

CCGrid 2013

MAY 13-16, 2013 • DELFT, THE NETHERLANDS

The 13th IEEE/ACM International Symposium on
Cluster, Cloud and Grid Computing



13th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing

CCGrid 2013

Delft, the Netherlands

13-16 May 2013

Program

Organization

General Chair:

Dick Epema, Delft University of Technology and Eindhoven University of Technology, the Netherlands

Program Chair:

Thomas Fahringer, University of Innsbruck, Austria

Doctoral Symposium Co-chairs:

Ana Varbanescu, Delft University of Technology, the Netherlands
Yogesh Simmhan, University of Southern California, USA

SCALE Challenge Co-chairs:

Alexandru Iosup, Delft University of Technology, the Netherlands
Douglas Thain, University of Notre-Dame, USA

Posters Chair:

Rob van Nieuwpoort, Netherlands eScience Center, the Netherlands

Workshop Co-chairs:

Shantenu Jha, Rutgers University, USA
Ioan Raicu, Illinois Institute of Technology and Argonne National Laboratory, USA

Tutorials Chair:

Radu Prodan, University of Innsbruck, Austria

Submissions and Proceedings Chair:

Pavan Balaji, Argonne National Laboratory, USA

Finance and Registration Chair:

Alexandru Iosup, Delft University of Technology, the Netherlands

Publicity Co-chairs:

Nazareno Andrade, Universidade Federal de Campina Grande, Brazil
Gabriel Antoniu, INRIA, France
Bahman Javadi, University of Western Sydney, Australia
Ioan Raicu, Illinois Institute of Technology and Argonne National Laboratory, USA
Kin Choong Yow, Shenzhen Institute of Advanced Technology, China

Cyberchair:

Stephen van der Laan, Delft University of Technology, the Netherlands

Local arrangements:

Esther van Rooijen, Delft University of Technology, the Netherlands

CCGrid 2013: Overview Workshops and Tutorials

Workshops in CCGrid 2013:

1. **C4BIE:** Cloud for Business, Industry and Enterprises
2. **DPMSS:** Second Int'l Workshop on Data-Intensive Process Management in Large-Scale Sensor Systems
3. **ExtremeG:** Extreme Green&Energy Efficiency in Large Scale Distributed Systems
4. **WACC:** First Int'l Workshop on Assured Cloud Computing

Tutorials in CCGrid 2013:

1. **ElasticApps:** Building Scalable Elastic Applications Using Makeflow and Work Queue
Dinesh Rajan and Douglas Thain, University of Notre Dame, USA
2. **MOCC:** Market-Oriented Cloud Computing
Rajkumar Buyya, The University of Melbourne, Australia
3. **Swift:** Swift: Implicitly Parallel Computing for Clouds and Supercomputers
Justin Wozniak and Ketan Maheshwari, Argonne National Laboratory, USA

Monday May 13					
room	Senate	Van Hasselt	Committee 1	Committee 3	C
09:00 – 10:30	WS: DPMSS	WS: C4BIE	-	T: ElasticApps	T: MOCC
10:30 – 11:00	Break				
11:00 – 12:30	WS: DPMSS	WS: C4BIE	-	T: ElasticApps	T: MOCC
12:30 – 13:30	Lunch				
13:30 – 15:00	WS: DPMSS	-	WS: WACC	WS: ExtremeG	T: Swift
15:00 – 15:30	Break				
15:30 – 17:00	-	-	WS: WACC	WS: ExtremeG	T: Swift

Location of breaks and lunch: Foyer of the Aula

CCGrid 2013: Overview Main Conference

Tuesday May 14		
08:45 – 09:00	Conference Opening	
09:00 – 10:00	Session 1: Keynote 1 (Winner IEEE Award Scalable Computing)	
10:00 – 10:30	Break	
10:30 – 12:10	2A: Performance	2B: Clouds I
	2C: Doctoral Symposium	
12:10 – 13:30	Lunch	
13:30 – 15:10	3A: Programming Models	3B: Accelerators
	3C: Doctoral Symposium	
15:10 – 15:40	Break	
15:40 – 16:30	Session 4: Poster Presentations	
16:30 – 18:00	Session 5: Posters + Conference Reception	

