Record Nr. UNINA9910818619503321 Reconfigurable computing: the theory and practice of FPGA-based **Titolo** computation / / edited by Scott Hauck and Andre DeHon Pubbl/distr/stampa Amsterdam;; Boston,: Morgan Kaufmann, c2008 **ISBN** 1-281-09615-6 9786611096151 0-08-055601-9 Edizione [1st edition] Descrizione fisica 1 online resource (945 p.) Collana The Morgan Kaufmann series in systems on silicon Altri autori (Persone) HauckScott DeHonAndre Disciplina 621.39/5 621.395 Adaptive computing systems Soggetti Field programmable gate arrays Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Front Cover: Reconfigurable Computing: Copyright Page: Table of Contents; List of Contributors; Preface; Introduction; Part I: Reconfigurable Computing Hardware; Chapter 1. Device Architecture; 1.1 Logic-The Computational Fabric; 1.2 The Array and Interconnect; 1.3 Extending Logic; 1.4 Configuration; 1.5 Case Studies; 1.6 Summary; References; Chapter 2. Reconfigurable Computing Architectures; 2.1 Reconfigurable Processing Fabric Architectures; 2.2 RPF Integration into Traditional Computing Systems; 2.3 Summary and Future Work; References; Chapter 3. Reconfigurable Computing Systems 3.1 Early Systems 3.2 PAM, VCC, and Splash; 3.3 Small-Scale Reconfigurable Systems; 3.4 Circuit Emulation; 3.5 Accelerating Technology; 3.6 Reconfigurable Supercomputing; 3.7 Non-FPGA Research: 3.8 Other System Issues: 3.9 The Future of Reconfigurable Systems; References; Chapter 4. Reconfiguration Management; 4.1 Reconfiguration; 4.2 Configuration Architectures; 4.3 Managing the Reconfiguration Process; 4.4 Reducing Configuration Transfer Time;

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Part III: Mapping Designs to Reconfigurable Platforms

Sommario/riassunto

Reconfigurable Computing marks a revolutionary and hot topic that bridges the gap between the separate worlds of hardware and software design- the key feature of reconfigurable computing is its groundbreaking ability to perform computations in hardware to increase performance while retaining the flexibility of a software solution. Reconfigurable computers serve as affordable, fast, and accurate tools for developing designs ranging from single chip architectures to multi-chip and embedded systems. Scott Hauck and Andre DeHon have assembled a group of the key experts in the fields

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