


CNSM 2012


2012 8th International Conference on Network and Service Management

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Session	Technical Session 1
Date/Time	Monday, 22 October 2012 / 01:30PM – 03:00PM
Room	Bermuda A & B
Chair	Filip De Turck, <i>Ghent University – IBBT, Belgium</i>


 **A Novel Energy-Saving Management Mechanism in Cellular Networks**
Yu Peng, Wenjing Li, Xuesong Qiu, *Beijing University of Posts and Telecommunications, P.R. China.*

 **Comfort-Aware Home Energy Management Under Market-Based Demand-Response**
Jin Xiao, Jian Li, *POSTECH, Republic of Korea*
Raouf Boutaba, *University of Waterloo, Canada*
James Hong, *POSTECH, Republic of Korea.*

 **TEStore: Exploiting Thermal and Energy Storage to Cut the Electricity Bill for Datacenter Cooling**
Yanwei Zhang, Yefu Wang, *University of Tennessee, USA*
Xiaorui Wang, *The Ohio State University, USA.*


Session	Technical Session 2
Date/Time	Monday, 22 October 2012 / 03:30PM – 5:00PM
Room	Bermuda A & B
Chair	Lisandro Zambenedetti Granville, <i>Federal University of Rio Grande do Sul, Brazil</i>

 **Network-Aware Impact Determination Algorithms for Service Workflow Deployment in Hybrid Clouds**
Hendrik Moens, *Ghent University – IBBT, Belgium*
Eddy Truyen, Stefan Walraven, *Katholiek Universiteit Leuven, Belgium*
Wouter Joosen, *Katholiek Universiteit Leuven, Belgium*
Bart Dhoedt, Filip De Turck, *Ghent University – IBBT, Belgium.*

 **Efficient and Secure Data Storage Operations for Mobile Cloud Computing**
Zhibin Zhou, *Amazon.com, USA*
Dijiang Huang, *Arizona State University, USA.*

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-  **Failure Analysis of Distributed Scientific Workflows Executing in the Cloud**
Taghrid Samak, Dan Gunter, Monte Goode, *Lawrence Berkeley National Laboratory, USA*
Ewa Deelman, *Information Sciences Institute/USC, USA*
Gideon Juve, *University of Southern California, USA*
Fabio Silva, *Information Sciences Institute/USC, USA*
Karan Vahi, *University of Southern California, USA.*

Session	Technical Session 3
Date/Time	Tuesday, 23 October 2012 / 10:30AM – Noon
Room	Bermuda A & B
Chair	Aiko Pras, <i>University of Twente, The Netherlands</i>

-  **Distributed Oblivious Load Balancing Using Prioritized Job Replication**
Amir Nahir, Ariel Orda, Danny Raz, *Technion, Israel Institute of Technology, Israel.*
-  **K-Sparse Approximation for Traffic Histogram Dimensionality Reduction**
Atef Abdelkefi, Yuming Jiang, *Norwegian University of Science and Technology, Norway*
Xenofontas Dimitropoulos, *Swiss Federal Institute of Technology, Switzerland.*
-  **SLA-Aware Resource Over-Commit in an IaaS Cloud**
David Breitgand, Zvi Dubitzky, Alex Glikson, Amir Epstein, Inbar Shapira, *IBM – Haifa Research Lab, Israel*

Session	Technical Session 4
Date/Time	Tuesday, 23 October 2012 / 01:30PM – 03:00PM
Room	Bermuda A & B
Chair	Danny Raz, <i>Technion, Israel Institute of Technology, Israel</i>

-  **Hidden Anomaly Detection in Telecommunication Networks**
Anne Bouillard, *ENS, France*
Aurore Junier, *INRIA, France*
Benoit Ronot, *Alcatel-Lucent Bell Labs, France.*
-  **Fine-Grain Diagnosis of Overlay Performance Anomalies Using End-Point Network Experiences**
Syed Fida Gillani, *University of North Carolina, Charlotte, USA*
Ehab Al-Shaer, *University of North Carolina, Charlotte, USA*
Mehmet Demirci, *Georgia Tech, USA*
Mustafa Ammar, *Georgia Tech, USA.*

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Decentralized Detection of SLA Violations Using P2P Technology

Jéferson Nobre, Lisandro Zambenedetti Granville, *Federal University of Rio Grande do Sul, Brazil*
Alexander Clemm, Alberto Gonzalez, *Cisco Systems, USA*.

