

The diagram in slide 2 describes the simplified architecture for a FPGA graphic accelerator card connected to a server motherboard by a standard PCIe* edge connector (slot).

System components for the PCIe channel (marked in orange color):

- IC1000 → FPGA with PCIe I/O
- X1000 → board edge connector
- X2000 → socket connector for PCIe
- IC2000 → PCIe multiplexer IC
- IC3000 → PCIe switch IC
- IC4000 → CPU with PCIe I/O

Requirements:

- 1) Define full channel PCIe routing recommendations for the FPGA graphic accelerator card and server motherboard based on pre-layout transient simulation
- 2) Route the PCIe interface for the FPGA graphic accelerator card and server motherboard PCBs in a dedicated CAD environment
- 3) Verify channel compliance to PCIe standard by using s-parameter extraction (post-layout)
- 4) Verify impact of random jitter on differential signaling timing parameters

*PCIe (Peripheral Component Interconnect Express), officially abbreviated as PCIe or PCI-e is a high-speed serial computer expansion bus standard.

TIEplus 2018 Subject

