

2008 IEEE International Symposium on Modeling, Analysis & Simulation of Computer and Telecommunication Systems

(MASCOTS)

**Baltimore, Maryland, USA
8-10 September 2008**



**IEEE Catalog Number: CFP08010-PRT
ISBN: 978-1-4244-2817-5**

TABLE OF CONTENTS

Controlled Epidemic Routing for Multicasting in Delay Tolerant Networks	1
<i>M. Abdullah, R. Simon</i>	
Geographic Constraint Mobility Model for Ad Hoc Network	11
<i>S. Ahmed, G. Karmakar, J. Kamruzzaman</i>	
Increased Reliability with SSPiRAL Data Layouts.....	21
<i>A. Amer, D. Long, J.F. Paris, T. Schwarz</i>	
Bounding the Performance of BCMP Networks with Load-Dependent Stations.....	31
<i>J. Anselmi, P. Cremonesi</i>	
Comparison of Single-Rate Multicast Congestion Control Protocols vs. ASMP	39
<i>C. Bouras, A. Gkamas, G. Kioumourtzis</i>	
Runtime Prediction Models for Web-based System Resources	47
<i>S. Casolari, M. Andreolini, M. Colajanni</i>	
Modeling and Analyzing the Effect of Microarchitecture Design Parameters on Microprocessor Soft Error Vulnerability	55
<i>C. Cho, W. Zhang, T. Li</i>	
Profiling, Prediction, and Capping of Power Consumption in Consolidated Environments	65
<i>J. Choi, S. Govindan, B. Urgaonkar, A. Sivasubramaniam</i>	
A Performance Model of Multi-Version Concurrency Control	75
<i>P. Sanzo, B. Ciciani, F. Quaglia, P. Sapienza</i>	
Failure Prediction Models for Proactive Fault Tolerance within Storage Systems.....	85
<i>B. Eckart, X. Chen, X. He, S. Scott</i>	
Quantifying Temporal and Spatial Localities in Storage Workloads and Transformations by Data Path Components.....	93
<i>C. Fox, D. Lojpur, A. Wang</i>	
Network Information Flow in Network of Queues.....	103
<i>P. Gill, Z. Li, A. Mahanti, J. Luo, C. Williamson</i>	
Optimal Layered Multicast with Network Coding: Mathematical Model and Empirical Studies	111
<i>A. Gopinathan, Z. Li</i>	
Optimizing Galois Field Arithmetic for Diverse Processor Architectures and Applications	121
<i>K. Greenan, E. Miller, J.E. Thomas, S.J. Schwarz</i>	
TCP over WiMAX: A Measurement Study	131
<i>E. Halepovic, Q. Wu, C. Williamson, M. Ghaderi</i>	
Taxis: Scalable Strong Anonymous Communication.....	141
<i>A. Hirt, M. Jacobson, C. Williamson</i>	
An Analysis of Hard Drive Energy Consumption	151
<i>A. Hylick, R. Sohan, A. Rice, B. Jones</i>	
A Markov Chain Model to Account for Multi-Rate Transmission and Node Cooperative Behavior in IEEE802.11 Data Link Protocol.....	161
<i>L. Kannan, N. Agarwal, M. Tacca, A. Fumagalli</i>	

Operational Analysis of Parallel Servers	171
<i>T. Kelly, K. Shen, A. Zhang, C. Stewart</i>	
Tackling the Memory Balancing Problem for Large-Scale Network Simulation.....	181
<i>H. Kim, K. Park</i>	
On Impact of Dynamic Virtual Machine Reallocation on Data Center Efficiency	191
<i>A. Kochut</i>	
Modelling and Validation of Response Times in Zoned RAID	199
<i>A. Lebrecht, N. Dingle, W. Knottenbelt</i>	
Characterization of Large-Scale SMTP Traffic: the Coexistence of the Poisson Process and Self-Similarity	209
<i>Y. Lee, J.S. Kim</i>	
GRAID: A Green RAID Storage Architecture with Improved Energy Efficiency and Reliability	219
<i>B. Mao, D. Feng, H. Jiang, S. Wu, J. Chen, L. Zeng</i>	
Allocation and Admission Policies for Service Streams.....	227
<i>M. Mazzucco, I. Mitrani, M. Fisher, P. McKee</i>	
Realistic Topology Modeling for the Internet BGP Infrastructure	235
<i>V. Raghavan, G. Riley, T. Jaafar</i>	
Modeling Software Contention Using Colored Petri Nets	243
<i>N. Roy, A. Dabholkar, N. Hamm, L. Dowdy, D. Schmidt</i>	
Sensitivity Based Power Management of Enterprise Storage Systems.....	251
<i>S. Sankar, S. Gurumurthi, M. Stan</i>	
Evaluating the Effectiveness of Information Extraction in Real-World Storage Management	261
<i>A. Singh, S. Uttamchandani, Y. Wang</i>	
On the Stability of Best Effort Flow Control Mechanisms in On-Chip Architectures.....	271
<i>M. Talebi, A. Khonsari</i>	
Finding Good Configurations in High-Dimensional Spaces: Doing More with Less	279
<i>R. Thonangi, V. Thummala, S. Babu</i>	
AKCE: An Efficient and Accurate K-Coverage Eligibility Algorithm in Wireless Sensor Networks	289
<i>M.C. Wueng, S.I. Hwang, C.H. Ho</i>	
PEARL: Performance, Energy, and Reliability Balanced Dynamic Data Redistribution for Next Generation Disk Arrays.....	297
<i>T. Xie, Y. Sun</i>	
A Large-scale and Decentralized Infrastructure for Multiple Queries Optimization and Aggregation.....	305
<i>X. Yang, Y. Hu</i>	
Multi-Torrent: A Performance Study	313
<i>Y. Yang, A. Chow, L. Golubchik</i>	
A Novel and Generic Model for Synthesizing Disk I/O Traffic Based on the Alpha-stable Process.....	321
<i>Q. Zou, D. Feng, Y. Zhu, H. Jiang, X. Ge, Z. Zhou</i>	
Filtering Effects of Media Merging in a Cache Hierarchy	331
<i>J. Cao, C. Williamson</i>	

Lifetime Estimation of Large IEEE 802.15.4 Compliant Wireless Sensor Networks.....	334
<i>C. Fung, Y. Liu</i>	
Evaluating the Effectiveness of REDCAP to Recover the Locality Missed by Today's Linux Systems.....	338
<i>P. Gonzalez-Ferez, J. Piernas, T. Cortes</i>	
Influence of Propagation Modeling on VoIP Quality Performance in Wireless Mesh Network Simulation	342
<i>A. Nascimento, S. Queiroz, L. Galvao, E. Mota, E. Nascimento</i>	
Using Non-Volatile RAM as a Write Buffer for NAND Flash Memory-based Storage Devices.....	345
<i>S. Park, H. Jung, H. Shim, S. Kang, J. Cha</i>	
Write Buffer-aware Address Mapping for NAND Flash Memory Devices.....	348
<i>S. Park, H. Jung, H. Shim, S. Kang, J. Cha</i>	
A Discrete Event Simulation Model for Parallel Data Transfer Applications.....	350
<i>J. Sherrell, J. Wertz, D. Gruenbacher</i>	
Efficient Index Lookup for De-duplication Backup System.....	352
<i>Y. Won, J. Ban, J. Min, J. Hur, S. Oh, J. Lee</i>	
An Energy-efficient Buffer Cache Replacement Algorithm.....	355
<i>J. Yue, Y. Zhu, Z. Cai</i>	
Author Index	