

# **2012 IEEE 18th International Conference on Parallel and Distributed Systems**

## **(ICPADS 2012)**

**Singapore  
17-19 December 2012**



IEEE Catalog Number: CFP12036-PRT  
ISBN: 978-1-4673-4565-1

# 2012 IEEE 18th International Conference on Parallel and Distributed Systems

## ICPADS 2012

### Table of Contents

<b>Message from the General Co-Chairs.....</b>	xvii
<b>Message from the Program Co-Chairs.....</b>	xviii
<b>ICPADS 2012 Organizing Committee.....</b>	xix
<b>Program Committee Members.....</b>	xxi
<b>Workshop Organizers.....</b>	xxvii
<b>Additional Reviewers.....</b>	xxviii
<b>Keynote 1.....</b>	xxix
<b>Keynote 2.....</b>	xxx
<b>Keynote 3.....</b>	xxxi

---

#### Session 1A: Wireless Networks

Reuse of GSM White Space Spectrum for Cognitive Femtocell Access .....	1
<i>Liang Yin, Kaishun Wu, Sixing Yin, Shufang Li, and Lionel M. Ni</i>	
A General Framework for Broadcasting in Static to Highly Mobile Wireless Ad hoc, Sensor, Robot and Vehicular Networks .....	8
<i>Ivan Stojmenovic</i>	
Achieving Private, Scalable, and Precise Data Collection in Wireless Sensor Networks .....	14
<i>Saiyu Qi, Zhenjiang Li, and Yunhao Liu</i>	
Hybrid Mode Radio Link Control for Efficient Video Transmission over 4GLTE Network .....	22
<i>Balaaji Tirouvengadam and Amiya Nayak</i>	

#### Session 1B: GPU

Auto-Tuning GEMV on Many-Core GPU .....	30
<i>Weizhi Xu, Zhiyong Liu, Jun Wu, Xiaochun Ye, Shuai Jiao, Da Wang, Fenglong Song, and Dongrui Fan</i>	
Pipelined Parallel LZSS for Streaming Data Compression on GPGPUs .....	37
<i>Adnan Ozsoy, Martin Swany, and Arun Chauhan</i>	

Optimizing Dynamic Programming on Graphics Processing Units Via Data Reuse and Data Prefetch with Inter-Block Barrier Synchronization .....	45
<i>Chao-Chin Wu, Kai-Cheng Wei, and Ting-Hong Lin</i>	

Performance Evaluation of Concurrent Lock-free Data Structures on GPUs .....	53
<i>Prabhakar Misra and Mainak Chaudhuri</i>	

## **Session 1C: Cloud Computing**

An Optimal Fully Distributed Algorithm to Minimize the Resource Consumption of Cloud Applications .....	61
<i>Nikos Tziritas, Samee Ullah Khan, Cheng-Zhong Xu, and Jue Hong</i>	

Multi-tier Service Differentiation: Coordinated Resource Provisioning and Admission Control .....	69
<i>Sireesha Muppala, Xiaobo Zhou, and Guihai Chen</i>	

Reconciling Dynamic System Sizing and Content Locality through Hierarchical Workload Forecasting .....	77
<i>Juan M. Tirado, Daniel Higuero, Florin Isaila, and Jesus Carretero</i>	

Free Elasticity and Free CPU Power for Scientific Workloads on IaaS Clouds .....	85
<i>Etienne Michon, Julien Gossa, and Stéphane Genaud</i>	

## **Session 1D: Security**

Dictionary Attack on TrueCrypt with RIVYERA S3-5000 .....	93
<i>Ayman Abbas, Claas Anders Rathje, Lars Wienbrandt, and Manfred Schimmler</i>	

A Lightweight Secure Provenance Scheme for Wireless Sensor Networks .....	101
<i>Salmin Sultana, Gabriel Ghinita, Elisa Bertino, and Mohamed Shehab</i>	

Accountable Anonymity: A Proxy Re-Encryption Based Anonymous Communication System .....	109
<i>Gang Xu, Leonardo Aguilera, and Yong Guan</i>	

