Table of Contents - Part I

Shizhen Xu, Xiaomeng Huang, Yan Zhang, Yong Hu, Haohuan Fu, and Guangwen Yang	1
Web Service Recommendation via Exploiting Temporal QoS Information	15
Optimizing and Scaling HPCG on Tianhe-2: Early Experience Xianyi Zhang, Chao Yang, Fangfang Liu, Yiqun Liu, and Yutong Lu	28
Understanding the SIMD Efficiency of Graph Traversal on GPU Yichao Cheng, Hong An, Zhitao Chen, Feng Li, Zhaohui Wang, Xia Jiang, and Yi Peng	42
A GPU Implementation of Clipping-Free Halftoning Using the Direct Binary Search	57
A Reliable and Secure GPU-Assisted File System	71
Efficient Detection of Cloned Attacks for Large-Scale RFID Systems Xiulong Liu, Heng Qi, Keqiu Li, Jie Wu, Weilian Xue, Geyong Min, and Bin Xiao	85
Probability Based Algorithms for Guaranteeing the Stability of Rechargeable Wireless Sensor Networks	100
PTAS for Minimum k-Path Connected Vertex Cover in Growth-Bounded Graphs	114
A Simple and Effective Long Duration Contact-Based Utility Metric for Mobile Opportunistic Networking	127
Adaptive QoS and Security for Video Transmission over Wireless Networks: A Cognitive-Based Approach	138
Virtual Network Mapping Algorithm in Wireless Data Center Networks	152

A Weighted Centroid Based Tracking System in Wireless Sensor Networks	166
A Smartphone Location Independent Activity Recognition Method Based on the Angle Feature	179
Reliable and Energy Efficient Routing Algorithm for WirelessHART Qun Zhang, Feng Li, Lei Ju, Zhiping Jia, and Zhaopeng Zhang	192
A DSCP-Based Method of QoS Class Mapping between WLAN and EPS Network	204
HostoSink: A Collaborative Scheduling in Heterogeneous Environment	214
Load Balancing in MapReduce Based on Data Locality	229
RD-PCA: A Traffic Condition Data Imputation Method Based on Robust Distance	242
Network-Aware Re-Scheduling: Towards Improving Network Performance of Virtual Machines in a Data Center	255
A Novel Petri-Net Based Resource Constrained Multi-project Scheduling Method	270
Interconnection Network Reconstruction for Fault-Tolerance of Torus-Connected VLSI Array Longting Zhu, Jigang Wu, Guiyuan Jiang, and Jizhou Sun	285
An Ant Colony Optimization Algorithm for Virtual Network Embedding	299
Temperature-Aware Scheduling Based on Dynamic Time-Slice Scaling	310

Table of Contents - Part I	XIX
An Improved Energy-Efficient Scheduling for Precedence Constrained Tasks in Multiprocessor Clusters	323
Hierarchical Eventual Leader Election for Dynamic Systems	338
Efficient Resource Provisioning for Mobile Media Traffic Management in a Cloud Computing Environment	352
A Community Cloud for a Real-Time Financial Application - Requirements, Architecture and Mechanisms	364
Strategies for Evacuating from an Affected Area with One or Two Groups	378
A Novel Adaptive Web Service Selection Algorithm Based on Ant Colony Optimization for Dynamic Web Service Composition Denghui Wang, Hao Huang, and Changsheng Xie	391
An Optimization VM Deployment for Maximizing Energy Utility in Cloud Environment	400
Performance Evaluation of Light-Weighted Virtualization for PaaS in Clouds	415
An Access Control Scheme with Direct Cloud-Aided Attribute Revocation Using Version Key	429
Full and Live Virtual Machine Migration over XIA	443
A Near-Exact Defragmentation Scheme to Improve Restore Performance for Cloud Backup Systems	457
A Music Recommendation Method for Large-Scale Music Library on a Heterogeneous Platform	472

