

Xicheng Lu
Wei Zhao (Eds.)

LNC3619

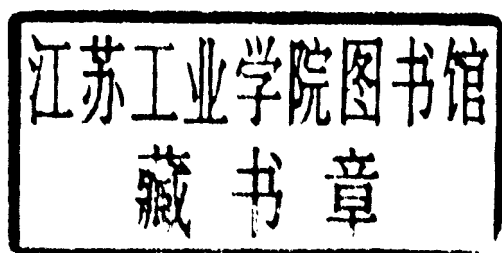
Networking and Mobile Computing

Third International Conference, ICCNMC 2005
Zhangjiajie, China, August 2005
Proceedings

Xicheng Lu Wei Zhao (Eds.)

Networking and Mobile Computing

Third International Conference, ICCNMC 2005
Zhangjiajie, China, August 2-4, 2005
Proceedings



Volume Editors

Xicheng Lu
National University of Defense Technology
Changsha, Hunan 410073, China
E-mail: xclu@nudt.edu.cn

Wei Zhao
National Science Foundation
Computer and Network Systems Division
CISE, Room 1175.01, 4201 Wilson Boulevard, Arlington, VA 22230, USA
E-mail: wzhao@nsf.gov

Library of Congress Control Number: 2005929607

CR Subject Classification (1998): C.2, D.4.4, D.2, H.3.5, H.4, K.4.4, K.6.5

ISSN	0302-9743
ISBN-10	3-540-28102-9 Springer Berlin Heidelberg New York
ISBN-13	978-3-540-28102-3 Springer Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

Springer is a part of Springer Science+Business Media

springeronline.com

© Springer-Verlag Berlin Heidelberg 2005
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11534310 06/3142 5 4 3 2 1 0

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison

Lancaster University, UK

Takeo Kanade

Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler

University of Surrey, Guildford, UK

Jon M. Kleinberg

Cornell University, Ithaca, NY, USA

Friedemann Mattern

ETH Zurich, Switzerland

John C. Mitchell

Stanford University, CA, USA

Moni Naor

Weizmann Institute of Science, Rehovot, Israel

Oscar Nierstrasz

University of Bern, Switzerland

C. Pandu Rangan

Indian Institute of Technology, Madras, India

Bernhard Steffen

University of Dortmund, Germany

Madhu Sudan

Massachusetts Institute of Technology, MA, USA

Demetri Terzopoulos

New York University, NY, USA

Doug Tygar

University of California, Berkeley, CA, USA

Moshe Y. Vardi

Rice University, Houston, TX, USA

Gerhard Weikum

Max-Planck Institute of Computer Science, Saarbruecken, Germany

Preface

Welcome to Zhangjiajie for the 3rd International Conference on Computer Network and Mobile Computing (ICCNMC 2005).

We are currently witnessing a proliferation in mobile/wireless technologies and applications. However, these new technologies have ushered in unprecedented challenges for the research community across the range of networking, mobile computing, network security and wireless web applications, and optical network topics.

ICCNMC 2005 was sponsored by the China Computer Federation, in cooperation with the Institute for Electrical and Electronics Engineers (IEEE) Computer Society. The objective of this conference was to address and capture highly innovative and state-of-the-art research and work in the networks and mobile computing industries. ICCNMC 2005 allowed sharing of the underlying theories and applications, and the establishment of new and long-term collaborative channels aimed at developing innovative concepts and solutions geared to future markets.

The highly positive response to ICCNMC 2001 and ICCNMC 2003, held in Beijing and Shanghai, respectively, encouraged us to continue this international event. In its third year, ICCNMC 2005 continued to provide a forum for researchers, professionals, and industrial practitioners from around the world to report on new advances in computer network and mobile computing, as well as to identify issues and directions for research and development in the new era of evolving technologies.

ICCNMC 2005 was the result of the hard work and planning of a large group of renowned researchers from around the world, who served on the technical Program Committee and the Organizing Committee. Their invaluable efforts in developing this technical program are most gratefully acknowledged. We also would like to take this opportunity to thank our keynote speakers and panelists.