Maximizing Availability of Consistent Data in Unreliable Networks .....	117
<i>Yuki Matsui, Hideharu Kojima, and Tatsuhiro Tsuchiya</i>	

## **Session 2A: Mobile Applications**

Mobile Edutainment with Interactive Augmented Reality Using Adaptive Marker Tracking .....	124
<i>Chi-Lam Lai and Cho-Li Wang</i>	

A Novel Multi-Channel Data Broadcast Scheme for Multimedia Database Systems .....	132
<i>Xiaofeng Gao, Yi Zhu, Donghyun Kim, Jianzhong Li, and Weili Wu</i>	

MobUser: Publish-subscribe Communication for Mobile Nodes .....	140
<i>Mauro Silva, João Leitão, and Carlos Ribeiro</i>	

## **Session 2B: MapReduce**

ESAMR: An Enhanced Self-Adaptive MapReduce Scheduling Algorithm .....	148
<i>Xiaoyu Sun, Chen He, and Ying Lu</i>	
Workload Characteristic Oriented Scheduler for MapReduce .....	156
<i>Peng Lu, Young Choon Lee, Chen Wang, Bing Bing Zhou, Junliang Chen, and Albert Y. Zomaya</i>	
Parallel Processing of Massive EEG Data with MapReduce .....	164
<i>Lizhe Wang, Dan Chen, Rajiv Ranjan, Samee U. Khan, Joanna KolOdziej, and Jun Wang</i>	

## **Session 2C: Storage**

Smart Replication for In-memory Computations .....	172
<i>Kim-Thomas Rehmann, Kevin Beineke, and Michael Schoettner</i>	
ESB: Ext2 Split Block Device .....	181
<i>Jürgen Kaiser, Dirk Meister, Tim Hartung, and Andre Brinkmann</i>	
AREN: A Popularity Aware Replication Scheme for Cloud Storage .....	189
<i>Guthemberg Silvestre, Sébastien Monnet, Ruby Krishnaswamy, and Pierre Sens</i>	

## **Session 2D: Location Privacy**

Ad-hoc Anonymity: Privacy Preservation for Location-based Services in Mobile Networks .....	197
<i>Junliang Liu, Zheng Yang, and Yunhao Liu</i>	
Complete Bipartite Anonymity: Confusing Anonymous Mobility Traces for Location Privacy .....	205
<i>Kai Dong, Tao Gu, Xianping Tao, and Jian Lu</i>	
Privacy Preserving for Continuous Query in Location Based Services .....	213
<i>Yong Wang, Long-ping He, Jing Peng, Ting-ting Zhang, and Hong-zong Li</i>	

## **Plenary Session: Best Papers**

Two-Level Result Caching for Web Search Queries on Structured P2P Networks .....	221
<i>Erika Rosas, Nicolas Hidalgo, and Mauricio Marin</i>	
FIMD: Fine-grained Device-free Motion Detection .....	229
<i>Jiang Xiao, Kaishun Wu, Youwen Yi, Lu Wang, and Lionel M. Ni</i>	
Asymptotically Optimal Load Balancing for Hierarchical Multi-Core Systems .....	236
<i>Laércio L. Pilla, Philippe O.A. Navaux, Christiane P. Ribeiro, Pierre Coucheney, François Broquedis, Bruno Gaujal, and Jean-François Méhaut</i>	

## **Session 3A: Cloud Data Management**

Efficient Multi-Keyword Ranked Query on Encrypted Data in the Cloud .....	244
<i>Zhiyong Xu, Wansheng Kang, Ruixuan Li, Kinchoong Yow, and Cheng-Zhong Xu</i>	

Privacy-Aware Multi-Keyword Top-k Search over Untrust Data Cloud .....	252
<i>Peng Lu, Jiadi Yu, Xin Dong, Guangtao Xue, and Minglu Li</i>	

