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Handbook on Parallel and Distributed Processing

With 195 Figures
and 22 Tables

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Foreword

This book is the third of a running series of volumes dedicated to selected topics of information systems theory and application. The objective of the series is to provide a reference source for problem solvers in business, industry, government, and professional researchers and graduate students.

The first volume, Handbook on Architectures of Information Systems, presents a balanced number of contributions from academia and practitioners. The structure of the material follows a differentiation between modeling languages, tools and methodologies. The second volume, Handbook on Electronic Commerce, examines electronic storefront, on-line business, consumer interface, business-to-business networking, digital payment, legal issues, information product development and electronic business models.

The present volume is a joint venture of an international board of editors, gathering prominent authors of academia and practice, who are well known specialists in the area of parallel and distributed processing. The intention of the Handbook is to provide practitioners, scientists and graduate students with a good overview of basic methods and paradigms, as well as important issues and trends across the broad spectrum of the above area. In particular, the book covers fundamental topics such as efficient parallel algorithms, languages for parallel processing, parallel operating systems, architecture of parallel and distributed systems, management of resources in parallel systems, tools for parallel computing, parallel database systems and multimedia object servers, and networking aspects of distributed and parallel computing. Three chapters are dedicated to applications: parallel and distributed scientific computing, high-performance computing in molecular sciences, and multimedia applications for parallel and distributed systems.

Summing up, the Handbook is indispensable for academics and professionals who are interested in learning a leading expert's coherent and individual view of the topic.

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Table of Contents

Foreword V

I. Parallel and Distributed Computing: State-of-the-Art and Emerging Trends
Brigitte Plateau and Denis Trystram 1

1. Introduction 2
2. The Benefits and Needs for Parallel High Performance Computing . 2
3. Parallel and Distributed Systems 4
4. Programming Environment 5
5. Theoretical Foundations 7
6. Survey of the Volume 9

II. The Design of Efficient Parallel Algorithms
Selim G. Akl 13

1. Introduction 14
2. Parallel Models and Algorithms 14
3. Sorting 22
4. Matrix Multiplication 40
5. Computing the Convex Hull 50
6. Pointer-Based Data Structures 59
7. Conclusions 65
8. Bibliographical Remarks 81

III. Languages for Parallel Processing
Ian Foster 92

1. Motivation for Parallel Languages 93
2. New Programming Paradigms 96
3. Language Extensions 104
4. Data-Parallel Languages 120
5. Library-based Approaches 139
6. Future Directions 158

IV. Architecture of Parallel and Distributed Systems
D. Litaize, A. Mzoughi, C. Rochange, and P. Sainrat 166

1. Introduction 168
2. Superscalar Processors 169
3. Uniprocessors vs. Multiprocessors 181
4. Memory Consistency and Memory Coherency 188
5. Bus-Based Shared-Memory Multiprocessors 192
6. Non Bus-Based Shared-Memory Multiprocessors 200
7. From Physically-Shared to Logically-Shared Address Space 203
8. Inputs/Outputs in Parallel and Distributed Systems 206
9. Conclusions 221

V. Parallel Operating Systems
João Garcia, Paulo Ferreira, and Paulo Guedes 228

1. Introduction 230
2. Classification of Parallel Computer Systems 230
3. Operating Systems for Symmetric Multiprocessors 239
4. Operating Systems for NORMA Environments 250
5. Scalable Shared Memory Systems 257

VI. Management of Resources in Parallel Systems
Jacek Błażewicz, Maciej Drozdowski, and Klaus Ecker 263

1. Introduction 264
2. Classical Approaches 276
3. Scheduling Multiprocessor Tasks 281
4. Scheduling Uni-Processor Tasks with Communication Delays 297
5. Scheduling Divisible Tasks 317

VII. Tools for Parallel Computing: A Performance Evaluation Perspective
Allen D. Malony 342

1. Introduction 343
2. Motivation 344
3. Environment Design 347
4. Parallel Performance Paradigms 350
5. Performance Observability 352
6. Performance Diagnosis 354
7. Performance Perturbation 357
8. Summary 362

VIII. Parallel Database Systems and Multimedia Object Servers
Leana Golubchik and Richard R. Muntz 364

1. Introduction 365
2. Parallel Database Systems 370
3. Multimedia Object Servers 381

IX. Networking Aspects of Distributed and Parallel Computing
Jarek Nabrzyski, Maciej Stroiński, and Jan Węglarz 410

1. Introduction 411
2. Computer Networks for Distributed Computing 414
3. Performance Evaluation of Network Interfaces 425
4. Access to Networks with a Specific QoS 432
5. Networking APIs 445
6. Future of the Networks for HPC 461

X. Parallel and Distributed Scientific Computing
A. Petitet, H. Casanova, J. Dongarra, Y. Robert and R. C. Whaley 464

1. Introduction 466
2. Numerical Linear Algebra Libraries 469
3. Automatic Generation of Tuned Numerical Kernels 480
4. Network-enabled Solvers 488
5. Conclusions 497

XI. High-performance Computing in Molecular Sciences
Wojciech Cencek, Jacek Komasa, and Jacek Rychlewski 505

1. Foreword 506
2. Introduction 507
3. Computational Cost Analysis 514
4. Homogeneous Environment in Molecular Calculations 522
5. Heterogeneous Environment in Molecular Calculations 530
6. Conclusions 548

XII. Multimedia Applications for Parallel and Distributed Systems
Giuseppe De Pietro 552

1. What Is Multimedia ? 553
2. Digital Audio and Video Compression Techniques 558
3. Parallel and Distributed Systems for Multimedia 579
4. Multimedia Applications 609
5. Conclusions 623

Index 626
List of Contributors 633