



Windows Edition

BENEFITS

- Single software stack that operates across all available InfiniBand devices and configurations such as Mem-Free, DDR/SDR, PCI-X, and PCI Express modes
- Support for HPC applications for scientific research, oil and gas exploration, automotive, benchmarking, etc.
- Support for EDC applications such as cluster data bases, and financial applications
- Support for traditional IP and Sockets based applications, both over TCP/IP, as well utilizing RDMA and kernel bypass modes for higher performance, lower CPU utilization and lower latency
- Support for high performance block storage applications utilizing RDMA benefits
- Support for cluster management tools

COMPONENTS

- Driver & access layers
- MPI2
- IP-over-IB
- SDP
- WSD
- SRP Initiator
- uDAPL
- Subnet Manager (OpenSM)
- Installation and management tools

InfiniBand Software Stack

WinIB

Overview

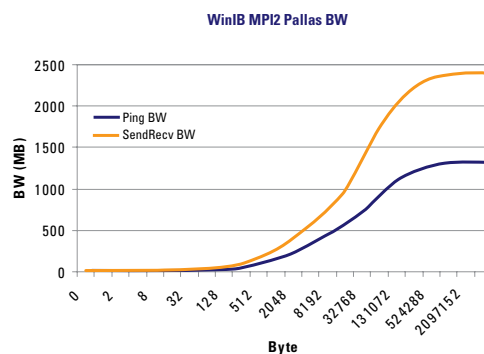
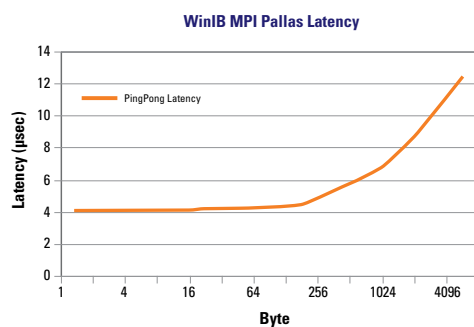
Use of clustered commodity servers, in lieu of traditional supercomputers and mainframes, offers tremendous price/performance benefits and unparalleled flexibility in deployment and long-term maintenance. To enable distributed computing transparently, HPC applications require the highest bandwidth and lowest possible latency. In enterprise data center (EDC) applications, these requirements are compounded with the need to support a large interoperable ecosystem of networking, virtualization, storage, and other applications and interfaces. The WinIB Collection from Mellanox Technologies is designed, packaged and supported to enable OEMs to meet the needs of HPC and EDC applications.

Attain Higher Bandwidth & Lower Latency

For HPC applications, WinIB offers the popular and well-deployed Message Passing Interface (MPI2) implementation. Bandwidth results in excess of 1300MB/s and application latencies lower than 4 microseconds have been achieved.

For traditional TCP/IP and sockets-based applications, WinIB offers a robust and fieldproven implementation of IP-over-IB to enable IP-based applications to work seamlessly over InfiniBand and perform at levels higher than Ethernet. WinIB also includes an InfiniBand implementation of Windows Sockets Direct Protocol (WSD) and the IBTA defined Sockets Direct Protocol (SDP) for enabling traditional TCP/IP sockets-based applications to capitalize on the RDMA and transport off-load capabilities of InfiniBand.

To enable traditional SCSI-based storage applications to enjoy similar RDMA performance benefits, WinIB provides the SCSI over RDMA Protocol (SRP) initiator.



WinIB MPI2 Pallas Benchmark

WinIB-Mellanox InfiniBand Software Stack

DRIVE & TOOLS

- InfiniBand HCA verbs driver
- InfiniBand Access Layer (IBAL)
- InfiniBand subnet management
- MPI-2 (over native InfiniBand) driver
- IPoverIB driver
- SDP driver
- WinSock direct driver
- SCSI RDMA Protocol Driver (SRP)
- User-Level Direct Access Provider Library (uDAPL)
- InfiniBand software stack tools

DEVICE SUPPORT

- InfiniHost HCA silicon
- InifiniHost III Ex HCA Silicon
- InifiniHost III Lx HCA Silicon
- Memory & Memory-free HCA cards
- InfiniScale switch silicon
- InfiniScale III switch silicon

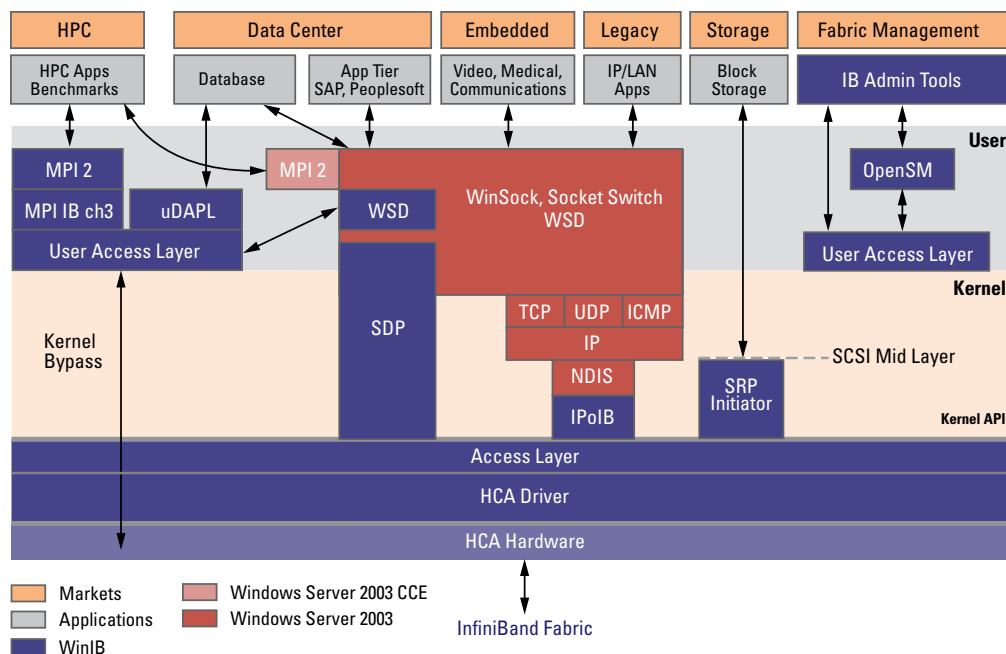
OS SUPPORT

- Windows server 2003 SP1
- Windows Server CCS
- Windows XP SP2

Support for a Large and Interoperable Software Ecosystem

Through its collaboration with OpenIB, support for multiple industry-standard interfaces that enable off-the-shelf applications to work with InfiniBand, and support for popular Windows OS and CPU platforms, Mellanox has created a large, interoperable software ecosystem that benefits the HPC and EDC markets.

As a founding member of OpenIB—the organization chartered with creating interoperable Windows stack for InfiniBand—Mellanox actively contributes software components to this open source community. In addition, Mellanox HCA solutions are used as the gold standard for hardware in OpenIB, and future WinIB versions will include qualified and released versions of the OpenIB InfiniBand stack components.



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