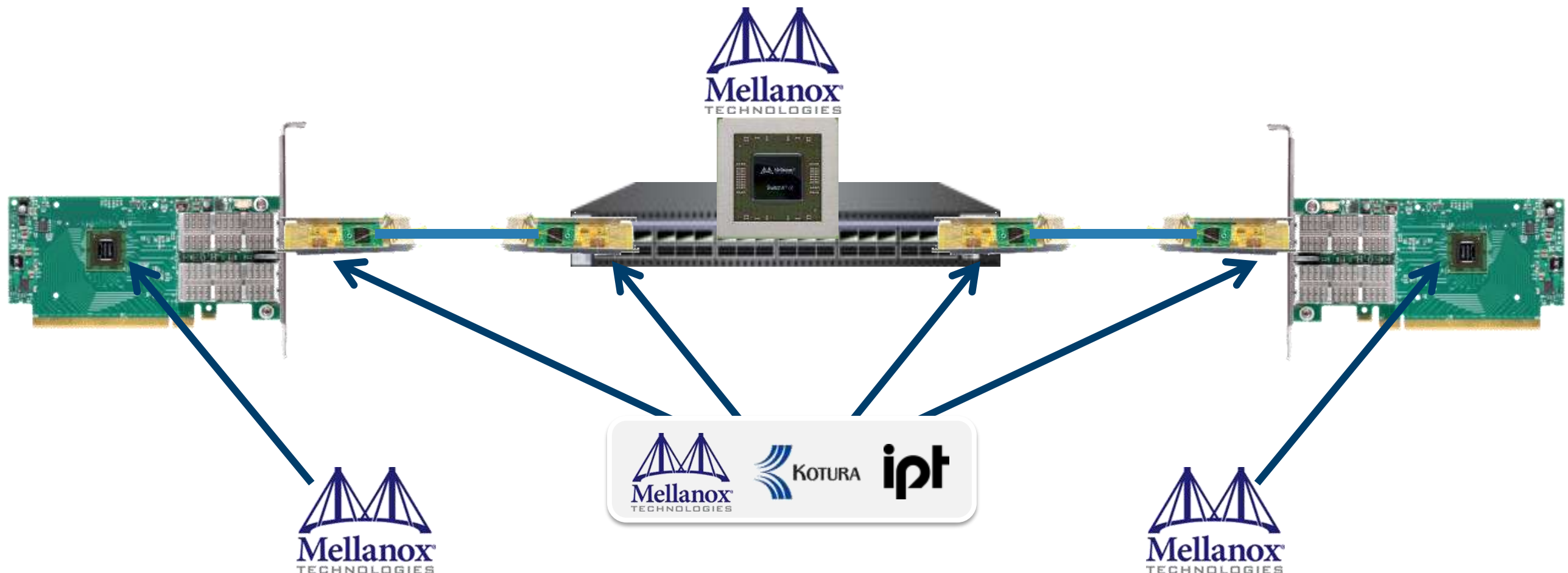
FDR InfiniBand, 40/56GbE

EDR, 100GbE

| | | | | |
|--|--|--|---|--|
| |  | |  | |
|--|--|--|---|--|

InfiniBand

Recent Acquisitions of Kotura and IPtronics Enable Mellanox to Deliver Complete High-Speed Optical Interconnect Solutions for 100Gb/s and Beyond



- The 7th generation of Mellanox interconnect adapters
- World's first 100Gb/s interconnect adapter (dual-port FDR 56Gb/s InfiniBand)
- Delivers 137 million messages per second – 4X higher than competition
- Advanced Offload Engines and Capabilities uniquely designed for HPC
- Support the new innovative InfiniBand scalable transport – Dynamically Connected

