Synopsys Expands VDK for Renesas RH850 with Ethernet AVB and CAN-FD for Automotive System Software Development

Virtualizer Development Kit (VDK) Enables Tier 1 and OEM Companies to Start Development Early and Improve Software Quality for RH850-based MCU Designs

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Highlights:

- New Ethernet AVB (audio video bridging) and controller area network with flexible data rate (CAN-FD) models added to Renesas RH850 VDK
- VDK enables software developers to accelerate automotive network software development with virtual prototypes of the Renesas RH850 MCUs as the target
- Renesas RH850/F1H virtual prototype integrates a model of Renesas' Ethernet AVB targeted at high-end body control applications
- New models developed through the Center of Excellence collaboration between both companies accelerate the availability of virtual prototypes for Renesas RH850 MCUs

Synopsys, Inc. (Nasdaq: SNPS), a global leader providing software, IP and services used to accelerate innovation in chips and electronic systems, today announced the expansion of its Virtualizer™ Development Kit for Renesas' RH850 MCU Family to include support for Ethernet AVB and CAN-FD automotive network peripherals. The Synopsys VDK for Renesas RH850 MCU is a software development kit that uses RH850 virtual prototypes as a target with software debug and analysis tools. It enables automotive engineers designing RH850-based electronic control units (ECUs) to start software development, integration and test months before hardware is available, resulting in higher product quality and reduced development cost. The Ethernet AVB and CAN-FD models were developed through the Center of Excellence collaboration between Synopsys and Renesas, which leverages joint engineering teams to develop models and VDKs optimized for Renesas RH850 MCUs.

"The requirement for more communication bandwidth is requiring tier one automotive suppliers and OEMs to deploy automotive network technologies such as Ethernet AVB and CAN-FD," said Naoki Yada, department manager of automotive control technical strategy department, 1st solution business unit at Renesas Electronics Corporation. "Synopsys, through our joint Center of Excellence, delivers a complete virtual prototyping solution for companies developing automotive systems with advanced networking requirements. Renesas RH850 VDKs enable companies to start development earlier and improve software quality."

A recent study by Frost & Sullivan, "Strategic Outlook of Automotive Ethernet Technology in Europe and North America" (Dec. 2013), predicts that luxury vehicles will have more than 100 Ethernet nodes by 2020. Ethernet AVB is an IEEE standard for efficient streaming of audio and video content over Ethernet networks. The VDK for Renesas RH850/F1H integrates the model of Renesas' Ethernet AVB IP.

CAN is a multi-master serial bus standard for connecting ECUs. CAN-FD extends the data rates of CAN to 8Mbit/s. The Synopsys model of the Renesas CAN-FD IP can be integrated into any Synopsys VDK for Renesas RH850-based virtual prototype. It is also integrated with Vector CANoe and rest-of-bus simulation tools, enabling developers to work in a virtual environment that delivers more debug and analysis capabilities than the physical environment.

"In-vehicle communication is becoming more prevalent in advanced automobiles. To address this need, automotive tier one and OEM companies are implementing the latest networking standards," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "By providing VDKs with support for Renesas' Ethernet AVB and CAN-FD IP through our joint Center of Excellence collaboration, we enable developers to start automotive system software development for Renesas RH850 MCUs earlier, resulting in higher product quality."

Availability & Resources

The Virtualizer toolset and the VDK for Renesas RH850 are available now. To learn more visit:

- Virtualizer: http://www.synopsys.com/Virtualizer
- VDK for Renesas RH850:

https://www.synopsys.com/verification/virtual-prototyping/vdk/vdk-for-renesas.html

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, Synopsys delivers software, IP and services to help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at www.synopsys.com.

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