

Strategic Directions towards Multicore Application Specific Computing

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Abstract: Modern Systems on Chip strongly rely on highly complex, specialized, mixed hardware software sub systems to handle processing intensive tasks: 3D graphic, imaging, video, software radio, positioning... Cost and difficulty of super integration, lack of flexibility, little resource sharing combined with a new class of issues attached to deep submicron process variability, reliability, open opportunities to revisit more regular, programmable approaches as an alternative. Will our industry see the emergence of a new generation of standard mega cells that can be assembled as homogeneous many cores fabrics as an alternative to today's heterogeneous SoCs? We strongly believe that the answer is yes and in this talk we will go through the many folds of this question.