Wednesday May 15		
09:00 – 10:00	Session 6: Keynote 2	
10:00 – 10:30	Break	
10:30 – 12:35	7A: Scheduling	7B: MapReduce
	7C: Applications I	
12:35 – 14:00	Lunch	
14:00 – 15:00	Session 8: Panel on Clouds	
15:00 – 15:30	Break	
15:30 – 17:10	9A: Data Management	9B: Multicore
	9C: SCALE	
18:30 – 22:00	Conference Dinner in Restaurant De Lindenhof	

Thursday May 16		
09:00 – 10:00	Session 10: Keynote 3	
10:00 – 10:30	Break	
10:30 – 12:10	11A: Load Balancing	11B: Clouds II
	11C: Applications II	
12:10 – 13:15	Lunch	
13:15 – 14:30	12A: Architectures	12B: Energy and Faulttol.
14:30	Conference Closing with Award Ceremony	

Rooms:

Plenary Sessions:

Track A:

Track B:

Track C:

Breaks, Lunches, Poster Session and Reception:

Senate Room (Senaatszaal)

Senate Room (Senaatszaal)

Van Hasselt Room (Van Hasseltzaal)

Committee Room 3 (Commissiekamer 3)

Foyer

Tuesday, May 14

08:45-09:00 **Conference Opening**

09:00-10:00 **Session 1: Keynote 1 (winner IEEE Award for Excellence in Scalable Computing)**

Chair: *Manish Parashar*

Programming Models for High-Performance Computing

Marc Snir, Argonne National Laboratory and University of Illinois at Urbana-Champaign, USA

10:00-10:30 **Break**

10:30-12:10 **Session 2A: Performance**

Chair: *Thilo Kielmann*

Exploiting per User Information for Supercomputing Workload Prediction Requires Care

Tuan Dinh, Lachlan Andrew and Philip Branch (Swinburne University of Technology)

Building an Elastic Cloud out of Small Datacenters

Indra Widjaja, Sem Borst and Iraj Saniee (Bell-Labs)

Simulating Application Workflows and Services Deployed on the European Grid Infrastructure

Sorina Camarasu Pop, Tristan Glatard and Hugues Benoit-Cattin (CREATIS – CNRS)

Optimizing Large Data Transfers over 100Gbps Wide Area Networks

Anupam Rajendran (Illinois Institute of Technology), Parag Mhashilkar (Fermi National Accelerator Laboratory), Hyunwoo Kim (Fermi National Accelerator Laboratory), Dave Dykstra (Fermi National Accelerator Laboratory), Gabriele Garzoglio (Fermi National Accelerator Laboratory) and Ioan Raicu (Illinois Institute of Technology)

Session 2B: Clouds I

Chair: *Marian Bubak*

Automated, Elastic Resource Provisioning for NoSQL Clusters Using TIRAMOLA

Dimitrios Tsoumakos (Ionian University), Ioannis Konstantinou (National Technical University of Athens), Christina Boumpouka (National Technical University of Athens), Spyros Sioutas (Ionian University) and Nectarios Koziris (National Technical University of Athens)

Autoflex: Service Agnostic Auto-scaling Framework for IaaS Deployment Models

Fábio Morais (Universidade Federal de Campina Grande), Francisco Brasileiro (Universidade Federal de Campina Grande), Raquel Lopes (Universidade Federal de Campina Grande), Ricardo Araújo (Universidade Federal de Campina Grande), Wade Satterfield (Hewlett-Packard) and Leandro Rosa (Hewlett-Packard)

Towards QoS-Oriented SLA Guarantees for Online Cloud Services

Damián Serrano (INRIA Rhône-Alpes), Sara Bouchenak (University of Grenoble), Yousri Kouki (INRIA – EMN), Thomas Ledoux (INRIA – EMN), Jonathan Lejeune (LIP6 – INRIA), Julien Sopena (LIP6 – INRIA), Luciana Arantes (LIP6 – INRIA) and Pierre Sens (LIP6 – INRIA)

Optimal Cloud Resource Auto-Scaling for Web Application

Jing Jiang, Jie Lu, Guangquan Zhang and Guodong Long (University of Technology Sydney)

Session 2C: Doctoral Symposium: Parallel and Distributed Systems

Chair: Ana Varbanescu

Cost-Efficient Virtual Machine Provisioning for Multi-tier Web Applications and Video Transcoding