We would like to thank the Program Co-chairs, Prof. Xicheng Lu and Prof. Wei Zhao, for their devotion to ICCNMC 2005. We strongly feel that the interaction between the two working groups in the USA and China was especially important to the success of the conference. To help lay a foundation for a continuing dialogue, three keynote speakers were invited to provide perspectives on different aspects of the challenges we all face.

We would like to express our special gratitude to the National Natural Science Foundation of China. Last but not least, we would also like to take this opportunity to thank our industrial sponsors. Without their extensive and generous supports for both the technical program and the local arrangements, we would not have been able to hold a successful conference at all.

We hope that all of our participants found the conference both stimulating and enjoyable.

July 2005

Chita Das and Hequan Wu

Message from the Program Co-chairs

Welcome to the proceedings of the 2005 International Conference on Computer Networks and Mobile Computing (ICCNMC 2005). This year's conference was the third conference in its series aimed at stimulating technical exchange in the emerging and important fields of mobile, wireless, optical communications networks, and mobile computing.

ICCNMC 2005 followed in the footsteps of its previous conferences in that it addressed in-depth, highly innovative and state-of-the-art research and work in the networks and mobile computing industries. This year's technical program was extremely strong and diverse, with contributions in both established and evolving areas of research. The conference featured three keynote lectures by distinguished academic and industrial leaders and a panel discussion organized by outstanding computer scientists. Furthermore, a total of 662 papers came from over 28 different countries, representing a truly "wide area network" of research activity. The Program Committee engaged in a thorough and careful selection process. Due to the space constraints, only 133 papers were selected as normal papers, and 13 were selected as short presentations. Thus, we produced an excellent conference program that included a wide range of technical challenges in view of the growing interest in network architectures, protocol design and analysis, mobile computing, routing and scheduling, congestion management, quality of service, admission control, Internet and Web applications, multimedia systems, network security, and optical communication technologies.

We would like to express our sincere gratitude to all those individuals whose contributions helped to make ICCNMC 2005 a successful and valuable conference. We were delighted to present Outstanding Service awards to Jiannong Cao, Xiuzhen Cheng, Jinshu Su, Jie Wu, and Ming Xu for their tireless efforts and significant contributions towards organizing the conference. Special thanks are due to Ming T. Liu, our Honorary Chair, whose guidance was always extremely valuable. We also wish to thank the General Co-chairs, Chita Das and Hequan Wu, for their support and contributions. We would like to express our appreciation to all authors for their contributions, to the Program Committee members, and to the external reviewers for their hard work in evaluating submitted papers. Finally, several prestigious organizations, including the China Computer Federation, IEEE Computer Society Beijing Center, IEEE Technical Committee of Distributed Processing, and the Hunan Computer Society, provided valuable endorsement and sponsorship of ICCNMC 2005. We are truly grateful for their contributions.

