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Titolo	Hardware Accelerators in Data Centers // edited by Christoforos Kachris, Babak Falsafi, Dimitrios Soudris
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ISBN	3-319-92792-2
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (280 pages) : illustrations
Disciplina	004.22
Soggetti	Electronic circuits Microprocessors Signal processing Image processing Speech processing systems Circuits and Systems Processor Architectures Signal, Image and Speech Processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Building the Infrastructure for Deploying FPGAs in the Cloud -- dReDBox: A Disaggregated Architectural Perspective for Data Centers -- The Green Computing Continuum: The OPERA Perspective -- SPynq: Acceleration of Machine Learning Applications over Spark on Pynq -- M2DC - A Novel Heterogeneous Hyperscale Microserver Platform -- Towards an Energy-aware Framework for Application Development and Execution in Heterogeneous Parallel Architectures -- Enabling Virtualized Programmable Logic Resources at the Edge and the Cloud -- Energy Efficient Servers and Cloud -- Towards Ubiquitous Low-power Image Processing Platforms -- Energy-efficient Heterogeneous Computing at exaSCALE - ECOSCALE -- On Optimizing the Energy Consumption of Urban Data Centers.
Sommario/riassunto	This book provides readers with an overview of the architectures, programming frameworks, and hardware accelerators for typical cloud computing applications in data centers. The authors present the most

recent and promising solutions, using hardware accelerators to provide high throughput, reduced latency and higher energy efficiency compared to current servers based on commodity processors. Readers will benefit from state-of-the-art information regarding application requirements in contemporary data centers, computational complexity of typical tasks in cloud computing, and a programming framework for the efficient utilization of the hardware accelerators. Provides a single-source reference to the state of the art for hardware accelerators in data centers; Describes integrated frameworks for the seamless deployment of hardware accelerators; Includes several use-case scenarios of hardware accelerators for typical cloud computing applications, such as machine learning, graph computation, and databases.

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