

Title: Run-time Reconfigurable High Performance SoCs

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Abstract:

System-on-Chips (SoCs) are known to offer energy efficient and high performance solutions to domains of diverse applications. Current day SoCs are software programmable, and their functionality/utility is limited by the capability of the functional units in the processing cores/compute elements. A massively parallel SoC, with post-silicon composable multi-input, multi-output Instruction Extensions (IEs) on Custom Function Units (CFUs) in hardware, can meet the ever-increasing need for domain customization of SoCs. Architecture of such runtime reconfigurable high performance SoCs, together with compilation strategies and application case studies will be presented in this tutorial.