July 2005

Xicheng Lu and Wei Zhao

Organization

Honorary Chair

Ming T. (Mike) Liu, Ohio State Univ., USA

General Co-chairs

Chita Das, Pennsylvania State Univ., USA

Hequan Wu, Chinese Academy of Engineering, China

Program Co-chairs

Xicheng Lu, National Univ. of Defense Technology, China

Wei Zhao, Texas A&M Univ., USA

Program Vice Co-chairs

Bo Li, Hong Kong Univ. of Science & Technology, Hong Kong, China

Jinshu Su, National Univ. of Defense Technology, China

Jie Wu, Florida Atlantic Univ., USA

Program Committee Members

Giuseppe Anastasi, Univ. of Pisa, Italy

Guohong Cao, Pennsylvania State Univ., USA

Jianer Chen, Texas A&M Univ., USA

Sajal K. Das, Univ. of Texas at Arlington, USA

Alois Ferscha, Univ. of Linz, Austria

Chuanshan Gao, Fudan Univ., China

Zhenghu Gong, National Univ. of Defense Technology, China

Weijia Jia, Hong Kong City Univ., Hong Kong, China

Jie Li, Univ. of Tsukuba, Japan

Xiaoming Li, Peking Univ., China

Prasant Mohapatra, Univ. of California at Davis, USA

Stephan Olariu, Old Dominion Univ., USA

Depei Qian, Xi'an Jiaotong Univ., China

Hualin Qian, Chinese Academy of Sciences, China

Mukesh Singhal, Univ. of Kentucky, USA

Bala Srinivasan, Monash Univ., Australia

Ivan Stojmenovic, Univ. of Ottawa, Canada

Chengzheng Sun, Griffith Univ., Australia

Jianping Wu, Tsinghua Univ., China

Li Xiao, Michigan State Univ., USA

Yuanyuan Yang, State Univ. of New York at Stony Brook, USA

Xiuzhen Cheng, George Washington University, USA

Steering Committee Chair

Benjamin W. Wah, Univ. of Illinois, USA

Publication Chair

Jiannong Cao, Hong Kong Polytechnic Univ., Hong Kong, China
Zhongzhi Shi, Chinese Academy of Sciences, China

Publicity Chair

Cho-li Wang, Univ. of Hong Kong, Hong Kong, China

Awards Chair

Wenhua Dou, National Univ. of Defense Technology, China

Organizing Chair

Laurence T. Yang, St. Francis Xavier Univ., Canada
Ming Xu, National Univ. of Defense Technology, China

IEEE Beijing Section, Director

Zhiwei Xu, Chinese Academy of Sciences, China

Conference Secretary

Shengquan Wang, Texas A&M Univ., USA
Jianjun Bai, National Univ. of Defense Technology, China

Reviewers

Ali Asqar Razavi	Juan luo	Wan Zhang
Aram valartha bharathi	Jun Jiang	Wanjun Huang
Baosheng Wang	Jun Lai	Wei Dong
Beatrice Cynthia	Jun Shen	Wei Feng
Dhinaharan	Kai Lu	Wei Peng
Bin Zhou	Kai Zheng	Wei Ren
Binod Vaidya	Kaiyu Cai	WeiChuan Lin
Binyu Zang	Ke Xu	Weifeng Ma
Bo Liu	KeeYoung Yoo	Weihong Han
Bole Shi	Keqiu Li	Weiping Zhu
Boon-Hee Kim	Kihong Kim	Wei Qin Tong
ByoungSeob Park	Kun Zhang	Wenbin Hu
ByoungSon Choi	Kyungjun Kim	Wenguo Wei
Caiping Liu	Laibin Yan	Wenhua Dou
Caixia Liu	Layuan Li	Wenjun Xiao
Celia Li	Lee Hoseung	Wenyong Wang
Changda Wang	Lee Seoung Hyeon	WonSik Yoon
Changjun Jiang	Lei Shi	WooHun Kim
Chao Li	Lei Xuan	WoongChul Choi
ChengYuan Ho	Li Xu	Xian Liu

