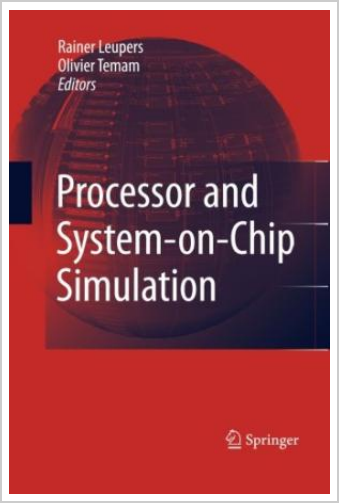

Processor and System-on-Chip Simulation

By Leupers, Rainer / Temam, Olivier

Condition: New. Publisher/Verlag: Springer, Berlin | This book reviews innovative technologies for simulation of computer architecture, presenting and discussing the principle technologies and current state of high-level hardware architecture simulation, both at the processor and the system-on-chip level. | Simulation of computer architectures has made rapid progress recently. The primary application areas are hardware/software performance estimation and optimization as well as functional and timing verification. Recent, innovative technologies such as retargetable simulator generation, dynamic binary translation, or sampling simulation have enabled widespread use of processor and system-on-chip (SoC) simulation tools in the semiconductor and embedded system industries. Simultaneously, processor and SoC simulation is still a very active research area, e.g. what amounts to higher simulation speed, flexibility, and accuracy/speed trade-offs.This book presents and discusses the principle technologies and state-of-the-art in high-level hardware architecture simulation, both at the processor and the system-on-chip level. | System Simulation and Exploration.- The Life Cycle of a Virtual Platform.- Full-System Simulation from Embedded to High-Performance Systems.- Toward the Datacenter: Scaling Simulation Up and Out.- Modular ISA-Independent Full-System Simulation.- Structural Simulation for Architecture Exploration.- Fast Simulation.- Accelerating Simulation with FPGAs.- Scalable Simulation for MPSoC Software and Architectures.- Adaptive High-Speed Processor Simulation.- Representative Sampling Using SimPoint.- Statistical...

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