Session	Technical Session 5
Room	Bermuda A & B
Date/Time	Wednesday, 24 October 2012 / 10:30AM – Noon
Chair	Yixin Diao, <i>IBM T.J. Watson Research Center, USA</i>



Planning in the Large: Efficient Generation of IT Change Plans on Large Infrastructures

Sebastian Hagen, *Technische Universität München, Germany*
Weverton Luis da Costa Cordeiro, *Federal University of Rio Grande do Sul, Brazil*
Luciano Paschoal Gaspary, Lisandro Zambenedetti Granville, *Federal University of Rio Grande do Sul, Brazil*
Michael Seibold, Alfons Kemper, *Technische Universität München, Germany*.



Predicting Response Times for the Spotify Backend

Rerngvit Yanggratoke, *KTH Royal Institute of Technology, Sweden*
Gunnar Kreitz, Mikael Goldmann, *Spotify Ltd., Sweden*
Rolf Stadler, *KTH Royal Institute of Technology, Sweden*.



An Autonomous Topology Management Framework for QoS Enabled P2P Video Streaming Systems

Ihsan Ullah, *University of Balochistan, Pakistan*
Guillaume Doyen, *Université de Technologie de Troyes, France*
Grégory Bonnet, *University of Caen Lower Normandy, France*
Dominique Gaïti, *Université de Technologie de Troyes, France*.

Session	Short Paper: S-1
Date/Time	Tuesday, 23 October 2012 / 03:30PM – 05:00PM
Room	Bermuda A & B
Chair	Yoshiaki Kiriha, <i>NEC, Japan</i>



Path Inference in Data Center Networks

Kyriaki Levanti, *Carnegie Mellon University, USA*
Vijay Gopalakrishnan, *AT&T Labs – Research, USA*
Hyong Kim, *Carnegie Mellon University, USA*
Seungjoon Lee, *AT&T Labs – Research, USA*
Emmanuel Mavrogiorgis, Aman Shaikh, *AT&T Labs – Research, USA*.



Adaptive Data Management for Self-Protecting Objects in Cloud Computing Systems

Anna Squicciarini, *The Pennsylvania State University, USA*
Giuseppe Petracca, *The Pennsylvania State University, USA*
Elisa Bertino, *Purdue University, USA*.

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-  **ACRA: A Unified Admission Control and Resource Allocation Framework for Virtualized Environments**
Dimitrios Dechouniotis, *Nikolaos Leontiou, University of Patras, Greece*
Nikolaos Athanasopoulos, *Eindhoven University of Technology, The Netherlands*
George Bitsoris, *University of Patras, Greece*
Spyros Denazis, *Hitachi Europe & University of Patras, Greece.*

-  **Load Balancer Discovery for the Data Center: A Holistic Approach**
Joel Branch, *IBM T.J. Watson Research Center, USA*
Michael Nidd, *IBM Research, Zurich, Switzerland*
Ruediger Rissmann, *IBM Research Zurich, Switzerland.*

-  **A New Approach to the Design of Flexible Cloud Management Platforms**
Juliano Wickboldt, *Lisandro Zambenedetti Granville, Federal University of Rio Grande do Sul, Brazil*
Dominique Dudkowski, *NEC Laboratories Europe, Germany*
Fabian Schneider, *NEC Laboratories Europe, Germany*
Marcus Brunner, *Swisscom, Switzerland.*

-  **Decision Model for Provisioning Virtual Resources in Amazon EC2**
Cheng Tian, Ying Wang, Bo Yin, *Beijing University of Posts and Telecommunications, P.R. China.*

-  **MobiCloud: A Geo-Distributed Mobile Cloud Computing Platform**
Tianyi Xing, Dijiang Huang, *Arizona State University, USA*
Shingo Ata, *Osaka City University, Japan*
Deep Medhi, *University of Missouri-Kansas City, USA.*

-  **CloudDT: Efficient Tape Resource Management using Deduplication in Cloud Backup and Archival Services**
Abdullah Gharaibeh, *The University of British Columbia, Canada*
Cornel Constantinescu, Maohua Lu, Anurag Sharma, Ramani Routray, Prasenjit Sarkar, David Pease, *IBM Research – Almaden, USA*
Matei Ripeanu, *The University of British Columbia, Canada.*

