

Proceedings

2008 IFIP International Conference on Network and Parallel Computing

NPC 2008

18-21 October 2008 • Shanghai, China



Los Alamitos, California
Washington • Tokyo



2008 IFIP International Conference on Network and Parallel Computing

NPC 2008

Table of Contents

Preface.....	xii
Message from the NSS 2008 Chairs.....	xiii
NSS 2008 Program Committee.....	xiv
Message from ATNCTA 2008 Chairs.....	xvi
ATNCTA 2008 Program Committee.....	xvii
Message from HPN 2008 Chairs.....	xviii
HPN 2008 Program Committee.....	xix
Message from DKM 2008 Chairs.....	xx
DKM 2008 Program Committee.....	xxi
Message from CWUWNet 2008 Chairs.....	xxiii
CWUWNet 2008 Program Committee.....	xxiv
Message from HPSECA 2008 Chairs.....	xxv
HPSECA 2008 Program Committee.....	xxvi

NSS 2008

A Certificate-Based Authenticated Key Agreement Protocol for SIP-Based VoIP Networks	3
<i>Ming Luo, Ying-You Wen, and Hong Zhao</i>	
Analyzing Euler-Fermat Theorem Based Multicast Key Distribution Schemes with Chinese Remainder Theorem	11
<i>Wen Tao Zhu</i>	
Conditional Privacy Using Re-encryption	18
<i>Suriadi Suriadi, Ernest Foo, and Jason Smith</i>	
Using Outlier Detection to Reduce False Positives in Intrusion Detection	26
<i>Fu Xiao and Xie Li</i>	

Identity-Based On-Line/Off-Line Signcryption	34
<i>Dongdong Sun, Xinyi Huang, Yi Mu, and Willy Susilo</i>	
Attribute Delegation Authorization Based on Subjective Trust Evaluation	42
<i>Bo Chen, Guo Sun Zeng, and Li Li</i>	
A Multi-core Supported Intrusion Detection System	50
<i>Daxin Tian and Yang Xiang</i>	
Synchronization of Discrete Chaotic Dynamical Systems Using Active Control	56
<i>Donglin Liu</i>	
Secure Prophet Address Allocation for Mobile Ad Hoc Networks	60
<i>Hongbo Zhou</i>	
Two Security Problems of RFID Security Method with Ownership Transfer	68
<i>Eun-Jun Yoon and Kee-Young Yoo</i>	
Novel Stream Cipher Using 2-D Hybrid CA and Variable Ordered Recursive CA Substitutions	74
<i>Rong-Jian Chen and Jui-Lin Lai</i>	
Cryptanalysis and Improvement of EC2C-PAKA Protocol in Cross-Realm	82
<i>Fucai Zhou, Xiumei Liu, Hong Yan, and Guiran Chang</i>	
A Dynamic and Self-Adaptive Network Security Policy Realization Mechanism	88
<i>Chenghua Tang and Shunzheng Yu</i>	
Experimental Tests on SCTP over IPsec	96
<i>Maria-Dolores Cano, Juan A. Romero, and Fernando Cerdan</i>	
A Dual-Head Cluster Based Secure Aggregation Scheme for Sensor Networks	103
<i>Fei Gao and Wen Tao Zhu</i>	
Ontology-Based Knowledge Representation for a P2P Multi-agent Distributed Intrusion Detection System	111
<i>Dayong Ye, Quan Bai, and Minjie Zhang</i>	
Multicast Cryptosystem: A Cryptosystem for Secure Multicast Communication	119
<i>A. John Prakash and V. Rhymend Uthariaraj</i>	
Secure Bit Enhanced Canary: Hardware Enhanced Buffer-Overflow Protection	125
<i>Krerk Piromsopa and Sirisara Chiamwongpaet</i>	
An Improved Method for Ranking of Search Results Based on User Interest	132
<i>Hong-Rong Yang, Ming Xu, and Ning Zheng</i>	
ROAD: An RFID Offline Authentication, Privacy Preserving Protocol with Dos Resilience	139
<i>Fen Liu and Lei Hu</i>	
Characterization of Attackers' Activities in Honeypot Traffic Using Principal Component Analysis	147
<i>S. Almotaيري, A. Clark, G. Mohay, and J. Zimmermann</i>	

