



## TOPSPIN INFINIBAND HOST CHANNEL ADAPTER

### BENEFITS

- Create high-performance 10Gbps server clusters
- Enable unified fabric for IPC, SAN, and LAN
- Manage easily via Topspin Management Framework

### FEATURES

- Full suite of integrated InfiniBand protocols
- Two 10 Gbps InfiniBand ports
- Part of integrated Topspin Switched Computing System

THE TOPSPIN 10GBPS HOST CHANNEL ADAPTER OFFERS HIGH-PERFORMANCE CONNECTIVITY TO INFINIBAND-BASED SERVER CLUSTERS. AS AN INTEGRAL PART OF THE TOPSPIN SWITCHED COMPUTING SYSTEM, THE TOPSPIN HOST CHANNEL ADAPTER CREATES A UNIFIED FABRIC FOR COMBINING IPC, NETWORKING, AND STORAGE COMMUNICATIONS.

### OVERVIEW

The Topspin 10Gbps Host Channel Adapter (HCA) allows servers to participate in high-performance server clusters. Designed for use as part of the Topspin Switched Computing System, the Topspin 10Gbps HCA ensures end-to-end compatibility, performance tuning, and ease of management.

can communicate between cluster nodes and application nodes at the same time that storage is accessed across virtual interfaces (SCSI remote protocol, or SRP), optimizing total transactions per second. Protocols have been designed from the ground up to complement each other.

### MULTI-PROTOCOL SUPPORT

Topspin 10Gbps HCAs support all important InfiniBand protocols necessary to build a server cluster. This includes (IPoIB, SDP, SRP, uDAPL, VI, and MPI protocols. This comprehensive protocol support provides flexibility to build server clusters for a wide range of applications.

### UNIFIED FABRIC

By creating one unified fabric for all types of networking traffic, including inter-process communication (IPC), network, and storage, IT managers can build modular systems with virtualized I/O, reducing the number of ports and associated management pain. The 10Gbps HCA creates two 10Gbps connections from the server to the Topspin Switched Computing System. The Topspin Switched Computing System provides a high-bandwidth, low-latency interconnect to the HCA-enabled servers as well as Ethernet and Fibre Channel expansion gateways for interconnecting the servers to existing local area networks (LAN), wide area networks (WAN), and storage area networks (SAN).

### UNIFIED MANAGEMENT

As part of the complete Topspin switched computing solution, the 10Gbps HCA simplifies management by integrating with the Topspin management framework. Administrators can leverage existing management frameworks using native SNMP support, reducing management time and total cost of ownership.

### UNIFIED DRIVER ARCHITECTURE

With the Topspin system architecture, protocols are optimized to run simultaneously on the same host. For example, paralleled databases



## TECHNICAL SPECIFICATIONS

### GENERAL

Form Factor	PCI short and low form-factor PCI-X (Rev 2.3)
RAM	128 MB
Temperature	<b>Operating</b> 0°C to 50°C <b>Storage</b> -20°C to 70°C
Humidity	<b>Operating</b> 20 percent to 80 percent non-condensing <b>Storage</b> 5 percent to 95 percent non-condensing

### INFINIBAND

InfiniBand Processor	InfiniHost MT23108
InfiniBand Support	InfiniBand v1.1 compatible design InfiniBand native layer-4 hardware acceleration Hardware support for all InfiniBand transport mechanisms
Virtual Lanes	Support for eight data VLs plus the VL15 management lane
Queues	Support for up to 128 K queue pairs
InfiniBand Ports	Two 4X InfiniBand ports for redundancy
Automatic Link Speed	1X or 4X InfiniBand
MTU	Programmable MTU Sizes to 2K Bytes
Flow Control Error Checking	Hardware credit-based link level flow control Large on-chip InfiniBand port buffers Hardware CRC checking and generation

### MANAGEMENT

Network Management	Easy configuration and maintenance in-band over IPoB: <ul style="list-style-type: none"><li>• Java-based Element Manager GUI</li><li>• Standard MIBs (e.g., MIB II)</li></ul>
Software Drivers	Support for IPoB, SDP, SRP, uDAPL, VIPL, and MPI. Platforms include Linux and Windows 2000
Management Framework	Supports: <ul style="list-style-type: none"><li>• SNMP for management framework integration</li><li>• Integrated SMA and GSA</li></ul>

### PCI-X COMPLIANCE

InfiniBand Standard	InfiniBand v1.1 compatible design
PCI-X	PCI-X compliance
PCI Compliance	PCI 2.2 (PCI local bus certification) and PC99 compliant

### FAMILY OF PRODUCTS

The Topspin Host Channel Adapter is available as part of a complete Topspin Switched Computing System.



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