ChiaCheng Hu	Libao Zhang	Xiang Li
Chi-Hung Chi	Lidong Lin	Xianghui Liu
ChinChen Chang	Lihua Song	Xiangquan Shi
Chuandong Huang	Lin Chen	Xiangyu Wang
Chuanhe Huang	Lin Weiwei	Xiaohan Huang
Chuanshan Gao	Liqiang Zhao	Xiaodong Wang
Chunlin Li	Liquan Xiao	Xiaofeng Hu
Cungang Yang	Liran Ma	Xiaogang Qi
D Manivannan	Llhyung Jung	Xiaolin Lu
Dan Meng	Lu Ruan	Xiaomei Chen
Danli Li	Lu Yan	Xiaoming Li
Danlin Yao	Ma Changshe	Xiaoming Zhang
Dasheng Zhao	Magdy Koutb	Xiaoqiang Xiao
David Liu	Mahdi Jalili	Xiaoshe Dong
Depei Qian	Mahdi Jalilian	Xiaoya Fan
Dhinaharan Nagamalai	ManChing Yuen	Xin Lin
Dianxi shi	Marcin Matuszewski	Xin Xu
Ding-Jyh Tsaur	Marko Hassinen	Xingshe Zhou
Dong Seong Kim	Meng Wang	Xingwei Wang
Dong Xuan	Miae Woo	Xingye Tan
Donghoi Kim	Miao Liu	Xinsheng Xia
Dongsheng Li	Min Song	Xinwen Jiang
Duc Nguyen	Ming Liu	Xiuli Ren
Eric Hsiaokuang Wu	Ming Xu	Xiuzhen Cheng
Eun-Jun Yoon	MingI Hsieh	Xuehui Wang
Feng Gao	Mingjie Zhang	Xuhui Xiong
Feng Wang	Minglu Li	Xukai Zou
Feng Zhao	Mingmei Li	Yajun Guo
Francesco Palmieri	Mingming Lu	Yang Bo
Fuwen Liu	Mingqiao Wu	Yang Chen
Gang Wu	Mingwu Yao	Yang Panlong
Gao Shu	Mingyang Su	Yanhuang Jiang
Gobu Ezhumalai	Minte Sun	Yanmin Zhu
Gooyoun Hwang	Mohammed Houssaini	Yanxiang He
Guangwei Xu	Sqalli	Yaping Liu
Guohong Cao	Mohd Izani Zainal Abidin	Yaya Wei
Haibo Sun	Murugaiyan Aramudhan	Yeonkwon Jeong
Haitao Chen	MyongSoon Park	Yi Sun
Haiying Liang	Na Wang	Yijie Wang
Hengchang Liu	Namje Park	Yimin Chen
Heying Zhang	Ningning Han	Yin zhaolin
Hong Wang	Nirmal Kumar Gunaseelan	Yingchi Mao
Hong-Yong Yang	Nizamuddin Channa	Yiping Yao
Hosang Park	Nong Xiao	Yong Dou
Hsiao-Hong Tsai	Peide Liu	Yong Tang
Hsien-Chou Liao	Peidong Zhu	YongJin Lee
Hu Chen	Peng Hong	Yongjun Wang

XII Organization

Hua Wang	Peng Zhang	Yonglong Luo
Huadong Ma	Pengy Yue	Yongqiang Liu
Hualin Qian	Qianbing Zheng	Yongxian Jin
Huaping Hu	Qiang Dou	Yongxue Wang
Hui Li	Qicheng Liu	Yongzhe Zhao
Hui-Feng Huang	Qingchun Ren	Yonhzhuang Wei
Huizhang Zhao	Qingzhang Chen	Youchan Zhu
Hwashin Moon	Qiuxi Zhong	YoungChul Shim
HyangDuck Cho	Qixing Xu	YounHee Han
Hyun Kyung Cho	Quan Zhou	Yu Fei
Hyung Su Lee	R. Manoharan	Yuan Yang
Hyung-Jin Lim	Ruidong Li	Yuan Zhang
Hyunju Lee	Ruixuan Li	Yuan Zhou
Ivan Stojmenović	Sangseon Byun	Yuanbo Guo
Jae Kwang Lee	Sankaranarayanan Suresh	Yuancheng Wu
Jae-Won Choi	SeungSeob Park	Yuanhong Gu
Javier Paris	Shenghui Su	Yue Chen
Jayesh Seshadri	Shengquan Wang	Yuelong Zhao
Jianer Chen	Shengyi Wu	Yueshan Xiong
Jianfeng Ma	Shijinn Horng	Yugang Mao
Jiang Liu	Shoubao Yang	Yukwong Kwok
Jiangang Shen	Shoubin Dong	Yuxing Peng
Jiangping Yin	Shuangbao Wang	Zexin Lu
Jianhua Yang	Shyhfang Huang	Zhang Xihuang
Jianjun Bai	Siwei Luo	Zhanhei Li
Jiannong Cao	Songqiao Chen	Zhaohui Wu
Jie Chen	Sudha Ramachandra	Zhenghu Gong
Jie Li	Sumi Helal	Zhentaoshi
Jie Ma	SungJe Woo	Zhenyan Ji
Jie Wu	Sungjune hong	Zhenzhou Ji
Jiju M J	Sung-Won Moon	Zhi Jin
Jiman Hong	Sunhun Lee	Zhigang Chen
Jin Wu	Sunil Kim	Zhigang Jin
Jinghui Gao	Sunitha L	Zhigang Luo
JinHee Choi	Syed M.S. Islam	Zhigang Sun
Jinhui Xu	Taeseok Lee	Zhiqiang Zhang
Jinkeun hong	Tao Xie	Zhiying Yao
Jinshu Su	Tarek Guesmi	Ziqiang Wang
Jinsong Han	Teng Lv	Zuhui Yue
Jitae Shin	Tieming Chen	Zunguo Huang
Johannes Karlsson	Toshihiko Yamakami	
Jookyong Lee	Vedat Coskun	

