



# NOMS 2008

IEEE/IFIP Network Operations and Management Symposium  
Pervasive Management for Ubiquitous Networks and Services

## Technical Sessions Program

	Monday 7 April	Tuesday 8 April			Wednesday 9 April			Thursday 10 April			Friday 11 April
9:00 - 10:30	Tutorial & Workshops	Opening and Keynote			Keynotes			Technical Session 12	App. Session 3	Dissertation Digest 1	Tutorial & Workshops
10:30-11:00	Coffee break	Poster Session 1/Coffee break			Poster Session 3/Coffee break			Coffee break (10:40-11:00)			Coffee break
11:00-12:40	Tutorial & Workshops	Technical Session 1	Technical Session 2	Panel 1	Technical Session 7	Technical Session 8	Panel 3	Technical Session 13	Technical Session 14	Panel 5	Tutorial & Workshops
12:40-2:00	Lunch	Lunch			Lunch			Lunch			Lunch
2:00-3:40	Tutorial & Workshops	Technical Session 3	Technical Session 4	App. Session 1	Technical Session 9	Technical Session 10	App. Session 2	Technical Session 15	Technical Session 16	Dissertation Digest 2	Tutorial & Workshops
3:40 - 4:10	Coffee break	Poster Session 2/Coffee break			Poster Session 4/Coffee break			Coffee break			Coffee break
4:10 - 5:50	Tutorial & Workshops	Technical Session 5	Technical Session 6	Panel 2	Technical Session 11	Tools	Panel 4	Dist. Experts Panel & Closing Plenary			Tutorial & Workshops
					Tools demo (5:50 - 7:00)			Outrageous Opinion Session (5:50 - 7:00)			
	Welcome Reception (7:00 - 9:00)				Gala Dinner (7:00 - 10:00)						

### Tuesday, April 8, 2008

11:00AM  
12:40PM

TS1 Application Management - Chair: Nikos Anerousis

Technical  
Papers

#### Optimizing Software Packages for Application Management

Joseph Hellerstein, *Microsoft Developer Division, USA.*

#### Utility-based Placement of Dynamic Web Applications with Fairness Goals

David Carrera, *Barcelona Supercomputing Center (BSC) - Technical University of Catalonia (UPC), Spain*

Malgorzata Steinder, Ian Whalley, *IBM T. J. Watson Research Center, USA*

Jordi Torres, Eduard Ayguade, *Barcelona Supercomputing Center (BSC) - Technical University of Catalonia (UPC), Spain.*

#### Application Domain Independent Policy Conflict Analysis Using Information Models

Steven Davy, Brendan Jennings, *TSSG, Waterford Institute of Technology, Ireland*  
John Strassner, *Motorola Labs, USA.*

#### Using Machine Learning for Non-Intrusive Modeling and Prediction of Software Aging

Artur Andrzejak, *Zuse Institute Berlin, Germany*  
Luis Silva, *University of Coimbra, Portugal.*

11:00AM  
12:40PM

TS2 DoS and Intrusion Detection - Chair: Young-Tak Kim

Technical  
Papers

#### Alert prioritization in Intrusion Detection Systems

Khalid Alsubhi, *University of Waterloo, Canada*  
Ehab Al-Shaer, *DePaul University, USA*

Raouf Boutaba, *University of Waterloo, Canada.*

**DoS Attacks Against SIP Servers**

Tao Peng, *University of Melbourne, Australia.*

**Relieving Hot Spots in Collaborative Intrusion Detection Systems during Worm Outbreaks**

Chenfeng Zhou, *The University of Melbourne, Australia.*

**Network Domain Entrypoint/path Determination for DDoS Attacks**

Vrizlynn Thing, Morris Sloman, Naranker Dulay, *Imperial College London, Great Britain.*

2:00PM  
3:40PM

**TS3 Traffic Analysis - Chair: Tomohiro Otani**

*Technical  
Papers*

**A Novel Approach to Bottleneck Analysis in Networks.**

Nikhil Shetty, Assane Gueye, Jean Walrand, *UC Berkeley, USA.*

**Autonomic QoS Optimization of Real-time Internet Audio using Loss Prediction and Stochastic Control**

Lopa Roychoudhuri, Ehab Al-Shaer, *DePaul University, USA.*

**Making IP Traffic Engineering Robust to Intra- and Inter-AS Transient Link Failures**

Mina Amin, Kin-Hon Ho, Ning Wang, Michael Howarth, *University of Surrey, Great Britain*