Adnan Ashraf (Åbo Akademi University)

Sesame: A User-Transparent Optimizing Framework for Many-Core Processors

Jianbin Fang, Ana Lucia Varbanescu and Henk Sips (Delft University of Technology)

Reproducing Network Conditions for Tests of Large-Scale Distributed Systems

Robert Lübke, Daniel Schuster and Alexander Schill (Technische Universität Dresden)

Fast Wide Area Live Migration with a Low Overhead through Page Cache Teleportation

Soramichi Akiyama (University of Tokyo), Takahiro Hirofuchi (National Institute of Advanced Industrial Science and Technology (AIST)), Ryousei Takano (National Institute of Advanced Industrial Science and Technology (AIST)) and Shinichi Honiden (University of Tokyo / National Institute of Informatics (NII))

Towards an Optimized Big Data Processing System

Bogdan Ghit, Alexandru Iosup and Dick Epema (Delft University of Technology)

12:10-13:30 **Lunch**

13:30-15:10 **Session 3A: Programming Models**

Chair: Daniel Katz

Toward Asynchronous and MPI-Interoperable Active Messages

Xin Zhao (University of Illinois, Urbana-Champaign), Darius Buntinas (Argonne National Laboratory), Judicael Zounmevo (Queen's University), James Dinan (Argonne National Laboratory), David Goodell (Argonne National Laboratory), Pavan Balaji (Argonne National Laboratory), Rajeev Thakur (Argonne National Laboratory), Ahmad Afsahi (Queen's University) and William Gropp (University of Illinois, Urbana-Champaign)

Swift/T: Large-Scale Application Composition via Distributed-Memory Dataflow Processing

Justin Wozniak (Argonne National Laboratory), Timothy Armstrong (University of Chicago), Michael Wilde (University of Chicago), Daniel Katz (University of Chicago & Argonne National Laboratory), Ewing Lusk (Argonne National Laboratory) and Ian Foster (University of Chicago & Argonne National Laboratory)

Scalable PGAS Metadata Management on Extreme Scale Systems

Daniel Chavarría-Miranda, Khushbu Agarwal and T.P. Straatsma (Pacific Northwest National Laboratory)

SYBL: an Extensible Language for Controlling Elasticity in Cloud Applications

Georgiana Copil, Daniel Moldovan, Hong-Linh Truong and Schahram Dustdar (Vienna University of Technology)

Session 3B: Accelerators

Chair: Ioan Raicu

GPU-TLS: An Efficient Runtime for Speculative Loop Parallelization on GPUs

Chenggang Zhang, Guodong Han and C.L. Wang (University of Hong Kong)

Efficient Intra-node Communication on Intel-MIC Clusters

Sreeram Potluri, Akshay Venkatesh, Devendar Bureddy, Krishna Chaitanya Kandalla and Dhabaleswar Panda (Ohio State University)

CUDA vs OpenACC: Performance Case Studies with Kernel Benchmarks and a Memory-Bound CFD Application

Tetsuya Hoshino (Tokyo Institute of Technology), Naoya Maruyama (RIKEN AICS), Satoshi Matsuoka (Tokyo Institute of Technology) and Ryoji Takaki (Japan Aerospace Exploration Agency)

Evaluation of Inter- and Intra-node Data Transfer Efficiencies between GPU Devices and their Impact on Scalable Applications

Antonio J. Peña (Universitat Jaume I) and Sadaf R. Alam (Swiss National Supercomputing Center)

Session 3C: Doctoral Symposium: Cloud Computing

Chair: Alexandru Iosup

Massivizing Multi-player Online Games on Cloud

Siqi Shen, Alexandru Iosup and Dick Epema (Delft University of Technology)

Data Usage Control for the Cloud

Florian Kelbert (Technische Universität München)

Extending the Capabilities of Mobile Devices for Online Social Applications through Cloud Offloading

Alexandru-Corneliu Olteanu (University Politehnica of Bucharest Romania), Nicolae Tapus (University Politehnica of Bucharest Romania) and Alexandru Iosup (Delft University of Technology)

Adapting Scientific Applications to Cloud by Using Distributed Computing Frameworks