-  **VMPatrol: Dynamic and Automated QoS for Virtual Machine Migrations**
Vijay Mann, Anilkumar Vishnoi, Aakash Iyer, *IBM Research – India, India*
Parantapa Bhattacharya, *Indian Institute of Technology, Kharagpur, India.*

-  **Towards Cloud Services Marketplaces**
Rahul Akolkar, Tom Chefalas, Jim Laredo, Chang-shing Perng, Anca Sailer, Frank Schaffa, Ignacio Silva-Lepe, Tao Tao, *IBM T.J. Watson Research Center, USA.*

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Session	Short Paper: S-2
Date/Time	Wednesday, 24 October 2012 / 03:30PM – 05:00PM
Room	Bermuda A & B
Chair	Remi Badonnel, <i>University of Nancy – LORIA, France</i>

- 
A Moving Zone Based Architecture for Message Dissemination in VANETs
 Sashi Gurung, Dan Lin, *Missouri University of Science and Technology, USA*
 Anna Cinzia Squicciarini, *The Pennsylvania State University, USA*
 Ozan Tonguz, *Carnegie Mellon University, USA*.

- 
Divide and Share: A New Approach for Optimizing Backup Resource Allocation in LTE Mobile Networks Backhaul
 Daniel Venmani, *Orange Labs, France Telecom R&D, France*
 Yvon Gourhant, *Orange Labs, France Telecom R&D, France*
 Djamal Zeghlache, *Institut Mines-Télécom, TELECOM SudParis & CNRS, France*.

- 
Hierarchical Adaptive QoS Control for Voting-Based Data Collection in Hostile Scenarios
 Mohammad Rabby, Kaliappa Ravindran, *City University of New York, USA*
 Kevin Kwiat, *Air Force Research Laboratory, USA*.

- 
An Effective Cooperation Mechanism among Multi-Devices in Ubiquitous Network
 Shaoyong Guo, *Beijing University of Posts and Telecommunication, P.R. China*.
 LanLan Rui, Xuesong Qiu, LuoMing Meng, *Beijing University of Posts and Telecommunications, P.R. China*.

- 
A Radio Resource Management Framework for TVWS Exploitation under an Auction-Based Approach
 Athina Bourdena, *University of Aegean, Greece*
 Evangelos Pallis, *Technological Educational Institute of Crete, Greece*
 George Kormentzas, *University of Aegean, Greece*
 George Mastorakis, *Technological Educational Institute of Crete, Greece*.


- 
Implementing an Enterprise Business Context Model for Defining Mobile Broadband Policy
 Rebecca Copeland, *Core Viewpoint Ltd, Great Britain*
 Noel Crespi, *INT, France*.


- 
Multi-Network Packet Scheduling Based on Vehicular Ad Hoc Network Applications
 Rodolfo Meneguette, Luiz Fernando Bittencourt, Edmundo Madeira, *Universidade Estadual de Campinas, Brazil*

- 
Managing Sensing and Cooperation to Analyze PUE Attacks in Cognitive Radio Ad Hoc Networks
 Julio Soto, Saulo Queiroz, Michele Nogueira, *Universidade Federal do Paraná, Brazil*

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-  **Distributed State Machines: A Declarative Framework for the Management of Distributed Systems**
Jorge Lobo, David Wood, Dinesh Verma, Seraphin Calo, *IBM T.J. Watson Research Center, USA.*

-  **Self-Service Financial Control and Organizational Governance in Cloud**
Chunqiang Tang, Chang-shing Perng, Salman Baset, *IBM T.J. Watson Research Center, USA.*


Session	Short Paper: S-3
Date/Time	Thursday, 25 October 2012 / 03:30PM – 05:00PM
Room	Barbados A & B
Chair	Rolf Stadler, <i>KTH Royal Institute of Technology, Sweden</i>


-  **Relay-Aided Failover in Wireless Networks using Adaptive Power and Rate Unicast Scheduling**
Izhak Rubin, Choo-Chin Tan, *University of California, Los Angeles, USA.*


-  **New ILP Formulations for Multicast Routing in Sparse-splitting Optical Networks**
Ju-Won Park, *Korea Telecom R&D Laboratory, Republic of Korea*
Chan-Kyou Hwang, *Korea Telecom R&D Laboratory, Republic of Korea*
Young-Woo Lee, *Korea Telecom R&D Laboratory, Republic of Korea.*