An Efficient Geometry Data Allocation Algorithm in Cloud Computing Environments .....	260
<i>Kun-Wei Wang, Bo-Wei Huang, and Wen-Chih Peng</i>	

Elasticity Controller for Cloud-Based Key-Value Stores .....	268
<i>Ala Arman, Ahmad Al-Shishtawy, and Vladimir Vlassov</i>	

### **Session 3B: CUDA and P2P Streaming**

A Parallel H.264 Encoder with CUDA: Mapping and Evaluation .....	276
<i>Nan Wu, Mei Wen, Huayou Su, Ju Ren, and Chunyuan Zhang</i>	

CUDA Acceleration of 3D Dynamic Scene Reconstruction and 3D Motion Estimation for Motion Capture .....	284
<i>Zheng Zhang and Hock Soon Seah</i>	

DirectedPush - A High Performance Peer-to-Peer Live Streaming System Using Network Coding .....	292
<i>Guanzhong Xu, Yusuo Hu, Yao Shen, and Minyi Guo</i>	

CPDID: A Novel CDN-P2P Dynamic Interactive Delivery Scheme for Live Streaming .....	299
<i>Zhihui Lu, Jie Wu, Yi Huang, Lijiang Chen, and Da Deng</i>	

### **Session 3C: Sensor and Ad Hoc Networks**

EODS: An Energy-efficient Online Decision Scheme in Delay-sensitive Sensor Networks for Rare-event Detection .....	307
<i>Lijie Xu, Jiannong Cao, Xuefeng Liu, Haipeng Dai, and Guihai Chen</i>	

LogA: Concurrent Medium Access Control through Time Log Analysis in Sensor Networks .....	315
<i>Zhaoliang Zhang, Haiming Chen, Tingpei Huang, Xinyu Liu, and Li Cui</i>	

Efficient Cache Discovery for Cooperative Caching in Wireless Ad Hoc Networks .....	323
<i>Weigang Wu and Jiannong Cao</i>	

SIEVE: A Distributed, Accurate, and Robust Technique to Identify Malicious Nodes in Data Dissemination on MANET .....	331
<i>Rossano Gaeta, Marco Grangetto, and Riccardo Loti</i>	

### **Session 3D: Multicore Computing and Reconfiguration Algorithms**

A Memory Access Model for Highly-threaded Many-core Architectures .....	339
<i>Lin Ma, Kunal Agrawal, and Roger D. Chamberlain</i>	

An Improvement of OpenMP Pipeline Parallelism with the BatchQueue Algorithm .....	348
<i>Thomas Preud'Homme, Julien Sopena, Gaël Thomas, and Bertil Folliot</i>	

Reconfiguration Algorithms for Degradable VLSI Arrays with Switch Faults .....	356
<i>Yuanbo Zhu, Jigang Wu, Siew-Kei Lam, and Thambipillai Srikanthan</i>	

Non-Backtracking Reconfiguration Algorithm for Three-dimensional VLSI Arrays .....	362
<i>Guixuan Jiang, Jigang Wu, and Jizhou Sun</i>	

### **Session 4A: Virtual Machines**

LVMCI: Efficient and Effective VM Live Migration Selection Scheme in Virtualized Data Centers .....	368
<i>Wei Zhang, Mingfa Zhu, Yiduo Mei, Limin Xiao, Li Ruan, Tao Gong, Tao Li, Yunwei Gao, and Yuzhong Sun</i>	

iROW: An Efficient Live Snapshot System for Virtual Machine Disk .....	376
<i>Jianxin Li, Hanqing Liu, Lei Cui, Bo Li, and Tianyu Wo</i>	

A Scalable Signalling Mechanism for VM Migration with SR-IOV over Infiniband .....	384
<i>Wei Lin Guay, Sven-Arne Reinemo, Bjørn Dag Johnsen, Tor Skeie, and Ola Torudbakken</i>	

### **Session 4B: Multicore Computing**

AutoTunium: An Evolutionary Tuner for General-Purpose Multicore Applications .....	392
<i>Andreas Zwinkau and Victor Pankratius</i>	

