Why Hot Chips are No Longer “Cool”

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ABSTRACT
Chip and system designers are battling a two front war — extracting the last advantages from traditional semiconductor technology scaling on one front, while simultaneously working to contain skyrocketing chip power budgets on the other front. The impacts of this struggle are being felt across market segments far beyond the historic “low power” drivers in mobile consumer products. Today’s battle has expanded to include high performance servers, high speed networking products, and highly integrated SoCs driving the latest home media and entertainment systems. This presentation will provide an overview of the business drivers that are forcing these problems to be addressed at all levels of design — process, chip, sub-system, and total system solution - as well as some of the innovative solutions that are being pursued to provide continuing improvements in real-world processor performance.