

PEX 8524 Key Features

- ◆ 24-lane PCI Express switch
- ◆ Integrated SerDes
- ◆ Up to six configurable ports (x1, x2, x4, x8, x16)
- ◆ Quality-of-Service with 2 Virtual Channels/port
- ◆ Non-blocking switch fabric with full line rates
- ◆ Peer-to-peer switching and host centric data transfer
- ◆ SHPC r1.1 compliant hot-plug controller on all ports

PEX 8524 Other Features

- ◆ Selectable Non-Transparent bridge port
- ◆ Compliant with PCIe base specification r1.0a
- ◆ End-to-end CRC and Poison bit support
- ◆ Basic and Advanced error reporting
- ◆ Hardware fixed and Round Robin packet queue arbitration
- ◆ JTAG boundary scan
- ◆ Link power management states
- ◆ 256 byte maximum data payload size
- ◆ Lane and polarity reversal
- ◆ Configuration through host or optional EEPROM

Application:

Embedded Systems

PLX Product:

PEX 8524 – 24-Lane PCI Express Switch

Key Benefit:

Expands PCIe Ports & End Points

Embedded Systems

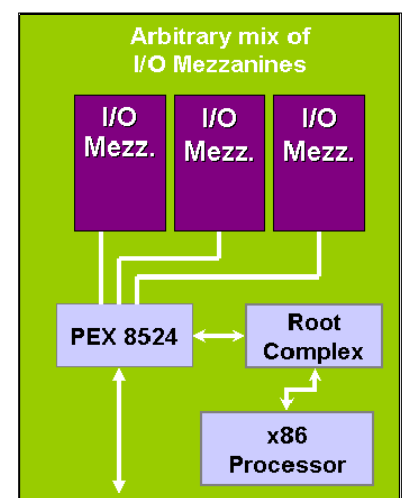
The x86 architecture-based systems started migrating to the PCI Express (PCIe) technology over a year ago. Microprocessors, I/O devices, software, test equipment and systems with PCIe technology are available off the shelf now.

The root complex devices from companies like Intel, Nvidia and VIA offer a fixed number of PCI Express ports. The latest RISC-based microprocessors from Freescale, AMCC and PMC Sierra also include a fixed number of PCI Express ports.



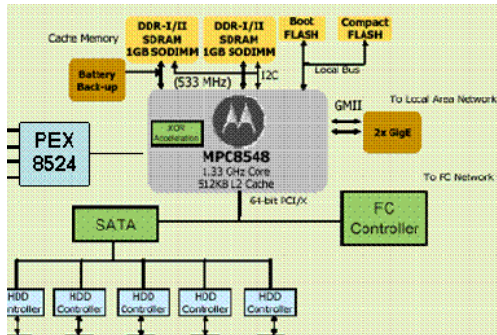
Switch Expands Number of PCI Express Ports

By using one of the ExpressLane™ PCI Express switches available today from PLX Technology, embedded system designers can cost effectively expand the ports available on the processor or root complex to differentiate from competition or to scale the product performance to the next level. Flexibility of the PLX switches allows designers to adapt to the needs of the application to be served rather than being handicapped by the limitations of the components. For example, the PEX 8524 switch offers flexible ports that can be configured in any legal combinations up to x16 wide as long as a user does not exceed the total number of available ports and lanes.



Flexible Switch Offers Many Options

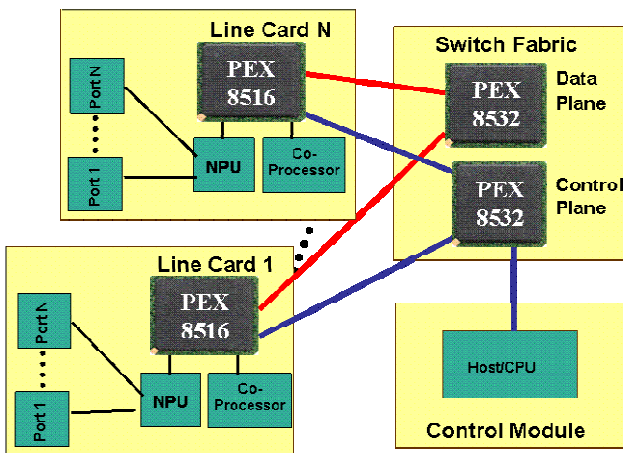
The PEX 8524 PCI Express Switch offers 24 lanes which can be configured in six flexible ports. The combination of flexibility and rich feature-set allows PEX 8524 to be utilized in a wide array of applications with a variety of processors.



The PEX 8524 can be connected directly to the Freescale MPC8548 or PMC Sierra's RM11200 processor without the need of a "Root Complex" device, as shown above. The switch would allow designers to fan-out x8 port on the microprocessor to four or five downstream ports with desired widths.

PCI Express Switch Availability

PLX Technology offers many PCI Express switch products including 8-, 16- and 32- lane devices. Here is an example of using the 16-lane PEX 8516 and 32-lane PEX 8532 in a router application.



The non-transparent bridging feature of ExpressLane Switch devices allows the design of complex embedded systems with multi-processor or failover capability.

Switches Available Today

Three of the four PCI Express switches listed below are available today.

Device	Lanes	Ports	Availability
PEX 8532	32	8	In Production
PEX 8524	24	6	Sampling now
PEX 8516	16	4	In Production
PEX 8508	8	5	Samples in Q4-05

More than Just Fan Out

- Hot-Plug Support
- Two Virtual Channels
- Non-transparent bridging
- Pin Compatible Path to Future Low Cost and Higher Performance Devices

Design Tools & Documentation:

On PLX Public ToolBox:

http://www.plxtech.com/products/pci_express/PEX8524/default.asp

Data Book, Application Notes, Product Brief, Hspice Model, simulation model, Development Kit

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