-  **Performance Evaluation of a Distributed and Probabilistic Network Monitoring Approach**
Rebecca Steinert, Daniel Gillblad, *Swedish Institute of Computer Science, Sweden.*

-  **Towards an Efficient Verification Approach on Network Configuration**
Khalid Elbadawi, *DePaul University, USA*
Yongning Tang, *Illinois State University, USA*
James Yu, *DePaul University, USA.*

-  **Service Level Management for Iterative Pre-Copy Live Migration**
Thomas Treutner, Helmut Hlavacs, *University of Vienna, Austria.*


-  **Effort Instrumentation and Management in Service Delivery Environments**
Melissa Bucu, Daniela Rosu, Dikran Meliksetian, Fred Wu, Nikos Anerousis, *IBM T.J. Watson Research Center, USA.*


-  **A CIM-Based Framework to Manage Monitoring Adaptability**
Audrey Moui, Thierry Desprats, Emmanuel Lavinal, Michelle Sibilla, *Paul Sabatier University, France.*

-  **User-Driven Design of Ontology-Based, Context-Aware and Self-Learning Continuous Care Applications**
Femke Ongenaë, Filip De Turck, *Ghent University – IBBT, Belgium.*


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-  **A Dynamic Request Dispatching System for IT Service Management**
David Loewenstern, Yixin Diao, *IBM TJ Watson Research Center, USA*

-  **Managing the Upcoming Ubiquitous Computing**
Denis Carvin, Philippe Owezarski, Pascal Berthou, *LAAS-CNRS, France.*


Session	Mini Conference 1
Date/Time	Thursday, 25 October 2012 / 08:30AM – 10:00AM
Room	Barbados A & B
Chair	Michiaki Hayashi, <i>KDDI R&D Laboratories Inc., Japan</i>

-  **Towards a Robust and Green Internet Backbone Network**
Xuezhou Ma, Khaled Harfoush, *North Carolina State University, USA.*


-  **Energy-Efficient Virtual Machine Scheduling in Performance-Asymmetric Multi-Core Architectures**
Yefu Wang, *University of Tennessee, USA*
Xiaorui Wang, *The Ohio State University, USA*
Yuan Chen, *HP Labs, USA.*

-  **Scissors: Dealing with Header Redundancies in Data Centers through SDN**
Kalapriya Kannan, *IBM Research Lab, India*
Subhasis Banerjee, *Indian Institute of Technology-Delhi, India.*

-  **Analysis of Operational Data to Improve Performance in Service Delivery Systems**
Yixin Diao, Aliza Heching, *IBM T.J. Watson Research Center, USA.*

-  **Dynamic Resource Allocation with Management Objectives— Implementation for an OpenStack Cloud**
Fetahi Wuhib, Rolf Stadler, Hans Lindgren, *KTH Royal Institute of Technology, Sweden.*

Session	Mini Conference 2
Date/Time	Thursday, 25 October 2012 / 10:30AM – Noon
Room	Barbados A & B
Chair	Raouf Boutaba, <i>University of Waterloo, Canada</i>

-  **Provable Configuration Planning for Wireless Sensor Networks**
Qi Duan, Saeed Al-Haj, Ehab Al-Shaer, *University of North Carolina, Charlotte, USA.*

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A Green Framework for Energy Efficient Management in TDMA-Based Wireless Mesh Networks

Ahmed Amokrane, Rami Langar, *Université Pierre et Marie Curie – Paris 6, France*

Raouf Boutaba, *University of Waterloo, Canada*

Guy Pujolle, *Université Pierre et Marie Curie – Paris 6, France.*

Improving QoE of SIP-based Automated Voice Interaction in Mobile Networks

Jakub Dolezal, Lukas Kencl, *Czech Technical University in Prague, Czech Republic.*

QoE Optimization Through In-Network Quality Adaptation for HTTP Adaptive Streaming