George Pavlou, *University College London, Great Britain.*

**Detecting Skype flows in Web traffic**

Emanuel Freire, *Military Institute of Engineering, Brazil*

Artur Ziviani, *LNCC, Brazil*

Ronaldo Salles, *Instituto Militar de Engenharia, Brazil.*

2:00PM  
3:40PM

**TS4 Security Management - Chair: Joseph Betser**

*Technical  
Papers*

**Applying a Model of Configuration Complexity to Estimate Security Impact on IT Procedures**

Giovane Moura, Luciano Paschoal Gaspary, *UFRGS, Brazil.*

**Towards malware inspired management frameworks**

Jérôme François, *CNRS - University Henri Poincaré, France*

Radu State, *LORIA - INRIA Lorraine, France*

Olivier Festor, *INRIA Nancy - Grand Est, France.*

**Dynamic inter-organizational cooperation in Circle-of-Trust environments**

Latifa Boursas, *Technische Universität München, Germany*

Vitalian Danciu, *Ludwig-Maximilians-University Munich, Germany.*

**Bezoar: Automated Virtual Machine-based Full-System Recovery from Control-Flow Hijacking Attacks**

Daniela Oliveira, *University of California at Davis, USA*

Jedidiah Crandall, *University of New Mexico, USA*

Gary Wassermann, Shaozhi Ye, Felix Wu, Zhendong Su, *University of California at Davis, USA*

Frederic Chong, *University of California at Santa Barbara, USA.*

4:10PM  
5:50PM

**TS5 Mobile Network Operations & Management - Chair: Prosper Chemouil**

*Technical  
Papers*

**Infrastructure Sharing for Mobile Network Operators from a Deployment and Operations View**

Thomas Frisanco, *Nokia Siemens Networks, Germany.*

**Secure Route Optimization for Mobile Network Node Using Secure Address Proxying**

Manhee Jo, *NTT DoCoMo, Japan*  
Hiroshi Inamura, *DoCoMo USA Labs, USA.*

**On Utility Models for Access Network Selection in Wireless Heterogeneous Networks**

Quoc Thinh Nguyen Vuong, *University of Evry, France*  
Yacine Ghamri-Doudane, *LRSM - ENSIIE, France*  
Nazim Agoulmine, *University of Evry, France.*

**Neighbor Cell Relation List and Measured Cell Identity Management in LTE**

Mehdi Amirijoo, Pål Frenger, Fredrik Gunnarsson, *Ericsson Research, Sweden*  
Harald Kallin, *Ericsson, Sweden*  
Johan Moe, Kristina Zetterberg, *Ericsson Research, Sweden.*

4:10PM  
5:50PM

**TS6 Traffic Identification - Chair: Burkhard Stiller**

**Toward Automated Application Signature Generation for Traffic Identification**

Byung-Chul Park, Young Won, *POSTECH, Republic of Korea*  
Myung-Sup Kim, *Korea University, Republic of Korea*  
James Hong, *POSTECH, Republic of Korea.*

**Network-wide Inference of End-to-End Path Intersections**

Bengi Karacali, Mark Karol, *Avaya Inc., USA.*

**A queueing equivalent thresholding method for thinning traffic captures**

Jose Luis Garcia-Dorado, *Universidad Autonoma de Madrid, Spain*  
Javier Aracil, José Alberto Hernández, Jorge López de Vergara, *Universidad Autónoma de Madrid, Spain.*

**Wire-speed Application Flow Generation in Hardware Platform for Multi-gigabit Traffic Monitoring**

Taesang Choi, Sangsik Yoon, Dongwon Kang, Sangwan Kim, Joonkyung Lee, *ETRI, Republic of Korea.*