Pelle Jakovits and Satish Narayana Srirama (University of Tartu)

Negotiation-based Flexible SLA Establishment with SLA-oriented Resource Allocations in Cloud Computing

Seokho Son and Sung Chan Jun (Gwangju Institute of Science and Technology)

15:10-15:40

Break

15:40-16:30

Session 4: Poster Presentations

Chair: Rob van Nieuwpoort

16:30-18:00

Session 5: Posters + Conference Reception

Wednesday, May 15

09:00-10:00 **Session 6: Keynote 2**

Chair: *Dick Epema*

The Astronomical Multipurpose Software Environment and the Ecology of Star Clusters

Simon Portegies Zwart, Leiden University, the Netherlands

10:00-10:30 **Break**

10:30-12:35 **Session 7A: Scheduling**

Chair: *Douglas Thain*

Multi-Objective Workflow Scheduling: An Analysis of the Energy Efficiency and Makespan Tradeoff

Juan J. Durillo, Vlad Nae and Radu Prodan (University of Innsbruck)

Automated SLA Negotiation Framework for Cloud Computing

Linlin Wu (University of Melbourne), Saurabh Kumar (University of Melbourne), Raj Buyya (University of Melbourne), Chao Chen (CA Technologies) and Steve Versteeg (CA Technologies)

Hierarchical I/O Scheduling for Collective I/O

Jialin Liu, Yong Chen and Yu Zhuang (Texas Tech University)

Stretch Out and Compact: Workflow Scheduling with Resource Abundance

Young Choon Lee and Albert Y. Zomaya (University of Sydney)

Scheduling Transactions in Replicated Distributed Software Transactional Memory

Junwhan Kim and Binoy Ravindran (Virginia Tech, ECE)

Session 7B: MapReduce

Chair: *Jean-Louis Pazat*

Bi-Hadoop: Extending Hadoop To Improve Support For Binary-Input Applications

Xiao Yu and Bo Hong (Georgia Institute of Technology)

Non-intrusive Slot Layering in Hadoop

Peng Lu, Young Choon Lee and Albert Zomaya (University of Sydney)

Resilin: Elastic MapReduce over Multiple Clouds

Anca Iordache (INRIA), Christine Morin (INRIA), Nikos Parlavantzas (INSA), Eugen Feller (INRIA) and Pierre Riteau (University of Chicago)

A Lightweight Continuous Jobs Mechanism for MapReduce Frameworks

Trong-Tuan Vu (INRIA) and Fabrice Huet (INRIA-University of Nice-CNRS)

A Scalable Implementation of a MapReduce-based Graph Processing Algorithm for Large-scale Heterogeneous Supercomputers

Koichi Shirahata, Hitoshi Sato, Toyotaro Suzumura and Satoshi Matsuoka (Tokyo Institute of Technology)

Session 7C: Applications I

Chair: *Daniel Katz*

V-BOINC: The Virtualization of BOINC

Gary McGilvary (University of Edinburgh), Adam Barker (University of St Andrews), Ashley Lloyd (University of Edinburgh) and Malcolm Atkinson (University of Edinburgh)

Experiences Applying Data Staging Technology in Unconventional Ways

Jay Lofstead (Sandia National Laboratories), Ron Oldfield (Sandia National Laboratories) and Todd Kordenbrock (Hewlett Packard)

Versioned File Backup and Synchronization for Storage Clouds

Shuang Qiu (Shanghai Jiao Tong University), Jingyu Zhou (Shanghai Jiao Tong University) and Tao Yang (UC Santa Barbara)

Exploring Dynamic Enactment of Scientific Workflows using Pilot-Abstractions

Mark Santcroos (Academic Medical Center of the University of Amsterdam), Barbera Desiree Chantal Van Schaik (Academic Medical Center of the University of Amsterdam), Shayan Shahand (Academic Medical Center of the University of Amsterdam), Silvia Olabariaga (Academic Medical Center of the University of Amsterdam), Andre Luckow (Rutgers University) and Shantenu Jha (Rutgers University)

Evaluating Cloud Computing Techniques for Smart Power Grid Design Using Parallel Scripting

Ketan Maheshwari (Cornell University), Kenneth Birman (Cornell University), Justin Wozniak (Argonne National Laboratory) and Devin Van Zandt (GE Energy)

