

2007 3rd International Conference on Networking and Services

(ICNS 2007)

**Athens, Greece
19 – 25 June 2007**



IEEE Catalog Number: CFP0718B-PRT
ISBN: 978-1-4244-3152-6

TABLE OF CONTENTS

ICNS1: COMAN I

Host Identity Specific Multicast.....	1
<i>Zsolt Kovácshazi, Rolland Vida</i>	
Measuring Network Parameters with Hardware Support.....	7
<i>Kanchan Devarakonda, Sotirios G. Ziavras, Roberto Rojas-Cessa</i>	
An Energy-Efficient Mechanism Using CLMAC Protocol for Wireless Sensor Networks	13
<i>Jaejoon Cho, Sungho Kim, Heungwoo Nam, Sunshin An</i>	
A Lightweight Traffic Management Approach for Service Differentiation.....	18
<i>Jorge Rodríguez Sánchez, María L. Garcia, Mohamed Boucadair</i>	

ICNS2: COMAN II

Simplified Network Management with DACS Scheme.....	24
<i>Kazuya Odagiri, Rihito Yaegashi, Masaharu Tadauchi, Naohiro Ishii</i>	
Trouble Shooting in Distributed Service Centers: Rule Based Software Approach for Data Mining in Complex Systems	31
<i>A. Al-Ta'ani, C. Begall, A. Waadr, G. Bruck, P. Jung</i>	
Towards System-Level Optimization for High Performance Unified Threat Management	37
<i>Yaxuan Qi, Baohua Yang, Bo Xu, Jun Li</i>	

ICNS3: COMAN III

Distributed Adaptations to Traffic Quality Requirements.....	43
<i>Laercio Cruvinel, Teresa Vazão, Fernando Silva</i>	
A Secure Routing Protocol for Ad Hoc Networks Based on Trust	49
<i>Raquel Lacuesta Gilaberte, Lourdes Peñalver Herrero</i>	
Reservation-Based Data Flow Scheduling in Distributed Control Applications	55
<i>Anca Hangan, Ramona Marfievici, Gheorghe Sebestyen</i>	
Point-to-Point Services in Hybrid Networks: Technologies and Performance Metrics	61
<i>Athanassios Liakopoulos, Andreas Hanemann, Afrodite Sevasti</i>	
Extended DACS Scheme implementing Security Function	67
<i>Kazuya Odagiri, Rihito Yaegashi, Masaharu Tadauchi, Naohiro Ishii</i>	

ICNS4: MPQSI AND SERVI I

DRR-SFF: A Practical Scheduling Algorithm to Improve the Performance of Short Flows	74
<i>Changhua Sun, Lei Shi, Chengchen Hu, Bin Liu</i>	
Conversational Model Based VoIP Traffic Generation	80
<i>Li Ji, Xia Yin, Xingang Shi, Zhiliang Wang</i>	

A Distributed Service Manager for Seamless Service Continuity.....	86
<i>Vincent Verdot, Noël Crespi, Yann Gasté</i>	
A Wireless Mesh Network-Based System for Hotspot Deployment and Management.....	93
<i>Jorge Hortelano, Juan-Carlos Cano, Carlos T. Calafante, Pietro Manzoni</i>	
On Assuring QoS in Ethernet Access Network	99
<i>Robert Janowski, Piotr Krawiec, Wojciech Burakowski</i>	

ICNS5: MPQSI AND SERVI II

An Approach to QoS-aware Service Selection in Dynamic Web Service Composition	105
<i>Yan Yang, Shengqun Tang, Youwei Xu, Wentao Zhang, Lina Fang</i>	
Towards Automatic Traffic Classification.....	111
<i>Zhaohong Lai, Alex Galis, Miguel Rio, Chris Todd</i>	
Bandwidth Constrained Routing Algorithm for MPLS Traffic Engineering.....	121
<i>Afef Kotti, Rached Hamza, Kamel Bouleimen</i>	
Tracking DSCP Marking of Packets in a QoS Enabled Triple-Play IP Network	127
<i>C. J. Liu</i>	

ICNS6: GRIDNS I

On Maximizing Provider Revenue in Market-Based Compute Grids.....	133
<i>Vladimir Marbukh, Kevin Mills</i>	
Delay Components of Job Processing in a Grid: Statistical Analysis and Modeling.....	143
<i>K. Christodouloupolos, V. Gkamas, E. A. Varvarigos</i>	
Empirical Analysis of TCP Variants and Their Impact on GridFTP Port Requirements	151
<i>Christian Grimm, Harald Schwier</i>	
BLOMERS: Balanced Load Multi-constrained Resource Scheduler.....	157
<i>Edgar Magaña, Masum Hasan, Joan Serrat</i>	