Towards Time Limited Secure Agent Execution on Malicious Host: A Concept Paper	155
<i>Sarosh Hashmi and John Brooke</i>	
Self-Authentication of Encrypted Channels in Service Network Graph	163
<i>David Lai and Zhongwei Zhang</i>	
A Novel Sliding Window Based Change Detection Algorithm for Asymmetric Traffic	168
<i>Ejaz Ahmed, Andrew Clark, and George Mohay</i>	
Anomaly Detection Based on Available Bandwidth Estimation	176
<i>Li He, Shunzheng Yu, and Min Li</i>	
Spam Mail Filtering Based on Network Processor	184
<i>Lian Lin, Zhongwen Li, and Liang Shi</i>	
Extending BAN Logic for Reasoning with Modern PKI-Based Protocols	190
<i>Sufatrio and Roland H. C. Yap</i>	
Detecting Network-Wide Traffic Anomalies Based on Spatial HMM	198
<i>Min Li, Shunzheng Yu, and Li He</i>	
A Stable Clock Synchronization Based on Clock Drift Rate	204
<i>Ying Zhao, Yini Wang, Jiumei Huang, and Xuelin Shi</i>	
Multi-classifier Classification of Spam Email on a Ubiquitous Multi-core Architecture	210
<i>Rafiqul Islam, Jaipal Singh, Ashley Chonka, and Wanlei Zhou</i>	
A Service Trust Model with Passive Trust	218
<i>Yanli Yu, Keqiu Li, Yong Zhang, and Lianpeng Xu</i>	
A Maximum Entropy Based Multi-dimensional Trust Model	226
<i>Xinjie Guan, Xili Wan, and Junzhou Luo</i>	
ATNCTA 2008	
An Effective P2P Collaborative Mode for Mobile Web Surfing	235
<i>Yunpeng Xiao, Yang Tao, Wenji Li, and Qian Li</i>	
Automatic Chatbot Knowledge Acquisition from Online Forum via Rough Set and Ensemble Learning	242
<i>Yu Wu, Gongxiao Wang, Weisheng Li, and Zhijun Li</i>	
An MAODV-Based Energy Saving Multicast Routing Algorithm	247
<i>Guo-feng Zhao, Wei Yang, Hong Tang, and Yan-bing Liu</i>	
Chaos of Software Requirements	251
<i>Junwei Ge, Yiqiu Fang, and Shayne Flint</i>	
A Parallel Algorithm for Simulating Photochemical Reaction	258
<i>Hongjian Li, Hong Tang, Shixin Sun, and Yusheng Dou</i>	
A Novel Genetic Algorithm and Its Application in TSP	263
<i>Yanbing Liu and Jun Huang</i>	

