Synopsys' New DesignWare Hybrid IP Prototyping Kits Accelerate IP Prototyping, Software Development and Integration

Combined Benefits of Virtual Prototyping and FPGA-Based Prototyping Speed Development for DesignWare IP in 64-bit ARM-Based Designs

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Highlights:

- Hybrid IP Prototyping Kits pre-integrate a Virtualizer Development Kit and a DesignWare IP Prototyping Kit into an out-of-the-box solution to accelerate IP prototyping, software development and integration
- Proven DesignWare IP reference designs with Linux software stack and drivers enable developers to quickly bring-up and optimize IP software
- Virtual 64-bit ARM processor-based prototyping platform provides superior debug and analysis capabilities for interface IP software development

Synopsys, Inc. (Nasdaq:SNPS) today expanded its IP Accelerated initiative with support for ARM® processors with the new DesignWare® Hybrid IP Prototyping Kits. The kits enable designers to prototype the ARM processor and memory elements of a design in a virtual environment for superior debug visibility, and to develop software for the DesignWare interface IP in an FPGA-based environment for high-performance execution with real-world interface connectivity. The Hybrid IP Prototyping Kits accelerate IP development by combining a Synopsys Virtualizer™ Development Kit (VDK) with a DesignWare IP Prototyping Kit consisting of a HAPS®-DX FPGA-based prototyping system with a DesignWare IP reference design. The VDK includes a virtual prototype of the ARMv8 Base Platform containing an ARM Cortex®-A57 plus Cortex-A53 big.LITTLE™ system. The Hybrid IP Prototyping Kits accelerate prototyping, hardware and software integration and system validation, enabling designers to start software development months earlier in the design cycle.

"Using Synopsys' hybrid prototyping solution enabled our design team to complete software development for our ARM-based system almost 20 days ahead of schedule," said Yukihiro Urakawa, Technology Executive, Logic LSI Design Division at Toshiba. "Even after the board with our own IC was available, we found that Synopsys' hybrid solution continued to aid in our software development, because its internal view of the system and precise control accelerated our debug. The seamless combination of the virtual development kit, HAPS FPGA-based prototyping system and DesignWare IP reference drivers gave us a critical time-to-market edge in the competitive image processing market."

The DesignWare Hybrid IP Prototyping Kits accelerate IP prototyping and software development:

- Linux® software stack and drivers as well as a pre-verified DesignWare IP reference design accelerate hardware and software development and allow the user to start implementing and validating IP in an SoC context in minutes
- The VDK enables efficient non-intrusive debug control and visibility. It is compatible with the industry's most popular software development tools including the ARM DS-5 Development Studio, Lauterbach TRACE32® and GNU GDB
- The IP Prototyping Kit enables designers to accelerate the integration of IP into their target SoC, optimize the IP configuration and develop drivers and software applications with real world I/Os and hardware

"With the increase in software content for multi-core 64-bit ARMv8-based systems, developers are relying on prototyping solutions to help them start software development well before the hardware is available," said Chris Rommel, executive vice president of VDC Research. "By combining the benefits of FPGA-based and virtual prototypes into a single hybrid solution, Synopsys is giving developers the best of both worlds by enabling them to accelerate IP prototyping, software development and integration, and ultimately giving design teams a significant head start."

"Our IP Accelerated initiative goes beyond the traditional approach of providing IP by helping designers manage the growing software content and increasing complexity of their chips," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "As part of the IP Accelerated initiative, the DesignWare Hybrid IP Prototyping Kits provide design teams with the benefits of both virtual and FPGA-based prototyping in one integrated solution, enabling designers to start software development and system integration much earlier in the project lifecycle."

Availability & Resources

DesignWare Hybrid IP Development Kits for USB 3.0 Host and Device are available now. Additional kits are in development.

View a video showing the DesignWare Hybrid IP Development Kit for USB 3.0 Host in action.

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes logic libraries, embedded memories, embedded test, analog IP, complete interface IP solutions consisting of controller, PHY and next-generation verification IP, embedded processors and subsystems. To accelerate prototyping, software development and integration of IP into SoCs, Synopsys' IP Accelerated initiative offers IP prototyping kits, IP software development kits and IP subsystems. Synopsys' extensive investment in IP quality, comprehensive technical support and robust IP development methodology enables designers to reduce integration risk and accelerate time-to-market. For more information on DesignWare IP, visit http://www.synopsys.com/designware.

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 15th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP, and is also a leader in software quality and security testing with its Coverity® solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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