Synopsys and AMD Execute Multi-Year ZeBu Emulation Agreement

New Agreement Includes Optimization of ZeBu and VCS Software for AMD EPYC Processor-based Servers

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Highlights:

- AMD standardizes on ZeBu Server 4, expanding emulation capacity to accelerate time-to-market for processor, graphics, and gaming chips
- ZeBu supports the AMD development strategy to enable early, pre-silicon software bring-up on a high-performance emulation system
- ZeBu enables early analysis of energy efficiency and performance for new high-performance architectures using actual customer application workloads
- Performance optimizations targeting Synopsys customers using AMD EPYC processors

Synopsys, Inc. (Nasdaq: SNPS) today announced a multi-year agreement with AMD to utilize its ZeBu® Server 4 emulation system, accelerating verification of the growing number of AMD high-performance processor, graphics, and gaming projects. As part of this new agreement Synopsys will optimize its ZeBu and VCS® software for execution on AMD EPYC™ processor-based servers. AMD continues its development strategy to enable early customer enablement using the high-performance ZeBu emulation system. AMD and Synopsys will extend their successful emulation collaboration to support system-level debug and analog/mixed-signal emulation, in addition to software-driven power and performance analysis, hybrid emulation, and virtual host solutions.

"The complexity of high-performance processor, graphics and gaming chips continues to increase dramatically," said Alex Starr, Senior Fellow, Emulation and Fast Platform Modeling at AMD. "High-performance emulation has become a critical component in our development strategy. Our deployment of ZeBu Server 4 allows us to efficiently analyze energy efficiency and performance of new architectures and execute our customers' workloads."

ZeBu Server 4 is the industry's fastest emulation system offering 2X higher performance over competitive solutions and a rich portfolio of virtual solutions. With its small footprint and one-tenth the power consumption compared to its largest competitor, ZeBu enables software and verification teams to efficiently scale their emulation farm to verify their most complex designs. ZeBu also enables companies to reduce the risk of missing critical power issues in their high-performance architectures by running actual customer application workloads rather than synthetic scenarios to validate performance and power requirements.

Initial optimization results for VCS on the new EPYC 7002 series processor-based servers demonstrate a total cost of ownership reduction from a dual-socket to a single-socket server configuration while additionally improving simulation performance by greater than 30 percent as compared to executing the same design and testbench on a previous-generation EPYC 7000 series processor-based server.*

"Collaborating with market makers at the leading edge of innovation has been our strategy for many years," said Rajiv Maheshwary, vice president of marketing and business development in the Verification Group at Synopsys. "AMD and Synopsys continue to collaborate to evolve emulation technology to enable earlier engagement with AMD customers. We are looking forward to our next chapter which will include optimizing ZeBu and VCS software for AMD's EPYC servers."

Additional Resources

For more information on ZeBu Server 4 please visit: https://www.synopsys.com/verification/emulation/zebu-server.html

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.

*CPU test case on previous-generation system: EPYC 7000 series server using VCS version 2015.09-SP2-10: 1 x HPE Apollo am35, CPU - 2 x 7371 AMD EPYC processors, SMT disabled, Memory - 16 X Samsung 64GB DDR4 2666MHz LRDIMM = 1TB (1 DIMM per channel, 16 DIMMs total), NIC - Intel 10G X550T, SSD - Toshiba 1.92TB SATA-6GBPS SFF MLC, BIOS - 1.0b, OS - Red Hat Enterprise Linux Workstation release 7.5

versus

CPU test case an current-generation system: EPYC 7002 series server using VCS version 2015.09-SP2-10: AMD EPYC 7742: 1 x AMD Daytona Engineering Platform, CPU - 1 x 7742 64-Core AMD EPYC processor, SMT disabled, Memory - 16 X Micron 32GB DDR4 2933MHz = 512GB (1 DIMM per channel, 16 DIMMs total), 8 GB per CPU Core, NIC - 1 x Mellanox Technologies MT27710 Family [ConnectX-4 Lx] 10Gbit/s, SSD - 1.6TB Micron 9200 MAX NVMe SSD, BIOS – 1001cOS - Red Hat Enterprise Linux ComputeNode release 7.7

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