Hardware-aware Thread Scheduling: The Case of Asymmetric Multicore Processors .....	400
<i>Achille Peternier, Danilo Ansaldi, Daniele Bonetta, Cesare Pautasso, and Walter Binder</i>	

Topology Virtualization for Throughput Maximization on Many-Core Platforms .....	408
<i>Tianyi Wang, Gang Quan, Shangping Ren, and Meikang Qiu</i>	

### **Session 4C: RFID**

Capturing Tag Dynamics by Prediction for Pervasive Internet-of-Things Applications .....	416
<i>Yu Huang, Xiaoxing Ma, and Yiling Yang</i>	

BEST: A Bidirectional Efficiency-Privacy Transferable Authentication Protocol for RFID-Enabled Supply Chain .....	424
<i>Saiyu Qi, Li Lu, Zhenjiang Li, and Mo Li</i>	

Placement of Multiple RFID Reader Antennas to Alleviate the Negative Effect of Tag Orientation .....	432
<i>Jia Liu and Lijun Chen</i>	

### **Session 5A: Cloud Services**

Leveraging Cloud Infrastructure for Troubleshooting Edge Computing Systems .....	440
<i>Michael Fagan, Mohammad Maifi Hasan Khan, and Bing Wang</i>	

NOHAA: A NOvel Framework for HPC Analytics over Windows Azure .....	448
<i>Qiangju Xiao, Jun Wang, Yan Ma, and Lizhe Wang</i>	

WS-TaaS: A Testing as a Service Platform for Web Service Load Testing .....	456
<i>Minzhi Yan, Hailong Sun, Xu Wang, and Xudong Liu</i>	

## **Session 5B: High Performance Computing I**

An Efficient MPI Message Queue Mechanism for Large-scale Jobs .....	464
<i>Judicael A. Zounmevo and Ahmad Afsahi</i>	
Accelerating Cost Aggregation for Real-Time Stereo Matching .....	472
<i>Jianbin Fang, Ana Lucia Varbanescu, Jie Shen, Henk Sips, Gorkem Saygili,     and Laurens Van Der Maaten</i>	
A Non-Intrusive Read-Copy-Update for UTS .....	482
<i>Andrej Podzimek, Martin Děcký, Lubomír Bulej, and Petr Tůma</i>	

## **Session 5C: Sensor Networks**

Neighbor Discovery in Low-Duty-Cycle Wireless Sensor Networks with Multipacket Reception .....	490
<i>Guobao Sun, Fan Wu, and Guihai Chen</i>	
A Reconfigurable Hardware Accelerated Platform for Clustered Wireless Sensor Networks .....	498
<i>Chih-Ming Hsieh, Zhonglei Wang, and Jörg Henkel</i>	
Self-Stabilizing Micro Controller for Large-Scale Sensor Networks in Spite of Program Counter Corruptions Due to Soft Errors .....	506
<i>Christopher Boelmann, Torben Weis, Michael Engel, and Arno Wacker</i>	

## **Session 6A: Cache and Memory**

Behavior Aware Data Locality for Caches .....	514
<i>Gangyong Jia, Xi Li, Chao Wang, Xuehai Zhou, and Zongwei Zhu</i>	
SeTM: Efficient Execution of Speculative Threads with Hardware Transactional Memory .....	522
<i>Gongming Li, Hong An, Qi Li, Bobin Deng, and Wenbo Dai</i>	
Optimizing Scheduling in Embedded CMP Systems with Phase Change Memory .....	532
<i>Jiayin Li, Zhiyang Zhang, Meikang Qiu, Ping Zhang, Gang Quan, and Yongxin Zhu</i>	
A Synchronization Aware Memory Race Recorder .....	540
<i>Zhu Suxia, Ji Zhenzhou, Chen Zhigang, Wang Qing, and Wu Hao</i>	