Niels Bouten, Jeroen Famaey, Steven Latré, *Ghent University – IBBT, Belgium*

Rafael Huysegems, Bart De Vleeschauwer, *Alcatel-Lucent, Belgium*

Werner Van Leekwijck, *Bell Labs, Alcatel-Lucent, Belgium*

Filip De Turck, *Ghent University – IBBT, Belgium.*

Reliable Operational Services in MANETs by Misbehavior-Tolerant Quorum Systems

Elisa Mannes, Michele Nogueira, Aldri dos Santos, *Universidade Federal do Paraná, Brazil.*

Session	Mini Conference 3
Date/Time	Thursday, 25 October 2012 / 01:30PM – 03:00PM
Room	Barbados A & B
Chair	David Breitgand, <i>IBM – Haifa Research Lab, Israel, Israel</i>

Adaptive Monitoring: A Framework to Adapt Passive Monitoring using Probing

Deepak Jeswani, *IBM Research Lab, India*

Maitreya Natu, *Tata Research Development and Design Centre, USA*

Ratan Ghosh, *Indian Institute of Technology, Kanpur, India, India.*

Collaborative Remediation of Configuration Vulnerabilities in Autonomic Networks and Systems

Martin Barrere, *LORIA – INRIA Nancy Grand Est, France, France*

Remi Badonnel, *University of Nancy – LORIA, France*

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

Empowering Self-Diagnosis with Self-Modeling

Carole Hounkonnou, Eric Fabre, *INRIA, France.*

An Architecture for Overlaying Private Clouds on Public Providers

Mark Shtern, Bradley Simmons, Michael Smit, *York University, Canada*

Marin Litoiu, *York University, Canada.*

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Security-Aware Optimal Resource Allocation for Virtual Network Embedding

Leonardo Bays, Rodrigo Ruas Oliveira, Luciana Buriol, Marinho Barcellos, Luciano Paschoal Gaspar, *Federal University of Rio Grande do Sul, Brazil*

Session	SVM 1
Date/Time	Friday, 26 October 2012 / 09:00AM – 10:00AM
Room	Martinique A



DCSim: A Data Centre Simulation Tool for Evaluating Dynamic Virtualized Resource Management

Michael Tighe, Gaston Keller, *The University of Western Ontario, Canada*
Michael Bauer, Hanan Lutfiyya, *University of Western Ontario, Canada.*



Network Port Profiles Based Provisioning and Deployment Models for Virtual Networking

Hemal Shah, *Broadcom Corporation, USA*
John Parchem, *Microsoft Corporation, USA*
Shishir Pardikar, *Citrix Corporation, USA*
Lawrence Lamers, *VMware, USA.*

Session	SVM 2
Date/Time	Friday, 26 October 2012 / 10:30AM – Noon
Room	Martinique A



Managing OVF Applications Under SLA Constraints on Contrail Virtual Execution Platform

Yvon Jegou, Piyush Harsh, Roberto Cascella, Florian Dudouet, Christine Morin, *INRIA, France.*



An Analysis of First Fit Heuristics for the Virtual Machine Relocation Problem

Gaston Keller, Michael Tighe, *The University of Western Ontario, Canada*
Hanan Lutfiyya, Michael Bauer, *University of Western Ontario, Canada.*



Autoconfiguration of Enterprise-Class Application Deployment in Virtualized Infrastructure using OVF Activation Mechanisms

Fermín Galán Márquez, *Telefónica I+D, Spain*
Miguel Gómez, Fernando de la Iglesia, Ignacio Blasco, Daniel Morán, *Telefónica Digital, Spain.*

Session	SVM 3
Date/Time	Friday, 26 October 2012 / 01:45PM – 02:45PM
Room	Martinique A



Genetic Algorithms for Energy Efficient Virtualized Data Centers

Helmut Hlavacs, Thomas Treutner, *University of Vienna, Austria.*

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Cloud Service Recommendation and Selection for Enterprises

Shixing Yan, Chunqing Chen, Guopeng Zhao, Bu Sung Lee, *HP Labs Singapore, Singapore.*

Session	SVM 4
Date/Time	Friday, 26 October 2012 / 03:15PM – 04:15PM
Room	Martinique A



Invited Talk – DMTF Common Information Model (CIM) Update

Hemal Shah, *Broadcom Corporation, USA*

John Parchem, *Microsoft Corporation, USA*



Using Open Standards for Interoperability Issues, Solutions, and Challenges facing Cloud Computing

Piyush Harsh, Florian Dudouet, Roberto Cascella, Yvon Jegou, Christine Morin, *INRIA, France.*