Table of Contents

Keynote Speech

Self-organizing Wireless Sensor Networks in Action <i>John A. Stankovic</i>	1
--------------------------------------------------------------------------------------	---

The Internet Control Architecture: Successes and Challenges <i>Don Towsley</i>	2
-----------------------------------------------------------------------------------------	---

Session 1: Sensor Networks I

Distributed Localization Refinements for Mobile Sensor Networks <i>Yanmin Zhu, Min Gao, Lionel M. Ni</i>	3
-------------------------------------------------------------------------------------------------------------------	---

Cooperative Target Localization Method for Heterogeneous Sensor Networks <i>Qing Yang, Lu Su, Quanlong Li, Xiaofei Xu</i>	13
------------------------------------------------------------------------------------------------------------------------------------	----

Sensor Network Configuration Under Physical Attacks <i>Xun Wang, Wenjun Gu, Kurt Schosek, Sriram Chellappan, Dong Xuan</i>	23
-------------------------------------------------------------------------------------------------------------------------------------	----

TPSS: A Time-Based Positioning Scheme for Sensor Networks with Short Range Beacons <i>Fang Liu, Xiuzhen Cheng, Dong Hua, Dechang Chen</i>	33
----------------------------------------------------------------------------------------------------------------------------------------------------	----

Energy-Efficient Connected Coverage of Discrete Targets in Wireless Sensor Networks <i>Mingming Lu, Jie Wu, Mihaela Cardei, Minglu Li</i>	43
----------------------------------------------------------------------------------------------------------------------------------------------------	----

Coverage Algorithm and Protocol in Heterogeneous Sensor Networks <i>Lu Su, Qing Yang, Quanlong Li, Xiaofei Xu</i>	53
----------------------------------------------------------------------------------------------------------------------------	----

Session 2: 3G/B3G Networks

Simplified Message Transformation for Optimization of Message Processing in 3G-324M Control Protocol <i>Man-Ching Yuen, Ji Shen, Weijia Jia, Bo Han</i>	64
------------------------------------------------------------------------------------------------------------------------------------------------------------------	----

Dynamic Packet Scheduling Based on Utility Optimization in OFDM Networks <i>Kunqi Guo, Shilou Jia, Lixin Sun</i>	74
---------------------------------------------------------------------------------------------------------------------------	----

Comb-Pattern Optimal Pilot in MIMO-OFDM System <i>Qihong Ge, Huazhong Yang</i>	84
-----------------------------------------------------------------------------------------	----

