

DXH510 PCI Express Host Adapter



The Dolphin DXH510 PCI Express Adapter Card is an industry standard, high-performance interconnect solution for server systems, clustering and embedded applications. These low cost cards are a key components to building high performance multiprocessing configurations for clustering computers, creating high performance systems based on reflected memory or shared memory, and database applications based on Oracle, MySQL and other databases.

The Dolphin PCI Express Cards provide extremely low latency combined with high bandwidth offering users major improvements in application performance and scalability. The DXH510 offers 10 Gbits/s link speed (bi-directional) that makes it an ideal platform for moving large volumes of data from system to system. For even higher bandwidth the DXH510 comes with two bi-directional ports effectively doubling the throughput to 20 Gbits/s. The ultra low .95 microseconds application-to-application latency reduces overhead of inter-node control messages, leading to the best possible scalability for multi-node applications. The low latency, low overhead and functional flexibility makes the DXH510 an ideal choice for Real-Time embedded applications.

The superior performance of Dolphin's technology is achieved by taking maximum advantage of Dolphin Express architecture with its fast point-to-point links that bypass time consuming operating system calls and protocol software overhead, required by traditional approaches. The DXH510 links apply 8b/10b encoding and CRC checking to ensure data integrity. With the use of both ports and a redundant switch configuration the DXH510 can be used to enhance fail-over performance and increase fault tolerance, ultimately reducing down-time and cost.

Dolphin offers comprehensive software support including its well proven SISC API for easy management of share/reflective memory systems and Dolphin SuperSockets™ for Linux and Windows. Dolphin SuperSockets™ API enables increased application performance and reduced time to market by transparently accelerating linux and windows socket applications.

Features

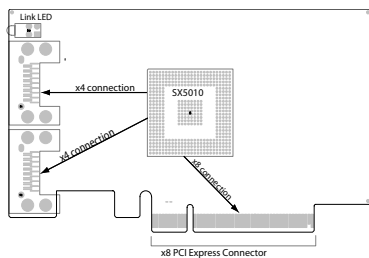
- High performance PCI Express 1.1 compatible
- Host adapter for cabling low cost PCs and servers to high speed I/O, create cluster environments or mixed cluster and I/O systems
- Two 10 Gbps ports provides flexibility to connect as a single 20 Gbps connection or two 10Gbps connections
- RDMA support (PIO and DMA)
- Provides both copper and fiber optic cabling options
- Provides connectivity up to 10 meters via copper cabling and 300 Meters with fiber optic cabling
- Supports spread spectrum clocked servers and workstations
- Supports reflected memory and remote memory access with DXS410 switch
- Transparent connection to I/O devices with the DXE410 Expansion Chassis
- Low Profile form factor ensures compatibility to low cost servers and workstations requiring low profile cards (contact Dolphin for additional form factors)

Specifications

Link Speeds	40 Gbit/s
Application Performance	1 microsecond latency (application to application)
Active Components	IDT PES24NT6AG2 x8 Gen 2 PCI Express Chip
PCI Express	Base Specification 2.1
Topologies	Point to point, Switched
Cable Connections	iPass™ connector to PCI Express Copper Cables -up to 5 meters
Power Consumption	7 watts
Mechanical Dimensions	PCI Express Card Electromechanical Specification 2.0
Operating Environment	Operating Temperature: 0°C -55°C Relative Humidity: 5% -95% non-condensing
Dolphin Software	SuperSockets™ Berkley Sockets API Microsoft WinSock2/LSP support SISCI API
Safe Boot configuration Mode	Two
Regulatory	CE Mark, commercial FCC Class A
Operating Systems	Windows XP, Windows 2003, Windows 2008, Windows Vista, and Windows 7 Linux VxWorks

Configurations

IXH610



Data Node



Data Node

Two Node Configuration

Data Node



Data Node

Switched Configuration

Data Node



Data Node