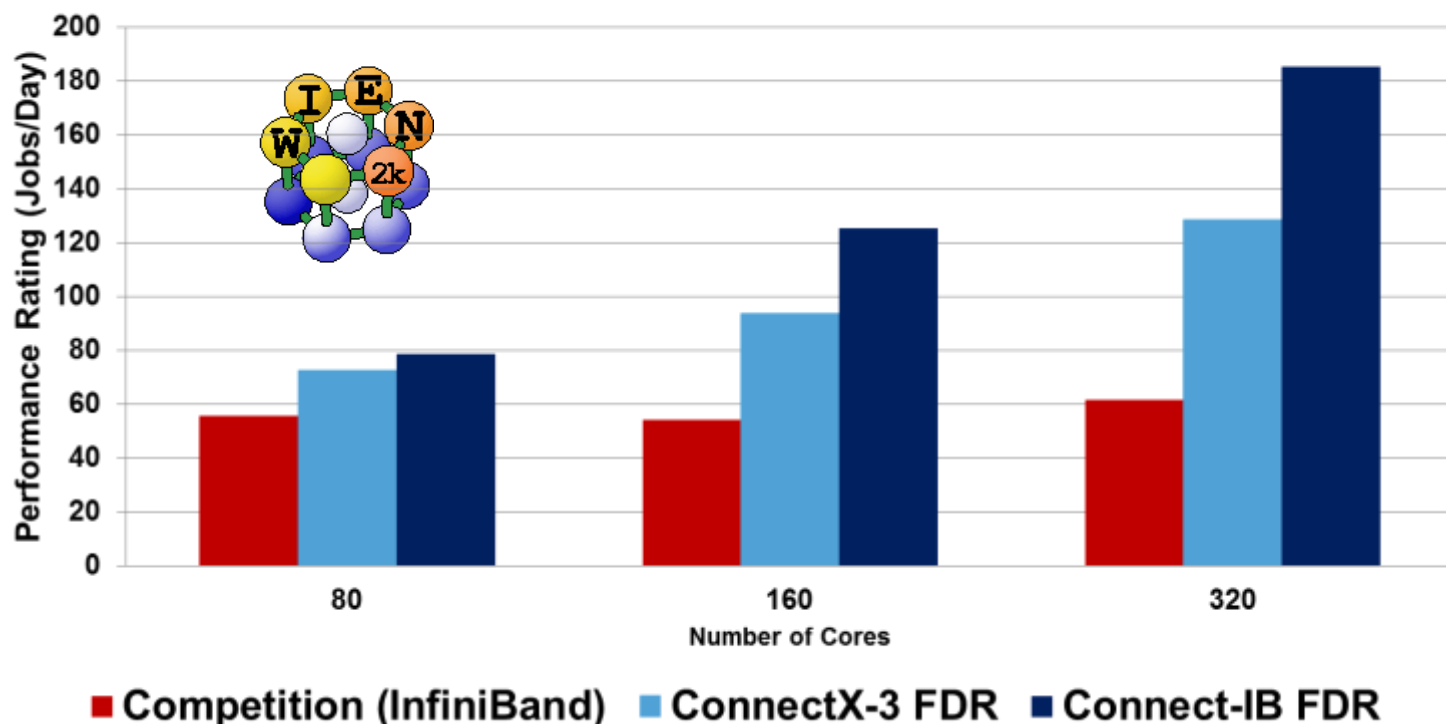


Connect-IB Delivers Highest Application Performance

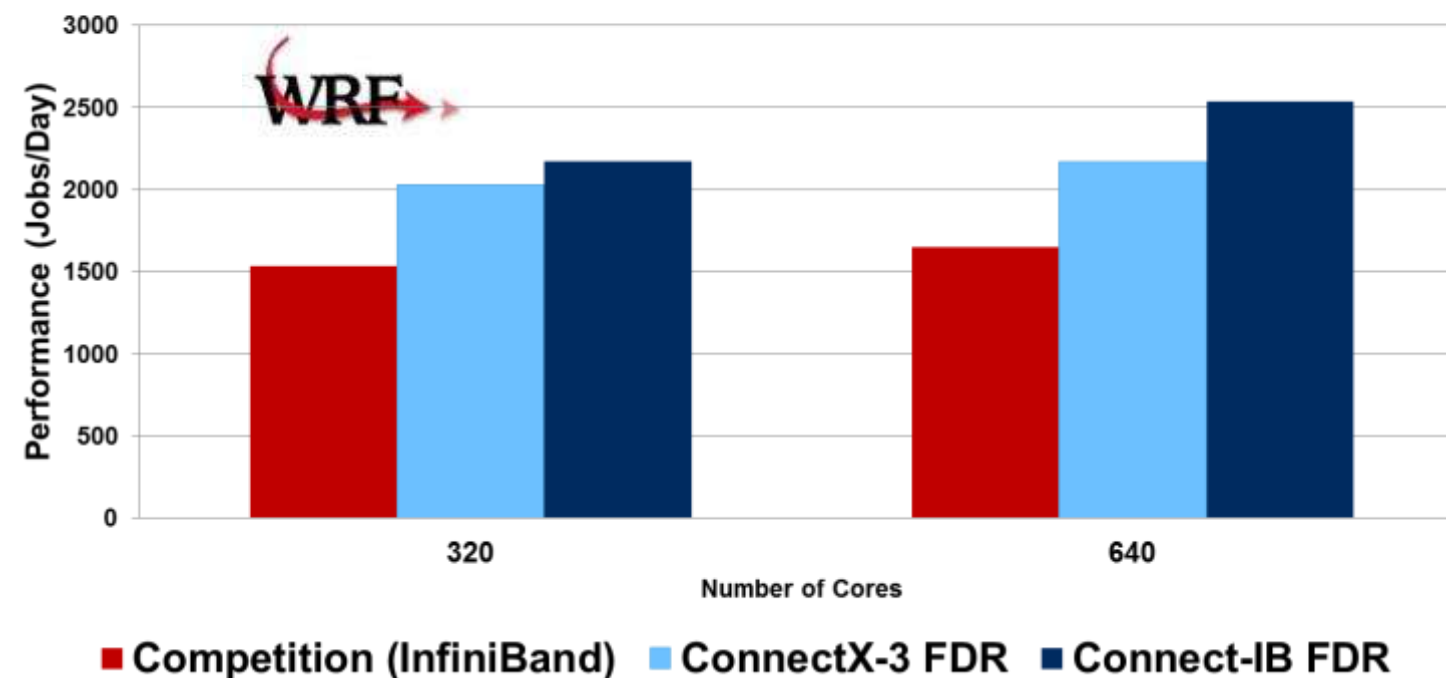


200% Higher Performance Versus Competition, with Only 32-nodes Performance Gap Increases with Cluster Size

