Synopsys Accelerates Software Development for Automotive Systems with New Models for Bosch Timer and In-Car Communication IP

Generic Timer Module, CAN and FlexRay Models for Synopsys Virtualizer Development Kits Enable Early Software Development and Improve Software Quality

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Highlights:

- Expanded automotive model library for Bosch Generic Timer Module (GTM), M_CAN (CAN) and E-RAY (FlexRay) are available with Synopsys VDKs for NXP, Infineon and Renesas microcontrollers
- Bosch GTM timer and M_CAN and E-RAY in-car communication IP are an integral part of microcontrollers for complex automotive applications such as powertrain, chassis and transmission control
- Synopsys' long-term collaboration with Bosch enables tier 1 and OEM companies to have access to timer and in-car communication models from a preferred vendor to speed software development
- VDKs enable software developers to start development early, accelerate system integration, expand fault testing and automate regression testing using virtual prototypes

Synopsys, Inc. (Nasdaq: SNPS) today announced the addition of new models of Bosch timer and in-car communication IP for GTM, M_CAN and ERAY peripherals in its Virtualizer™ Development Kits (VDKs). VDKs are software development kits using a virtual prototype as the embedded target to enable software development, integration and test months before physical hardware is available. The collaboration with Bosch enables automotive companies developing Electronic Control Units (ECUs) using Bosch IP to start software development earlier, accelerate system integration using virtual Hardware-in-the-Loop, expand functional safety testing and automate regression testing, resulting in higher quality software, faster. The models of Bosch IP are available for Synopsys VDKs supporting the NXP MPC5xxx, Infineon AURIX and Renesas RH850 microcontroller family.

"Synopsys and Renesas have been leading the deployment of virtual prototypes through the Center of Excellence," said Naoki Yada, senior manager of Core System Solution Department, Core Technology Business Division, Renesas Electronics Corporation. "By providing models for Bosch IP and in particular the GTM IP, Synopsys enables Renesas customers to deliver embedded software faster and better through the early and simplified access to RH850 virtual prototypes."

The Bosch GTM IP forms a generic timer platform for complex automotive applications such as powertrain, power steering, chassis and transmission control. The IP is scalable and programmable, and to improve performance and power is designed to run with minimal CPU interaction and offload the CPU from handling interrupt service requests. The Bosch E-RAY and M_CAN IP peripherals provide advanced in-car communication capabilities according to the FlexRay protocol specification v2.1 and the ISO 11898-1, 2003 standard for CAN. M_CAN also supports the new CAN-FD (CAN with flexible data rate) feature.

"The ability to perform concurrent debugging is critical when integrating Bosch GTM IP with multiple cores in a microcontroller design," said Norbert Weiss, international sales and marketing manager at Lauterbach. "The combination of Bosch's GTM IP in Synopsys' Virtualizer Development Kit enables automotive companies to use our TRACE32® for GTM software debugging, early software development and efficient debug."

"Automotive systems such as powertrain, chassis and transmission control are increasing their use of powerful multicore microcontroller platforms that integrate the Bosch GTM, M_CAN and E-RAY IP modules," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "By working with leading automotive IP providers, like Bosch, Synopsys is providing developers with faster and easier access to VDKs to accelerate their automotive system and software development effort."

Availability & Resources

The GTM IP reference model, M_CAN and E-RAY models are available now from Synopsys in VDKs targeted at automotive microcontrollers.

- For more information, visit https://www.synopsys.com/verification/solutions/automotive.html

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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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