GPU-Accelerated Verification of the Collatz Conjecture	483
Reducing the Interconnection Length for 3D Fault-Tolerant Processor Arrays	497
Guiyuan Jiang, Jigang Wu, Jizhou Sun, and Longting Zhu	
Feature Evaluation for Early Stage Internet Traffic Identification Lizhi Peng, Hongli Zhang, Bo Yang, and Yuehui Chen	511
Hyper-Star Graphs: Some Topological Properties and an Optimal Neighbourhood Broadcasting Algorithm	526
Customized Network-on-Chip for Message Reduction	535
Athena: A Fault-Tolerant, Efficient and Applicable Routing Mechanism for Data Centers	549
Performance-Aware Data Placement in Hybrid Parallel File Systems Shuibing He, Xian-He Sun, Bo Feng, and Kun Feng	563
Security Analysis and Protection Based on Small Injection for Android Applications	577
The 1st International Workshop on Emerging Topics in Wireless and Mobile Computing (ETWMC 2014)	
A Novel Key Management Scheme in VANETs	587
Design and Implementation of Network Hard Disk	596
Combining Supervised and Unsupervised Learning for Automatic Attack Signature Generation System	607
The Study on the Increasing Strategy of Detecting Moving Target in Wireless Sensor Networks	619
A CRC-Based Lightweight Authentication Protocol for EPCglobal Class-1 Gen-2 Tags	632

Table of Contents – Part I	XXI
Test Case Prioritization Based on Genetic Algorithm and Test-Points Coverage	644
SAEP: Simulated Annealing Based Ensemble Projecting Method for Solving Conditional Nonlinear Optimal Perturbation	655
Converting Ptolemy II Models to SpaceEx for Applied Verification Shiwei Ran, Jinzhi Lin, Ying Wu, Jianzhong Zhang, and Yuwei Xu	669
Research on Interest Searching Mechanism in SNS Learning Community	684
The 5th International Workshop on Intelligent Communication Networks (IntelNet 2014)	
Improving the Frequency Adaptive Capability of Hybrid Immune Detector Maturation Algorithm	691
Cluster-Based Time Synchronization Protocol for Wireless Sensor Networks	700
A Fast CABAC Algorithm for Transform Coefficients in HEVC	712
A Improved PageRank Algorithm Based on Page Link Weight Xinsheng Wang, Jianchu Ma, Kaiyuan Bi, and Zhihuai Li	720
Computation Offloading Management for Vehicular Ad Hoc Cloud Bo Li, Yijian Pei, Hao Wu, Zhi Liu, and Haixia Liu	728
An Approach to Model Complex Big Data Driven Cyber Physical Systems	740
The 5th International Workshop on Wireless Networks and Multimedia (WNM 2014)	
Reliable Transmission with Multipath and Redundancy for Wireless Mesh Networks	755

XXII Table of Contents - Part I

Community Roamer: A Social-Based Routing Algorithm in	
Opportunistic Mobile Networks	768
A Self-adaptive Reliable Packet Transmission Scheme for Wireless Mesh Networks	781
Distributed Efficient Node Localization in Wireless Sensor Networks Using the Backtracking Search Algorithm	794
User Specific QoS and Its Application in Resources Scheduling for Wireless System	809
A Distributed Storage Model for Sensor Networks	822
Relation between Irregular Sampling and Estimated Covariance for Closed-Loop Tracking Method	836
Author Index	845

Table of Contents - Part II

Parallel Data Processing in Dynamic Hybrid Computing Environment	
Using MapReduce Bing Tang, Haiwu He, and Gilles Fedak	1
Fast Scalable k-means++ Algorithm with MapReduce Yujie Xu, Wenyu Qu, Zhiyang Li, Changqing Ji, Yuanyuan Li, and Yinan Wu	15
Acceleration of Solving Non-Equilibrium Ionization via Tracer Particles and MapReduce on Eulerian Mesh	29
A Continuous Virtual Vector-Based Algorithm for Measuring Cardinality Distribution	43
Hmfs: Efficient Support of Small Files Processing over HDFS	54
Utilizing Multiple Xeon Phi Coprocessors on One Compute Node Xinnan Dong, Jun Chai, Jing Yang, Mei Wen, Nan Wu, Xing Cai, Chunyuan Zhang, and Zhaoyun Chen	68
HPSO: Prefetching Based Scheduling to Improve Data Locality for MapReduce Clusters	82
Service Scheduling Algorithm in Vehicle Embedded Middleware Juan Luo, Xin Jin, and Feng Wu	96
Similar Samples Cleaning in Speculative Multithreading	108
Equi-join for Multiple Datasets Based on Time Cost Evaluation Model	122
Identifying File Similarity in Large Data Sets by Modulo File Length Yongtao Zhou, Yuhui Deng, Xiaoguang Chen, and Junjie Xie	136
Conpy: Concolic Execution Engine for Python Applications Ting Chen, Xiao-song Zhang, Rui-dong Chen, Bo Yang, and Yang Bai	150