ICNS7: GRIDNS II

A Flexible Fault-Tolerance Mechanism for the Integrate Grid Middleware.....	163
<i>Stanley Araujo De Sousa, Francisco José Da Silva E Silva, Rafael Fernandes Lopes</i>	
Enhance Self-Managing by Risk Management.....	169
<i>Kerstin Voss</i>	
Performance Comparison of Web Services Security: Kerberos Token Profile against X.509 Token Profile	175
<i>A. Moralis, V. Pouli, M. Grammatikou, S. Papavassiliou, V. Maglaris</i>	
An ASM Model for an Autonomous Network-Infrastructure Grid	182
<i>LakshmiPriya TKS, Ranjani Parthasarathi</i>	
An Efficient Optical Switch Architecture with Controlled Latency for GRID Networks	188
<i>Theofanis G. Orphanoudakis, Andreas Drakos, Chris Matrakidis, Christina Politi, Alexandros Stavdas</i>	

ICNS8: NGNUS I

Bandwidth Allocation for Integrated MPEG-4 Video, WAP and MP3 Traffic over Next Generation Wireless Cellular Networks.....	194
<i>P. Koutsakis</i>	
Implementation of Multimedia Service Mobility in Fix/ Mobile Converged Networks.....	200
<i>Leo Lehmann</i>	
Service Invocation Issues within the IP Multimedia Subsystem	207
<i>Anahita Gouya, Noël Crespi, Emmanuel Bertin</i>	
Combination of Zero-Forcing Nulling and Fuzzy Parallel Multistage Detection for MIMO Systems.....	213
<i>Tseng Shu-Ming, Yu Hung-Chieh, Huang Yao-Min</i>	

ICNS9: NGNUS II

Security Analysis of SIP Signalling during NASS-IMS Bundled Authentication.....	215
<i>Giorgos Kostopoulos, Odysseas Koufopavlou</i>	
A Self-Organized Personal Network Architecture	221
<i>Weidong Lu, Yanying Gu, R.V. Prasad, Anthony Lo, Ignas Niemegeers</i>	
Interconnection Scenario and Regulation under NGN Environment in the Case of Korea	227
<i>Jung-Eun Ku, Sun-Me Choi, Sang-Woo Lee, Tchanghee Hyun</i>	
Thin Client Computing Solutions in Low- and High-Motion Scenarios	230
<i>L. Deboosere, J. De Wachter, P. Simoens, F. De Truck, B. Dhoedt, P. Demeester</i>	

ICNS10: NGNUS III

IP Based Transport Abstraction for Middleware Technologies	236
<i>Toni Reichelt, Noribert Oswald, André Windisch, Stefan Forster, Herwig Moser</i>	
Ontology-Based Management Systems for the Next Generation Services: State-of-the-Art.....	241
<i>Imen Grida Ben Yahia, Emmanuel Bertin, Noel Crespi</i>	
The Design of a Storage Architecture for Mobile Heterogeneous Devices.....	247
<i>Glenford Mapp, Dhawal Thakkar, David Silcott</i>	
An Integrative View of the Concept of Digital Ecosystem	253
<i>Hai Dong, Farookh Khadeer Hussain, Elizabeth Chang</i>	

ICNS11: ENCOT I

On Improving the Extended Aloha Protocol for Broadband Powerline Communications Networks with Light and Heavy Disturbances	257
<i>T. Chiras, P. Koutsakis, M. Paterakis</i>	
Satellite Bandwidth Allocation Based on MPEG-4 Videoconference Traffic Prediction	263
<i>Polychronis Koutsakis</i>	
AC: Cluster Based Secure Routing Protocol for WSN	269
<i>Rampur Srinath, A. Vasudev Reddy, R. Srinivasan</i>	

Improved Algorithms for Data-Gathering Time in Sensor Networks: Ring, Tree and Grid Topologies	272
<i>Yoram Revah, Michael Segal</i>	
Architecture and Key Technologies of Streaming Media of Cultural Grid	278
<i>Jinzhi Zhou, JianGuo Ma, Jing Wu, Lusha Zheng, Jing Shen</i>	

