Synopsys Delivers Breakthrough Performance with New ZeBu Empower Emulation System for Hardware-Software Power Verification

ZeBu Empower Enables Power Verification Turnaround Within Hours Using Real-World Software Workloads for AI, 5G, Data Center and Mobile SoC Applications

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Highlights:

- Industry's first SoC power-aware emulation system for multi-billion gate designs enables hardware-software power verification with software workloads
- The industry's fastest emulation system – with high performance power verification engines – enables multiple iterations per day
- ZeBu Empower feeds power critical blocks and time windows into PrimePower, the industry's golden power sign-off solution

Synopsys, Inc. (Nasdaq: SNPS) today announced the immediate availability of ZeBu® Empower emulation system, delivering breakthrough technology for fast hardware-software power verification of multi-billion gate SoC designs. The performance of ZeBu Empower enables multiple iterations per day with actionable power profiling in the context of the full design and its software workload. With ZeBu Empower, software and hardware designers can utilize the power profiles to identify substantial power improvement opportunities for dynamic and leakage power much earlier. The ZeBu Empower emulation system also feeds forward power-critical blocks and time windows into Synopsys' PrimePower engine to accelerate RTL power analysis and gate-level power sign-off.

Customer Commentary:

- "As high-performance designs and workloads continue to grow in complexity, achieving leadership performance within a thermal envelope is important for our products," said Alex Starr, Corporate Fellow, Technology and Engineering at AMD. "Solutions that allow us to efficiently profile power consumption across real workloads in a pre-silicon environment help us achieve our product goals. Synopsys' ZeBu Empower, operating in collaboration with servers using 2nd Gen AMD EPYC™ processors, has enabled us to perform pre-silicon power analysis more efficiently in a quicker time."
- "For AI and machine learning solutions to scale in adoption, the overall goal is to optimize for the lowest power while delivering the highest processing throughput," said Krishna Rangasayee, Founder and CEO at SiMa.ai. "We are extending our continued collaboration with Synopsys by using their ZeBu Empower emulation system with complex software workloads running on our purpose-built MLSoC™ architecture. ZeBu Empower's impressive performance provides our design teams with a global perspective on power, leading them to the key areas for optimization."

Traditionally, power analysis with realistic software workloads is performed post-silicon, introducing a high amount of risk to miss critical high-power situations, which exposes companies to significant cost and product adoption risk. By taking advantage of high-speed emulation in ZeBu Empower, design teams can perform verification earlier in the design cycle, dramatically reducing risks of power bugs and missed SoC power goals.

"The industry's need to shift-left software development from post-silicon to pre-silicon has driven tremendous adoption of our ZeBu Server over the last five years," said Manoj Gandhi, general manager of the Verification Group at Synopsys. "Our breakthrough technology in ZeBu Empower addresses our customers' need for hardware-software power verification enabling them to develop a new generation of power optimized SoCs."

Synopsys offers a comprehensive solution for low power design and verification, including RTL-based early power exploration to the industry's golden power signoff; from early static verification to emulation-based hardware-software power verification. Synopsys' innovative low power solutions are deployed across some of the most demanding designs, globally.

Availability

The Synopsys ZeBu Empower emulation system for hardware-software power verification solution is available now.

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 an S&P 500 company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and offers the industry's broadest portfolio of application security testing tools and services. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing more secure, high-quality code, Synopsys has the solutions needed to deliver innovative products. Learn more at www.synopsys.com.

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