北京大学高能效计算与应用中心学术报告

FPGA Platforms Leading the Way in the Application of 'More than Moore's' Technology

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Modern FPGA platforms have capabilities that are well suited to assume a more central role in the implementation of complex embedded processing systems. The aggressive adoption of Moore's Law and the application of emerging 3D stacked silicon interconnect technology have resulted in the growth of FPGA capacity that outperforms Moore's Law.

In particular, FPGAs are well placed to be at the heart of complex signal processing, packet processing and high performance computing applications because of their high computational efficiency matched by high bandwidth concurrent memory access and rich on-chip interconnectivity, all of this combined with complete programmability and best in industry power efficiency.

The key to unleashing the full horsepower of FPGA platforms to the system designer is, first of all, a hardware platform that allows tight integration between the processor, the programmable logic and the memory. Second, the hardware architecture has to be supported by a programming flow that abstracts the hardware implementation details and provides seamless and efficient mapping of system functions on multiple processor cores and programmable hardware functions. Finally, a programmable infrastructure has to be provided that targets specific requirements for packet processing or signal processing or high performance computing.

讲员介绍：

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Bolsens came to Xilinx in June 2001 from the Belgium-based research center IMEC, where he was vice president of information and communication systems. His research included the development of knowledge-based verification for VLSI circuits, design of digital signal processing applications, and wireless communication terminals. He also headed the research on design technology for high-level synthesis of DSP hardware, HW/SW co-design and system-on-chip design.

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