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Titolo	Integrated Optical Interconnect Architectures for Embedded Systems // edited by Ian O'Connor, Gabriela Nicolescu
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ISBN	1-283-84871-6 1-4419-6193-3
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (275 p.)
Collana	Embedded Systems, , 2193-0155
Disciplina	621.391
Soggetti	Electronic circuits Computer-aided engineering Circuits and Systems Computer-Aided Engineering (CAD, CAE) and Design
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	Preface -- Basics for high-performance computing and optical interconnect -- Interconnect issues in high-performance computing architectures -- Technologies and building blocks for on-chip optical interconnects -- On-chip optical communication topologies -- Designing chip-level nanophotonic interconnection networks -- FONOC: a Fat-Tree based optical network-on-chip for multiprocessor system-on-chip -- On-chip optical ring bus communication architecture for heterogeneous MPSoC -- System integration and optical-enhanced MPSoC performance -- A protocol stack architecture for optical network-on-chip: Organization and performance evaluation -- Reconfigurable photonic networks on chip -- System Level Exploration for the Integration of Optical Networks on Chip in 3D MPSoC Architectures.
Sommario/riassunto	This book provides a broad overview of current research in optical interconnect technologies and architectures. Introductory chapters on high-performance computing and the associated issues in conventional interconnect architectures, and on the fundamental building blocks for integrated optical interconnect, provide the foundations for the bulk of the book which brings together leading experts in the field of optical

interconnect architectures for data communication. Particular emphasis is given to the ways in which the photonic components are assembled into architectures to address the needs of data-intensive on-chip communication, and to the performance evaluation of such architectures for specific applications. Provides state-of-the-art research on the use of optical interconnects in Embedded Systems; Begins with coverage of the basics for high-performance computing and optical interconnect; Includes a variety of on-chip optical communication topologies; Features coverage of system integration and optically-enhanced MPSoC performance; Offers a single source reference to the latest research, otherwise available only in disparate journals and conference proceedings.
