Intel Custom Foundry Certifies Synopsys Implementation and Signoff Tools for 10-nm Tri-Gate Process

Certification Includes Industry-leading IC Compiler II Place and Route Solution

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Highlights:

- Digital and signoff tools support advanced multi-patterning and tri-gate design rules
- Imagination Technologies' PowerVR GT7200 graphics processor (GPU) qualified tool certification
- Comprehensive reference flow now available for mutual customers

Synopsys, Inc. (Nasdaq: SNPS) today announced Intel® Custom Foundry's certification of digital and signoff implementation tools from the Synopsys Galaxy™ Design Platform for Intel's 10-nanometer (nm) tri-gate process technology. Synopsys and Intel Custom Foundry employed a PowerVR® GT7200 GPU design from Imagination Technologies™ to develop the reference flow. Customers of Intel Custom Foundry now have access to the 10-nm system-on-chip (SoC) design methodology based on the technology-leading Synopsys Galaxy Design Platform, anchored by IC Compiler™ II.

Key components and features of the Galaxy Design Platform certified and enabled for Intel's 10-nm process include:

- IC Compiler II place and route: Seamless support for the advanced, multi-patterning requirements and optimization technologies to maximize the benefits of advanced tri-gate processes
- PrimeTime® timing signoff: SPICE-level correlation with support for Advanced Waveform Propagation to model tri-gate effects
- StarRC™ extraction: Multi-patterning, full color-aware variation modeling and 3D tri-gate modeling
- IC Validator signoff physical verification: In-Design, automated DRC repair and metal fill within IC Compiler II; and layout-vs.-schematic (LVS) signoff
- HSPICE®, FineSim® SPICE and CustomSim™ simulation: Tri-gate active and passive device modeling via common model and passive device model interfaces

Architected around a modern, low-memory footprint and natively multi-threaded infrastructure, IC Compiler II can easily handle very large designs with proven capacity for over 10-million instances. IC Compiler II delivers industry-leading, ultra-high-capacity automated design planning, unique clock-building technology and patented global-analytical optimization that result in a highly convergent design implementation flow.

IC Validator strengthens the reliability of 10-nm designs by checking electrical overstress (EOS) rules and by significantly improving the handling of multi-voltage rules. Multi-voltage checking is easier with automatic voltage propagation to all polygons, and violations are reported with greater precision. For static discharge protection, IC Validator's programmable extended electrical rule checking (EERC) is certified for validation of mixed-mode checks that combine netlist with geometric checks.

"Intel Custom Foundry has been collaborating with Synopsys on multiple generations of products using Intel's tri-gate process technology," said Dr. Changhong Dai, vice president, Technology and Manufacturing Group, and director, Technology Optimization Solutions at Intel. "We build on this history with today's announcement for the early adopters of our 10-nm process—the third-generation tri-gate technology that offers superior PPA (Power, Performance and Area). Certification of the Synopsys Galaxy Design Platform allows our mutual customers to implement, verify, and signoff differentiated, leading-edge SoC designs."

"PowerVR Series7XT GPUs including the GT7200 used in this certification are ideal for a wide range of mid-range and high-end devices requiring the highest possible performance, efficiency, configurability, and security," said Tony King-Smith, EVP marketing, Imagination. "Imagination worked closely with Intel Custom Foundry and Synopsys in tool certification on Intel's 10-nm process. This effort continues our long time collaboration with Synopsys and Intel Custom Foundry to ensure design flows deliver excellent PPA results for our mutual customers."

"This collaboration extends our long-standing and deep partnership with Intel Custom Foundry to deliver a certified solution for their most advanced 10-nm process technology," said Antun Domic, executive vice president and general manager of the Design Group at Synopsys. "Together, we continue to serve our mutual customers' needs with utmost confidence."

Availability

Support for Synopsys Galaxy Design Platform is available today for Intel Custom Foundry process technologies. For more information on the collaboration with Intel Custom Foundry and Synopsys, please visit Intel.com/Foundry.

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 16th 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 quality and security solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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