Parallel Computing in Semiclassical Dynamics Simulation of Photochemical Reactions	267
<i>Yusheng Dou, Mingze Bai, Hongjian Li, and Hong Tang</i>	
Community Detection Based on Weighted Networks	273
<i>Aixiang Cui, Duanbing Chen, and Yan Fu</i>	
A New Efficient Algorithm for Detecting Communities in Complex Networks	281
<i>Ying Wan, Duanbing Chen, and Yan Fu</i>	
Construction and Application of Linux Virtual Server Cluster for Scientific Computing	287
<i>Hong Tang, Rui She, Chen He, and Yusheng Dou</i>	
An Empirical Study on the Informatization and E-commerce Development Level in Chongqing	290
<i>Yue Liu and Daowei Zhang</i>	
MP-MAODV: A MAODV-Based Multipath Routing Algorithm	296
<i>Hong Tang, Fei Xue, and Peng Huang</i>	
Benefit Optimization Resource Scheduling Algorithm in Three-Dimensional QoS Model in Grid Computing	302
<i>Xing-jiang Yu and Yang Tao</i>	
Classified Optimization Scheduling Algorithm Driven by Multi-QoS Attributes in Economical Grid	306
<i>Xing-jiang Yu and Yang Tao</i>	
A Spatial Renewal Video Traffic Model Based on Buffering Metrics	310
<i>Peng Lin, WenLong Luo, and Yanbing Liu</i>	
An Exception Handling Framework for Service-Oriented Computing	315
<i>Qin Lu, Weishi Zhang, and Bo Su</i>	
Research on Mapping of MPCC SCF to SIP Protocol in Parlay/OSA API	323
<i>Zi-fu Fan, Xu-yan Yang, and Xiao-yu Wan</i>	
A Scheme of Detecting Cheaters Wholly in Threshold Secret Sharing for Mobile Ad Hoc Networks	328
<i>Yi Zhang and Wenxing Chen</i>	
Research on T-bridge Algorithm of Web Session Fuzzy Clustering	331
<i>Zixiang Zhao and Kun Bai</i>	
A New Secure E-mail Scheme Based on Elliptic Curve Cryptography Combined Public Key	336
<i>Yi Zhang, Tianxi Cui, and Hong Tang</i>	
Traflow: Design and Complementation of a Real Time Traffic Measurement System in High-Speed Networks	341
<i>Chuan Xu, Hong Tang, and Guofeng Zhao</i>	
Research on Design and Its Key Technologies of Web Service Platform in P2P Environment	345
<i>Jin-yu Shi, Wei-shi Zhang, Jian-ping Jiang, and Xiu-guo Zhang</i>	

HPN 2008

Wiretap Channel with Side Information from Part of Encoder	353
<i>Bin Dai, Yuan Luo, and A. J. Han Vinck</i>	
Relay Aided Wireless Multicast Utilizing Network Coding: Outage Behaviour and Diversity Gain	358
<i>Chen Zhi, Chen Wei, Pingyi Fan, and Khaled Ben Letaief</i>	
Generation-Based Network Coding over Networks with Delay	365
<i>Xiaofu Wu, Chunming Zhao, and Xiaohu You</i>	
Capacity and Delay of the Wireless Network with Special Relay Nodes	369
<i>Jianwei Xie and Pingyi Fan</i>	
A Distributed Fast Light-path Set-up Protocol for Grid over OBS Networks	375
<i>Min Li, Xueyue Cao, Leiming Xu, Ping Zhang, Chi Yuan, Shuping Peng, and Zhengbin Li</i>	
A Volunteer Computing in High Performance Environment Based on Availability Model	383
<i>Wang Yu, Zhijian Wang, and Xiaofeng Zhou</i>	
A Probabilistic Approach to Analyze the Effect of Free-Riders in P2P Streaming Services	387
<i>Shuang Yang and Xin Wang</i>	
Network Coding for P2P Live Media Streaming	392
<i>Han Liu, Xiaodong Tu, and Jun Xie</i>	
Optimal Placement of Mesh Points in a Wireless Mesh Network Using Multi-path Routing Protocol	399
<i>S. Y. Hui, K. H. Yeung, and K. Y. Wong</i>	

DKM 2008

Towards Mapping Large Scale Ontologies Based on RFCA with Attribute Reduction	407
<i>Pingli Gu, Jiuyun Xu, Changbao Li, and Youxiang Duan</i>	
Design of a Collaborative Ontology Editing System for Enterprise Process Integration	412
<i>Hong-fei Zhan, Xin-jian Gu, and Guo-ning Qi</i>	
Emerging Autopoietic Communities - Scalability of Knowledge Transfer in Complex Systems	418
<i>Susu Nousala and William P. Hall</i>	
Fostering the Knowledge-Sharing Behavior of Customers in Interorganizational Healthcare Communities	426
<i>Georg von Krogh, Seonwoo Kim, and Zeynep Erden</i>	
Fitting Grey Relation Model for the Performance of E-government Service: The Case of Kaohsiung City Service On-Line System in Taiwan	434
<i>Tien-Chin Wang, Echo Huang, Hsing-Hui Yang, and Juh-Cheng Yang</i>	

