



D341 and D342 CompactPCI-SCI Adapter Card

For clustering, SANs, networking and bus bridging



FEATURES AND BENEFITS

- PICMG® 2.0 R3.0 and 2.1 R2.0 compliant, 64 bit/66 MHz
- ANSI/IEEE 1596-1992 Scalable Coherent Interface (SCI) compliant
- ANSI/IEEE 1159.1 (JTAG) support
- Industry lowest latency and high data throughput efficiently support scalable clustering applications
- High-availability operation with support for redundant cPCI-SCI Cards
- Application-level latency as low as 1.4 μ s using remote shared memory access from application to remote-application memory
- Supports both direct memory access (DMA) and programmed remote memory access (RMA)
- Based on latest Dolphin SCI chip technology, LC3 and PSB-66 with 128-byte packet support
- Supports one or two SCI links

The Dolphin CompactPCI-SCI Adapter Card is a standard, high performance solution for clustered systems, bus bridging and system area network applications. The D341/D342 Adapter Cards are general purpose interfaces for connecting cPCI-based systems through SCI (Scalable Coherent Interface) links, and provide a transparent memory-mapped link. The adapters are used in applications such as computer clusters, system area networks, networking, I/O, fat pipes and for bus bridging. The cards are compatible with the D331 PCI-SCI Adapter Card and the 8-Port Expandable Modular X-Bar SCI Switch, D535.

SCI's industry-leading throughput and low latency result in outstanding application performance and scalability. Its 1.333 GBytes/s link speed (bi-directional) makes SCI excellent at moving large volumes of data. The ultra-low 1.4 microsecond latency application-to-application reduces the overhead of inter-node control messages, leading to the best possible scalability for multi-node applications.

The superior performance of the Dolphin cPCI Adapter Card is achieved by taking maximum advantage of the SCI standard with its fast point-to-point links and bypassing of time consuming operating system calls and protocol software overhead required in networking approaches.

For high-availability requirements, the SCI standard provides hot-swappable connections. Plus, with the use of redundant cPCI-SCI Adapter Cards this technology can be used to enhance fail-over performance and increase fault tolerance, ultimately reducing downtime. Large clusters can be built using Dolphin Interconnect Adapter Cards combined with a range of scalable switches. Dolphin Interconnect also offers comprehensive software support, including the open source (GPL) SISCO API currently available for a variety of popular operating systems.

D341 and D342 Application Examples

Technical Specifications

Product Code

D341 1D configuration (one SCI link)
D342 2D configuration (two SCI links)

Link Speeds

667 MBytes/s (1.333 GBytes/s duplex)

Performance

Up to 326 MBytes/s throughput (depending on the PCI chipset)
1.4 microsecond latency (depending on the PCI chipset)

SCI Link Standard

ANSI/IEEE 1596-1992 scalable coherent interface (SCI)

CompactPCI® Specification

PICMG®2.0 R3.0 Hot Swap Specification

Topologies

Ring and switch topologies

Physical Specifications

Cable Connection

Parallel STP copper cable (0.2-10m)

Power Consumption

Static 6W, dynamic 7W

Mechanical Dimensions

3U CompactPCI card

Operating Environment

Operating Temperature: 0° C – 55° C
Relative Humidity: 5% – 95% non-condensing
Altitude: 0 – 3000 meters

Software Support

Dolphin provides SDKs and drivers that support a variety of operating systems, including Windows 2000/NT/XP, Solaris, Linux, Lynx, Tru64 Unix and VxWorks. Please refer to the Downloads section of the Dolphin Interconnect web site for the latest information and downloadable software at www.dolphinics.com.

Chipset Support

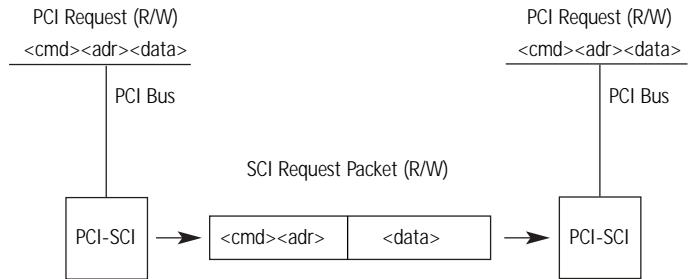
The PCI chipset will influence your system performance. While some chipsets only support a 32bit 33MHz bus, others support wider, faster buses. Dolphin PCI adapter cards work on all types of PCI chipsets and hostbridges, but not all chipsets are equally suited. Please refer to the Support section of the Dolphin Interconnect web site for the latest information at www.dolphinics.com.

Dolphin Interconnect Offices

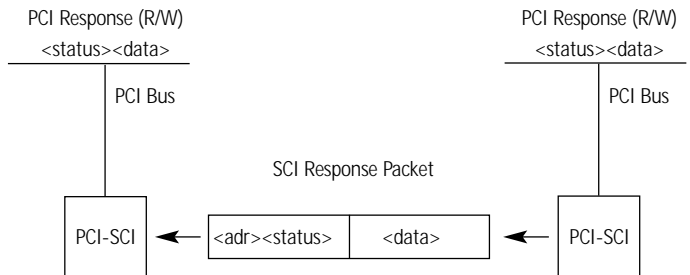
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Request path between modes



Response path between modes

The cPCI-SCI Adapter Card provides highly reliable throughput, low latency, and a transparent, memory-mapped link between PCI/CompactPCI/cPCI-based computers and workstations and embedded systems such as VME bus computers. The physical transport is

based on the scalable coherent interface (SCI) protocols defined by the ANSI/IEEE 1596/1992 standard. The basic PCI configurations are served by using the Dolphin PCI-SCI Adapter Card, PCI-64/66. PMC slots are served by using the Dolphin PMC-SCI Adapter Card.

