KOLLOQUIUM

Modern System on Chip Design

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Donnerstag, der 11.11.2004, 17^{15} Uhr

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Exponential progress and evolution of silicon manufacturing technology has enabled the creation of real systems on a chip (SOC). These systems form an integral part of todays daily use technical products like for example mobile phones and cars.

This presentation gives an introduction to definition and application scope of systems on a chip. Technical keyfigures of typical systems on chip are presented. Evolution of design flow with implications of earlier approaches and related improvement steps are explained. Major challenges faced in SOC design like productivity, verification, timing, power and test are discussed in some detail, adressing also current trends and extrapolation for future technology nodes. Moreover basic insight to important workflow aspects of current industry SOC projects is provided in a final section.