Complex Vehicle Systems: Modeling, simulating and validating in real-time

Stuttgart, May 3, 2011: IBM and INCHRON GmbH together are providing a new software tool suite for the development of complex vehicle systems. With this system, developers can model, simulate and validate the realtime behavior of electronic control units and systems.

Two well-known automotive suppliers are currently using this software tool suite from IBM and INCHRON: Hella KGaA Hueck & Co. develops with it electrical systems and electronic control elements. In addition the company conducts analysis with the tool to see how systems react in regard to timing and performance. The Automotive Group of Continental uses the IBM development platform in order to model and to test the different design alternatives right at the beginning of the development process. By doing so, developers are able to integrate the modeled hardware and software on a virtual basis long before any effective decision about the real system is taken.

The new software tool suite enables systems engineers to test the behavior of a system, generate code for various target systems, and support the linkages to other development management activities such as requirement definition, analysis and implementation, or the configuration management. The new offering integrates IBM Rational Rhapsody and the Tool-Suite from INCHRON.

IBM Rational Rhapsody is a visual software development environment that helps diverse teams collaborate to understand and elaborate on requirements and to detail them.

In order to get the dynamic system behaviour better under control, embedded systems developers can model, simulate and analyze the realtime behaviour of their embedded systems. Design decisions are evaluated regarding their impact on timing and performance of the embedded system, a long time before hardware and software are implemented. This significantly shortens development time by reducing design iterations, while improving quality and managing costs.

The new tool suite is already in use

The Automotive Group of Continental Corporation is one of the leading global automotive suppliers. Continental develops components and systems for vehicles that are safe, sustainable and interconnected with their environment.

“Change requests from customers are normal routine in the project business. With the usage of the INCHRON tools, the feasibility of making changes can now be analyzed in a 1/3 of the usual time,” said Andreas Wolfram, Continental Automotive GmbH. “This saves time and money, allows fast feedback to the customer and

provides more confidence in the modified system. The integration in our IBM tool chain represents further efficiency gains."

Hella KGaA Hueck & Co. is a globally-positioned, independent family-owned company with 70 locations in more than 30 countries. Hella develops and manufactures lighting and electronic components and systems for the automotive industry, and operates one of the world's largest aftermarket organizations for automotive parts, accessories, diagnostics and services.

"With the integration of INCHRON tools and the IBM Rational software platform, we can now use an integrated model-driven engineering approach not only for electrical systems and electronic control unit design, but also for timing and performance analysis," said Dr. Thorsten Molt, leader of Processes, Methods and Tools for the business unit Elektronik at Hella. "This helps us avoid duplicated efforts, save time and reduce cost."

"Clients in the embedded system domain are challenged by more complex systems than ever before," said Uwe Brodtmann, CEO of INCHRON. "The tool integration provides the users with the option to model, simulate and analyze the real-time behavior of their modeled embedded systems in the most cost-effective, time-sensitive manner possible."

The partnership between INCHRON and IBM allows IBM to resell the INCHRON Tool Suite. IBM can offer its clients an integrated solution for model-driven development which includes the analysis and validation of realtime behavior.

Visit INCHRON and IBM at the "3rd Annual Elektronik Automotive Congress" in Ludwigsburg, Germany from May 11-12, 2011:http://www.automotive-congress.de/ [1]

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