## **Session 6B: High Performance Computing II**

MSSM: An Efficient Scheduling Mechanism for CUDA Basing on Task Partition .....	548
<i>Cheng Luo and Reiji Suda</i>	
Comparing the Performance of Blue Gene/Q with Leading Cray XE6 and InfiniBand Systems .....	556
<i>Darren J. Kerbyson, Kevin J. Barker, Abhinav Vishnu, and Adolfy Hoisie</i>	

Energy-Aware Communication and Remapping of Tasks for Reliable Multimedia Multiprocessor Systems .....	564
<i>Anup Das, Akash Kumar, and Bharadwaj Veeravalli</i>	

Gargamel: Boosting DBMS Performance by Parallelising Write Transactions .....	572
<i>Pierpaolo Cincilla, Sébastien Monnet, and Marc Shapiro</i>	

### **Session 6C: Internet Computing**

Effective Caching Schemes for Minimizing Inter-ISP Traffic in Named Data Networking .....	580
<i>Jun Li, Hao Wu, Bin Liu, and Jianyuan Lu</i>	
The Freshman Handbook: A Hint for Server Placement in Online Social Network Services .....	588
<i>Ying Zhang, Du Li, and Mallik Tatipamula</i>	
An Enhanced Genetic Algorithm for Server Placement in Distributed Interactive Applications .....	596
<i>Hanying Zheng and Xueyan Tang</i>	
Quality of Experience-Aware Event Synchronization for Distributed Virtual Worlds .....	604
<i>Laura Krammer, Gregor Schiele, Dieter Koch, and Christian Becker</i>	

### **Session 7A: Memory Systems**

Page-Based Memory Allocation Policies of Local and Remote Memory in Cluster Computers .....	612
<i>Mónica Serrano, Salvador Petit, Julio Sahuquillo, Rafael Ubal, Houcine Hassan, and José Duato</i>	
OPAMP: Evaluation Framework for Optimal Page Allocation of Hybrid Main Memory Architecture .....	620
<i>Jong-Hun Choi, Seong-Min Kim, Chulmin Kim, Ki-Woong Park, and Kyu Ho Park</i>	
CAR: Securing PCM Main Memory System with Cache Address Remapping .....	628
<i>Gang Wu, Huxing Zhang, Yaozu Dong, and Jingtong Hu</i>	
An Efficient and Scalable Memory Allocator for Multithreaded Tabled Evaluation of Logic Programs .....	636
<i>Miguel Areias and Ricardo Rocha</i>	

### **Session 7B: Energy Efficiency**

Design of Energy-Efficient Video Sharing Servers with Delay Constraints .....	644
<i>Hang Yuan, C.-C. Jay Kuo, and Ishfaq Ahmad</i>	
Fine-Grained Energy-Efficient Sorting on a Many-Core Processor Array .....	652
<i>Aaron Stillmaker, Lucas Stillmaker, and Bevan Baas</i>	

A Runtime Framework for Energy Efficient HPC Systems without a Priori Knowledge of Applications .....	660
--	-----

*Ghislain Landry Tsafack Chetsa, Laurent Lefvre, Jean-Marc Pierson, Patricia Stolf,  
and Georges Da Costa*

### Session 7C: Performance Optimization

Convexity in Non-convex Optimizations of Streaming Applications .....	668
<i>Shobana Padmanabhan, Yixin Chen, and Roger D. Chamberlain</i>	
Performance Optimization of a Parallel, Two Stage Stochastic Linear Program .....	676
<i>Akhil Langer, Ramprasad Venkataraman, Udatta Palekar, Laxmikant Kale, and Steven Baker</i>	
Model-driven Level 3 BLAS Performance Optimization on Loongson 3A Processor .....	684
<i>Zhang Xianyi, Wang Qian, and Zhang Yunquan</i>	

