

Contents

1	An Introduction to Multi-Core System on Chip – Trends and Challenges	1
	Lionel Torres, Pascal Benoit, Gilles Sassatelli, Michel Robert, Fabien Clermidy, and Diego Puschini	
 Part I “Application Mapping and Communication Infrastructure”		
2	Composability and Predictability for Independent Application Development, Verification, and Execution	25
	Benny Akesson, Anca Molnos, Andreas Hansson, Jude Ambrose Angelo, and Kees Goossens	
3	Hardware Support for Efficient Resource Utilization in Manycore Processor Systems	57
	A. Herkersdorf, A. Lankes, M. Meitinger, R. Ohlendorf, S. Wallentowitz, T. Wild, and J. Zeppenfeld	
4	PALLAS: Mapping Applications onto Manycore	89
	Michael Anderson, Bryan Catanzaro, Jike Chong, Ekaterina Gonina, Kurt Keutzer, Chao-Yue Lai, Mark Murphy, Bor-Yiing Su, and Narayanan Sundaram	
5	The Case for Message Passing on Many-Core Chips	115
	Rakesh Kumar, Timothy G. Mattson, Gilles Pokam, and Rob Van Der Wijngaart	

Part II “Reconfigurable Hardware in Multiprocessor Systems”

- 6 Adaptive Multiprocessor System-on-Chip Architecture:
New Degrees of Freedom in System Design
and Runtime Support..... 127**
Diana Göhringer, Michael Hübner, and Jürgen Becker

Part III “Physical Design of Multiprocessor Systems”

- 7 Design Tools and Methods for Chip Physical Design..... 155**
Ricardo Reis
- 8 Power-Aware Multicore SoC and NoC Design..... 167**
Miltos D. Grammatikakis, George Kornaros,
and Marcello Coppola

Part IV Trends and Challenges for Multiprocessor Systems

- 9 Embedded Multicore Systems: Design Challenges
and Opportunities 197**
Dac Pham, Jim Holt, and Sanjay Deshpande
- 10 High-Performance Multiprocessor System on Chip:
Trends in Chip Architecture for the Mass Market 223**
Rob Aitken, Krisztian Flautner, and John Goodacre
- 11 Invasive Computing: An Overview 241**
Jürgen Teich, Jörg Henkel, Andreas Herkersdorf,
Doris Schmitt-Landsiedel, Wolfgang Schröder-Preikschat,
and Gregor Snelting
- Index 269**



<http://www.springer.com/978-1-4419-6459-5>

Multiprocessor System-on-Chip
Hardware Design and Tool Integration
Hübner, M.; Becker, J. (Eds.)
2011, VIII, 270 p., Hardcover
ISBN: 978-1-4419-6459-5