ICNS12: ENCOT II

The Chameleon: A Pervasive Grid Security Architecture	283
<i>Rachid Saadi, Jean Marc Pierson, Lionel Brunie</i>	
A Certification Authority for Elliptic Curve X.509v3 Certificates	289
<i>Maria-Dolores Cano, Ruben Toledo-Valera, Fernando Cerdan</i>	
Data Fusion Algorithms for Network Anomaly Detection: Classification and Evaluation	295
<i>V. Chatzigiannakis, G. Androulidakis, K. Pelechrinis, S. Papavassiliou, V. Maglaris</i>	
A Cross-Layer Aware Imprinting Protocol for Personal Networks	302
<i>Khaled Masmoudi, Hossam Afifi</i>	
Predicting QoS Characteristics on Wireless Networks	308
<i>Paulo Salvador, António Nogueira, Rui Valadas</i>	

ICNS13: ENCOT III

Single-Radio Location-Based Multihop Packet Relaying	315
<i>Ahmed Bader</i>	
A Detection and Offense Mechanism to Defend Against Application Layer DDoS Attacks	321
<i>Jie Yu, Zhoujun Li, Huowang Chen, Xiaoming Chen</i>	
IHS: An Integrated Handover Scheme for Heterogeneous Wireless Networks in MIPv6.....	327
<i>Wei Wei, Yihua Lou, Jianbai Wang</i>	
Use of Publisher-Subscriber Design Pattern in Infrastructure of Distributed IDS Systems	332
<i>Ilija Bašicevic, Miroslav Popovic, Vladimir Kovacevic</i>	
SPD (Static Priority with Deadline Considerations) Packet Scheduling Algorithm for Achieving better QoS	337
<i>Tamer Dag</i>	

ICNS14: ENCOT IV

Routing with Minimized Slot Misordering for Delay Mitigation in TDMA Based Sensor Networks	342
<i>Fan Yu, Tao Wu, Subir Biswas</i>	
Remote Access to Universal Plug and Play (UPnP) Devices Utilizing the Atom Publishing Protocol	349
<i>Petros Belimpasakis, Vlad Stirbu</i>	
Performance Analysis of Dual Priority Single-Buffered Blocking Multistage Interconnection Networks	355
<i>D.C. Vasiliadis, G. E. Rizos, C. Vassilakis</i>	

Service Commitment and Load Balancing for Domain-Based P2P Networks	361
<i>Joseph C. H. So, P. C. Wong</i>	

A Theoretical Framework for End-to-End Video Quality Prediction of MPEG-based Sequences	367
<i>Harilaos Koumaras, Anastasios Kourtis, Cheng-Han Lin, Ce-Kuen Shieh</i>	

ICNS15: ENCOT V

Quality-of-Service Provisioning Using Hierarchical Scheduling in Optical Burst Switched Network.....	372
<i>Suriani Mohd Sam, Norsheila Fisal, Sharifah Hafizah Syed Ariffin</i>	

Trust and Recommendations in Mobile Ad hoc Networks.....	378
<i>Venkat Balakrishnan, Vijay Varadharajan, Udaya Kiran, Phillip Lucs</i>	

A New Management Approach for Finding an Optimal Path in an Ad-hoc Network.....	384
<i>F. Shebli, I. Dayoub, J.-M. Rouvaen, N. Al-Houlou</i>	

A Traffic-Based Adaptive Deficit Scheduling for QoS Support in IEEE 802.16e TDD Mode	391
<i>Nararat Ruangchaijatupon, Yusheng Ji</i>	

Ant Routing in Mobile Ad hoc Networks	397
<i>S. S. Dhillon, X. Arbona, P. Van Mieghem</i>	

ICNS16: ENCOT VI

Building IP Networks Using Advanced Telecom Computing Architecture	405
<i>Dharmaraja Rajan</i>	

Optimal Power Management Scheme for Heterogeneous Wireless Sensor Networks: Lifetime Maximization under QoS and Energy Constraints.....	411
<i>Ines Slama, Badii Jouaber, Djamal Zeghlache</i>	

Information Exchange in Mobile Encounter Network	417
<i>Vesa A. Korhonen, Jani Kurhinen</i>	

Application-Oriented Flow Control for Wireless Sensor Networks	423
<i>Jiong Jin, Wei-Hua Wang, Marimuthu Palaniswami</i>	