**Wednesday, April 9, 2008**

11:00AM  
12:40PM

**TS7 Service Management - Chair: Vincent Wade**

**A State-Space Approach to SLA based Management**

Vibhore Kumar, *Georgia Institute of Technology, USA*  
Subu Iyer, *HP Laboratories, USA*  
Yuan Chen, *HP Labs, USA*  
Akhil Sahai, *HP Laboratories, USA*  
Karsten Schwan, *Georgia Institute of Technology, USA.*

**Decision Support for Service Transition Management**

Thomas Setzer, *Technische Universität München, IBM T.J. Watson Research Center (Co-op), Germany*  
Kamal Bhattacharya, Heiko Ludwig, *IBM T.J. Watson Research Center, USA.*

**Estimating Business Value of IT Services through Process Complexity Analysis**

Yixin Diao, *IBM Research, USA*  
Kamal Bhattacharya, *IBM T.J. Watson Research Center, USA.*

**Analysis of Application Performance and Its Change via Representative Application Signatures**

Ningfang Mi, *College of William and Mary, USA*  
Lucy Cherkasova, *Hewlett Packard Labs, USA*

Technical  
Papers

Kivanc Ozonat, Julie Symons, *Hewlett-Packard Labs, USA*  
Evgenia Smirni, *College of William and Mary, USA.*

11:00AM  
12:40PM

**TS8 Virtual Networks and Decentralized Management Algorithms - Chair: Alexander Clemm**

*Technical  
Papers*

**Eigen Space Based Method for Detecting Faulty Nodes in Large Scale**  
Manoj Agarwal, *IBM, USA.*

**A Framework for the Establishment of Inter-Domain, On-Demand VPNs**  
Alexandre Matos, Fernando Matos, Edmundo Monteiro, Paulo Simoes, *University of Coimbra, Portugal.*

**Fast Similarity Search in Peer-to-Peer networks**

Thomas Bocek, *University of Zürich, Switzerland*

Ela Hunt, *ETH Zurich, Switzerland*

David Hausheer, *University of Zurich, Switzerland*

Burkhard Stiller, *University of Zurich and ETH Zurich, Switzerland.*

**Optimizing Request Denial and Latency in an Agent-Based VPN Architecture**

Haiyang Qian, Deep Medhi, *University of Missouri-Kansas City, USA*

Steve Dispensa, *Positive Networks, USA.*

2:00PM  
3:40PM

**TS9 Multi-Layer Network Configuration and Management - Chair: Deep Medhi**

*Technical  
Papers*

**Characterization of IP Flows Eligible for Lambda-Connections in Optical Networks**

Tiago Fioreze, Mattijs Oude Wolbers, Remco van de Meent, Aiko Pras, *University of Twente, The Netherlands.*

**Multi-layer Network Management System with Dynamic Control of MPLS/GMPLS LSPs based on IP flows**

Masanori Miyazawa, Tomohiro Otani, Kenichi Ogaki, *KDDI R&D Laboratories Inc., Japan.*

**Supporting Control Plane-enabled Transport Networks within ITU-T Next Generation Network (NGN) architecture**

Fabio Baroncelli, *Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy*

Barbara Martini, *CNIT, Italy*

Valerio Martini, *SSSUP, Italy*

Piero Castoldi, *Scuola Superiore Sant'Anna, Italy.*

**Dynamic Reconfiguration of Logical Topology for WDM Networks under Traffic Changes**

Phuong Nga Tran, *Hamburg University of Technology, Germany.*

2:00PM  
3:40PM

**TS10 Autonomic Management - Chair: Joseph Hellerstein**

*Technical  
Papers*

**A Self-Organizing Composition Towards Autonomic Overlay Networks**

Ibrahim Aloqily, Ahmed Karmouch, *University of Ottawa, Canada.*

**On the Complexity of Determining Autonomic Policy Constrained Behaviour**

Mark Burgess, Lars Kristiansen, *Oslo University College, Norway.*

**Analyzing Security and Energy Tradeoffs in Autonomic Capacity Management**

Italo Cunha, Itamar Viana, João Palotti, *Federal University of Minas Gerais, Brazil*

