Latest Synopsys Virtualizer Release Speeds Virtual Prototype Creation by up to 3X

New Modeling Interface and Automation Increase Modeling Productivity to Enable Earlier Start of Software Development

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Highlights:

- Enhanced model authoring capability speeds the creation of SystemC-based transaction-level models used to build virtual prototypes
- New import function reduces modeling effort and errors by automating model generation from IP specifications captured in popular formats such as IP-XACT, Excel, Word and PDF
- New simulation profiler quickly identifies execution bottlenecks to enable faster prototype simulation performance
- Deeper integration with popular software debuggers such as ARM Development Studio 5 (DS-5™) and Lauterbach TRACE32 System helps identify difficult bugs through multicore and context-aware debugging

Synopsys, Inc. (Nasdaq: SNPS), a world leader in software and IP used in the design, verification and manufacture of electronic components and systems, today announced availability of the latest release of Synopsys' Virtualizer™ tool set for creating virtual prototypes and Virtualizer Development Kits (VDKs) that accelerate embedded software development. The new Virtualizer release improves modeling productivity through its new model authoring feature and IP specification import function, enabling engineers to develop system-level models and assemble them into virtual prototypes up to three times faster. In addition, enhanced support for popular debugger tools allows software developers to easily integrate Virtualizer-based virtual prototypes into their existing software debug flows.

"Using Virtualizer, we can abstract the full SoC design into a virtual prototype in a very short period of time to facilitate early software development and hardware/software integration," said Satoshi Aoki of the Embedded Platform Development Department at Ricoh Company, Ltd. "We believe Virtualizer is a must-have tool for SoC development."

Synopsys' Virtualizer virtual prototyping solution is an integral part of the industry's most comprehensive solution of tools, models and services for early software development, hardware/software integration, and system validation. Virtualizer addresses the increasing software complexity associated with semiconductor and electronic products by enabling the efficient creation of SystemC-based transaction-level models (TLMs), as well as the assembly of TLMs into virtual prototypes representing complete systems. The Virtualizer tool set is also used by designers to create customized VDKs, software development kits containing design-specific virtual prototypes as well as debug and analysis tools and sample software, which can be deployed to software development teams up to 12 months before silicon availability. Ready-to-use VDKs for ARM® big.LITTLE™ processing and ARM Cortex™-A15 MPCore™ processor-based designs are also available from Synopsys.

"Mitigating development risk and reducing time to market are key considerations for companies developing complex systems such as smartphones, tablets and smart-TVs," said Javier Orensanz, director of product management, system design division, ARM. "The Synopsys VDKs for ARM big.LITTLE processing and Cortex-A15 processor-based designs enable engineers to achieve optimal results by addressing these considerations. When used alongside ARM Development Studio 5 and the ARM Streamline™ performance analyzer, engineers are able to improve energy efficiency and even further reduce development risk."

This Virtualizer release incorporates a new graphical simulation profiler which makes it easier for virtual prototyping teams to find and address simulation bottlenecks. Out-of-the-box support for the latest APIs in popular software debuggers such as Lauterbach TRACE32 System and ARM Development Studio 5 (DS-5) enables software teams to use VDKs to create a powerful, integrated environment for multicore software debug. In addition, integration with MathWorks' Simulink simulation environment enables more rapid deployment of virtual hardware-in-the-loop (HIL) testing.

"The tight integration of our TRACE32 debugger with the latest Virtualizer release includes mutual support for the industry-standard Multi-Core Debug API, giving software programmers a unified and efficient environment for multicore debug and analysis," said Stephan Lauterbach, general manager at Lauterbach. "This integration enables engineers to start software development early in the design cycle on virtual prototypes without having to switch to other debug tools as they transition to real hardware."

The model authoring interface in the new Virtualizer tool set simplifies and automates model creation with new features such as automatic design rule checking and design-sensitive help, improving modeling productivity for both virtual prototyping experts as well as those less experienced. The new tool release also enables users to import existing IP specifications in popular

formats such as IP-XACT, Excel, Word and PDF, further speeding model development by automatically generating SystemC Modeling Library (SCML) constructs and industry-standard Accellera Systems Initiative TLM-2.0 bus interfaces. In addition to providing improved model creation capabilities, the most recent Virtualizer release continues to support direct integration of TLM-2.0 standard-based models of common IP blocks readily available in the market, including Synopsys' DesignWare® TLM Library models, ARM Fast Models, and other SystemC TLM models available from Synopsys. It also supports more than 900 system-level models that can be found on TLMCentral.

"Software teams are increasingly taking advantage of virtual prototypes to get an early jump on software development," said John Koeter, vice president of marketing for IP and systems at Synopsys. "The latest release of Virtualizer makes it easier and faster than ever for design teams to create virtual prototypes and deploy them to software engineers in VDKs, enabling a significant time-to-market advantage over competitors relying on only traditional software development methods."

Availability & Resources
The new Virtualizer 12.06 release is available now.

- Learn more about Virtualizer: https://www.synopsys.com/Virtualizer
  - Read A View from the Top blog
  - See our virtual prototyping videos
  - Try our virtual prototyping demo

About Synopsys
Synopsys, Inc. (Nasdaq:SNPS) is a world leader in electronic design automation (EDA), supplying the global electronics market with the software, intellectual property (IP) and services used in semiconductor design, verification and manufacturing. Synopsys' comprehensive, integrated portfolio of implementation, verification, IP, manufacturing and field-programmable gate array (FPGA) solutions helps address the key challenges designers and manufacturers face today, such as power and yield management, system-to-silicon verification and time-to-results. These technology-leading solutions help give Synopsys customers a competitive edge in bringing the best products to market quickly while reducing costs and schedule risk. Synopsys is headquartered in Mountain View, California, and has approximately 70 offices located throughout North America, Europe, Japan, Asia and India. Visit Synopsys online at https://www.synopsys.com.

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