A Robust Approach for Matching Mixed Case-Sensitive and Case-Insensitive Patterns.....	430
<i>Hongbin Lu, Kai Zheng, Bin Liu, Changhua Sun</i>	

ICNS17: ENCOT VII

A Low Power Adaptive MAC Protocol for Infrastructure Wireless LANS.....	436
<i>Petros Nicosopolitidis, Giorgios I. Papadimitriou, T.D. Lagkas, Andreas S. Pomportsis</i>	

Performance Evaluation of Real-Time Message Delivery in RDM Algorithm.....	442
<i>Shabnam Mirshokraie, Mojtaba Sabeghi, Mahmoud Naghibzadeh, Koen Bertels</i>	

A Study of Data Exchange Protocols for the Grid Computing Environment.....	448
<i>Dejiang Jin, Sotirios G. Ziavras</i>	

Improved Lower Bounds for Data-Gathering Time in Sensor Networks	454
<i>Yoram Revah, Michael Segal</i>	

A Hierarchical and Distributed Handover Management Approach for Heterogeneous Networking Environments	460
<i>Lucian Suciu, Karine Guillouard</i>	

ICNS18: ENCOT VIII

Cluster Organization Based Design of Hybrid MAC Protocol in Wireless Sensor Networks	467
<i>Mustafa Shakir, Irfan Ahmed, Mugen Peng, Wenbo Wang</i>	
A Manageable and Bandwidth Effective Solution for Traffic Grooming in IP-over-WDM Networks	473
<i>N.S.C. Correia, J. Coimbra, M.C.R. Medeiros</i>	
Dynamic Service Deployment Using an Ontology-Based Description of Devices and Services.....	481
<i>Christos Chrysoulas, Giannis Koumoutsos, Spyros Denazis, Kleanthis Thramboulidis, Odysseas Koufopavlou</i>	
Dominating Set Based Overhead Reduction for Broadcast Authentication in Large Sensor Networks	487
<i>Qijun Gu, Jawad Drissi</i>	
Inter-domain QoS Control Mechanism in IMS Based Horizontally Converged Networks.....	493
<i>Mehdi Mani, Noel Crespi</i>	

ICNS19: ENCOT IX

Malicious Node Detection in Wireless Sensor Networks Using an Autoregression Technique.....	498
<i>Daniel-Ioan Curiac, Ovidiu Baniias, Octavian Dranga</i>	
Application-Level Adaptive Congestion Detection and Control for VoIP	504
<i>Teck-Kuen Chua, David C. Pheanis</i>	
Data Flow Attack Detection Mechanism for PARTY Protocol.....	510
<i>Mounis Khatib, Ghazi Al Sukkar, Abdallah Mhamed</i>	
A Unified Energy Efficient Cluster ID Based Routing Scheme for Wireless Sensor Networks- A More Realistic Analysis	516
<i>Irfan Ahmed, Mugen Peng, Wenbo Wang</i>	
A Case Study-Based Performance Evaluation Framework for CSCF Processes on a Blade-Server	522
<i>Preetam Ghosh, Nirmalya Roy, Kalyan Basu, Sajal Das, Paul Wilson, Prabir Das</i>	

ICNS20: ENCOT X

Improving Wireless Access of Video over the Internet.....	528
<i>Jesse Steinberg, Joseph Pasquale</i>	
A Bandwidth Allocation Scheme for Mobile Wireless IP Networks.....	534
<i>T. Nyandeni, M. Adigun, J. Emuoyibofarhe, S. Sibiya</i>	
Efficient Multi-sink Relocation in Wireless Sensor Network	539
<i>L. Friedmann, L. Boukhatem</i>	

Characterizing UDP Consecutive Packet Losses in Multicast Networks	545
<i>Suk Kim Chin</i>	
A Wireless Based Sensor for Patient Monitoring System with Remote Diagnostic.....	552
<i>Hung-Chieh Yu, Shu-Ming Tseng</i>	

ICNS21: ENCOT XI

An Adaptive Approach to Enhance the Performance of Content-Addressable Networks	555
<i>Balazs Kovacs, Rolland Vida</i>	
Packet Loss Recovery Schemes for Peer-to-Peer Video Streaming.....	561
<i>B. Akabri, H. R. Rabiee, M. Ghanbari</i>	
On the Feasibility of Enhancing Interactivity for Real-Time Communications Using Overlay Routing	569
<i>Li Tang, Zhijie Sun, Zhen Chen, Jun Li</i>	
Energy-Aware Virtual Backbone Tree for Efficient Routing in Wireless Sensor Networks.....	575
<i>Tamaghna Acharya, Samiran Chattopadhyay, Rajarshi Roy</i>	
An Optical Burst Switched Network Architecture with Passive Access.....	581
<i>Arnaud Cauvin, Philippe Niger, Julio Orozco, Gilles Bertrand</i>	