Jussara Almeida, *DCC-UFMG, Brazil*

Virgilio Almeida, *UFMG, Brazil.*

**A Resource Management Framework for Multi-tier Service Delivery in Autonomic Virtualized Environment**

XiaoYing Wang, *Tsinghua University, P.R. China*

DongJun Lan, *IBM, P.R. China.*

4:10PM  
5:50PM

**TS11 Problem Detection and Topology Management - Chair: Lisandro Zambenedetti Granville**

*Technical  
Papers*

**A State Machine Approach for Problem Detection in Large-scale Distributed System**

Kewei Sun, *IBM China Research Laboratory, P.R. China*

Weixing Ji, *Beijing Institute of Technology, P.R. China*

Jie Qiu, *IBM China Research Lab, P.R. China*

Ying Li, *IBM China Research Laboratory, P.R. China*

Ying Chen, *IBM China Research Lab, P.R. China.*

**Efficient Physical Topology Discovery for Large OSPF Networks**

Choonho Son, Junsuk Oh, Kyoung-Ho Lee, Kieung Kim, *Korea Telecom, Republic of Korea*

Jae-Hyoung Yoo, *KT, Republic of Korea.*

**A Strategic Approach for Re-organization of Internet Topology for Improving both Efficiency and Attack Tolerance**

Yasuhiro Sato, Shingo Ata, Ikuo Oka, *Osaka City University, Japan.*

**PathCrawler: Automatic Harvesting Web Infra-Structure**

Cesar Marcondes, *University of California - Los Angeles, USA*

Magnos Martinello, *Universidade Federal do Espirito Santo - UFES, Brazil*

Mario Gerla, *UCLA, USA*

M.Y. Sanadidi, *University of California - Los Angeles, USA*

Raphael Santos, *Universidade Federal do Espirito Santo, Brazil*

Ramon Schwartz, *UFES, Brazil.*

**Thursday, April 10, 2008**

9:00AM  
10:40AM

**TS12 IT Management - Chair: Jacques Sauvé**

*Technical  
Papers*

**Enabling Rollback Support in IT Change Management Systems**

Guilherme Sperb Machado, Cristiano Both, Luciano Paschoal Gaspar, Lisandro Zambenedetti Granville, *UFRGS, Brazil*

Claudio Bartolini, Akhil Sahai, *HP Laboratories, USA*

David Trastour, *HP Labs, Great Britain*

Katia Saikoski, *HP Brasil, Brazil.*

**A Template-based Solution to Support Knowledge Reuse in IT Change Design**

Weverton Cordeiro, Cristiano Both, Luciano Paschoal Gaspar, Lisandro Zambenedetti Granville, *UFRGS, Brazil*

Akhil Sahai, Claudio Bartolini, *HP Laboratories, USA*

David Trastour, *HP Labs, Great Britain*

Katia Saikoski, *HP Brasil, Brazil.*

**ReCon: A tool to REcommend dynamic server CONSolidation in Multi-Cluster Data Centers**

Sameep Mehta, *IBM Research, New Delhi, India*

Anindya Neogi, *IBM Research, New Delhi, India, India.*

**ChargeView: An Integrated Tool for Implementing Chargeback in IT Systems**

Sandip Agarwala, Ramani Routray, *IBM Almaden Research Center, USA*

Sandeep Uttamchandani, *IBM Almaden Research, USA.*

11:00AM  
12:30PM

**TS13 Service Information Management - Chair: Claudio Bartolini**

*Technical  
Papers*

**CyberPlanner: a comprehensive toolkit for network service providers**

Jin Xiao, Issam Aib, Raouf Boutaba, *University of Waterloo, Canada.*

**Coordinated Management of Power Usage and Runtime Performance**

Malgorzata Steinder, Ian Whalley, *IBM T. J. Watson Research Center, USA*

James Hanson, *IBM T.J. Watson Research Center, USA*

Jeffrey Kephart, *IBM, USA.*

**Data Tagging Architecture for System Monitoring in Dynamic Environments**

Bharat Krishnamurthy, *IBM India Research Lab, India*

Anindya Neogi, *IBM Research, New Delhi, India, India*

Bikram Sengupta, Raghavendra Singh, *IBM Research, New Delhi, India.*

**QoS and Reputation-aware Service Selection**

Noura Limam, *LIP6. Universite Pierre et Marie Currie, France*

Raouf Boutaba, *University of Waterloo, Canada.*

11:00AM  
12:40PM

TS14 Management of Ad-hoc and Personal Networks - Chair: Yacine Ghamri-Doudane

**Monitoring Scheduling for Home Gateways**

Stéphane Frénot, *INSA de Lyon, France*

Yvan Royon, *INRIA, France*

Pierre Parrend, *INSA Lyon, France.*

Technical  
Papers

**LNMP - Management Architecture for IPv6 based lowpower Wireless Personal Area Networks (6LoWPAN)**

Hamid Mukhtar, *Ajou University Suwon South Korea, Republic of Korea*

Shafique Chaudhry, Kang-Myo Kim, Ali Hammad Akbar, *Ajou University, Republic of Korea*

