New Synopsys HPC Design Kit Delivers Superior Performance, Power, and Area Efficiency for DesignWare Embedded Vision Processor IP

HPC Design Kit for EV6x Delivers Up to 39 Percent Power Reduction Within the Same Area for SoCs Requiring Advanced AI Processing

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Highlights:

- Latest HPC Design Kit includes high-speed, high-density logic libraries and embedded memories optimized for the DesignWare EV6x Embedded Vision Processor IP
- More than 100 new specialized standard cells improve power efficiency of compute-intensive MAC operations
- Enables SoC designers to deliver maximum speed, smallest area, lowest power, or optimum balance of the three for their AI-based applications

Synopsys, Inc. (Nasdaq: SNPS) today announced the DesignWare® High-Performance Core (HPC) Design Kit for EV6x Processors to help designers meet the performance, power, and area requirements of their systems-on-chips (SoCs) for embedded vision (EV) and artificial intelligence (AI) applications. The DesignWare HPC Design Kit, a suite of high-speed and high-density memories and specialized logic libraries, allows SoC designers to optimize the EV6x processor's vector DSPs and convolutional neural network (CNN) engines for maximum speed, smallest area, lowest power, or an optimum balance of the three. Depending on the requirements of the target application, designers using the HPC Design Kit for EV6x can optimize their implementation to achieve a 39 percent power reduction, a 10 percent reduction in area, or a 7 percent performance boost for their SoCs.

The new HPC Design Kit for the EV6x Embedded Vision Processors contains fast cache memory instances, ultra-high-density two-port SRAMs, and a suite of cells including multi-bit flip-flops, compressors, and multiplexers that enable designers to optimize their SoCs' processors and reduce their time-to-tapeout. Options for overdrive/low-voltage process, voltage, and temperature (PVT) corners, multi-channel cells, and memory built-in self-test (BIST) and repair are also available. Optimized design flow scripts and expert core optimization consulting, including FastOpt implementation services, are available to help design teams achieve their processor and SoC design goals in the shortest possible time.

"The physical IP used for implementing processors into intelligent systems has significant impact on the performance, power, and area of the design," said John Koeter, vice president of marketing for IP at Synopsys. "The combination of the DesignWare HPC Design Kit and EV6x Vision Processors enables designers to optimize the cores across the full speed, power, and area spectrum to meet the specific requirements of their SoCs."

Availability

The DesignWare HPC Design Kit with silicon-proven standard cell libraries and embedded memories for 7-nm, 12-nm, and 16-nm FinFET process technologies is available now. The DesignWare EV6x Embedded Vision Processor is also available now.

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes logic libraries, embedded memories, embedded test, analog IP, wired and wireless interface IP, security IP, embedded processors, and subsystems. To accelerate prototyping, software development and integration of IP into SoCs, Synopsys' IP Accelerated initiative offers IP prototyping kits, IP software development kits, and IP subsystems. Synopsys' extensive investment in IP quality, comprehensive technical support and robust IP development methodology enable designers to reduce integration risk and accelerate time-to-market. For more information on DesignWare IP, visit www.synopsys.com/designware.

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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