

Synopsys' New ARC EM Software Development Platform Accelerates Software Development for IoT, Sensor Fusion, and Voice Recognition Applications

Integrated Hardware-Software Platform Enables Developers to Rapidly Develop and Debug Software for ARC EM Processor-Based SoCs

MOUNTAIN VIEW, Calif., Jan. 24, 2019 /PRNewswire/ --

Highlights:

- DesignWare ARC EM Software Development Platform provides downloadable platform packages containing hardware and software configuration information to speed software development and debugging of all ARC EM-based designs
- Includes commonly-used peripherals and interfaces such as USB, SD card, Bluetooth (BT4.0), WiFi (802.11abgn), 9D motion sensor digital microphone input, and analog-to-digital converters (ADCs)
- Extensible through Pmod, Arduino, and mikroBUS connectors, allowing developers to easily add new functionality such as for displays, temperature sensors, and communication interfaces
- Synopsys' embARC Open Software Platform provides pre-verified open-source software including drivers, FreeRTOS operating system, middleware, and examples

Synopsys, Inc. (Nasdaq: SNPS) today announced the new [DesignWare® ARC® EM Software Development Platform](#) to accelerate software development and debug of ARC EM processor-based system-on-chips (SoC) for a wide range of ultra-low power embedded applications such as IoT, sensor fusion, and voice applications. The ARC EM Software Development Platform includes an FPGA-based hardware board with commonly used peripherals and downloadable platform packages. The Development Platform is supported by Synopsys' MetaWare Development Tool Kit, which includes a compiler, debugger, and libraries optimized for maximum performance with minimal code size. In addition, the [embARC Open Software Platform](#) gives developers online access to device drivers, examples, and a suite of free and open-source software that enables them to speed software development for their ARC-based embedded systems.

The ARC EM Software Development platform supports all ARC EM processor families and EM-based subsystems. To facilitate development of ARC processor-based designs, the platform includes several debug and trace interfaces as well as a range of on-board peripherals including motion sensors, flash memory, Bluetooth, and Wi-Fi used in IoT edge devices. The ARC EM Software Development Platform provides extensibility using Arduino UNO revision 3 compatible shields, Digilent Pmod modules, and mikroBUS add-on boards. For greater flexibility, a memory-mapped External Bus Interface (EBI) is also available to control any memory-mapped peripherals located on an external custom board over a generic pin header.

The ARC EM Software Development Platform is supported by a robust ecosystem of development tools and software, including the MetaWare Development Toolkit, which enables the development and debugging of highly optimized code. In addition, Synopsys' embARC Open Software Platform gives software developers online access to a comprehensive suite of free and open-source software, such as device drivers, FreeRTOS, IoT middleware, and examples, that eases the development IoT, sensor, and voice applications. The software in the embARC Open Software Platform includes popular protocols used in IoT devices and networking stacks, such as lwip, and commonly used security protocols, such as mbedTLS. The latest version of the embARC Open Software Platform also supports the OpenThread protocol, an open-source implementation of the Thread networking protocol released by Nest Labs, Inc.

"Embedded software development consumes a significant portion of the design process, so having an integrated hardware and software platform helps teams speed their SoC development effort and meet crucial project schedules," said John Koeter, vice president of marketing for IP at Synopsys. "Synopsys' new ARC EM Software Development Platform provides software engineers with a flexible platform that integrates all the necessary hardware and software to accelerate the development of their ARC EM processor-based SoCs."

Availability and Resources

The [DesignWare ARC EM Software Development Platform](#) is available now from [Trenz](#).

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 enables designers to reduce integration risk and accelerate time-to-market. For more information on DesignWare IP, visit <https://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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