Channel-Adaptive GPS Scheduling for Heterogeneous Multimedia in CDMA Networks <i>Yongchan Jeong, Jitae Shin, Hyoungh-Kee Choi</i>	93
An Adaptive Scheduled Transmission Strategy for Multimedia Services in WCDMA Systems <i>Eric Hsiao-Kuang Wu, Chiang Jui-Hao, Hsin-Pu Chung</i>	102
Semantic Web Enabled VHE for 3 rd Generation Telecommunications <i>Songtao Lin, Junliang Chen</i>	113
Session 3: Peer-to-Peer Systems	
An Adaptive Replication Algorithm in Overlay Networking <i>Yuancheng Wu, Wenhua Lang, Mingtian Zhou</i>	123
Performance Modeling of Mobile Peer-to-Peer Systems <i>Lu Yan</i>	133
A Random Walk Based Anonymous Peer-to-Peer Protocol Design <i>Jinsong Han, Yunhao Liu, Li Lu, Lei Hu, Abhishek Patil</i>	143
A System for Power-Aware Agent-Based Intrusion Detection (SPAID) in Wireless Ad Hoc Networks <i>T. Srinivasan, Jayesh Seshadri, J.B. Siddharth Jonathan, Arvind Chandrasekhar</i>	153
BSMON: Bandwidth-Satisfied Multicast in Overlay Network for Large-Scale Live Media Applications <i>Yuhui Zhao, Yuyan An, Jiemin Liu, Cuirong Wang, Yuan Gao</i>	163
Session 4: Caching and Routing	
A Routing and Wavelength Assignment Algorithms Based on the State Level of Links <i>Xiaogang Qi, Sanyang Liu, Junfeng Qiao</i>	173
Cooperative Determination on Cache Replacement Candidates for Transcoding Proxy Caching <i>Keqiu Li, Hong Shen, Francis Y.L. Chin</i>	178
High Performance Embedded Route Lookup Coprocessor for Network Processors <i>Kai Zheng, Zhen Liu, Bin Liu</i>	188
An Efficient Distributed Dynamic Multicast Routing with Delay and Delay Variation Constraints <i>Kun Zhang, Hong Zhang, Jian Xu</i>	198

Data Caching in Selfish MANETs <i>Jian Zhai, Qing Li, Xiang Li</i>	208
-----------------------------------------------------------------------------	-----

Session 5: Wireless Networks

Optimal Scheduling for Link Assignment in Traffic-Sensitive STDMA Wireless Ad-Hoc Networks <i>Hengchang Liu, Baohua Zhao</i>	218
Modeling and Performance Evaluation of Handover Service in Wireless Networks <i>Wenfeng Du, Lidong Lin, Weijia Jia, Guojun Wang</i>	229
The Optimum Parameter Design for WCDMA Intra-frequency Handover Initiation <i>Donghoi Kim, Joinin Kim</i>	239
A New Location Management Scheme for the Next-Generation Mobile Cellular Networks <i>Jian-Wu Zhang, Jia-Rong Xi</i>	249
Rapid Mobility of Mobile IP over WLAN <i>Jun Tian, Abdelsalam (Sumi) Helal</i>	259

Session 6: Multicast I

Least Cost Multicast Spanning Tree Algorithm for Local Computer Network <i>Yong-Jin Lee, M. Atiquzzaman</i>	268
A New Multicast Group Management Scheme for IP Mobility Support <i>Miae Woo, Ho-Hyun Park</i>	276
On the Minimization of the Number of Forwarding Nodes for Multicast in Wireless Ad Hoc Networks <i>Chen-guang Xu, Yin-long Xu, Jun-min Wu</i>	286
The Impact of Mobility Modeling in Mobile IP Multicast Research <i>Guoliang Xie, Mingwei Xu, Kwok-Yan Lam, Qian Wu</i>	295
Broadcast in the Locally k-Subcube-Connected Hypercube Networks with Faulty Tolerance <i>Fangai Liu, Ying Song</i>	305

Session 7: Ad Hoc Networks I

Performance Analysis of Route Discovery in Wireless Ad Hoc Networks: A Unified Model <i>Xian Liu, Yupo Chan</i>	314
-----------------------------------------------------------------------------------------------------------------------------	-----

