

VirtualBridge Adapter for PCI Express 2.0/3.0

The Cadence® VirtualBridge™ Adapter enables user applications and OS drivers to establish a virtual protocol connection to Cadence Palladium® platforms. The VirtualBridge adapter enables system validation early in a development cycle for purposes such as emulating a hardware design along with software applications via OS drivers. Users can also run software application testing against emulated hardware via OS drivers, and perform software OS driver verification. For hardware/software system design, OS driver, and bare-metal software development, engineers require early access to designs being emulated in the Palladium family of verification compute platforms. The VirtualBridge adapter provides a convenient connection from a software developer's workstation environment to the hardware design.

The VirtualBridge adapter for PCI Express® (PCIe®) 2.0/3.0 consists of a PCIe protocol transactor that enables high-speed transfers between a user's design under test (DUT) running in a Palladium platform and a host workstation. A user's application can drive traffic via their existing OS driver into the transactor, either directly on the same host workstation (see Figure 1) or via a networked connection. The user's application can run on any OS supported by the virtual machine, thus de-coupling the application OS requirements from the hardware host workstation requirements.

The VirtualBridge adapter for PCIe 2.0/3.0 is a fully static solution, enabling full clock control. This allows clocks to be stopped without encountering motherboard/chipset timeout issues. Users can, for example, pause an active emulation to upload metrics to a workstation to analyze design performance.

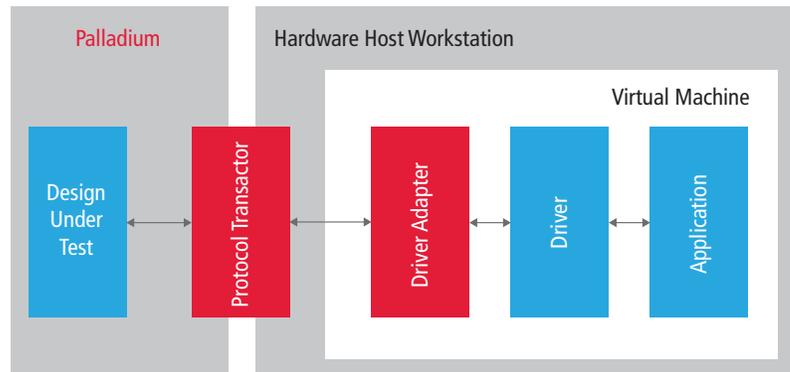


Figure 1: Block diagram of a VirtualBridge adapter

BENEFITS

- Remotely access designs in any Palladium hardware domain
- Remotely connect from any workstation
- Enables more engineers to run designs with 24/7 access
- Fully static solution

FEATURES

- Software adapter for user application and OS drivers to establish a virtual PCIe connection to Palladium platforms
- Fully static PCIe operations
- Multiple OS platform support via VM

- Flexible network-enabled architecture
- Multi-function, multi-VM, multi-device, multi-bar
- DMA operations
- Upstream-downstream parallelism
- 64-bit BAR support
- Installer and Setup Wizard GUI
- IXCOM console
- Debug and profiler CLI
- Logging and user control
- Downstream memory and DMA checker
- Socket performance analyzer
- OS: X86 architecture: Linux, Windows

CADENCE SERVICES AND SUPPORT

- Cadence application engineers can answer your technical questions by telephone, email, or Internet—they can also provide technical assistance and custom training.
- Cadence-certified instructors teach more than 70 courses and bring their real-world experience into the classroom
- More than 25 Internet Learning Series (iLS) online courses allow you the flexibility of training at your own computer via the Internet

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