2011 IEEE 17th International Conference on Parallel and Distributed Systems

(ICPADS 2011)

Tainan, Taiwan
7 – 9 December 2011

Pages 534-1062
Session: Mobile Computing III

Optimal Mobility-Aware Handoff in Mobile Environments ..................................................534

Lei Ni, Yanmín Zhu, Bo Li, and Qianni Deng
Towards Service-Oriented Cognitive Networks over IP Multimedia Subsystems ...........................................541
Shih-Wen Hsu, Chi-Yuan Chen, Kai-Di Chang, Han-Chieh Chao, and Jiann-Liang Chen

Efficient SINR Estimating with Accuracy Control in Large Scale Cognitive Radio Networks ...........................................549
Yanchao Zhao, Jie Wu, and Sanglu Lu

Session: P2P Computing

A Tabu Based Cache to Improve Latency and Load Balancing on Prefix Trees ...........................................557
Nicolas Hidalgo, Luciana Arantes, Pierre Sens, and Xavier Bonnaire

Optimal P2P Cache Sizing: A Monetary Cost Perspective on Capacity Design of Caches to Reduce P2P Traffic ...........................................565
Haibin Zhai, Albert K. Wong, Hai Jiang, Yi Sun, and Jun Li

A New Auction Based Approach to Efficient P2P Live Streaming ...........................................573
Dingding Guo and Yu-Kwong Kwok

Scalable and Reliable Live Streaming Service through Coordinating CDN and P2P ...........................................581
Zhi Hui Lu, Xiao Hong Gao, Si Jia Huang, and Yi Huang

Robust Fault-Tolerant Majority-Based Key-Value Store Supporting Multiple Consistency Levels ...........................................589
Ahmad Al-Shishtawy, Tareq Jamal Khan, and Vladimir Vlassov

Scalable Distributed Processing of Spatial Point Data ...........................................597
Martin Raack and Odej Kao

Session: Security and Trustworthy Computing I

New RFID Authentication Protocol with DOS-attack Resistance ...........................................605
Hung-Yu Chien, Chin-I Lee, Shyr-Kuen Chen, and Hung-Pin Hou

BlockTapping: An Online Transparent Integrity Checker for Virtual Storage ...........................................610
Haifeng Fang

A Trustworthy Computing of ADAPT Principle Guaranteeing Genuine Medical Image ...........................................618
Da-Yu Kao, Shih-Jeng Wang, Dushyant Goyal, and Jonathan Liu

A Study on Information Security Management with Personal Data Protection ...........................................624
Chien-Cheng Huang, Kwo-Jean Farn, and Frank Yeong-Sung Lin

A System Call Analysis Method with MapReduce for Malware Detection ...........................................631
Shun-Te Liu, Hui-ching Huang, and Yi-Ming Chen

Hybrid Provable Data Possession at Untrusted Stores in Cloud Computing ...........................................638
Narn-Yih Lee and Yun-Kuan Chang
Session: Security and Trustworthy Computing II

A Modified Hopfield Neural Network for Diagnosing Comparison-Based Multiprocessor Systems Using Partial Syndromes.................................................................646
Mourad Elhadef

Secure Communication Scheme of VANET with Privacy Preserving........................................654
Ren Junn Hwang, Yu-Kai Hsiao, and Yen-Fu Liu

Detecting Chaff Perturbation on Stepping-Stone Connection...................................................660
Shou-Hsuan Stephen Huang and Ying-Wei Kuo

Security Analysis of an eSeal Used in Taiwan Customs Officials .............................................668
Chien-Lung Hsu, Yi-Shun Chan, and Tzu-Wei Lin

Robust e-Voting Composition....................................................................................................676
Richard Cooke and Rachid Anane

Session: Cyber-Physical Systems and Internet of Things

On Least Idle Slot First Co-scheduling of Update and Control Tasks in Real-Time Sensing and Control Systems.................................................................684
Jiantao Wang, Song Han, Kam-yiu Lam, and Aloysius K. Mok

Charge Scheduling of Electric Vehicles in Highways through Mobile Computing................................692
Shun-Neng Yang, Wei-Sheng Cheng, Yu-Ching Hsu, Chai-Hien Gan, and Yi-Bing Lin

Automatic Extraction of Pipeline Parallelism for Embedded Software Using Linear Programming........................................................................................................699
Daniel Cordes, Andreas Heinig, Peter Marwedel, and Arindam Mallik

