

# Synopsys Introduces Industry's First SystemC TLM-2.0 SuperSpeed USB 3.0 Models

DesignWare System-Level Library Adds SuperSpeed USB 3.0 Support

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MOUNTAIN VIEW, Calif., Jan 12 /[PRNewswire-FirstCall](#)/ -- Synopsys, Inc. (NASDAQ: SNPS), a world leader in software and IP for semiconductor design, verification and manufacturing, today announced the availability of SuperSpeed USB 3.0 transaction-level models (TLM) supporting the Open SystemC™ Initiative (OSCI) TLM-2.0 API specification. The models are TLM representations of the Synopsys DesignWare® SuperSpeed USB 3.0 Device and xHCI Host Controller IP. The SuperSpeed USB 3.0 models enable pre-RTL and pre-silicon software development, verification and architecture exploration. They are part of the DesignWare System-Level Library which features more than 100 TLM models, including models of the DesignWare Interface IP portfolio.

With the integration of SuperSpeed USB 3.0 into advanced SoCs and the increasing complexity of software stacks, the need to develop the associated embedded software as early as possible increases. The availability of ready-to-use SuperSpeed USB 3.0 TLM models, which are cross-verified with the corresponding DesignWare SuperSpeed USB 3.0 Interface IP and the associated Linux drivers, enables rapid development of virtual platforms for designs integrating the SuperSpeed USB 3.0 Interface.

Virtual platforms enable the concurrent development and debug of hardware and embedded software using an executable model of the hardware long before RTL and first silicon are available. Like all models in the DesignWare System-Level Library, the SuperSpeed USB 3.0 TLM models work in any IEEE1666-compliant SystemC simulator, including Synopsys' Innovator for virtual platforms and VCS for functional verification. Adhering to the TLM-2.0 specification allows for easy integration, with models coming from different sources, regardless of the simulation environment.

"A virtual platform software development environment, as provided by Synopsys, is critical to reducing our time to market and overall product cost when delivering our USB 2.0 and SuperSpeed USB 3.0 software stacks," said Terry Moore, CEO of MCCI. "The Synopsys USB virtual platforms developed with Innovator and DesignWare System-Level Library have proven themselves invaluable to MCCI and to our customers many times over. Our USB stack is ported and available for the customer's platform much earlier in their product development than without using virtual platforms. This saves us and our customers critical time."

"As a leader in USB IP, Synopsys has the expertise to deliver and support a high-quality, comprehensive SuperSpeed USB IP solution," said Frank Schirrmeister, director of product marketing for system-level solutions at Synopsys. "Providing SuperSpeed TLM-2.0 models of our DesignWare USB Interface IP enables our customers to concurrently develop hardware and software, for earliest time to market."

The DesignWare System-Level Library is part of Synopsys' Software-to-Silicon Verification Solution that offers the industry's most comprehensive suite of proven embedded software development, system validation, functional verification and circuit simulation software, hardware, intellectual property (IP), methodologies and services for complex system-on-chip (SoC) development. The solution includes the Confirma rapid prototyping products, the VCS® high-performance simulator, DesignWare IP, DesignWare System-Level Library and Innovator, enabling hybrid virtual/physical prototyping environment for embedded software development and verification.

## Availability

The DesignWare System-Level Library featuring the TLM-2.0 models for SuperSpeed USB 3.0 is available immediately; existing licensees receive it as a regular maintenance update.

## About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven interface and analog IP solutions for system-on-chip designs. Synopsys' broad IP portfolio delivers complete connectivity IP solutions consisting of controllers, PHY and verification IP for widely used protocols such as USB, PCI Express, DDR, SATA, HDMI, MIPI and Ethernet. The analog IP family includes Analog-to-Digital Converters, Digital-to-Analog Converters, Audio Codecs, Video Analog Front Ends, Touch Screen Controllers and more. In addition, Synopsys offers SystemC transaction-level models to build virtual platforms for rapid, pre-silicon development of software. With a robust IP development methodology, extensive investment in quality and comprehensive technical support, Synopsys enables designers to accelerate time-to-market and reduce integration risk. For more information on DesignWare IP, visit: <http://www.synopsys.com/designware>.

Follow us on Twitter at [http://twitter.com/designware\\_ip](http://twitter.com/designware_ip).

## About Synopsys

Synopsys, Inc. (NASDAQ: SNPS) is a world leader in electronic design automation (EDA), supplying the global electronics market with the software, intellectual property (IP) and services used in semiconductor design, verification and manufacturing. Synopsys' comprehensive, integrated portfolio of implementation, verification, IP, manufacturing and field-programmable gate array (FPGA) solutions helps address the key challenges designers and manufacturers face today, such as power and yield management, software-to-silicon verification and time-to-results. These technology-leading solutions help give Synopsys customers a competitive edge in bringing the best products to market quickly while reducing costs and schedule risk. Synopsys is headquartered in Mountain View, California, and has more than 65 offices located throughout North America, Europe, Japan, Asia and India. Visit Synopsys online at <http://www.synopsys.com/>.

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