

1. Record Nr.	UNISA996466229703316
Titolo	Euro-Par 2015: Parallel Processing Workshops [[electronic resource]] : Euro-Par 2015 International Workshops, Vienna, Austria, August 24-25, 2015, Revised Selected Papers // edited by Sascha Hunold, Alexandru Costan, Domingo Giménez, Alexandru Iosup, Laura Ricci, María Engracia Gómez Requena, Vittorio Scarano, Ana Lucia Varbanescu, Stephen L. Scott, Stefan Lankes, Josef Weidendorfer, Michael Alexander
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-27308-6
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XLIII, 839 p. 323 illus. in color.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 9523
Disciplina	004.6
Soggetti	Electronic digital computers—Evaluation Software engineering Computer networks Database management Algorithms Application software System Performance and Evaluation Software Engineering Computer Communication Networks Database Management Computer and Information Systems Applications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Intro -- Preface -- Organization -- Workshop Introduction and Organization -- 4th Workshop on Big Data Management in Clouds (BigDataCloud) -- First European Workshop on Parallel and Distributed Computing Education for Undergraduate Students (Euro-EDUPAR) -- 13th International Workshop on Algorithms, Models, and Tools for Parallel Computing on Heterogeneous Platforms (HeteroPar) -- Third Workshop on Large-Scale Distributed Virtual Environments (LSDVE) -- 4th International Workshop on On-Chip Memory Hierarchies and

Interconnects (OMHI) -- Third Workshop on Parallel and Distributed Agent-Based Simulations (PADABS) -- First Workshop on Performance Engineering for Large-Scale Graph Analytics (PELGA) -- Second International Workshop on Reproducibility in Parallel Computing (REPPAR) -- 8th Workshop on Resiliency in High-Performance Computing in Clusters, Clouds, and Grids (Resilience) -- Third Workshop on Runtime and Operating Systems for the Many-Core Era (ROME) -- 8th Workshop on UnConventional High-Performance Computing 2015 (UCHPC) -- 10th Workshop on Virtualization in High-Performance Cloud Computing (VHPC) -- Contents -- BigDataCloud - Big Data Management in Clouds -- Distributed Range-Based Meta-Data Management for an In-Memory Storage -- 1 Introduction -- 2 DXRAM Architecture -- 2.1 Chunks -- 2.2 Super-Peer Overlay -- 3 CID-Ranges -- 3.1 CID-Tree -- 3.2 Backup Nodes Integration -- 3.3 Client-Side Caching -- 4 Evaluation -- 4.1 CID-Tree -- 4.2 Client-Side Caching -- 4.3 BG Benchmark -- 5 Related Work -- 6 Conclusions -- References -- Network-Based Data Processing Architecture for Reliable and High-Performance Distributed Storage System -- 1 Introduction -- 1.1 Background -- 1.2 Our Contribution -- 2 Related Work -- 3 System Design -- 3.1 Network-Based Data Processing Architecture -- 3.2 Overview of the System -- 3.3 Data Layout. 3.4 Switch Architecture -- 3.5 Fallback Mode -- 3.6 Prototype Implementation Overview -- 3.7 Optimized Data Transfer and Processing with RDMA -- 4 Evaluation -- 4.1 Evaluation Target and Conditions -- 4.2 Evaluation Results -- 5 Conclusion and Future Work -- References -- File-Less Approach to Large Scale Data Management -- 1 Introduction -- 2 Related Work -- 3 Fileless Vision -- 4 Fileless Data Model -- 4.1 Hypergraphs -- 4.2 Overview -- 4.3 Object Composition and Decomposition -- 5 Representing Existing Data Structures and Formats in Fileless -- 6 Prototype Design and Implementation -- 7 Conclusions -- References -- Euro-EDUPAR - Parallel and Distributed Computing Education for Undergraduate Students -- Parallel Computing vs. Distributed Computing: A Great Confusion? (Position Paper) -- 1 A (Very) Quick Look at Parallel Computing -- 2 What Is Distributed Computing -- 3 A Fundamental Difference Between Parallel Computing and Distributed Computing -- 4 On the Computational Side: The Hardness of Distributed Computing -- 5 Parallel vs. Distributed Computing: A Schematic View -- 6 An Approach to Teach Distributed Computing -- 7 Distributed Algorithms at the Undergraduate Level -- 8 Distributed Algorithms at the Graduate Level -- 9 When Communication Is Through a Shared Memory -- 10 When Communication Is by Message-Passing -- 11 Conclusion -- A The Non-blocking Atomic Commit Problem -- B Remark on the Notion of a Consensus Number of an Object -- References -- SAUCE: A Web-Based Automated Assessment Tool for Teaching Parallel Programming -- 1 Introduction -- 2 Related Work -- 3 Technical Aspects -- 3.1 Python -- 3.2 SAUCE Web Application -- 3.3 Learning Tools Interoperability -- 3.4 Security Considerations -- 3.5 Distributed Execution -- 4 Use Cases -- 4.1 Solving the Poisson Equation Using MPI -- 4.2 Odd-Even Sort Using OpenMP -- 4.3 Array Reversal Using CUDA. 4.4 Grading Features -- 5 Conclusion -- References -- Teaching Parallel Programming in Interdisciplinary Studies -- 1 Introduction -- 2 Basic Concepts for Interdisciplinary Students -- 3 Parallel Programming -- 3.1 Shared Memory: OpenMP -- 3.2 Message Passing: MPI -- 3.3 GPUs: CUDA -- 3.4 Performance Analysis: Tools -- 4 Applied Modelling and Simulation -- 5 Conclusions -- References -- On-line Service for Teaching Parallel Programming -- 1 Introduction -- 2 Motivation -- 3 ZawodyWeb System -- 3.1 Overview -- 3.2 Technical Details -- 3.3

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Sommario/riassunto

This book constitutes the thoroughly refereed post-conference proceedings of 12 workshops held at the 21st International Conference on Parallel and Distributed Computing, Euro-Par 2015, in Vienna, Austria, in August 2015. The 67 revised full papers presented were carefully reviewed and selected from 121 submissions. The volume includes papers from the following workshops: BigDataCloud: 4th Workshop on Big Data Management in Clouds - Euro-EDUPAR: First European Workshop on Parallel and Distributed Computing Education for Undergraduate Students - Hetero Par: 13th International Workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Platforms - LSDVE: Third Workshop on Large Scale Distributed Virtual Environments - OMHI: 4th International Workshop on On-chip Memory Hierarchies and Interconnects - PADAPS: Third Workshop on Parallel and Distributed Agent-Based Simulations - PELGA: Workshop on Performance Engineering for Large-Scale Graph Analytics - REPPAR: Second International Workshop on Reproducibility in Parallel Computing - Resilience: 8th Workshop on Resiliency in High Performance Computing in Clusters, Clouds, and Grids - ROME: Third Workshop on Runtime and Operating Systems for the Many Core Era - UCHPC: 8th Workshop on UnConventional High Performance Computing - and VHPC: 10th Workshop on Virtualization in High-Performance Cloud Computing.
