Oki Standardizes on Synopsys' HSPICE High Voltage MOS Model

Reduces Development Time of LCD TV Driver SoC by Half

PRNewswire-FirstCall
MOUNTAIN VIEW, Calif.

Synopsys, Inc. (NASDAQ: SNPS), a world leader in semiconductor design software, and Oki Electric Co., Ltd. (TSE: 6703) today announced that Oki has standardized on the new HSPICE® high voltage MOS (HVMOS) model for the design of Oki's LCD television (TV) driver system-on-chip (SoC). Oki achieved unparalleled accuracy using this HVMOS model with HSPICE technology, the "Gold Standard" in circuit simulation. This high correlation between device model and silicon enables Oki to accurately design complex, high-voltage drivers that deliver vivid, ultra high-resolution images for large-screen LCD TVs and other advanced integrated circuits in its telecommunications, automotive, computer and consumer product lines.

"We were able to obtain excellent accuracy, performance and convergence using Synopsys' HSPICE technology with the new HVMOS model and the Aurora model parameter extraction tool," said Ichiro Yamamoto, senior manager, Design System Department in the LSI Design Division of Oki Electric's Silicon Solutions Company. "Other commercial simulators with HVMOS models typically produced large variations of up to 30 percent when compared with measured data from silicon. This variability made it difficult to fit the model parameters within an acceptable accuracy range, causing several expensive and time-consuming chip re-spins. While correlating silicon within a few percent with the new HSPICE HVMOS model and the Aurora tool, Oki has reduced the model parameter extraction time from several days to two hours."

Oki has jointly validated the newly developed HVMOS model with Synopsys. The model incorporates all of the necessary and critical physical effects of various high voltage transistor technologies that are in use today. This HSPICE HVMOS model has been verified using several production circuits across a wide range of operating voltage, temperature and process technologies. In addition, this unique HVMOS technology greatly reduces the model parameter extraction and validation time from weeks to hours. Using this HVMOS model, Oki was able to realize an improvement in both the quality of results (QOR) and the time to results (TTR) for its design projects.

"Synopsys is committed to delivering technology and software products like the HSPICE simulator that address circuit simulation needs of the most advanced IC designs," said Edmund Cheng, vice president of Marketing, Silicon Engineering Group at Synopsys. "The new model is measurably more accurate than other commercially available models and greatly reduces Oki's design time for their high definition LCD TV drivers."

Availability

The HVMOS model will be available for general release in the HSPICE simulator in March 2005. The beta version is available for evaluation now. The HVMOS feature of the Aurora™ transistor model parameter extraction tool is also available for evaluation now. The HSPICE simulator is a part of Synopsys' Discovery™ AMS mixed-signal verification solution, which is based on the industry-leading VCS® simulator, NanoSim® simulator, and HSPICE simulator. These best-in-class production-proven simulators provide a unique combination of accuracy, performance and capacity with the flexibility of simulating design abstractions in any combination of Verilog, SPICE and Verilog-A.

About Oki Electric Industry Co., Ltd.

Founded more than a century ago in 1881, Oki Electric Industry Co., Ltd. is Japan's first telecommunications manufacturer, with its headquarters in Tokyo, Japan. With the corporate vision, "Oki, Network Solutions for a Global Society," Oki Electric provides top-quality products, technologies and solutions to its customers through its telecommunications systems, information systems and electronic devices segments. All three segments are integrated into one effective organization that functions as a collective force to create exciting new products and technologies, including information and telecom converged solutions. Through its business activities, Oki Electric satisfies a spectrum of customer needs in various markets. Visit Oki's website at http://www.oki.com/

About Synopsys

Synopsys, Inc. is a world leader in EDA software for semiconductor design. The company delivers technology-leading semiconductor design and verification platforms and IC manufacturing software products to the global electronics market, enabling the development and production of complex systems-on-chips (SoCs). Synopsys also provides intellectual property and design services to simplify the design process and accelerate time-to-market for its customers. Synopsys is headquartered in Mountain View, California and has offices in more than 60 locations throughout North America, Europe, Japan and Asia. Visit Synopsys online at http://www.synopsys.com/.

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SOURCE: Synopsys, Inc.

CONTACT: Carole Murchison of Synopsys, Inc., +1-650-584-4632, or carolem@synopsys.com; or in Europe and Americas, Naomi Takeuchi, Public Relations Division of Oki Electric Co., Ltd., +1-408-737-6479, or press@oki.com; or Melissa Chanslor of Edelman PR, +1-650-968-4033, or melissa.chanslor@edelman.com, for Oki Electric Co., Ltd.; or in Asia and Other Areas, Akiko Horiguchi, Public Relations Division of Oki Electric Co., Ltd., +81-3-3580-8950, or press@oki.com

Web site: http://www.synopsys.com/