12:35-14:00 Lunch

14:00-15:00 Session 8: Panel on Clouds

Chair: *Alexandru Iosup*

Members

*Rajkumar Buyya, University of Melbourne, Australia
Richard Graham, Mellanox, Israel and Oak Ridge National Laboratory, USA
Daniel Katz, University of Chicago, USA
Satoshi Matsuoka, Tokyo Institute of Technology, Japan
Daniel A. Reed, University of Iowa, USA*

15:00-15:30 Break

15:30-17:10 Session 9A: Data Management

Chair: *Alfredo Cuzzocrea*

Understanding Data Characteristics and Access Patterns in a Cloud Storage System

Songbin Liu, Xiaomeng Huang, Haohuan Fu, and Guangwen Yang (Tsinghua University)

Supporting a Light-Weight Data Management Layer Over HDF5

Yi Wang, Yu Su and Gagan Agrawal (Ohio State University)

PARLO: PARallel Run-time Layout Optimization for Scientific Data Explorations with Heterogeneous Access Patterns

Zhenhuan Gong (North Carolina State University), David Boyuka (North Carolina State University), Xiaocheng Zou (North Carolina State University), Qing Liu (Oak Ridge National Laboratory), Norbert Podhorszki (Oak Ridge National Laboratory), Xiaosong Ma (North Carolina State University) and Nagiza Samatova (North Carolina State University)

Consistency in the Cloud: When Money Does Matter!

Housseem-Eddine Chihoub (INRIA Rennes-Bretagne Atlantique), Shadi Ibrahim (INRIA Rennes-Bretagne Atlantique), Gabriel Antoniu (INRIA Rennes-Bretagne Atlantique) and Maria S. Pérez (Universidad Politécnica de Madrid)

Session 9B: Multicore

Chair: *Thomas Fahringer*

Partially Separated Page Tables for Efficient Operating System Assisted Hierarchical Memory Management on Heterogeneous Architectures

Balazs Gerofi (RIKEN Advanced Institute for Computational Science), Akio Shimada (RIKEN Advanced Institute for Computational Science), Atsushi Hori (RIKEN Advanced Institute for Computational Science) and Yutaka Ishikawa (University Of Tokyo)

SLOAVx: Scalable LOGarithmic AlltoallV Algorithm for Hierarchical Multicore Systems

Cong Xu (Auburn University), Manjunath Gorentla Venkata (Oak Ridge National Laboratory), Richard Graham (Oak Ridge National Laboratory), Yandong Wang (Auburn University), Zhuo Liu (Auburn University) and Weikuan Yu (Auburn University)

Optimizing Burrows-Wheeler Transform-Based Sequence Alignment on Multicore Architectures

Jing Zhang (Virginia Tech), Heshan Lin (Virginia Tech), Pavan Balaji (Argonne National Laboratory) and Wu-Chun Feng (Virginia Tech)

SR-IOV Support for Virtualization on InfiniBand Clusters: Early Experience

Jithin Jose, Mingzhe Li, Xiaoyi Lu, Krishna Chaitanya Kandalla, Mark Arnold and Dhabaleswar Panda (Ohio State University)

Session 9C: SCALE Challenge

Chairs: *Alexandru Iosup and Douglas Thain*

Scalable Complex System Modeling for Sustainable City

Henry Kasim, Terence Hung, Erika Fille Tupas Legara, Kee Khoon Lee, Xiaorong Li, Bu-Sung Lee, Vicknesh Selvam, Sifei Lu and Long Wang

MR-DBSCAN 2.0: A Scalable MapReduce-based DBSCAN Algorithm for Heavily Skewed Data

Yaobin He and Haoyu Tan

Flaucher and DVMS -- Deploying and Scheduling Thousands of Virtual Machines on Hundreds of Nodes Distributed Geographically

Daniel Balouek, Adrien Lèbre and Flavien Quesnel

Scalability of the Snooze Autonomic Cloud Management System

Eugen Feller, Christine Morin, Matthieu Simonin, Anne-Cécile Orgerie and Yvon Jégou

