# Inuitive Adopts Synopsys' Embedded Vision Processor IP to Accelerate Computer Vision and Deep Learning Algorithms

DesignWare EV6x Processor's Tightly Integrated Vector DSP and CNN Engines Power Inuitive's NU4000 3D Imaging and Vision Processing SoC

**Disclaimer: GlobalFoundries acquired the Synopsys Processor Solutions business on June 1, 2026. Clickhere to learn more.**

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**Highlights:**

- Inuitive selected the DesignWare EV6x Embedded Vision Processor for its high vector DSP and neural network performance in a minimal silicon footprint
- Combination of dual vector DSPs operating in parallel to the CNN engine delivers maximum throughput to meet Inuitive's real-time vision and image processing requirements
- Synopsys' MetaWare EV Development Toolkit simplifies software development for Inuitive's NU4000 SoC, including the mapping of complex CNN graphs

Synopsys, Inc. (Nasdaq: SNPS) today announced that Inuitive selected Synopsys' DesignWare® EV62 Embedded Vision Processor IP for its production NU4000 system-on-chip (SoC), Inuitive's most advanced 3D imaging and vision SoC. Inuitive adopted the EV62 Processor IP to take advantage of the high performance and processing efficiency of the tightly integrated vector DSPs and convolutional neural network (CNN) engine. The CNN engine operates in parallel with the vector DSPs, enabling Inuitive to implement highly accurate object detection, image classification and semantic segmentation capabilities in its SoC at a fraction of the power consumption of competing vision processor IP solutions. The MetaWare EV Development Toolkit, a comprehensive set of tools and software for the EV6x Processors, can distribute the NU4000's computations between the vision CPU and CNN resources to support new and emerging neural network algorithms as well as customer-specific CNN layers.

"To provide our customers with the most advanced, high-performance vision processing capabilities for their demanding computer vision and machine learning applications, we require vision processing IP with the best mix of performance and power consumption with the flexibility to support current and future CNN graphs," said Dor Zepeniuk, vice president of R&D at Inuitive. "The competitive power, performance and area advantages of the DesignWare EV62 processor with its fast CNN engine were critical to achieving the real-time processing capabilities of our NU4000 3D imaging and vision processor SoC."

The DesignWare EV6x Processor Family supports Inuitive's NU4000 SoC requirements for processing multiple camera inputs with high-definition resolutions up to 4K. The EV6x processors have a heterogeneous multicore architecture that includes one to four high-performance vector DSPs designed to be tightly coupled to a CNN engine that delivers up to 4.5 TeraMACs/sec in typical 16-nm FinFET process technologies. To simplify software application development, the DesignWare EV6x Processors are fully programmable and supported by the MetaWare EV Development Toolkit, which includes software development tools based on the OpenVX™, OpenCV and Open CL™ C embedded vision standards. In addition, the Toolkit includes a CNN mapping tool that automatically converts neural networks trained using popular frameworks like Caffe and Tensorflow into an executable for the CNN engine.

"Artificial intelligence is enabling intelligent, real-time identification and recognition at high precision for applications such as ADAS, video surveillance and virtual/augmented reality," said John Koeter, vice president of marketing for IP at Synopsys. "By using Synopsys' EV6x Vision Processor IP, companies like Inuitive can create SoC designs that execute deep learning algorithms at TeraMAC-per-second speeds with the lowest power consumption and highest accuracy."

**Availability & Resources**

The DesignWare EV61, EV62 and EV64 processors with optional CNN engine, and the MetaWare EV Development Toolkit, are available now. Support for the TensorFlow framework in the Toolkit's CNN mapping tool is scheduled to be available in Q4 2017.

- Learn more about DesignWare EV6x Embedded Vision Processors
- Learn more about the MetaWare EV Development Toolkit
- Watch the webinar: Implementing Deep Learning in Embedded Vision Systems

**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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