Distributed Multi-agent Schemes for Predictable QoS on Heterogenous Wireless Networks...........707
Jiann-Liang Chen and Yanuarius Teofilus Larosa

ERWF: Embedded Real-Time Workflow Engine for User-Centric Cyber-Physical Systems...............713
Wei-Chih Chen and Chi-Sheng Shih

Browsing Architecture with Presentation Metadata for the Internet of Things............................721
Sungho Bae, Daeyoung Kim, Minkeun Ha, and Seong Hoon Kim
Fifth International Workshop on Peer-to-Peer Networked Virtual Environments (P2PNVE 2011)

Session: P2PNVE I

An Optimal Topology for a Static P2P Live Streaming Network with Limited Resources .............................................................................................................................................................................................729
   Jonathan Stern, Omer Luzzatti, Raphael Goldberg, Eran Weiss, and Mira Gonen

Efficient Hybrid Push-Pull Based P2P Media Streaming System ............................................................................................................................................................................735
   Chee Yik Keong, Poo Kuan Hoong, and Choo-Yee Ting

Service Availability for P2P On-Demand Streaming with Dynamic Buffering ...............................................................................................................................................741
   Chow-Sing Lin and Meng-Jia Yan

RELookup: Providing Resilient and Efficient Lookup Service for P2P-VoD Streaming ....................................................................................................................................................747
   Xu Zhang, Zhenhua Li, Tieying Zhang, Liangpeng He, and Guihai Chen

Adaptive and Efficient Peer Selection in Peer-to-Peer Streaming Networks .................................................................................................................................753
   Tai-Hua Hsiao, Ming-Hung Hsu, and Yu-Ben Miao

Peer-to-Peer Immersive Voice Communication for Massively Multiplayer Online Games .............................................................................................................................................759
   Chi-Wen Fann, Jehn-Ruey Jiang, and Jih-Wei Wu

Session: P2PNVE II

Using P2P Networks to Repair Packet Losses in Digital Video Broadcasting Systems ........................................................................................................................................765
   Yung-Tsung Weng, Ce-Kuen Shieh, Tzu-Chi Huang, and Yu-Ben Miao

Spatial Queries Processing in Autonomous Mobile System Environment ..........................................................................................................................770
   Tomoya Kambara, Kazuya Tamaki, Toshinori Muranaka, and Shinichi Ueshima

Peer Content Groups for Reliable and Transparent Content Access in P2P Networks ..........................................................................................................................776
   Ana Flávia B. Godoi and Elias P. Duarte Jr.

SSNG: A Self-Similar Super-Peer Overlay Construction Scheme for Super Large-Scale P2P Systems ........................................................................................................................................782
   Hung-Yi Teng, Chien-Nan Lin, and Ren-Hung Hwang

On the Power Law Property of Latency-Reducing Relays .........................................................................................................................................................788
   Tao Ma and Qingyuan Hu

SYMA: A Synchronous Multihop Architecture for Wireless Ad Hoc Multiplayer Games .........................................................................................................................................793
   Ta-Yu Huang, Chih-Ming Lin, Jehn-Ruey Jiang, Wei Tsang Ooi, Maha Abdallah, and Khaled Boussetta
Third International Workshop on Hot Topics in Peer-to-Peer Computing and Online Social Networking (HotPOST 2011)

Session: HotPOST I

How Helpful Can Social Network Friends Be in Peer-to-Peer Video Distribution? ................................................................. 799
   Maria Luisa Merani

Participation and Departure Processes of Nodes in Connection Graph ................................................................. 805
   Mamoru Kobayashi, Susumu Shibusawa, Hiroshi Ohno, and Tatsuhiro Yonekura

Social Trust and Reputation in Online Social Networks ..................................................................................... 811
   Eng Keong Lua, Ruichuan Chen, and Zhuhua Cai

Session: HotPOST II

Towards a Common Architecture to Interconnect Heterogeneous Overlay Networks ................................................................. 817
   Vincenzo Ciancaglini, Luigi Liquori, and Giang Ngo Hoang

A Batch Join Scheme for Flash Crowd Reduction in IPTV Systems ................................................................................ 823
   Tein Yaw Chung and Odin Lin