CUCS: A Web Page Classification Algorithm for Large Training Set	440
<i>Jing Wang, Hongming Cai, Boyi Xu, and Lihong Jiang</i>	
A DL-Based Approach for Eliminating Concept Restriction Conflicts in Ontology Merging	446
<i>Yao Lu and Guoyi Zhang</i>	
Knowledge Mining and Visualization on News Webpages and Large-Scale News Video Database	452
<i>Hangzai Luo, Jiahang Yang, Aoying Zhou, Jianping Fan, and Tianming Hu</i>	
Object Lifecycle Evolution History Modeling and Reuse for Knowledge Management	460
<i>Yinglin Wang</i>	
Acquiring Compressor Design Case Knowledge Using Rough Set Theory	467
<i>Ning-rong Tao and Zu-hua Jiang</i>	
MFDSSF: A Mobile Fuzzy Decision Support System for Firefighter Cooperation in Ad Hoc Networks	475
<i>Yanwei Chen, Demin Li, Chenwen Wang, and Jiacun Wang</i>	
Behavior-Based Web Services Matchmaking	483
<i>Bensheng Yun, Junwei Yan, and Min Liu</i>	
A Semantic Approach to Recommendation System Based on User Ontology and Spreading Activation Model	488
<i>Qi Gao, Junwei Yan, and Min Liu</i>	
Semantic Mapping in Product Design and Catalog Integration	493
<i>Yi Yu, Junwei Yan, and Min Liu</i>	
Research on the Modeling of Semantic-Based Web Resources Feature	499
<i>Ji-Xi Chen, Qi Xu, Xin-Jian Gu, Guo-Ning Qi, and Hong-Fei Zhan</i>	
A Semantic Annotation Based Software Knowledge Sharing Space	504
<i>Qiang Lu, Ming Chen, and Zhiguang Wang</i>	
Research on Product Design Knowledge Reuse through Linkage with Design Iteration Records	510
<i>Xijuan Liu</i>	
A Method to Guarantee Ontology Consistency on Property Range Changes	516
<i>Rongwei Ye, Yinglin Wang, Jianmei Guo, and Qi Xiong</i>	
CWUWNet 2008	
An Adaptive Transmission Control Mechanism for Underwater Acoustic Sensor Network	525
<i>Zhong-wen Guo, Xiao-dong Liu, and Yuan Feng</i>	
EBMD: Energy-Balanced Multi-path Data Propagation Algorithm for Sensor Networks	531
<i>Yuan Feng, Lipeng Zhang, and Peng Zhou</i>	

A Novel Communication Structure for Wireless Sensor Network	541
<i>Wenjin Xu and Jianfeng Liu</i>	
Quantum Secure Communication Network on EPR States	545
<i>Shumei Wang and Hongyang Ma</i>	
A Group Quantum Communication Network Using Quantum Secret Sharing	549
<i>Hongyang Ma and Zhongwen Guo</i>	
Data Gathering Approaches for Underwater Sensor Networks	553
<i>Chongqing Zhang, Ruisheng Jia, and Sheng Fang</i>	
The Application and Research of Ontology in Knowledge Management Field	561
<i>Yong Liu, Xu-hao Liu, and Ai-guang Yang</i>	
EBAT: Energy Balanced Adaptive Transmission Algorithm for Sensor Networks	565
<i>Yu-ting Sun, Wei-qin Lv, Li-peng Zhang, and Peng Zhou</i>	
HPSECA 2008	
Implementation and Optimization of MPICH2 Multicast on Optical Fiber Network	577
<i>Xiaokun Liu, Minglu Li, Xinhua Lin, and Xiaozheng Cheng</i>	
A Resource Scheduling Strategy for Intrusion Detection on Multi-core Platform	583
<i>Zhuojun Zhuang, Yuan Luo, Minglu Li, and Chuliang Weng</i>	
Author Index	591