

SystemC AMS Day 2011

Industry Adoption of the SystemC AMS Standard

BLOCK 1: SYSTEMC AMS FOR SYSTEM INTEGRATORS

SystemC AMS-based Virtual Platform for Automotive Electronic Systems Development & Verification

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Virtual systems platforms for supporting system design have been continuously gaining in importance over the years. They are successfully used for design space explorations during integrated circuit design. Also they can provide software developers with a development platform before silicon being available.

In the automotive field, electronic hardware/software solutions are used in an increasing way for control systems being considered as safety-relevant. Safety is one of the key issues of future automotive systems development. New functionality not only in the area of driver assistance but also in vehicle dynamics control and active and passive safety systems increasingly touches the domain of safety engineering. Future development and integration of these functionalities will even strengthen the need of safe system development processes and the possibility to provide evidence that all reasonable safety objectives are satisfied.

Virtual platforms can help in achieving the desired high level of functional safety by providing powerful means for the verification of hardware-software safety concepts. In the AutoSUN research project, new technologies for fast simulation and verification of analogue/mixed-signal systems have been developed. They have been integrated into a SystemC AMS-based simulation and verification environment. This presentation gives an overview over the platform, the implemented technologies and the targeted use cases.