### Posters

Obfuscated Counting in Single-Hop Radio Network .....	692
<i>Marcin Kardas, Marek Klonowski, Piotr Syga, and Szymon Wilczek</i>	
GPU Accelerated Molecular Docking with Parallel Genetic Algorithm .....	694
<i>Xuchang Ouyang and Chee Keong Kwoh</i>	
Supporting User-directed Fault Tolerance over Standard MPI .....	696
<i>Zhimin Wu, Rui Wang, Weizhi Xu, Mingyu Chen, and Erlin Yao</i>	
Automatic Refactoring of Legacy Fortran Code to the Array Slicing Notation .....	698
<i>Chandrasehar Rajaseharan, Wen Jun Tan, Wai Teng Tang, Stephen John Turner, Shyh-Hao Kuo, Rick Siew Mong Goh, and Weng-Fai Wong</i>	
Simplifying Install-time Auto-Tuning for Cross-Compilation Environments by Program Execution Forwarding .....	700
<i>Yoshikazu Kamoshida</i>	
IODET: A HoL-blocking-aware Deterministic Routing Algorithm for Direct Topologies .....	702
<i>R. Peñaranda, C. Gómez, M.E. Gómez, P. López, and J. Duato</i>	
Measuring Distributed Applications through MapReduce and Traffic Analysis .....	704
<i>Thiago Vieira, Paulo Soares, Marco Machado, Rodrigo Assad, and Vinicius Garcia</i>	
Time-Stamped Equal Size Segmentation and Chunk Scheduling Algorithms for SVC Based P2P Streaming Systems .....	706
<i>Yan Zhang, Xu Zhou, Junping Song, Yang Yue, and Dan Liao</i>	
A Novel Cache Replacement Policy for ISP Merged CDN .....	708
<i>Qiao Li, Hui He, Bin-Xing Fang, and Hong-Li Zhang</i>	
Modeling and Analysis of Large Scale Interconnected Unstructured P2P Networks .....	710
<i>Rossano Gaeta, Riccardo Loti, Vincenzo Ciancaglini, and Rossano Gaeta</i>	
Balancing Precision and Battery Drain in Activity Recognition on Mobile Phone .....	712
<i>Vo Quang Viet, Hoang Minh Thang, and Deok-Jai Choi</i>	

Inner-Distance-Based Shape Recognition of Target Object Using Binary Sensors .....	714
<i>Shigeo Shioda and Taiki Hayashi</i>	
An Evaluation of Vehicular Networks with Real Traces .....	716
<i>Chao Chen and Yanmin Zhu</i>	
Software Aging in Virtualized Environments: Detection and Prediction .....	718
<i>Lei Cui, Bo Li, Jianxin Li, James Hardy, and Lu Liu</i>	
An Erasure Coded Archival Storage System .....	720
<i>Prateep Misra, Nilanjan Roy, Soumitra Naskar, and Swarnava Dey</i>	
R-Barrier: Rapid Barrier for Software RAID Cache Using Hints from Journaling Filesystem .....	722
<i>Chulmin Kim, Sung Hoon Baek, and Kyu Ho Park</i>	
Automated Malware Analysis Framework with Honeynet Technology in Taiwan Campuses .....	724
<i>Yi-Lang Tsai, Bo-Yi Lee, and Jee-Gong Chang</i>	
Multicast Congestion Control Using Communicating Realtime State Machines and Dynamical Systems for Distributed Iptv Scenarios .....	726
<i>Oscar M. Bonastre, Jose Valero, Angel Gimenez, and Jose Maria Amigo</i>	
A Distributed Sensor Data Stream Delivery System with Communication Loads Balancing for Heterogeneous Collection Cycle Requests .....	728
<i>Yoshimasa Ishi, Tomoki Yoshihisa, Tomoya Kawakami, and Yuuichi Teranishi</i>	
Cyber Attacks Prediction Model Based on Bayesian Network .....	730
<i>Jinyu Wu, Lihua Yin, and Yunchuan Guo</i>	
<b>International Workshop on Cloud Services and Systems (CSS 2012)</b>	
iCirrus Wop: Workload Analysis for Virtual Machine Placements .....	732
<i>Geetika Goel, Rajeshwari Ganesan, Santonu Sarkar, and Kavish Kaup</i>	
Parallel Secondo: Boosting Database Engines with Hadoop .....	738
<i>Jiamin Lu and Ralf Hartmut Güting</i>	
A Remote USB Architecture for Virtual Machine Oriented Device Sharing and Transparent Migration .....	744
<i>Ye Jiao, Tianyu Wo, and Bo Li</i>	
Towards a Common Benchmark Framework for Cloud Brokers .....	750
<i>Le Duy Ngan, Tsai Flora S, Chan Chee Keong, and Rajaraman Kanagasabai</i>	
Enabling On-Demand Mashups of Open Data with Semantic Services .....	755
<i>Yuzhang Feng, Anitha Veeramani, and Rajaraman Kanagasabai</i>	
Online Optimization of VM Deployment in IaaS Cloud .....	760
<i>Pei Fan, Zhenbang Chen, Ji Wang, and Zibin Zheng</i>	