A Platform for Stock Market Simulation with Distributed Agent-Based Modeling	164
Chunyu Wang, Ce Yu, Hutong Wu, Xiang Chen, Yuelei Li, and Xiaotao Zhang	104
C2CU: A CUDA C Program Generator for Bulk Execution of a Sequential Algorithm	178
Dynamically Spawning Speculative Threads to Improve Speculative Path Execution	192
A Parallel Algorithm of Kirchhoff Pre-stack Depth Migration Based on GPU	207
An Algorithm to Embed a Family of Node-Disjoint 3D Meshes into Locally Twisted Cubes	219
GPU Acceleration of Finding Maximum Eigenvalue of Positive Matrices	231
Improving Speculation Accuracy with Inter-thread Fetching Value Prediction	245
Towards Efficient Distributed SPARQL Queries on Linked Data Xuejin Li, Zhendong Niu, and Chunxia Zhang	259
MRFS: A Distributed Files System with Geo-replicated Metadata Jiongyu Yu, Weigang Wu, Di Yang, and Ning Huang	273
An Advanced Data Redistribution Approach to Accelerate the Scale-Down Process of RAID-6	286
Thread Mapping and Parallel Optimization for MIC Heterogeneous Parallel Systems	300

PSC Ship-Selecting Model Based on Improved Particle Swarm Optimization and BP Neural Network Algorithm Tingting Yang, Zhonghua Sun, Shouna Wang, Chengming Yang, and Bin Lin	425
LRPON Based Infrastructure Layout Planning of Backbone Networks for Mobile Cloud Services in Transportation	436
Infrastructure Deployment and Dimensioning of Relayed-Based Heterogeneous Wireless Access Networks for Green Intelligent Transportation	447
Vessel Motion Pattern Recognition Based on One-Way Distance and Spectral Clustering Algorithm	461
Navigation Safety Assessment of Ship in Rough Seas Based on Bayesian Network	470
Optimization of Ship Scheduling Based on One-Way Fairway Jun Lin, Xin-yu Zhang, Yong Yin, Jin-tao Wang, and Shun Yao	479
Research on Virtual Crew Path Planning Simulator Based on A* Algorithm	487
Speech Recognition Applied in VHF Simulation System	496
The Assessment of Risk of Collision between Two Ships Avoiding Collision by Altering Course	507
The Merging Algorithm of Radar Simulation Data in Navigational Simulator	516
Data Mining Research Based on College Forum Liming Xue, Zhihuai Li, and Weixin Luan	525
Simulation of Maritime Joint Sea-Air Search Trend Using 3D GIS Xing Shengwei, Wang Renda, Yang Xuefeng, and Liu Jiandao	533

Quantitative Analysis for the Development of Maritime Transport	E 40
Efficiency	543
Security and Privacy in Computer and Network Systems (SPCNS 2014)	
Image Compression Based on Time-Domain Lapped Transform and Quadtree Partition	553
The Applicability and Security Analysis of IPv6 Tunnel Transition Mechanisms	560
QOS Performance Analysis for Flexible Workflow Supporting Exception Handling	571
Analysis of Propagation Characteristics of Variant Worms	581
A Design of Network Behavior-Based Malware Detection System for Android	590
Detection and Defense Technology of Blackhole Attacks in Wireless Sensor Network	601
An Improved Remote Data Possession Checking Protocol in Cloud Storage	611
Fault Localization of Concurrency Bugs and Its Application in Web Security	618
Feature Selection Toward Optimizing Internet Traffic Behavior Identification	631
ID-Based Anonymous Multi-receiver Key Encapsulation Mechanism with Sender Authentication	645

XXVIII Table of Contents - Part II

Energy Efficient Routing with a Tree-Based Particle Swarm Optimization Approach	659
A Context-Aware Framework for SaaS Service Dynamic Discovery in Clouds	671
Author Index	685