

## PCI 6150 Key Features

- ◆ Asynchronous Bridging
  - 25MHz to 66MHz
- ◆ Large 1kB FIFO
- ◆ PCI 3.0 Compliant
- ◆ Programmable Prefetch
  - up to 256 bytes
- ◆ Zero Wait State Burst to 4 kB

## Other Features

- ◆ 17 mm x 17 mm BGA Package
- ◆ 31 mm x 31 mm PQFP Package
- ◆ Pin Compatible with Intel 21150
- ◆ 3.3V signaling, including 5V input signal tolerance and fast PCI buffers
- ◆ Upstream & downstream posted write buffers (256 bytes each)
- ◆ Upstream & downstream read data buffers (256 bytes each)
- ◆ Supports up to four simultaneous posted write transactions & four simultaneous delayed transactions in each direction
- ◆ Optional flow-through enable allows for customization
- ◆ Out-of-order delayed transactions
- ◆ Ten secondary clock outputs with pin-controlled enable and individual maskable control to nine bus masters on secondary interface support
- ◆ External arbiter or programmable arbitration for up to nine bus masters on secondary interface support

## Application:

### *Multi-service Access Router*

## PLX Product:

### *PCI 6150 – Asynchronous PCI Bridge*

## Key Benefit:

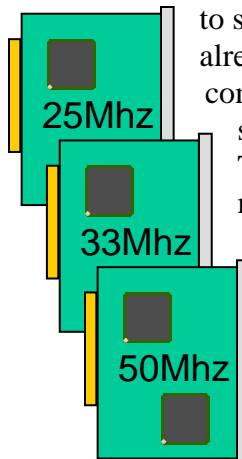
### *Supports Legacy Add-in Modules/Cards*

## New Routers Need to Support Legacy Cards

As the internet continues to grow, so does the demand for the next generation of routers.

As they are deployed there is a need for them to support the legacy modules already in place. PCI is still commonly used in these

systems for the control bus. The PCI bus on these cards may operate at different frequencies like 25, 33, 50, and 66MHz. To support all these frequencies the system will need to isolate to prevent “fall back” and provide asynchronous capabilities.



## The PCI 6150 Bridge Isolates & Supports the Asynchronous Requirement

The PLX Technology PCI 6150 is an Asynchronous PCI-to-PCI Bridge.

When placed on the backplane or on the main control module in front of each slot it will isolate and support the asynchronous requirements. The system will now be able to support the legacy modules/cards.



## The Key Is Asynchronous Bridging

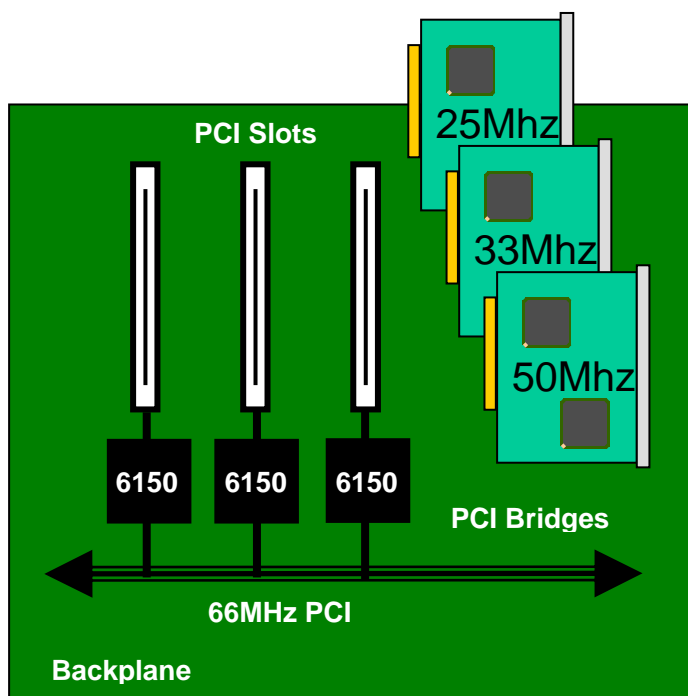
Asynchronous bridging allows different clock rates on the primary and secondary buses. This capability is used in several ways in PCI systems, because PCI can operate at a wide range of frequencies, typically from 25MHz to 66MHz. The asynchronous capability on the PCI 6150 allows older add-in cards & modules running at 50MHz or 25MHz to interface to the main PCI bus segment running at 66MHz.

### Key Advantage for PLX

Although the Intel 21150 32-Bit PCI Bridge does not support asynchronous operation, it is a key feature with PLX's PEX 6150.

In addition, the PCI 6150 includes sophisticated buffer management and buffer configuration options designed to provide customizable performance optimization.

### Prevent "Fall Back" – Maximize Performance



If a 33MHz device is added to a 66MHz bus, the 33MHz device will cause the entire bus to “fall-back” to the slower 33MHz speed, which impairs the performance of the system. Adding a PLX FastLane Bridge in front of the 33MHz device will allow the lower frequency device to be plugged into the high speed bus without compromising the bus operating frequency.

### Additional PLX Advantages

- ◆ Superior PCI expertise and support
- ◆ Industry's largest FIFOs for better throughput
- ◆ Plugfest certified PCI Compliance for best interoperability

### Design Tools & Documentation:

On PLX Public ToolBox:

[http://www.plxtech.com/products/fastlane\\_bridges/PCI6150/default.asp](http://www.plxtech.com/products/fastlane_bridges/PCI6150/default.asp)

- ◆ DataBook, IBIS Models, BSDL Files, App Notes, Product Brief, Hspice Models

#### Contact Information

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