

Synopsys DesignWare CXL IP Supports AMBA CXS Protocol Targeting High-Performance Computing SoCs

High-Bandwidth IP Solution Extends CXL Capabilities to Arm-Based Multi-Processor Core Designs

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Highlights:

- DesignWare CXL IP supports AMBA CXS protocol to enable seamless integration with scalable Arm Neoverse Coherent Mesh Network
- The Synopsys CXL IP, operating at 32GT/s with 512-bit data width, supports all required CXL protocols and device types to meet specific application requirements
- The industry-first CXL IP complete solution encompasses configurable controller, 32GT/s PHYs in a range of FinFET processes, and verification IP

[Synopsys, Inc.](#) (Nasdaq: SNPS) today announced that its [DesignWare® CXL Controller IP](#) now supports the AMBA® CXS protocol, enabling an efficient interface with the latest, highly scalable Arm® Neoverse™ Coherent Mesh Network to provide an optimized multichip IP stack for a range of high-performance computing, datacenter, and networking system-on-chip (SoCs).

The DesignWare CXL Controller supports all the required CXL protocol types (.cache, .io, and .mem) and allows mixing multiple types within a single clock-cycle transfer for design flexibility. Support for CXS enables the extremely low-latency, high-bandwidth DesignWare CXL IP to extend its capabilities across Arm-based SoCs requiring cache coherency and fast chip-to-chip interconnects.

"The exponential growth in data creation, consumption, and processing is driving more cloud workloads to utilize domain specific acceleration, which demands a fast, efficient multichip interconnect to quickly move data," said Dermot O'Driscoll, vice president of Product Management, Infrastructure Line of Business, Arm. "Our successful collaboration with Synopsys enables an optimized, ready-to-go CXL IP stack to meet the diverse multichip latency and bandwidth needs for a range of Arm-based server host and end-point solutions."

"High-performance computing applications such as AI accelerators, networking, and hyperscale data centers require coherent interfaces that enable high-speed, efficient communication between on- and off-chip protocols," said John Koeter, senior vice president of marketing and strategy for IP at Synopsys. "By providing support for the AMBA CXS protocol, designers can easily interface Synopsys' DesignWare CXL IP to the Arm Coherent Mesh Network platform to meet the high-bandwidth requirements of their data-intensive Arm-based SoC designs."

Availability and Additional Resources

DesignWare CXL Controller IP and 32G PHY IP are available now. For more information, visit

- The [DesignWare CXL IP](#) web page
- The [Verification IP for AMBA CXS](#) blog

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, wired and wireless interface IP, security 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 enable 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 growing its leadership in software security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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