## **International Workshop on Cloud Performance Enhancement (CPE 2012)**

Accelerating the Cloud Backup Using GPU Based Data Deduplication .....	766
<i>Kiatchumpol Suttisirikul and Putchong Uthayopas</i>	
Improving Data Processing Time with Access Sequence Prediction .....	770
<i>Prasitchai Boonserm, Bingqiang Wang, Simon See, and Tiranee Achalakul</i>	
Modeling Dwarfs for Workload Characterization .....	776
<i>Kittituch Manakul, Peerapon Siripongwutikorn, Simon See, and Tiranee Achalakul</i>	
A Distributed Fine-Grained Flow Control System for Scalable Aircraft Spares Management and Optimization in Clouds .....	782
<i>Theint Theint Aye, Ta Nguyen Bin Duong, Xiaorong Li, and Elaine Wong Kay Li</i>	
A VM-based Resource Management Method Using Statistics .....	788
<i>Zhenzhong Zhang, Limin Xiao, Yongnan Li, and Li Ruan</i>	
Failure Prediction of Data Centers Using Time Series and Fault Tree Analysis .....	794
<i>Thanyalak Chalermarrewong, Tiranee Achalakul, and Simon Chong Wee See</i>	
Enhancing Cloud Object Storage Performance Using Dynamic Replication Approach .....	800
<i>Kanatorn Jindarak and Putchong Uthayopas</i>	

## **International Workshop on Scalable Computing for Big Data Analytics (SC-BDA 2012)**

Data Value Chain as a Service Framework: For Enabling Data Handling, Data Security and Data Analysis in the Cloud .....	804
<i>Henry Kasim, Terence Hung, and Xiaorong Li</i>	
Privacy Preservation in Streaming Data Collection .....	810
<i>Wee Siong Ng, Huayu Wu, Wei Wu, Shili Xiang, and Kian-Lee Tan</i>	
Hidden Markov Models for Abnormal Event Processing in Transportation Data Streams .....	816
<i>John Kah-Soon Lau and Chen-Khong Tham</i>	
Smart Traffic Cloud: An Infrastructure for Traffic Applications .....	822
<i>Wen Qiang Wang, Xiaoming Zhang, Jiangwei Zhang, and Hock Beng Lim</i>	
Automatic VM Allocation for Scientific Application .....	828
<i>Sarunya Pumma, Tiranee Achalakul, and Li Xiaorong</i>	
ProDFA: Accelerating Domain Applications with a Coarse-Grained Runtime Reconfigurable Architecture .....	834
<i>Ming Yan, Ziyu Yang, Lei Liu, and Sikun Li</i>	
Demonstration of Damson: Differential Privacy for Analysis of Large Data .....	840
<i>Marianne Winslett, Yin Yang, and Zhenjie Zhang</i>	
SWAT: Social Web Application for Team Recommendation .....	845
<i>Stefano Braghin, Jackson Tan Teck Yong, Anthony Ventresque, and Anwitaman Datta</i>	
A Demo Paper: An Analytic Workflow Framework for Green Campus .....	851
<i>Chonho Lee, Sivadon Chaisiri, Bong Zoebir, Changbing Chen, and Bu-Sung Lee</i>	