Catching Preference Drift with Initiators in Social Network ..................................................................................... 829
   Qiang Wang and Qianni Deng

Wisdom of the Crowd: Incorporating Social Influence in Recommendation Models ..................................................................................... 835
   Shang Shang, Pan Hui, Sanjeev R. Kulkarni, and Paul W. Cuff

Stochastic Load Rebalancing in Distributed Hash Tables ..................................................................................... 841
   Che-Wei Chang and Hung-Chang Hsiao

Data Selection for User Topic Model in Twitter-Like Service ..................................................................................... 847
   Zheng Yang, Jingfang Xu, and Xing Li

International Workshop on the Internet of Things

Session: IOT I

Internet of Things Architecture Based on Integrated PLC and 3G Communication Networks ..................................................................................... 853
   Han-Chuan Hsieh and Chi-Ha Lai

On the Disruptive Potentials in Internet of Things ..................................................................................... 857
   Tao Ma and Chunhong Zhang
Session: IOT II
A RESTful Architecture for Integrating Decomposable Delayed Services within the Web of Things ................................................................. 860
Andreas Ruppen, Jacques Pasquier, and Tony Hürlimann

Adaptive Traffic-Aware Power-Saving Protocol for IEEE 802.11 Ad Hoc Networks ................................................................. 866
Yeong-Sheng Chen, Min-Kai Tsai, Lung-Sheng Chiang, and Der-Jiunn Deng

Passive Tag for Multi-carrier RFID Systems ................................................................. 872
Ming-Hsien Lee, Chia-Yu Yao, and Hsin-Chin Liu

A Study of Comfort Measuring System Using Taxi Trajectories ................................................................. 877
Li-Ping Tung, Tsung-Hsien Chien, Ting-An Wang, Cheng-Yu Lin, Shyh-Kang Jeng, and Ling-Jyh Chen

International Workshop on Network & System Security

Session: N&SS I
Efficient Identity-Based Key Management for Configurable Hierarchical Cloud Computing Environment ................................................................. 883
Jyun-Yao Huang, I-En Liao, and Cheng-Kang Chiang

Simulation of Anti-malware User Support System Using Queuing Network Model ................................................................. 888
Nobutaka Kawaguchi, Takayuki Yoda, Hiroki Yamaguchi, Toshihiko Kasagi, and Yuji Hoshizawa

The Low-Cost Secure Sessions of Access Control Model for Distributed Applications by Public Personal Smart Cards ................................................................. 894
Kuo-Yi Chen, Chin-Yang Lin, and Ting-Wei Hou

Trust Issues that Create Threats for Cyber Attacks in Cloud Computing ................................................................. 900
Md Tanzim Khorshed, A.B.M. Shawkat Ali, and Saleh A. Wasimi

Reactor Containment Dependability Analysis in Safety Critical Nuclear Power Plants: Design, Implementation and Experience ................................................................. 906
Chi-Shiang Cho, Wei-Ho Chung, Deyun Gao, Hongke Zhang, and Sy-Yen Kuo

Session: N&SS II
Malware Virtualization-Resistant Behavior Detection ................................................................. 912
Ming-Kung Sun, Mao-Jie Lin, Michael Chang, Chi-Sung Laih, and Hui-Tang Lin

A Revised Ant Colony Optimization Scheme for Discovering Attack Paths of Botnet ................................................................. 918
Ping Wang, Hui-Tang Lin, and Tzy Shiah Wang
Secure Mechanism for Mobile Web Browsing ................................................................. 924
Chia-Mei Chen and Ya-Hui Ou
Visualization System for Log Analysis with Probabilities of Incorrect Operation ......................... 929
Chifumi Nishioka, Masahiro Kozaki, and Ken-ichi Okada
Transparent Communications for Applications behind NAT/Firewall over any Transport Protocol ............................................................................... 935
Elias P. Duarte Jr., Kleber V. Cardoso, Micael O.M.C. de Mello, and João G.G. Borges

International Workshop on Digital Computing Infrastructure and Applications (DCIA 2011)

