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Keynote 1 - Moore's Law, Programmable Logic and Reconfigurable Systems

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Abstract

Moore's Law continues, but for how long? Many are predicting the end, or at least the slowing, of semiconductor scaling even as FinFETs are being introduced. New technologies, such as 3D integration, offer new opportunities for silicon vendors and customers. These technology trends are converging on Programmable Logic. FPGA vendors are changing the way they build their products and those changes are being reflected in the architecture and tools that surround those products. These products enable new capabilities for reconfigurable systems. This talk describes the technological pressures and opportunities for programmable logic vendors and highlights recent product trends and what they indicate for the future of programmable logic the future of reconfigurable systems built on it.

Short Bio

Dr. Steve Trimberger has been employed at Xilinx for twenty-five years. He was the technical leader for the XC4000 design automation software, led the architecture definition of the Xilinx XC4000X device families and developed a dynamically-reconfigurable multi-context FPGA. He designed the bitstream security functions employed by Xilinx FPGAs and his research led to the development of the Xilinx 2.5D Stacked Silicon Technology. He is currently a Xilinx Fellow heading the Circuits and Architectures Group in Xilinx Research Labs in San Jose, California. He has served as Design Methods Chair for the Design Automation Conference, Program Chair and General Chair for the ACM/SIGDA FPGA Symposium and on the technical programs of numerous Workshops and Symposia. He has published three books and dozens of papers on design automation and FPGA architectures. He has more than 200 patents in IC design, FPGA and ASIC architecture, CAE and cryptography. His innovations appear today in nearly all commercial FPGA devices. He is a four-time winner of the Freeman Award, Xilinx's annual award for technical innovation. He is a Fellow of the ACM and a Fellow of the IEEE.