Exploring Scientific Discovery with Large-Scale Parallel Scripting

Timothy Armstrong, Justin Wozniak and Michael Wilde

18:30-22:00 **Conference Dinner in Restaurant de Lindenhof**

Thursday, May 16

09:00-10:00 **Session 10: Keynote 3**
Chair: *Thomas Fahringer*

Clusters, Grids and Clouds: A Look from Both Sides
Daniel A. Reed, University of Iowa, USA

10:00-10:30 **Break**

10:30-12:10 **Session 11A: Load Balancing**
Chair: *Juan Durillo*

Gang Migration of Virtual Machines using Cluster-wide Deduplication
Umesh Deshpande, Brandon Schlinker, Eitan Adler and Kartik Gopalan
(*Binghamton University*)

Improving HPC Application Performance in Cloud through Dynamic Load Balancing
Abhishek Gupta (Parallel Programming Lab), Osman Sarood (UIUC), Laxmikant V. Kale (UIUC) and Dejan Milojicic (HP Labs)

Automatic Performance Prediction for Load-Balancing Coupled Models
Daihee Kim (State University of New York at Binghamton), J. Walter Larson
(*Australian National University*) and *Kenneth Chiu (State University of New York at Binghamton)*

Collocating CPU-only jobs with GPU-assisted jobs on GPU-assisted HPC
Jiadong Wu and Bo Hong (Georgia Institute of Technology)

Session 11B: Clouds II
Chair: *Henri Bal*

A Chemistry-Inspired Middleware for Self-Adaptive Service Orchestration and Choreography
Chen Wang (INRIA) and Jean-Louis Pazat (IRISA/INSA de Rennes)

Computation Certification as a Service in the Cloud
Safwan Khan and Kevin Hamlen (University of Texas at Dallas)

Security Risk Assessment of Cloud Carrier
Swetha Reddy Lenkala (Tennessee State University), Sachin Shetty (Tennessee State University) and Kaiqi Xiong (Rochester Institute of Technology)

Efficient Use of Geographically Spread Cloud Resources
Yossi Kanizo, Danny Raz and Alexander Zlotnik (Technion)

Session 11C: Applications II

Chair: *Thilo Kielmann*

Large Scale Parallel Solution of Incompressible Flow Problems using Uintah and Hypre

John Schmidt, Martin Berzins, Jeremy Thornock, Tony Saad and James Sutherland (University of Utah)

Case Studies in Designing Elastic Applications

Dinesh Rajan, Andrew Thrasher, Badi' Abdul-Wahid, Jesus A Izaguirre, Scott Emrich and Douglas Thain (University of Notre Dame)

High-Performance Quantum Computing Simulation for the Quantum Geometric Machine Model

Adriano Kurz Maron, Renata Hax Sander Reiser and Maurício Lima Pilla (Federal University of Pelotas)

Stream-Based Admission Control and Scheduling for Video Transcoding in Cloud Computing

Adnan Ashraf, Fareed Ahmed Jekhio, Tewodros Deneke, Sebastien Lafond, Ivan Porres and Johan Lilius (Åbo Akademi University)

12:10-13:15 **Lunch**

13:15-14:30 **Session 12A: Architectures**

Chair: *Marian Bubak*

Flexible Capacity Partitioning in Many-Core Tiled CMPs

Ahmad Samih (Intel Austin), Xiaowei Jiang (Intel Labs), Liang Han (Qualcomm) and Yan Solihin (NC State University)

On Achieving High Message Rates

Holger Fröning, Mondrian Nüssle, Heiner Litz, Christian Leber and Ulrich Brüning (University of Heidelberg)

Simfrastructure: A Flexible and Adaptable Middleware Platform for Modeling and Analysis of Socially Coupled Systems

Keith Bisset, Suruchi Deodhar, Hemanth Makkapati, Madhav Marathe and Paula Stretz (Virginia Bioinformatics Institute)

Session 12B: Energy and Fault Tolerance

Chair: *Douglas Thain*

SHStream: Self-healing Framework for HTTP Video-Streaming

Carlos Cunha and Luis Silva (University of Coimbra)

ECOFIT: A Framework to Estimate Energy Consumption of Fault Tolerance protocols during HPC executions

Mohammed El Mehdi Diouri (ENS Lyon/LIP Laboratory), Olivier Gluck (Université de Lyon), Laurent Lefevre (INRIA) and Franck Cappello (INRIA and University of Illinois at Urbana-Champaign)