A Load-Balancing Control Method Considering Energy Consumption Rate in Ad-Hoc Networks <i>Hyun Kyung Cho, Eun Seok Kim, Dae-Wook Kang</i>	324
Efficient Node Forwarding Strategies via Non-cooperative Game for Wireless Ad Hoc Networks <i>Mingmei Li, Eiji Kamioka, Shigeki Yamada, Yang Cui</i>	334
A Cluster-Based Group Rekeying Algorithm in Mobile Ad Hoc Networks <i>Guangming Hu, Xiaohui Kuang, Zhenghu Gong</i>	344
Enhanced Positioning Probability System for Wireless Ad Hoc Networks <i>Insu Jeong, Yeonkwon Jeong, Joongsoo Ma, Daeyoung Kim</i>	354
A Virtual Circle-Based Clustering Algorithm with Mobility Prediction in Large-Scale MANETs <i>Guojun Wang, Lifan Zhang, Jiannong Cao</i>	364
Mobility-Aware On-demand Global Hosts for Ad-Hoc Multicast <i>Chia-Cheng Hu, Eric Hsiao-Kuang Wu, Gen-Huey Chen, Chiang Jui-Hao</i>	375

Session 8: Algorithms I

Bottom Up Algorithm to Identify Link-Level Transition Probability <i>Weiping Zhu</i>	385
An Extended G ^X /M/1/N Queueing Model for Evaluating the Performance of AQM Algorithms with Aggregate Traffic <i>Wang Hao, Yan Wei</i>	395
Fair and Smooth Scheduling for Virtual Output Queueing Switches Achieving 100% Throughput <i>Min Song, Sachin Shetty, Wu Li</i>	405
Detour Path Optimization Algorithm Based on Traffic Duration Time in MPLS Network <i>Ilhyung Jung, Hwa Jong Kim, Jun Kyun Choi</i>	414

Session 9: Security I

HAWK: Halting Anomalies with Weighted Choking to Rescue Well-Behaved TCP Sessions from Shrew DDoS Attacks <i>Yu-Kwong Kwok, Rohit Tripathi, Yu Chen, Kai Hwang</i>	423
Improved Thumbprint and Its Application for Intrusion Detection <i>Jianhua Yang, Shou-Hsuan Stephen Huang</i>	433

Performance Enhancement of Wireless Cipher Communication <i>Jinkeun Hong, Kihong Kim</i>	443
SAS: A Scalar Anonymous Communication System <i>Hongyun Xu, Xinwen Fu, Ye Zhu, Riccardo Bettati, Jianer Chen, Wei Zhao</i>	452
Two New Fast Methods for Simultaneous Scalar Multiplication in Elliptic Curve Cryptosystems <i>Runhua Shi, Jiaying Cheng</i>	462
Network-Based Anomaly Detection Using an Elman Network <i>En Cheng, Hai Jin, Zongfen Han, Jianhua Sun</i>	471
Session 10: Peer-to-Peer Systems and Web Service	
On Mitigating Network Partitioning in Peer-to-Peer Massively Multiplayer Games <i>Yuan He, Yi Zhang, Jiang Guo</i>	481
P2P-Based Software Engineering Management <i>Lina Zhao, Yin Zhang, Sanyuan Zhang, Xiuqi Ye</i>	491
A Computational Reputation Model in P2P Networks Based on Trust and Distrust <i>Wei Lin, Yongtian Yang, Shuqin Zhang</i>	501
Web Services Peer-to-Peer Discovery Service for Automated Web Service Composition <i>Jianqiang Hu, Changguo Guo, Huaimin Wang, Peng Zou</i>	509
Efficient Mining of Cross-Transaction Web Usage Patterns in Large Database <i>Jian Chen, Liangyi Ou, Jian Yin, Jin Huang</i>	519
Session 11: Multicast II	
Delay-Constrained Multicasting with Power-Control in Wireless Networks <i>Yuan Zhang, Bo Yang</i>	529
Distributed Hierarchical Access Control for Secure Group Communications <i>Ruidong Li, Jie Li, Hisao Kameda</i>	539
Hierarchical Multicast Tree Algorithms for Application Layer Mesh Networks <i>WeiJia Jia, Wanqing Tu, Jie Wu</i>	549

