Synopsys Announces New Additions to Liberty to Significantly Speed up Timing Closure

Single, unified Liberty variation format standardized by the IEEE Industry Standards Board

MOUNTAIN VIEW, Calif., Sept. 30, 2014 /PRNewswire/ -- Synopsys, Inc. (Nasdaq: SNPS), a global leader providing software, IP and services used to accelerate innovation in chips and electronic systems, today announced the completion of an initiative to unify and standardize on-chip variation (OCV) extensions to the open-source Liberty™ library format, the de-facto modeling standard for integrated circuit (IC) implementation and signoff. Recent extensions that complete the unified OCV feature set were ratified on August 1, 2014 by the Liberty Technical Advisory Board (LTAB), an IEEE-ISTO federation member program representing the broad semiconductor design ecosystem. The new variation technology is immediately supported by Synopsys' design platform ecosystem comprised of SiliconSmart® library characterization, IC Compiler™ place and route, Library Compiler library checker and compiler, and PrimeTime®ADV signoff timing and noise analysis solutions.

LTAB members collaborated to consolidate various modeling formats such as advanced on-chip variation (AOCV), parametric on-chip variation (POCV) and statistical on-chip variation (SOCV) into a single, unified open-source standard for industry-wide use, known as the Liberty Variation Format (LVF) extensions. Unanimously approved by the LTAB board, the latest LVF additions include extensions for slew-load dependent transition and constraint sigma variation tables. These extensions provide designers with a modeling technique that may further reduce timing margins for advanced process nodes, including FinFET, thereby boosting timing closure turnaround-time. This achievement represents the culmination of a phased approach in collaboration with industry leaders to ensure broad ecosystem enablement from foundry data and model availability, library characterization and modeling know-how, EDA tool chain support, and ROI impact assessment. The board also welcomed some new members, including Samsung. The full 20-member list can be found here: http://www.opensourceliberty.org/liberty_techadvisory.html

"The completion of a unified standard format for OCV modeling in Liberty is a major milestone for the LTAB," said Jim Sproch, LTAB chair and senior director of engineering at Synopsys. "However, it is not just about a format; it is about technology enablement and collaboration across the industry. Recently ratified Liberty Variation Format extensions complete the unification of AOCV, POCV and SOCV into a single, universally adopted industry standard, and form a common platform for future development."

"It was important to have a single standard to enable the semiconductor design ecosystem," said Marco Migliaro, president at IEEE-ISTO. "LVF extensions to Liberty are a great example of LTAB partnership, where engaged industry leaders come together every six months for active discussion and quickly converge so we can all be ready for the technology ramp. We are excited to have new members join LTAB and provide their valuable insights to the ecosystem."

Availability

The Liberty Technical Advisory Board ratified the latest LVF extensions to Liberty on August 1, 2014. Liberty documentation will be updated in the next regularly scheduled revision in late 2014. Learn more about Open Source Liberty at: http://www.opensourceliberty.org

About Liberty Technical Advisory Board

The Liberty library format is the semiconductor industry's most widely adopted library standard, used by virtually all EDA implementation, analysis and library characterization tools as the library model exchange for timing, noise, power and test behavior. In May 2006, an industry-wide Liberty Technical Advisory Board was formed to facilitate the evolution of the Liberty library modeling standard. The Liberty Technical Advisory Board functions under the auspices of the IEEE Industry Standards and Technology Organization (IEEE-ISTO). Its 20 member companies represent the broad semiconductor industry, including the design community, EDA companies, silicon foundries and semiconductor intellectual property (IP) companies. The Liberty format is available to the entire semiconductor design community for download under standard open-source terms.

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, Synopsys delivers software, IP and services to help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at www.synopsys.com.

Editorial Contacts:

Sheryl Gulizia
Synopsys, Inc.
650-584-8635
sgulizia@synopsys.com

Lisa Gillette-Martin
MCA, Inc.
650-968-8900 ext. 115
lgmartin@mcapr.com

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