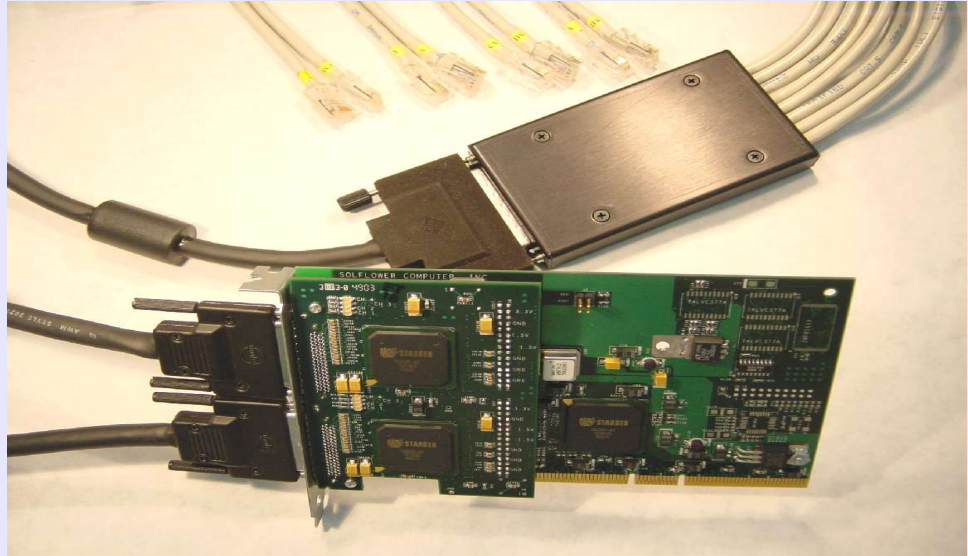


Switched-PCI is a new interconnect architecture based on high speed serial links. It moved away from shared parallel bus to a 2.5Gbit/s full duplex link.

Switched-PCI provides a true dynamic, high performance and scalable PCI-PCI expansion including path routing and multicasting features.

Investment made today at the Switched-PCI technology can have a smooth evolution to tomorrow PCI Express Advances switching and beyond.

Enhances your Sun Workstation with powerful advanced features of StarFabric® Serial Links



Switched-PCI solution from Solflower Computer, Inc. provides powerful advanced interconnect features to PCI-based Sun Workstation. Based on the StarFabric® technology, systems can be expanded through serial links to multiple PCI nodes, the same topology that will be deployed in PCI Express™ & Advanced Switching technology.

SPCI is a single PCI card to eliminate the hierarchical nature of I/O bridges by converting parallel I/O bus to a high speed point-to-point serial link. Fabric-PCI is a dynamic and powerful switched fabric interconnect architecture that provides new levels of performance, scalability, and availability to a wide range of systems. In addition to the PCI-PCI transparent bridge mode, StarFabric supports multiple classes of high-speed data traffic including legacy path routing, and multicasting.

Low latency bus transaction, scalable configuration and compatible drivers for Solaris OS are key features of the Solflower Switched-PCI products.

Hardware features:

- Fully compatible to PCI-PCI Architecture Specification, rev 2.2.
- Extend existing PCI-based systems distances across the rack up to 15' via CAT5 cable.
- Up to 256 PCI slots at 33/66MHz.
- Support 32/64bit, PCI, PMC, 6U CompactPCI and 6U VME format.
- 3.3V and 5V tolerant I/O interfaces.
- Two 2.5 Gbps, full-duplex StarFabric serial links.

Software features:

- Integrates with Sun's PCI and cPCI software subsystems, resulting in a transparent environment for running PCI or cPCI devices.
- Bus segments may be taken ON or OFFLINE, even to the point of powering them on or off.
- Dynamic addition and removal of software instances of devices.
- Multicast Groups allow data from a source edge node to be propagated simultaneously to multiple destination edge nodes.
- Graphical user interfaces for easy maintenance and services.

Performance:

- Interswitch bandwidth varies from 58MB/s to 188MB/s

Switched-PCI Technology

StarFabric switched-PCI architecture is a high speed point-to-point switched, chassis-to-chassis interconnect solution for scalable and high available I/O subsystems. It can be used to create a series of modular expansion chassis in a rack just by extending the cable up to 15 feet away.

Switched-PCI controller is 100% compatible to the CompactPCI Hot-Swap specification rev 1.0 and allows I/O subsystems be added "live" within a group with no system interruption.

Fabric Software Description

Solflower's software support for the Stargen 2010 and 1010 devices enables and simplifies their use under the Solaris 8 or 9 operating system. Libraries and the device driver export methods to user applications programs for configuring, managing, and accessing Stargen fabric-connected PCI buses and devices.

To summarize what the software does, it provides to the user methods to

- discover the topology of the attached Stargen fabric;
- configure the attached PCI devices;
- construct point-to-point connection graphs representing the edges of the Stargen fabric;
- aggregate these connection graphs into multicast groups;
- create user memory maps to connection graphs or multicast groups;
- manage the resultant connection graphs, multicast groups, and user maps;
- provide access to these edges via memory reads and writes.

Software Support

GUI-Manager

PCI Device Driver
VME Device Driver

Solflower – Switched PCI Nexus Driver

Solaris 8 or 9

Graphical user interface for display and control of devices attached to the SPCI ring;

Remote SPCI system console

Device online

Device offline

Device discovery

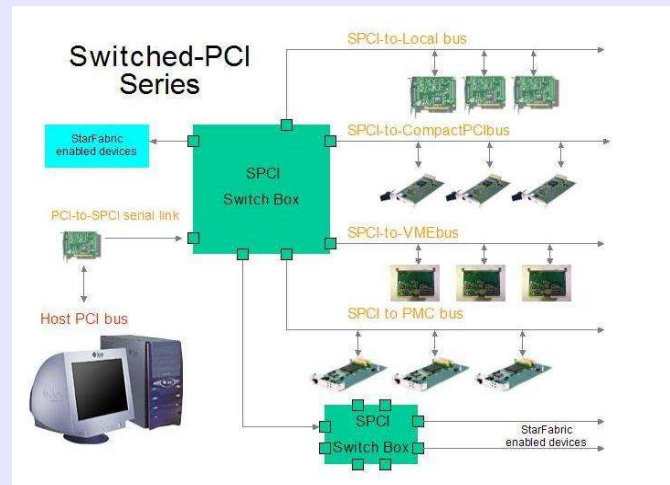


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Applications

Solflower's Switched-PCI product seamlessly upgrades conventional PCI-PCI bridge expansion while leaving all existing PCI hardware and software intact. It also allows a PCI-based Sun Workstation running Solaris OS to connect to a VME or a CompactPCI or a PMC subsystem via a pair of CAT5 serial link cable.

The SPCI series can be useful wherever high bandwidth or additional PCI slots are required, mainly in applications of high availability or multicast writes.



Compliance

PCI Local bus Spec Rev 2.2

PCI-PCI Bridge architecture Sparc Rev 1.1

Compact PC Spec rev 2.1

CompactPCI Hot swap specification Rev 1,0

Products & Part Numbers

050-PCI	PCI card to StarFabric serial link
050-PMC	PMC card to StarFabric serial link
050-cPCI	StarFabric serial link to CompactPCI 6U
050-VME	StarFabric serial link to VME 6U
050-6EX	6-node fabric switch box
050-CBL-C15	15' CAT5 cable
050-CBL-C6	6' CAT5 cable
050-DRV	Solaris 8 device driver