ICNS22: ENCOT XII

An Efficient Scheme to Motivate Cooperation in Mobile Ad hoc Networks.....	587
<i>Saeed Soltanali, Sajjas Piraresh, Salman Niksefat, Masoud Sabaei</i>	
From High Availability Systems to Fault Tolerant Production Infrastructures	593
<i>Emmanouil Serrelis, Nikos Alexandris</i>	
Real-Time Anonymization in Passive Network Monitoring.....	599
<i>Sven Ubik, Petr Žejdl, Jirí Halák</i>	
Efficiency Analysis of Multicast Routing Algorithms in Large Networks	604
<i>Maciej Piechowiak, Piotr Zwierzykowski</i>	
A Novel Routing Protocol Integrate Power Balance for Ad hoc Networks.....	610
<i>Shih Yang Lin, Jian Pan Li, Lian Yu Wu, Guang Ming Wu</i>	
Energy Reduction in Wireless Sensor Networks through Measurement Estimation with Second Order Recurrent Neural Networks	616
<i>Incheon Park, Derrick Takeshi Mirikitani</i>	

ICNS23: ENCOT XIII

A Group-Based Architecture for Wireless Sensor Networks	620
<i>Jaime Lloret, Miguel Garcia, Jesus Tomas</i>	
Theoretical Maximum and Saturation Throughput in the 802.11a Wireless LAN	626
<i>Ha Cheol Lee</i>	
Mutual Coupling Effects on MIMO-Adaptive Beamforming Systems.....	632
<i>Mostafa Hefnawi, Jing Gai, Rachid Abou Elasoued</i>	
Optimizations and Performance Study of the Dynamic Source Routing Protocol.....	636
<i>Mohamed Aissani, Mustapha Réda Senouci, Walid Demigna, Abdelhamid Mellouk</i>	

A Routing Based Service Discovery Protocol for Ad hoc Networks	642
<i>Abdel Obaid, Azeddine Khir, Hafedh Mili</i>	

IPV6DFL, EDNA

IPv6 in European Internet eXchange Points.....	648
<i>Mónica Domingues, Carlos Friaças</i>	
Security Issues in IPv6	653
<i>Majid Jamil, Shabara Mehruz, Moinuddin</i>	
A Proposal of a Platform for Alert Notification and Response Support	659
<i>Marcus Lucas da Silva, Mitsuji Matsumoto</i>	
On the Performance of a Hybrid Wireless Network for Emergency Communications in Disaster Areas.....	665
<i>Hoang Nam Nguyen, Koichi Gyoda, Kazunori Okada, Osamu Takizawa</i>	
Design and Simulation of a High Performance Emergency Data Delivery Protocol.....	671
<i>Kevin Swartz, Di Wang</i>	

IPDY

One-way Delay Measurement and Characterization	677
<i>Ana Hernandez, Eduardo Magaña</i>	
IGMPS, a New Tool for Estimating End-to-End Available Bandwidth in IP Network Paths	683
<i>Ahmed Ait Ali, Francis Lepage</i>	
Keeping Order: Determining the Effect of TCP Packet Reordering.....	689
<i>Colin M. Arthur, Andrew Lehane, David Harle</i>	

GOBS

Erlang Reduced Load Model for Optical Burst Switched Grids	696
<i>Marc De Leenheer, Chris Develder, Filip De Turck, Bart Dhoedt, Piet Demeester</i>	
Grid-Enpowered Optical Burst Switched Network: Architecture, Protocols and Testbed.....	702
<i>Georgios Zervas, Reza Nejabati, Dimitra Simeonidou</i>	
A Signaling Architecture for Consumer Oriented Grids Based on Optical Burst Switching.....	708
<i>R. Avó, M. Guerreiro, N. S. C. Correia, M. C. R. Medeiros</i>	
Performance of Optical Burst Switched Networks for Grid Applications.....	714
<i>Nuno M. Garcia¹, Manuela Pereira, Mário M. Freire, Paulo P. Monteiro, Przemyslaw Lenkiewicz</i>	

Author Index