

Synopsys Demonstrates Industry's First SuperSpeed USB 10 Gbps Platform-to-Platform Host-Device IP Data Transfer

Ellisys Protocol Analyzer Confirms Performance of 10 Gbps USB 3.1 Effective Data Rates, More Than Doubling SuperSpeed USB Throughput for Consumer Applications

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Highlights:

- Demonstrated 10 Gbps USB 3.1 Host-Device data transfers at over 900 MBps enables increased performance for storage devices and PCs
- Demonstration uses backward-compatible USB 3.0 connectors, cables and software drivers
- Data transfer speeds of more than 900 MBps validated by the Ellisys Protocol Analyzer, the industry's first USB 3.1 protocol analyzer
- Consumer products with integrated USB 3.1 Hosts benefit from high-performance external data access speeds that match internal data access speeds, allowing consumers to add storage without sacrificing performance.

Synopsys, Inc. (Nasdaq:SNPS), a global leader providing software, IP and services used to accelerate innovation in chips and electronic systems, today announced its successful demonstration of the [industry's first SuperSpeed USB 10 Gbps \(USB 3.1\) platform-to-platform Host-Device IP data transfer](#). As measured by the Ellisys USB Explorer™ Protocol Analyzer, the IP realized 10 Gbps USB 3.1 effective data rates of more than 900 MBps between two Synopsys HAPS®-70 FPGA-based prototyping systems while using backward-compatible USB connectors, cables and software. Developed to deliver more than double the data throughput of SuperSpeed USB (USB 3.0) for consumer mobile and external storage device chipsets, the SuperSpeed USB 10 Gbps (USB 3.1) specification from the USB Implementers Forum (USB-IF) defines a more efficient data encoding scheme that increases I/O power efficiency. This successful demonstration shows Synopsys' leadership in USB IP product development, which enables the next generation of low-power, high-performance mobile chipsets.

"Our collaboration with Synopsys serves to validate the throughput and power efficiency enhancements of the USB 3.1 specification as well as the corresponding design goals of the Synopsys 10 Gbps USB 3.1 IP," said Mario Pasquali, president and CEO at Ellisys, a worldwide leader in protocol test and analysis solutions. "As the first and only company to offer a USB 3.1 protocol analyzer, Ellisys is focused on collaborating with industry leaders like Synopsys to ensure the rapid and successful rollout of USB 3.1 products."

"With this technology demonstration, Synopsys proves the viability of the SuperSpeed USB 10 Gbps (USB 3.1) specification, which employs advances in data encoding to more than double USB 3.0 data throughput," said Jeff Ravencraft, President and COO of USB-IF. "IP providers like Synopsys are pushing USB performance ever higher, and will accelerate the development and deployment of SuperSpeed USB 10 Gbps (USB 3.1)."

"An active contributor to the USB-IF for more than 10 years, Synopsys continues its collaboration with the Implementers Forum with the development of the USB 3.1 standard. This demonstration is the first result of this USB 3.1 effort, underscoring our focus on developing the highest quality IP for SoC designers," said John Koeter, vice president of marketing for IP and systems at Synopsys. "Synopsys' 3,000-plus USB IP design wins demonstrate designers' trust in the quality and performance of Synopsys DesignWare® USB IP. As designers get ready to incorporate this latest technology into their SoCs, they can rely on Synopsys to deliver proven IP solutions that will help them integrate the necessary functionality with significantly less risk."

More Information

View videos of the demonstration for more information:

- [Synopsys Demonstrates First USB 3.1 IP at 10G Speeds with Ellisys Protocol Analyzer](#)
- [How HAPS FPGA-Based Prototyping Speeds USB 3.1 IP Product Development](#)
- [Synopsys Demonstrates Industry's First Platform-to-Platform 10G USB 3.1 Host-to-Device Data Transfers](#)

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes complete interface IP solutions consisting of controllers, PHY and verification IP for widely used protocols, analog IP, embedded memories, logic libraries, processor cores and subsystems. To support software development and hardware/software integration of the IP, Synopsys offers drivers, transaction-level models, and prototypes for many of its IP products. Synopsys' HAPS® FPGA-Based Prototyping Solution enables validation of the IP and the SoC in the system context. Synopsys' Virtualizer™ virtual

prototyping tool set allows developers to start the development of software for the IP or the entire SoC significantly earlier compared to traditional methods. With a robust IP development methodology, extensive investment in quality, IP prototyping, software development 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>.

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, Synopsys delivers software, IP and services to help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at www.synopsys.com.

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