A Novel Dual-Key Management Protocol Based on a Hierarchical
Multicast Infrastructure in Mobile Internet
Jiannong Cao, Lin Liao, Guojun Wang, Bin Xiao 560

Session 12: Traffic and Network Management

Interdomain Traffic Control over Multiple Links Based on
Genetic Algorithm
DaDong Wang, HongJun Wang, YuHui Zhao, Yuan Gao 570

Congestion Management of IP Traffic Using Adaptive Exponential RED
S. Suresh, Özdemir Göl 580

An Analysis and Evaluation of Policy-Based Network Management
Approaches
*Hyung-Jin Lim, Dong-Young Lee, Tae-Kyung Kim,
Tai-Myoung Chung* 590

An End-to-End QoS Provisioning Architecture in IPv6 Networks
Huagang Shao, Weinong Wang 600

Introducing Public E-Mail Gateways: An Effective Hardening
Strategy Against Spam
Francesco Palmieri, Ugo Fiore 610

Session 13: QoS I

A Protection Tree Scheme for First-Failure Protection and Second-Failure
Restoration in Optical Networks
Fangcheng Tang, Lu Ruan 620

Distributed Dynamic Resource Management for the AF Traffic
of the Differentiated Services Networks
Ling Zhang, Chengbo Huang, Jie Zhou 632

Constructing Correlations of Perturbed Connections Under Packets
Loss and Disorder
Qiang Li, Qingyuan Feng, Kun Liu, Jiubin Ju 642

An Enhanced Packet Scheduling Algorithm for QoS Support
in IEEE 802.16 Wireless Network
Yanlei Shang, Shiduan Cheng 652

A Novel Core Stateless Virtual Clock Scheduling Algorithm
Wenyu Gao, Jianxin Wang, Songqiao Chen 662

Proportional Differentiated Services for End-to-End Traffic Control <i>Yong Jiang, Jianping Wu</i>	672
-------------------------------------------------------------------------------------------------------------	-----

Session 14: Ad Hoc Networks II

Probability Based Dynamic Load-Balancing Tree Algorithm for Wireless Sensor Networks <i>Tingxin Yan, Yanzhong Bi, Limin Sun, Hongsong Zhu</i>	682
A Prediction-Based Location Update Algorithm in Wireless Mobile Ad-Hoc Networks <i>Jun Shen, Kun Yang, Shaochun Zhong</i>	692
Combining Power Management and Power Control in Multihop IEEE 802.11 Ad Hoc Networks <i>Ming Liu, Ming T. Liu, David Q. Liu</i>	702
Minimum Disc Cover Set Construction in Mobile Ad Hoc Networks <i>Min-Te Sun, Xiaoli Ma, Chih-Wei Yi, Chuan-Kai Yang, Ten H. Lai</i>	712

Session 15: Routing

A Study on Dynamic Load Balanced Routing Techniques in Time-Slotted Optical Burst Switched Networks <i>Liang Ou, Xiansi Tan, Huaxiong Yao, Wenqing Cheng</i>	722
A Novel Multi-path Routing Protocol <i>Xiaole Bai, Marcin Matuszewski, Liu Shuping, Raimo Kantola</i>	732
A Simplified Routing and Simulating Scheme for the LEO/MEO Two-Layered Satellite Network <i>Zhe Yuan, Jun Zhang, Zhongkan Liu</i>	742
ARS: An Synchronization Algorithm Maintaining Single Image Among Nodes' Forwarding Tables of Clustered Router <i>Xiaozhe Zhang, Wei Peng, Peidong Zhu</i>	752
Design and Implementation of Control-Extensible Router <i>Baosheng Wang, Xicheng Lu</i>	762
Dependable Propagating Routing Information in MANET <i>Zhitang Li, Wei Guo, Fuquan Xu</i>	772
Data Structure Optimization of AS_PATH in BGP <i>Weirong Jiang</i>	781