WIEN2k Performance



WRF Performance (conus12km)



MPI



OpenSHMEM / PGAS



Berkeley UPC



MXM

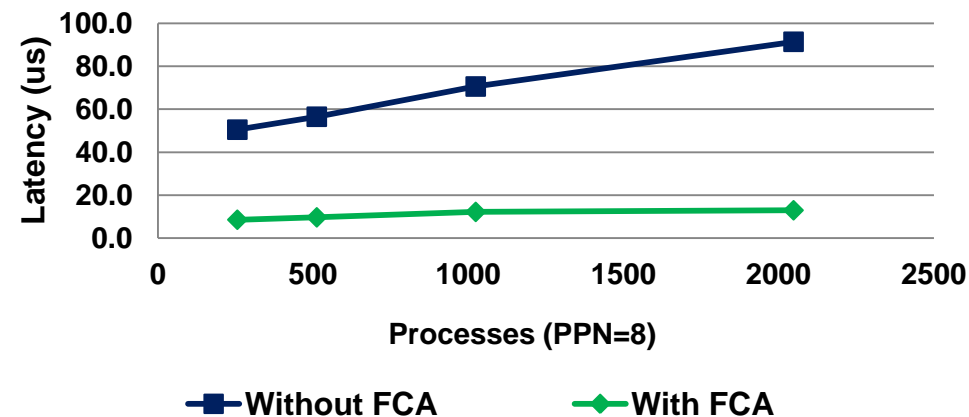
- Reliable Messaging
- Hybrid Transport Mechanism
- Efficient Memory Registration
- Receive Side Tag Matching