PlugCloud - Scaling by Plugging a Personal Cloud Infrastructure .....	856
<i>Wee Siong Ng, See-Kiong Ng, and Wei Wu</i>	
Design and Development of an Adaptive Workflow-Enabled Spatial-Temporal Analytics Framework .....	862
<i>Xiaorong Li, Rodrigo N. Calheiros, Sifei Lu, Long Wang, Henry Palit, Qin Zheng, and Rajkumar Buyya</i>	
<b>Second International Workshop on Parallel and Distributed Computing in Remote Sensing (PDCRS 2012)</b>	
GPU-accelerated Computation of 3D Laser Radar Range Imaging of Arbitrary Coarse Targets .....	868
<i>Jiaxuan Lin, Zhensen Wu, Xiang Su, Jiaji Wu, Biao Wang, and Yunhua Cao</i>	
Parallel and Distributed Processing of Remote Sensing Data on Large Displays .....	873
<i>Ming-Li Lin, Ming-Da Chen, Tung-Ju Hsieh, and Yang-Lang Chang</i>	
A GPU-based Implementation of WRF PBL/MYNN Surface Layer Scheme .....	879
<i>Xianyun Wu, Bormin Huang, H.-L. Allen Huang, and Mitchell D. Goldberg</i>	
GPU-based Calculation for Scattering Characteristics of Complex Targets from Background Radiance in Infrared Spectrum .....	884
<i>Xing Guo, Zhensen Wu, Longxiang Linghu, Yufeng Yang, Yunhua Cao, and Jiaji Wu</i>	
GPU Parallel Computing of Spherical Panorama Video Stitching .....	890
<i>Wei-Sheng Liao, Tung-Ju Hsieh, and Yang-Lang Chang</i>	
Accelerating Volkov's Hybrid Implementation of Cholesky Factorization on a Fermi GPU .....	896
<i>Shih-Chieh Wei and Bormin Huang</i>	
<b>International Workshop on Distributed Communication Network System (DCNS 2012)</b>	
Geographic Routing with Minimal Local Geometry .....	901
<i>Kasun Samarasinghe and Pierre Leone</i>	
Visualization for Anomaly Detection and Data Management by Leveraging Network, Sensor and GIS Techniques .....	907
<i>Zhaoxia Wang, Chee Seng Chong, Rick Siew Mong Goh, Wanqing Zhou, Dan Peng, and Hoong Chor Chin</i>	
Power Control Algorithm Based on SNR Cost Function in Cognitive Radio System .....	913
<i>Zu Yun-Xiao, Liu Yi-Fei, Mao Shi-Bo, and Jia Yue</i>	
A Remote View System to Allow Real-Time Walkthrough .....	918
<i>Chao Liu, Toshiya Watanabe, Susumu Shibusawa, and Tatsuhiro Yonekura</i>	
Multicore Computing for SIFT Algorithm in MATLAB&#174; Parallel Environment .....	924
<i>Hua Cao and Jiahong Chen</i>	
User Satisfaction-Based Scheduling Algorithm for Uplink Transmission in Long Term Evolution System .....	930
<i>Jung-Shyr Wu, Shun-Fang Yang, Chia-Ming Hsu, Jiun-Yu Tu, and Jehn-Ruey Jiang</i>	

A Design of Middleware Layer for QoS in Wireless Sensor Networks .....	936
<i>Zhenhui Cui, Ting Yang, Linchuan Li, and Jing Pang</i>	
A Smart Home System Based on ZigBee and IOS Software .....	940
<i>Hui-Liang Shang, Ren-Mei Xu, and Jun-Kang Yuan</i>	
<b>Tutorials</b>	
GPGPU for Real-Time Data Analytics .....	945
<i>Bingsheng He, Huynh Phung Huynh, and Rick Goh Siew Mong</i>	
Intel Many Integrated Core (MIC) Architecture .....	947
<i>Sunil Sherlekar</i>	
<b>Author Index</b> .....	948