Why should Hardware Designers have a Drink with Software Teams?

Technical Session II

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Abstract

The successful development of embedded systems requires the continuous integration of hardware and firmware throughout all stages of the project. While today a lot of Hardware/Software integration issues are only discovered on the physical prototype with the pressure put on project's schedule solutions are needed to make sure software is verified at the same time as hardware.

Transaction Level hardware/firmware simulation aids in making a first functional validation of the firmware while helping to take crucial decisions on the architecture of the hardware. After this first system validation more detailed simulation will be necessary to confirm that the memory subsystem can support the reset and boot-up process. Firmware must be executed against a Register Transfer Level hardware description to verify successful boot-up for example.

As an orthogonal approach to functional verification, software driven tests can expose bus interface and timing errors that classical HDL test benches may miss. As a supplement to manually developed tests, verification teams can adopt big chunks of code from the firmware team. Boot code, hardware diagnostics and the RTOS hardware adaptation layer or board support package are highly relevant to functional verification of the hardware design.

Biography

 **Jean-Marie Saint-Paul European Manager SoC Solutions Mentor Graphics**

Jean-Marie Saint-Paul is a Europeanwide specialist for next-generation system level solutions at Mentor Graphics. His responsibilities include supporting key customers with leading-edge applications to improve productivity and quality in today's challenging economic and technological environment. He brings more than 10 years of experience in HW/SW co-design and system-level design practices to his role at Mentor Graphics. Saint-Paul started in the electronic industry at SAGEM. He then held management positions in EDA at Innoveda and Summit Design, where he served as a European Technical Manager for system-level design solutions. Saint-Paul has an engineering degree in electronic engineering from ESIEE Paris and a Master of Electronic and Automatic devices from the Paris University of Science.