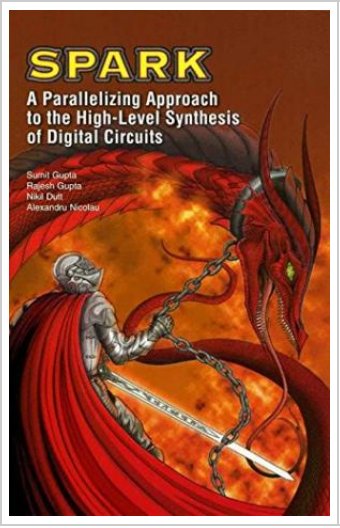

SPARK: A Parallelizing Approach to the High-Level Synthesis of Digital Circuits (Hardback)

By Sumit Gupta, Rajesh Gupta, Nikil D. Dutt

Springer-Verlag New York Inc., United States, 2004. Hardback. Condition: New. 2004 ed.. Language: English . Brand New Book ***** Print on Demand *****. Rapid advances in microelectronic integration and the advent of Systems-on-Chip have fueled the need for high-level synthesis, i.e., an automated approach to the synthesis of hardware from behavioral descriptions. SPARK: A Parallelizing Approach to the High - Level Synthesis of Digital Circuits presents a novel approach to the high-level synthesis of digital circuits -- that of parallelizing high-level synthesis (PHLS). This approach uses aggressive code parallelizing and code motion techniques to discover circuit optimization opportunities beyond what is possible with traditional high-level synthesis. This PHLS approach addresses the problems of the poor quality of synthesis results and the lack of controllability over the transformations applied during the high-level synthesis of system descriptions with complex control flows, that is, with nested conditionals and loops. Also described are speculative code motion techniques and dynamic compiler transformations that optimize the circuit quality in terms of cycle time, circuit size and interconnect costs. We describe the SPARK parallelizing high-level synthesis framework in which we have implemented these techniques and demonstrate the utility of SPARK s PHLS approach using designs derived from...

Reviews

It is an awesome publication which i actually have ever read through. it had been writtern really properly and valuable. I found out this book from my i and dad recommended this pdf to discover.

-- ***Doyle Schmeler***

This book is definitely not simple to begin on studying but quite fun to see. I actually have read and that i am sure that i will gonna read through yet again once again in the foreseeable future. It is extremely difficult to leave it before concluding, once you begin to read the book.

-- ***Brennan Koelpin***