FCA

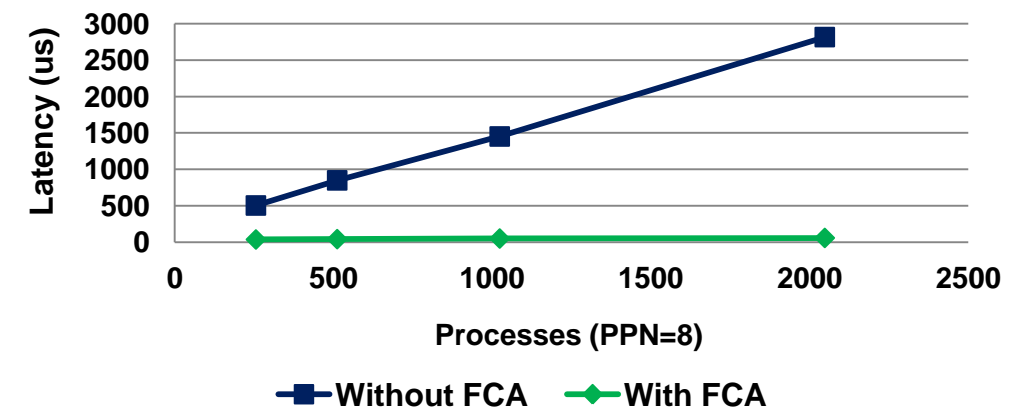
- Topology Aware Collective Optimization
- Hardware Multicast
- Separate Virtual Fabric for Collectives
- CORE-Direct Hardware Offload



Barrier Collective Latency

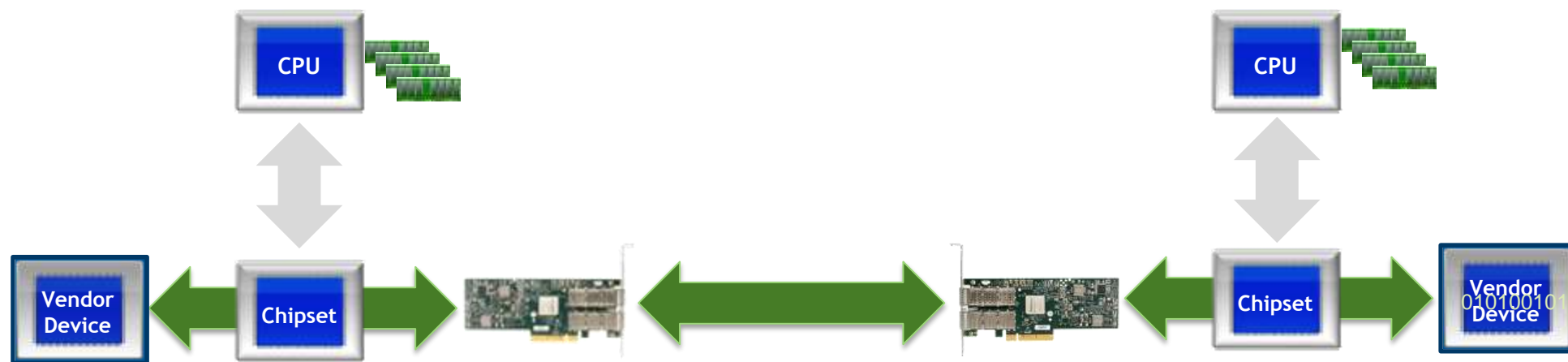


Reduce Collective Latency



PeerDirect is natively supported by Mellanox OFED 2.1 or later distribution
Supports peer-to-peer communications between Mellanox adapters and third-party devices
No unnecessary system memory copies & CPU overhead

- GPUDirect RDMA allows direct peer to peer GPU communications over InfiniBand
- Supports NVIDIA® GPUDirect RDMA and Intel XEON PHI
- Supports IProvides support for other acceleration devices, FPGAs, Storage
- Support for RoCE protocol over Mellanox VPI



Supported with all Mellanox ConnectX-3 and Connect-IB Adapters

Maximize Application Performance

World's Fastest Available Non-Proprietary Interconnect and supporting software!

**Maximize application performance with the underlying hardware architecture
Increase application scalability, user productivity and CPU efficiency**





Thank You