

Synopsys and Tarari

High Quality DesignWare Verification IP for PCI Express Speeds Time-to-Market by Three Months



“Synopsys’ proven DesignWare Verification IP gave us a huge schedule advantage by enabling us to develop the verification environment in just three months versus the six in our previous project.”

–Samir Patel, Sr. Design and Verification Engineer, Tarari

Business

Tarari designs and develops Content Processor silicon to allow original equipment manufacturers to accelerate and offload compute intensive and complex algorithms in XML/web services, network security and digital media environments.

Tarari Challenges

- Time-to-market pressures
- Lowering overall development costs
- Conducting thorough verification of a complex chip with minimal staff and knowledge of the protocol

Solution

- DesignWare® Verification IP and digital controller for PCI Express®
- VCS® Native Testbench
- VMM Methodology for SystemVerilog

Benefits

- Saved three months on development of the verification environment
- Reduced hardware debug time from nine to six months
- Lowered engineering costs by acquiring high quality IP
- Received excellent support

Overview

Tarari technology enables the creation of adaptable hardware and software solutions for the evolving Internet driven world. Tarari is using this technology to deliver products focused on key areas of acceleration: XML/Web Services, Network Security and Digital Media.

Tarari’s anti-virus acceleration technology accelerates key components of anti-virus processing. This technology is designed to enable anti-virus software companies to offload critical processing needs to a specialized processing solution, providing higher throughput and performance. The anti-virus acceleration technology is designed to fit into a server or network appliance, and is built on a flexible acceleration platform.

Tarari’s new T10 Technology Silicon Platform enables content processing at 10Gbps, which is the fastest solution in the market today. This allows Tarari partners and customers to deliver the lowest possible latency, highest bandwidth solutions with the best performance scalability.

“With DesignWare IP, we knew that the IP would be of high quality and fully compliant to the PCI Express specification. The applications engineering team was very responsive and invaluable in helping us get up to speed quickly.”

– Samir Patel, Sr. Design and Verification Engineer, Tarari

Leading IP Features

To get their latest T10 chip to market fast, Tarari knew they had to execute flawlessly—on time and on budget. Constrained with limited resources and without expert knowledge of the PCI Express protocol, simulator, verification IP and testbench language, Tarari had some challenges ahead of them. They turned to Synopsys for a complete PCI Express IP solution, including the digital controller and verification IP to help get the fastest content processor chip, operating at 10Gbps, into the market.

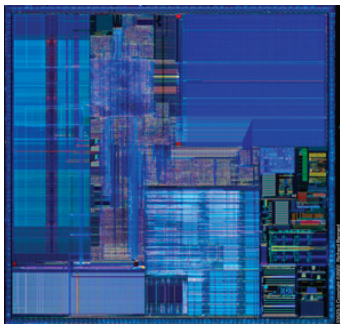
DesignWare Verification IP for PCI Express helped Tarari successfully integrate the PCI Express protocol into the overall system and provided a quick and efficient way to verify the interface. Using DesignWare Verification IP for PCI Express, based on the Verification Methodology Manual for SystemVerilog, Tarari was able to develop a constrained random testbench environment to verify the integration of the PCI Express core into their chip within three months versus six months in the previous project.

High Quality and Excellent Support

Knowing that DesignWare IP for PCI Express had a long history of users and tape-outs, Tarari knew the IP was of high quality. Furthermore, acquiring the IP from Synopsys saved Tarari not only the time and cost of developing the IP themselves, but also guaranteed full compliance to the specification.

Being new to the verification IP and PCI Express protocol, there was an initial learning curve to overcome. Synopsys' expert support and applications engineering team was there to help them get up to speed and was an invaluable part of the entire verification process.

After evaluating other vendors, Tarari selected Synopsys because of its established infrastructure and resources to help ensure Tarari's success. Furthermore, being able to have access to both the digital controller and verification IP from a single vendor enabled them to have one dedicated point of contact for all of their support needs. When asked if Tarari would be using DesignWare Verification IP in future designs, Samir answered, “Absolutely.”



“Getting the digital core, verification IP and simulator from one vendor gave us confidence that there would be consistent support with true ownership and fast resolution to all of our issues.”

– Samir Patel, Sr. Design and Verification Engineer, Tarari

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