Session: DCIA I
Characterizing Fine-Grain Parallelism on Modern Multicore Platform .............................................. 941
Xuhao Chen, Wei Chen, Jiawen Li, Zhong Zheng, Li Shen, and Zhiying Wang
A Time-Series Based Precopy Approach for Live Migration of Virtual Machines ............................. 947
Bolin Hu, Zhou Lei, Yu Lei, Dong Xu, and Jiandun Li
Energy-Aware High Performance Computing: A Taxonomy Study ................................................ 953
Chang Cai, Lizhe Wang, Samee U. Khan, and Jie Tao
Energy-Aware Depth Map Generation for 3D Portrait on Android Systems ....................................... 959
Chia-Hui Kao, Chung-Ta King, and Shau-Yin Tseng

Session: DCIA II
Towards Providing Cloud Functionalities for Grid Users ..................................................................... 965
Weizhou Peng, Jie Tao, Lizhe Wang, Holger Marten, and Dan Chen
A Hybrid Simulation of Large Crowd Evacuation .............................................................................. 971
Xing Wei, Muzhou Xiong, Xuguang Zhang, and Dan Chen
Task Scheduling of Massive Spatial Data Processing across Distributed Data Centers: What's New? ........................................................................ 976
Weijing Song, Shasha Yue, Lizhe Wang, Wanfeng Zhang, and Dingsheng Liu
Volunteer Sensing: The New Paradigm of Social Sensing ............................................................... 982
Shasha Liu, Juan Yang, Bingyan Li, and Cheng Fu
First International Workshop on Future Internet and Cloud Networking (FICN 2011)

Session: FICN

The Implementation of Multilayer Virtual Network Management System on NetFPGA ................................................................. 988

Li-Der Chou, Yao-Tsung Yang, Wen-Pei Chang, Te-Chin Chang,
Yuan-Mao Hong, Ce-Kuen Shieh, and Sheng-Wei Huang

Creating Future Networks: Designing, Implementing and Operating Advanced Experimental Network Research Testbeds ................................................................. 992

Joe Mambretti, Jim Chen, and Fei Yeh

Network Virtualization with Cloud Virtual Switch ................................................................. 998

Hui-Min Tseng, Hui-Lan Lee, Jen-Wei Hu, Te-Lung Liu, Jee-Gong Chang,
and Wei-Cheng Huang

Improving Speculative Execution Performance with Coworker for Cloud Computing ................................................................. 1004

Sheng-Wei Huang, Tzu-Chi Huang, Syue-Ru Lyu, Ce-Kuen Shieh,
and Yi-Sheng Chou

International Workshop on Parallel and Distributed Computing in Remote Sensing (PDCRS 2011)

Session: PDCRS I

FPGA Design of an Automatic Target Generation Process for Hyperspectral Image Analysis ................................................................. 1010

Sergio Bernabé, Sebastián López, Antonio Plaza, Roberto Sarmiento,
and Pablo García Rodríguez

Accelerating the Kalman Filter on a GPU ................................................................. 1016

Min-Yu Huang, Shih-Chieh Wei, Bormin Huang, and Yang-Lang Chang

Parallel Processing with MPI for Inter-band Registration in Remote Sensing ................................................................. 1021

Taeyoung Kim, Myungjin Choi, and Tae-Byeong Chae

Volume Data Numerical Integration and Differentiation Using CUDA ................................................................. 1026

Ming-Da Chen, Tung-Ju Hsieh, and Yang-Lang Chang

Parallel Computation of the Weather Research and Forecast (WRF) WDM5 Cloud Microphysics on a Many-Core GPU ................................................................. 1032

Jun Wang, Bormin Huang, Allen Huang, and Mitchell D. Goldberg
Session: PDCRS II

Commodity Cluster-Based Parallel Implementation of an Automatic Target Generation Process for Hyperspectral Image Analysis ................................................................. 1038
  Sergio Bernabé and Antonio Plaza

GPU Implementation of Orthogonal Matching Pursuit for Compressive Sensing ............................................. 1044
  Yong Fang, Liang Chen, Jiaji Wu, and Bormin Huang

Fast Band Selection for Hyperspectral Imagery ................................................................................................. 1048
  He Yang and Qian Du

Parallel Implementation of Edge-Directed Image Interpolation on a Graphics Processing Unit .............................................................. 1052
  Jiaji Wu, Tao Li, and Bormin Huang

Single-Phase Wireless LAN Based Multi-floor Indoor Location Determination System ................................................................. 1057
  A.S. Al-Ahmadi, T.A. Rahman, M.R. Kamarudin, M.H. Jamaluddin, and A.I. Omer

Author Index