Contact: Madeleine Gray, HiPEAC
Email: communication@hipeac.net

MachineWare announces new ARM processor simulation and SystemC profiling products, adds Windows support

Aachen, Germany, 5 October 2023 – With the launch of the CHARM simulator and inSCight profiler, MachineWare GmbH, headquartered in Aachen, is rapidly expanding its virtual prototyping products portfolio towards simulation of new processors and more efficient SystemC modelling.

CHARM, a novel instruction-set simulator for ARM A- and M-class architectures, complements the company's lauded SIM-V product for high-speed RISC-V simulation. Like SIM-V, CHARM has been derived from MachineWare´s proprietary Fast Translator Library (FTL), a framework for quickly building ultra-fast functional processor simulators.

"CHARM is a game-changer for software development, helping our customers seamlessly bring up their complex software stacks, ranging from embedded Zephyr RTOS to Linux, at lightning speed," says Lukas Jünger, MachineWare managing director and co-founder. "With interactive debugging capabilities and the ability to execute identical software as real hardware, CHARM empowers you to conquer the most challenging software development tasks with ease."

Another new software tool product, inSCight, addresses the need for efficient SystemC models for virtual prototypes of complex systems-on-chip. InSCight is a cutting-edge profiler designed for SystemC-based virtual platforms, offering a solution for high-speed simulation. With InSCight, users can swiftly pinpoint and resolve performance bottlenecks, unlocking substantial performance enhancements. The tool is indispensable in the context of virtual platforms, which are often composed of diverse models from various vendors and different abstraction levels, where inSCight efficiently identifies slow-simulating models.

"InSCight was designed to tackle real-world challenges, its primary mission being to empower our customers to maximise the potential of their virtual platforms," adds Jünger. "The benefit is optimal simulation speed for software development, regression testing and interactive debugging."

In parallel to these developments, MachineWare has ported its software products to a wider range of host platforms. As a result, in addition to Linux, the entire tool suite is now available for MS Windows platforms. This includes existing products such as SIM-V, the Virtual Components Modeling Library VCML, as well as QBox ("QEMU in a SystemC box").

MachineWare will showcase the new products for the first time at the Design and Verification Conference & Exhibition Europe (DVCon Europe), a leading technical event on systems, software, design, verification, validation and integration, taking place on 14-15 November 2023 in Munich. A highlight of this event will be the presentation of the Renesas R-Car Virtual Platform, an example of how virtual electronic control units (ECUs) provide an indispensable tool for advanced driver assistance (ADAS) software development.

MachineWare's founders are members of the HiPEAC network of top computing systems experts in Europe.

For further information, contact Madeleine Gray at communication@hipeac.net.