DUAL: Reliability-Aware Power Management in Data Centers

Xin Xu (George Washington University), Kayo Teramoto (Yale), Allan Morales (George Washington University) and H. Howie Huang (George Washington University)

14:30-14:45 Conference Closing with Award Ceremony

Proceedings-Published Posters

Cloud Computing for High Performance Image Analysis on a National Infrastructure

Dadong Wang (CSIRO)

An MPI-IO Compliant Java based Parallel I/O Library

Ammar Ahmad Awan (Kyung Hee University), Muhammad Bilal Amin (Kyung Hee University), Shujaat Hussain (Kyung Hee University), Aamir Shafi (National University of Sciences and Technology (NUST)) and Sungyoung Lee (KyungHee University)

Specialized File Transfer Service for Large Oil&Gas Datasets

Fabio de Souza (Petrobras), Marcus Salles (Infnet), Fabio Campos (Petrobras), Silvio Costa (Petrobras), Myrian Costa (COPPE/UFRJ) and Nelson Ebecken (COPPE/UFRJ)

TlaaS: Secure Cloud-assisted Traffic Information Dissemination in Vehicular Ad hoc NETWORKS

Rasheed Hussain, Fizza Abbas, Junggab Son and Heekuck Oh (Hanyang University)

A Novel Checkpointing Scheme for Amazon EC2 Spot Instances

Sunirmal Khatua (University of Calcutta) and Nandini Mukherjee (Jadavpur University)

HDFS+: Concurrent Writes Improvements for HDFS

Kun Lu and Dong Dai (University of Science and Technology of China)

Interference-aware Incoming Message Detection for MPI Threaded Progression

Masahiro Miwa, Kohta Nakashima and Akira Naruse (Fujitsu Laboratories Ltd.)

Accounting Federated Clouds Based on the JiTCloud Platform

Francisco Airton Silva (UFPE), Paulo Silveira Neto (UFPE), Vinicius Garcia (UFPE), Fernando Trinta (UFC) and Rodrigo Assad (UFPE)

Predictive Caching in Computer Grids

Efstathios Rappos and Stephan Robert (HEIG-VD)

Secure Storage Service for IaaS Cloud Users

Jinho Seol, Seongwook Jin and Seungryoul Maeng (Korea Advanced Institute of Science and Technology)

Towards Assurance of Availability in Virtualized Cloud System

Seongwook Jin, Jinho Seol and Seungryoul Maeng (Korea Advanced Institute of Science and Technology)

Isolated Mini-domain for Trusted Cloud Computing

Jaewon Choi, Jongse Park, Jinho Seol and Seungryoul Maeng (Korea Advanced Institute of Science and Technology)

User-level Remote Memory Paging for Multithreaded Applications

Hiroko Midorikawa, Yuichiro Suzuki and Masatoshi Iwaida (Seikei University and JST CREST)

An Autonomic and Scalable Management System for Private Clouds

Mathieu Simonin (INRIA), Eugen Feller (INRIA), Anne-Cécile Orgerie (CNRS), Yvon Jégou (INRIA) and Christine Morin (INRIA)

Evaluation of Cloud Providers for VPH Applications

Marian Bubak (AGH University of Science and Technology), Marek Kasztelnik (AGH University of Science and Technology), Maciej Malawski (AGH University of Science and Technology), Jan Meizner (AGH University of Science and Technology), Piotr Nowakowski (AGH University of Science and Technology) and Susheel Varma (University of Sheffield)

Web-Published Posters

ConPaaS: an Integrated Runtime Environment for Elastic Cloud Applications

Guillaume Pierre (Universite de Rennes 1) and Thilo Kielmann (Vrije Universiteit)

Auto-tuning MPI Execution Models on Clusters with Accelerator Devices and NUMA Memories

Sadaf R. Alam (Switzerland Swiss National Supercomputing Centre)

Energy-aware VM Allocation and Scheduling on An Opportunistic Cloud Environment

Cesar Diaz (University of Luxembourg), Harold Castro (Colombia Universidad de los Andes), Mario Villamizar (Colombia Universidad de los Andes), Johnatan E. Pecero (University of Luxembourg), and Pascal Bouvry (University of Luxembourg)