

Application: Ethernet Switch for enterprise & Blade Servers
Pericom Device: PI7C8150A – Enhanced PCI-to-PCI Bridge

Overview

Ethernet is the most popular used interconnect on the planet. Ethernet interconnects every workplace or home to the Internet especially in the backbone. This popularity continues as the enterprise network traffic increases. There are new applications that are making us more dependent on the Ethernet interconnect. This includes the Storage Area network, which allows multi-interconnected servers to access the same storage device. Video and Audio streaming from multiple TV and Radio stations. Network based corporate training. Voice over IP PBXs, which are switching the traffic from the Public Switched Telephone Network to the Internet Protocol. This popularity of the Ethernet interconnect is increasing the need for PCI to PCI bridges. This is true especially today where all of the Ethernet chips have PCI as the main interface. The PCI bus connects the Ethernet chips to the CPU. This application drawing below is used on a standalone 10 G switch and as a blade. This blade can be one of the blades in a Blade server chassis. The 10 G switch blade is used to interconnect the Blade servers.

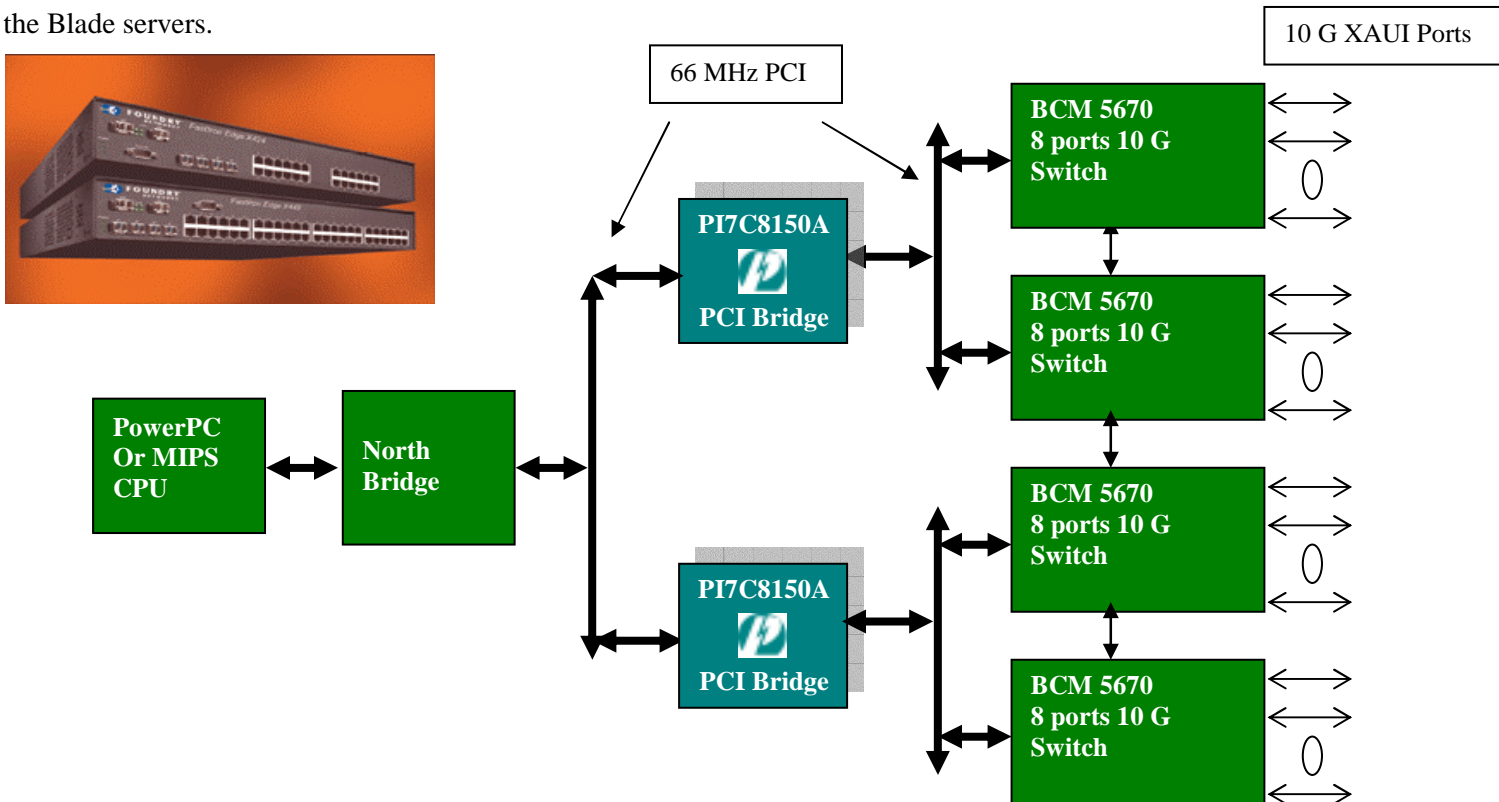
Pericom’s Solution

The PI7C8150A device is key in this application. The bridge is used to add as many Ethernet switches as needed. The example below is a simple application, as some customers have used as many as four bridges because they have up to 8 Ethernet switches on one board. The bridge is used in the Control plane. It is used to configure the Ethernet switches as well as to route and Process the Control Ethernet packets. Pure data packets and data traffic goes only on the data plane

Why is the PCI to PCI Bridge a Must?

The PI7C8150A device is key in this application because:

- This application requires many Ethernet switches four to eight of them
- Most Ethernet switches in the market are PCI based. They use the PCI bus to connect the switches to the CPU and to configure them.



Key Features & Specifications

- PI7C8150A
 - 32-bit/66MHz Primary and Secondary Ports
 - Compliant with the following specifications:
 - *PCI Local Bus Specification, Revision 2.2*
 - *PCI-to-PCI Bridge Architecture Specification, Revision 1.1*
 - *Advanced Configuration Power Interface (ACPI) Specification*
 - *PCI Power Management Specification, Revision 1.0*
 - Concurrent Primary and Secondary port operation
 - Two 128-byte FIFO's for delay transactions
 - Two 128-byte FIFO's for posted memory transactions
 - Packages:
 - 208-pin QFP package
 - 256-pin BGA package
 - Extended commercial temperature support
 - 0°C to 85°C
 - Pin Compatible with the Intel 21152

Key Benefits

- For PCI bus expansion and speed isolation
- Extended Commercial Temperature range
- Enhanced Performance

Cross-Reference

Pericom	Competitor	Pericom Advantage
PI7C8150A	<u>Intel:</u> 21150*	Extended Temperature Support
PI7C8150A	<u>PLX / Hint:</u> PCI6150-66PC HB4	BGA package Extended Temperature Support
PI7C8150A	<u>TI:</u> PCI2050	BGA package Extended Temperature Support

**Intel's sent an EOL notice for this part last year. Last shipments are scheduled for December 2003.*

Additional Information

- Website
 - Datasheets, Product Presentation, IBIS models, Application Notes, BSDL File, Schematics, Errata, Reliability Report, Quality & Package Data, literature
- <http://www.pericom.com/products/pci/psempart.php?productID=PI7C8150A>

Contact Information

Please contact your local Pericom Sales Representative or franchised distributor. Contact list provided on the web: <http://www.pericom.com/contact/>

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