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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.