Synopsys Enables Tapeout Success for Early Adopters of Arm's Next Generation of Mobile IP

Synopsys Design and Verification Platforms and DesignWare Interface IP Enable Optimized Power, Performance and Area and Faster Time to Market

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Highlights:

- Early adopters of Arm Cortex-A78 CPU andMali-G78 GPU, as well as Arm Cortex-X Custom program partners of Cortex-X1 CPU, have successfully taped out SoCs for smartphones, laptops, and other mobile devices using the Synopsys Fusion Design Platform solution
- Synopsys Verification Continuum Platform accelerates software development, verification closure, and time-to-market for designs based on Arm IP
- DesignWare Interface IP, including controllers and PHY for USB, DDR/LPDDR, PCI Express, MIPI, HDMI, Bluetooth and mobile storage, enables rapid development of Arm-based SoCs
- QuickStart Implementation Kits (QIKs) available today for these latest processors

Synopsys, Inc. (Nasdaq: SNPS) today announced that Synopsys and Arm have collaborated to enable tapeouts of optimized system-on-chips (SoCs) for early adopters of Arm's latest mobile processor IP, including Arm® Cortex®-A78 and Cortex-X1 CPUs, and Mali™-G78 GPU. A range of Synopsys solutions, including theSynopsys Fusion Design Platform™, Verification Continuum™ Platform, and DesignWare® Interface IP, were used in the design of smartphones, laptops, other mobile devices, 5G, augmented reality, and machine learning products based on Arm's new processors. To help designers accelerate time-to-market (TTM) and achieve optimal power, performance, and area (PPA) targets, Synopsys QuickStart Implementation Kits (QIKs) are available today.

"The nearly three decade collaboration between Arm and Synopsys has enabled our mutual partners to quickly realize power and area gains in the design of their Arm-based devices," said Paul Williamson, vice president and general manager, Client Line of Business at Arm. "Our next-generation mobile solution builds on the success of the Cortex-A77 and Mali-G77, and combining it with Synopsys' platforms and IP solutions gives our partners the confidence to deliver the Arm-based mobile devices needed for the era of digital immersion."

Leveraging the collaboration that enabled successful early adopter tapeouts, the QIKs provide implementation scripts and reference guides and take advantage of Synopsys Fusion Compiler™ technology to deliver enhanced PPA and faster turnaround. To help designers achieve their targets quickly and confidently, Synopsys offers design services based on extensive experience hardening Arm processors. The services available range from QuickStart implementation through turnkey core hardening.

The Synopsys Fusion Design Platform has been leveraged for optimized implementation of the new mobile cores and incorporates many Synopsys industry-leading products, including:

- Fusion Compiler design, Design Compiler® NXT synthesis, and IC Compiler™ II place-and-route system for efficient, low-power design implementation
- Signoff closure with PrimeTime® PBA-based ECO with power recovery and exhaustive PBA along with StarRC™ simultaneous multi-corner extraction
- Early, accelerated design optimization for power integrity and reliability with the RedHawk™ Analysis Fusion signoff-driven flow within Fusion Compiler and IC Compiler II place and route

Early adopters of Arm's new premium mobile platform are using Synopsys Verification Continuum solutions extensively with:

- Earlier, faster, scalable software development and test from anywhere at any time with Synopsys Virtualizer™ Development Kit (VDK) with Arm Fast Models for Cortex-A78 and Cortex-X1 CPUs
- Synopsys VCS® simulation with fine-grained parallelism technology for Arm Cortex-A processors
- Synopsys industry-leading verification IP and test suites for the latest Arm AMBA® interconnect
- Synopsys ZeBu® Server for system verification and benchmarking
- Synopsys HAPS® hardware for high performance, scalable FPGA-based prototyping proven with latest Arm cores

Synopsys' high-quality DesignWare Interface IP enables rapid development of mobile Arm-based SoCs. DesignWare IP for mobile markets includes controllers and PHYs for USB, DDR/LPDDR, PCI Express®, MIPI, HDMI, Bluetooth and mobile storage interfaces, and is shipping in billions of units today.

"To ensure mutual customer success with each new generation of Arm processors, Synopsys and Arm work closely starting early in the development process to optimize our Synopsys Fusion Design and Verification Continuum Platforms and DesignWare Interface IP," said Charles Matar, senior vice president of System Solutions and Ecosystem Enablement, Design Group at Synopsys. "This ongoing collaboration allows our mutual customers to leverage the latest features in the Synopsys suite of solutions to achieve optimal PPA and TTM targets for Arm's new Cortex-A78 and Cortex-X1 processors and Mali-G78 GPU."

Availability

QIKs for key Arm processors are available today at https://www.synopsys.com/arm-opto. More information about Synopsys' solutions for designing Arm-based products is available at: https://synopsys.com/Arm.

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.

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