

The Impact of the Parallelism Crisis on Low Power Design

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Manycore architectures with growing core counts are racing ahead of programming paradigms. Most applications were originally written for a single processor and most applications do not scale beyond four or eight processor cores. A qualified programmer population for re-writing does not yet exist.

The parallel programming wall forces us to reshape the fundamental nature of system design even beyond algorithmic level. However, the evolutionary path is simply inadequate to address the key issues. Hetero systems including reconfigurable computing are the trend. However, for a successful transition we have to reinvent computing. The talk discusses the impact of such paradigm issues on low power design.