Synopsys Unveils Next-Generation ZeBu Server 4

Emulation Market Leader Delivers 2X Faster Emulation over Legacy Systems

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Highlights:

- Industry's fastest emulation system now offers 2X higher performance
- Industry's largest capacity, scalable to designs over 19 billion gates
- Industry's lowest total cost of ownership—5X lower power consumption with half the datacenter footprint
- Unmatched hardware reliability versus competitive emulation platforms
- Enables bring-up of complex software workloads required for automotive, 5G, networking, artificial intelligence and datacenter SoCs
- Delivers software innovations for faster compile, advanced debug, power analysis, simulation acceleration and hybrid emulation

Synopsys, Inc. (Nasdaq: SNPS), today announced general availability of its ZeBu® Server 4, the industry's highest-performance emulation system. ZeBu Server 4 builds on the proven ZeBu Fast Emulation architecture with 2X the emulation performance over competing emulation solutions, to enable system-on-chip (SoC) verification and software bring-up, and to address the exploding verification requirements of automotive, 5G, networking, artificial intelligence (AI), and datacenter SoCs. ZeBu Server 4 offers 5X lower power consumption with half the datacenter footprint, delivering the industry's lowest cost of ownership. In addition, ZeBu Server 4 delivers software innovation for faster compile, advanced debug, power analysis, simulation acceleration, and hybrid emulation.

"Now, more than ever, a high-performance pre-silicon hardware and software verification solution is crucial for rapid and comprehensive development of highly sophisticated Exynos SoC products," said Seonil Brian Choi, master/senior principal engineer of System LSI at Samsung Electronics. "Synopsys ZeBu Server 4 delivers the multi-megahertz performance and software innovation needed to compile and debug multiple turns per day that enables efficient verification, earlier software verification, and aggressive time-to-market schedules."

The verification and software bring-up of advanced SoCs, including major new classes of SoCs in the automotive, 5G, networking, artificial intelligence, and datacenter segments, requires performance and capacity to handle large verification and software bring-up workloads. Performance-limited legacy emulation systems are challenged with the verification workloads demanded by these new classes of SoCs. These legacy architectures are further constrained by a limited performance improvement with each generation of emulator.

Shipping since July 2017 and in production use at more than 10 customers, ZeBu Server 4 further extends the growth of the ZeBu family, the industry's fastest growing emulation platform for each of the last four years. ZeBu Server 4 delivers 2X higher performance over legacy emulation solutions, taking advantage of its unique Fast Emulation architecture, the most advanced commercial FPGAs, and innovations in FPGA-based emulation software. These software innovations enable users with faster compile, advanced debug, power analysis, simulation acceleration, and hybrid emulation. These use cases are further supported by the industry's most comprehensive suite of transactors, speed adapters, and virtual models.

ZeBu Server 4 offers 5X lower power consumption and half the datacenter footprint of other emulation solutions, leading to the industry's lowest total cost of ownership. Furthermore, ZeBu emulation systems have shown unmatched reliability over the last 10 years.

ZeBu Server 4 sets a new standard in emulation performance and capacity by leveraging the Xilinx UltraScale FPGA, the industry's most advanced emulation chip. With unprecedented capacity, as well as gigabit-per-second (Gbit/s) interconnect, Xilinx UltraScale enables the industry's largest designs to be supported in emulation systems with high performance, small footprint, and low power consumption. Further, as SoC verification complexity and software workloads continue to increase, Fast Emulation systems scale with double performance and capacity per FPGA generation.

"The growth of FPGA-based emulation continues to remarkably outpace the overall emulation market, which uses traditional ASICs," said Salil Raje, executive vice president, Software and IP Products, Xilinx. "At 19 billion transistors and 5.4 million logic gates, the Virtex UltraScale VU440 FPGA is purpose-built for the highest-performance applications. We will continue our deep collaboration with Synopsys to deliver future innovations like the ZeBu Server 4 to the emulation market."

"The need for Fast Emulation continues to grow as our customers increasingly look for shift-left solutions to address SoC hardware and software complexity," said Manoj Gandhi, general manager of the Verification Group at Synopsys. "Our

unparalleled growth in emulation is driven by deep technical collaboration with market makers and Xilinx, as well as increased R&D investments."

At the Design Automation Conference in San Francisco, Calif. this year, Synopsys is hosting its annual **SoC Leaders Verify with Synopsys** luncheon, featuring panelists from the world's leading semiconductor companies. More information and user experiences on ZeBu Server 4 will be presented at this event. The event takes place at 11:30 a.m. on Tuesday, June 26, 2018 at the Marriott Marquis hotel.

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.

Editorial Contact:
James Watts
Synopsys, Inc.
650-584-1625
jwatts@synopsys.com

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