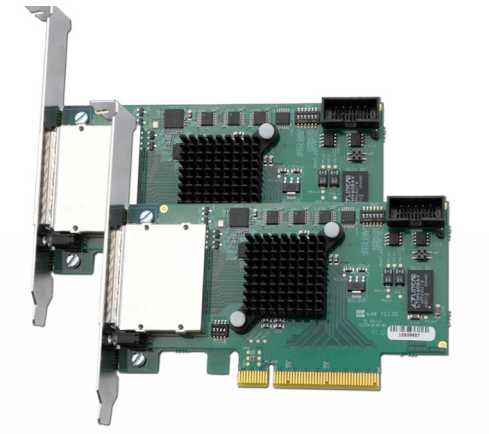
PCI EXPRESS GEN 2 EVALUATION KIT

BASED ON IDT® LOGAN CHIPSET



Dolphin's PCI Express development kit is designed to support the evaluation, development, and deployment of PCI Express Gen 2 solutions. The kit includes IXH610 host adapters, software and test programs, targeted at customers seeking the advantages of PCI Express without changing their current software infrastructure and development environment. This comprehensive solution is based on years of Dolphin software development on shared memory application, Sockets application performance improvements, and standard TCP/IP application support.

PERFORMANCE EVALUATION

Performance evaluations are based on several aspects including both hardware and application performance. With Dolphin's evaluation kit, users are able to evaluate the performance of multi root PCI Express Gen 2 and its benefits over alternative technologies, such as Ethernet, Infiniband and other proprietary interconnects. In terms of hardware performance, Dolphin includes tools to evaluate PCI Express for both latency and data throughput. Dolphin's tools and test applications enables system designers to look at DMA bandwidth over cabled PCIe, shared memory ping pong latency between two systems, PIO write bandwidth, messaging latency, and remote system interrupt latency.

Dolphin's software includes full support for standard TCP/IP, WinSock2 and the Berkeley sockets interface for running benchmarks and real applications. All application benchmarks come in both binary and source form. The optimized TCP/UDP/IP driver and the Berkeley Sockets compliant Dolphin SuperSockets™ driver enable all networked applications to utilize the 40 Gigabit performance of PCI Express. Dolphin's SuperSockets™ software removes significant parts of the system overhead and cost inherent in the TCP/UDP/IP protocol, resulting in socket latency as low as 3 microseconds. This plug and play solution is compliant with user space applications or kernel services utilizing the Linux kernel socket interface. For redundancy, SuperSockets™ comes with built in fail over that transparently switches communication over to Ethernet if the PCI Express cable is unplugged.

APPLICATION DEVELOPMENT

If developing an embedded application, Dolphin provides a Shared-Memory Cluster Interconnect (SISCI) API. The SISCI software comes with an extensive set of demo and example programs to demonstrate and develop shared memory applications based on PCI Express non-transparent bridging (NTB). The example programs are easy to understand and modify. The API can be used as a starting point for porting your own application to PCI Express shared memory. Other configurations can be tested with Dolphin's IXS600 8 port switch based on IDT®'s PES64H16G2 chipset or form factor boards such as the IXH620 XMC board.

Kit Contents

- Two IXH610 Host Adapters X8 PCI Express - 40 Gbit/s
- One 1 meter PCI Express x8 cable
- Software and documentation included in kit:
  - Dolphin SuperSockets™ software , Linux 2.6
  - Dolphin SuperSockets™ software, Windows XP-7 (32-64 bit)*
  - Dolphin SiSCI developers kit, Linux 2.6
  - Dolphin SISCI developers kit, Windows XP-7 (32-64 bit)*
  - IXH610 Users manual
  - Linux drivers
  - Dolphin Data Sheets
- Demo Benchmarks:
  - SCIbench2 - Shared memory PIO write bandwidth over PCIe Cable
  - scipp - Shared memory ping pong performance between two systems
  - dma_bench - DMA bandwidth over PCIe cable
  - intr_bench - remote system interrupt latency over PCIe cable
  - scilib_bench - optimized messaging latency
  - latency_bench - network latency, over Ethernet or Dolphin Supersockets™ or TCP/IP

*Note: Windows support available Q2'2011

IDT Based on IDT® Technology

Specifications

Link Speeds	40 Gbit/s
Application Performance	0.81 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	One x8 Standard PCI Express Copper Cables
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 EN55022, EN55024-A1&A2, EN61000-6-2 FCC Class A
Operating Systems	Windows XP, Windows 2003, Windows 2008, Windows Vista, and Windows 7 Linux VxWorks
Product Codes	IXB280

Configurations