Ki-Hyung Kim, *Ajou Univ., Republic of Korea*

Seung-Wha Yoo, *Ajou University, Republic of Korea.*

**Survival multipath routing for MANETs**

Michele Nogueira Lima, *Université Pierre et Marie Currie - LIP6, France*

Helber da Silva, *Federal University of Ceara, Brazil*

Aldri dos Santos, *Universidade Federal do Paraná, Brazil*

Guy Pujolle, *Université de Paris 6, France.*

**Policy-based Self-Management of Hybrid Ad hoc Networks for Dynamic Channel Configuration**

Antonis Hadjiantonis, *University of Surrey, Great Britain*

George Pavlou, *University College London, Great Britain.*

2:00PM  
3:40PM

TS15 Routing Management - Chair: Masum Hasan

**Tracking Back the Root Cause of a Path Change in Interdomain Routing**

Alessio Campisano, *Univ. Roma Tre, Italy*

Luca Cittadini, *University of Roma Tre, Italy*

Giuseppe Di Battista, Tiziana Refice, Claudio Sasso, *Univ. Roma Tre, Algeria.*

Technical  
Papers

**Efficient Method of Collecting Routing Tables based on OSPF/iBGP Monitoring**

Yuichiro Hei, Tomohiko Ogishi, Shigehiro Ano, *KDDI R&D Laboratories, Japan.*

**Relaxed Multiple Routing Configurations for IP Fast Reroute**

Tarik Cicic, *University of Oslo, Norway*

Audun Fossellie Hansen, *Simula Research Laboratory, Norway*

Amund Kvalbein, *Simula Research Laboratory, Norway*

Matthias Hartmann, *University of Wuerzburg, Institute of Computer Science, Germany*

Ruediger Martin, Michael Menth, *University of Wuerzburg, Germany.*

## **Detecting BGP Anomalies with Wavelet**

Jianning Mai, Lihua Yuan, *University of California, Davis, USA*

Chen-Nee Chuah, *UC Davis, USA.*

2:00PM  
3:40PM

TS16 Performance of Grid - Chair: Bruno Schulze

## **Availability "Weak Point" Analysis over an SOA Deployment Framework**

Lei Xie, Jing Luo, Jie Qiu, *IBM China Research Lab, P.R. China*

John Pershing, *IBM T. J. Watson Research Center, USA*

Ying Li, *IBM China Research Laboratory, P.R. China*

Ying Chen, *IBM China Research Lab, P.R. China.*

*Technical  
Papers*

## **Performance Evaluation of the Flow-Aware Networking (FAN) architecture under Grid environment**

Cesar Cardenas, *ENST Paris, France*

Maurice Gagnaire, *Ecole Nationale Supérieure des Telecommunications, France*

Victor Lopez, Javier Aracil, *Universidad Autónoma de Madrid, Spain.*

## **Data-WISE: Efficient management of Data-intensive Workflows In Scheduled grid Environments**

Gargi Dasgupta, *IBM India Research Lab, India*

Koustuv Dasgupta, *IBM Research, India*

Balaji Viswanathan, *IBM India Research Lab, India.*

## **On the Planning of a Hybrid IT Infrastructure**

Paulo Ditarso Maciel Jr., *Laboratório de Sistemas Distribuídos, Brazil*

Flavio de Figueiredo, *Universidade Federal de Campina Grande, Brazil*

David Candeia, *UFCG, Brazil*

Francisco Brasileiro, *Universidade Federal de Campina Grande, Brazil*

Alvaro Coelho, *Universidade Estadual de Santa Cruz, Brazil.*