Table of Contents

Session I: Wireless Networks and Communications

Wireless VoIP: Opportunities and Challenges ............................... 3
  Jin Yang, Ioannis Kriaras

GSM Mobile Phone Based Communication of Multimedia Information:
A Case Study .............................................................. 14
  Y.S. Moon, H.C. Ho, Kenneth Wong

A Witness-Aided Routing Protocol for Mobile Ad-Hoc Networks
with Unidirectional Links ................................................. 24
  Ionut D. Aron, Sandeep K. S. Gupta

Accessing Opportunities for Broadband Optical Wireless Local Loops
in an Unbundled Access Network ........................................ 34
  Edward Mutafungwa, Kamugisha Kazaura

On Simulation Modeling of Information Dissemination Systems
in Mobile Environments .................................................. 45
  Wang-Chien Lee, Johnson Lee, Karen Huff

Session II: Transaction Processing in Mobile Environments

On the Performance of Transaction Processing in Broadcast Environments 61
  Victor C. S. Lee, Sang H. Son, Kwok-Wa Lam

Transaction Processing in an Asymmetric Mobile Environment ........ 71
  Eppie Mok, Hong Va Leong, Antonio Si

Speculative Lock Management to Increase Concurrency
in Mobile Environments ................................................ 82
  P. Krishna Reddy, Masaru Kitsuregawa

Optimistic Concurrency Control in Broadcast Environments:
Looking Forward at the Server and Backward at the Clients .......... 97
  Victor C. S. Lee, Kwok-wa Lam

Session III: Ubiquitous Information Services

Modelling the WAP Transaction Service Using Coloured Petri Nets ...... 109
  Steven Gordon, Jonathan Billington
Enabling Ubiquitous Database Access with XML ......................... 119
Hui Lei, Kang-Woo Lee, Marion Blount, and Carl Tait

Design and Evaluation of an Information Announcement Mechanism for Mobile Computers .......................................................... 135
Shigeaki Tagashira, Fumitake Inada, Keizo Saisho, Akira Fukuda

Active Rule System for Adaptive Mobile Data Access .................. 146
Shiow-yang Wu, Shih-Hsun Ho

Preserving Smooth Traffic and High Presentation QoS for VBR-Encoded Video ................................................................. 156
Se-Jin Hwang, Myong-Soon Park

Session IV: Mobile Data Replication and Caching
Peer Replication with Selective Control ...................................... 169
David H. Ratner, Peter L. Reiher, Gerald J. Popek, Richard G. Guy

Cache Coherency in Location-Dependent Information Services for Mobile Environment ...................................................... 182
Jianliang Xu, Xueyan Tang, Dik Lun Lee, Qinglong Hu

An Autonomous Data Coherency Protocol for Mobile Devices ........... 194
Masahiro Kuroda, Takashi Sakakura, Takashi Watanabe, Tadanori Mizuno

Session V: Mobility and Location Management
Location Management Strategies for Reducing Both Movement Cost and Locating Cost Simultaneously .......................... 209
Chao-Chun Chen, Chiang Lee

Internet Mobility Support Optimized for Client Access and Its Scalable Authentication Framework .................................................. 220
Sufatrio, Kwok-Yan Lam

Proxy Agent Consistency Service Based on CORBA ..................... 230
Kyung-Ah Chang, Byung-Rae Lee, Tai-Yun Kim

Keynote Speeches
Integrating Mobile Objects into the Wirelessly Wired World:
The Need for Energy Efficient Algorithms .................................. 243
Prof. Imrich Chlamtac

Databases Unplugged: Challenges in Ubiquitous Data Management ...... 244
Prof. Michael Franklin

Author Index ............................................................................. 245