Sun PCI Express Dual-Port Double Data Rate InfiniBand Host Channel Adapters

Industry-leading bandwidth, latency, and ease of deployment

Highlights

- Creates high-performance 10 Gbps and 20 Gbps interconnected server clusters
- Uses the full performance of Sun's PCI Express (PCIe) servers and blades (40 Gbps, full-duplex bandwidth)
- Optimizes performance of your computing and database clusters
- Implements highly available clusters by connecting both ports of the two-port host channel adapters (HCAs)
- Supports two form factors: low-profile PCIe and hot-pluggable PCIe ExpressModule
- Offers the industry's lowest latency data link at data rates of up to 20 Gbps
- Supports InfiniBand (IB) next-generation fabric-wide congestion management with FECN and BECN congestion control mechanisms
- Provides field-upgradable firmware

> The Sun family of PCIe Double Data Rate (DDR) IB HCAs provides the ultimate price/performance for both throughput and low latency for servers with eight lanes of either low-profile PCIe or modular hot-pluggable PCIe ExpressModule form factors.

Low-latency, high-throughput computing-fabrics consolidation, power efficiency, and scalability

As an integral part of Sun's portfolio of high-density, low-latency switches, Sun PCIe IB HCAs support Message Passing Interface (MPI), IP over InfiniBand (IPoIB), Sockets Direct Protocol (SDP), and SCSI RDMA Protocol (SRP). SDP and SRP use Remote Direct Memory Access (RDMA) to support the most demanding high-performance computing and storage applications.

Sun PCIe IB HCAs offer the necessary building blocks for designing leading price/performance server and storage connectivity solutions for today and tomorrow. Service-oriented I/O ensures scalable and granular quality of service for a converged set of datacenter applications, in both native operating system and virtualized server environments. Multiple network and storage connectivity options on a single Sun PCIe IB HCA enhance the deployment options and time to solution. End users can use ConnectX-based solutions for incremental and demand-based I/O growth and scaling.

Sun PCI Express Dual-Port Double Data Rate InfiniBand Host Channel Adapters Specifications

Learn More
To learn more about the Sun PCI Express Dual-Port DDR InfiniBand HCAs, go to: sun.com/networking

Functional highlights

- TCP, UDP, IP checksum offload
- Large send offload
- Receive side scaling
- Split header and payload processing
- Multiple send and receive queues
- Interrupt moderation
- PCIe MSI-X
- Remote DMA
- Reliable and unreliable connected mode

Sun PCIe Dual-Port DDR IB HCA Low-Profile Adapter

Standard low-profile adapter dimensions

Sun PCIe Dual-Port DDR IB HCA ExpressModule Adapter

Single-wide PCIe ExpressModule (108mm x 168.2mm)

OS Support

Operating systems

- Solaris™ 10 OS SPARC® Update-10 and higher
- Solaris 10 OS x86 Update-10 and higher
- Solaris 10 support available in Q2CY2008
- Red Hat Enterprise Linux 4 U5
- Red Hat Enterprise Linux 5/5.1
- SUSE Linux Enterprise Server 10 SP1
- Windows OFED 1.2.5 and higher

Interconnect system

Key applications

- Clustered database
- IB grid architectures
- High-performance compute clusters
- Storage solutions
- Port-to-port latency: 700 ns
- Congestion control with FECN and BECN
- Data virtual lanes: eight
- Regular bracket low-profile card with bracket
- Short bracket low-profile card with bracket
- Bracket dimensions are PCI CEM-compliant: 2.5 in. x 6.6 in.
- Management virtual lanes: one
- MTU: 4,096 bytes

Compatibility

InfiniBand: IBTA v1.2 compatible design

Network protocol support

- IPoIB
- uDAPL (User Direct Access Programming Library)

Connections

Two 4x IB copper ports for connecting IB traffic (4x IB connectors); each 4x port supports 10 Gbps traffic on SDR and/or 20 Gbps traffic on DDR

Environmental

- Power: 12 V, 3.3 V
- Maximum power: 12 W
- Temperature: 0° C to 55° C

Regulations

Regulatory compliance: EMC: 47CFR part 15:2005, subpart B, Class B; ICES-003:2-4 Issue 4, Class B; VCCI V-3/2005.04, Class B; EN 55022:1998+A1(00)+A2(03), Class B; EN 55024:1998+A1(01)+A2(03)

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