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Volume Editors

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Preface

This volume contains the papers presented at the 4th International Conference on Distributed Computing and Internet Technology (ICDCIT 2007) held during December 17–20, 2007 in Bangalore, India. The conference was organized by Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar, India, www.kiit.org, and co-organized by the Center for Electronic Governance at United Nations University – International Institute for Software Technology (UNU-IIST-EGOV), Macao, www.egov.iist.unu.edu.

In the tradition of the ICDCIT conference series, ICDCIT 2007 welcomed presentations of research ideas and results in theory, methodology and applications of distributed computing and internet technology. In addition, the conference emphasized that research in this area can play an important role in building a foundation for the development of e-Society Applications (e-Applications) and at the same time, that e-Applications can provide relevance and context for such research. Establishing a connection between foundational and applied research in distributed systems and internet technology with software and services that enable e-Applications was a key feature of ICDCIT 2007.

A total of 177 papers from 20 countries were submitted for ICDCIT 2007. Each paper was reviewed by at least two members of the Program Committee or additional referees. As a result, 13 papers were accepted as long (12 page) and 20 as short (6 page) contributions. The papers were classified into seven categories covering a range of issues from basic technology, through services and engineering, to applications. In addition, three invited papers were received from Wojciech Cellary, Maurice Herlihy and David Peleg.

The program was arranged into the corresponding seven sessions. In “Session 1 - Network Protocols”, sensor, mobile and wireless networks were the focus, with a range of issues covered such as: efficient scheduling, energy-efficient clustering, mobility-aware access control, self-stabilizing routing, overlay networks for P2P applications, and self-organized clustering. In his invited talk, David Peleg presented a review of the literature on time-efficient broadcasting for radio networks. With the ubiquity of wireless and mobile networks, security and privacy concerns must be addressed. Consequently, “Session 2 - Security and Privacy” included papers on: key management, information leakage, distributed certification authorities, trust management in P2P networks, declarative access control to XML documents, and security in resource-constrained sensor networks. Building upon network protocols and their properties, “Section 3 - Network Management” included papers on: congestion-based pricing, distributed resource management, energy-efficient routing and scheduling grid applications, while “Session 4 - Network Services” presented value-added services such as: content delivery, distributed storage management, fault-tolerance and selective querying.

The remaining three sessions were devoted to applications, from development issues, through middleware support, to actual delivery of e-Society services. In his invited paper, Maurice Herlihy showed how to resolve the efficiency versus ease-of-use dichotomy in software transactional memory systems. Other contributions to “Session 5 - e-Application Engineering” included formal semantics for a Web-based business process language, a dependable P2P network for distributed collaborative applications, and rapid development of Web form applications. “Session 6 - e-Application Services” comprised papers on middleware services for e-Applications, such as: managing and analyzing data streams, recommending services to users through modeling their interests, aggregating Web services to support grid applications, and semantic description of service interfaces. “Session 7 - e-Applications” demonstrated a number of concrete e-Society applications. The session featured an invited paper from Wojciech Cellary on territorial versus content communities, and the emergence of the information society. Other contributions to this session included: a P2P file system based on virtual folders, a Tsunami warning system based on distributed sensor networks, automatic discovery of relationships between ontological concepts, privacy-preserving e-commerce protocol for digital transactions, forward secrecy for secure e-mail exchanges, and secure business-to-business collaborations over a grid. This session completed the conference program.

Many people and organizations contributed to the success of the conference. We wish to thank Achuyta Samanta, Chancellor, KIIT University, and Mike Reed, Director, UNU-IIST for their supporting of the conference. We also wish to thank the General Chair as well as the Steering and Organizing Committees for their support and help at various stages of the conference. Our most sincere thanks go to the ICDCIT 2007 Program Committee whose full cooperation in carrying out quality reviews was critical for establishing a strong conference program. Particular thanks go to Elsa Estevez and Adegboyega Ojo for taking up an especially heavy load of review work. We also wish to sincerely thank additional reviewers who helped us maintain the timeline for the review process. We express our sincere thanks to the invited speakers – Fran Allen, Wojciech Cellary, Maurice Herily and David Peleg – for their contributions to the conference program. We are particularly grateful for financial and logistics support extended by KIIT and UNU-IIST for hosting the conference. We also acknowledge UNU-IIST, University of Hyderabad and IIT Kanpur for providing infrastructural support to carry out this editorial work. We remember, with gratitude, the assistance at various stages of this conference provided by our students: Sumagna Patnaik, Jitesh, Satya, Prasad and Krishna. Lastly, we would like to thank Springer for publishing this proceedings volume in its prestigious *Lecture Notes in Computer Science* series.

December 2007

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Hrushikesh Mohanty

Organization

ICDCIT 2007 was organized by Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar, India, www.kiit.org, and co-organized by the Center for Electronic Governance at United Nations University – International Institute for Software Technology (UNU-IIST-EGOV), Macao, www.egov.iist.unu.edu.

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Table of Contents

Section 1 - Network Protocols

Time-Efficient Broadcasting in Radio Networks: A Review	1
<i>David Peleg</i>	
An Efficient and Optimized Bluetooth Scheduling Algorithm for Piconets	19
<i>Vijay Prakash Chaturvedi, V. Rakesh, and Shalabh Bhatnagar</i>	
EETO: An Energy-Efficient Target-Oriented Clustering Protocol in Wireless Sensor Networks	31
<i>Weifang Cheng, Xiangke Liao, Changxiang Shen, and Dezun Dong</i>	
On the Design of Mobility-Tolerant TDMA-Based Media Access Control (MAC) Protocol for Mobile Sensor Networks	42
<i>Arshad Jhumka and Sandeep Kulkarni</i>	
Self-stabilizing Routing Algorithms for Wireless Ad-Hoc Networks	54
<i>Rohit Khot, Ravikant Poola, Kishore Kothapalli, and Kannan Srinathan</i>	
A Structured Mesh Overlay Network for P2P Applications on Mobile Ad Hoc Networks	67
<i>Thirapon Wongsardsakul and Kanchana Kanchanasut</i>	
A Scalable and Adaptive Clustering Scheme for MANETs	73
<i>Nevadita Chatterjee, Anupama Potluri, and Atul Negi</i>	

Section 2 - Security and Privacy

A Key Establishment Scheme for Large-Scale Mobile Wireless Sensor Networks	79
<i>Ashok Kumar Das and Indranil Sengupta</i>	
Monitoring Information Leakage During Query Aggregation	89
<i>Sastry Konduri, Brajendra Panda, and Wing-Ning Li</i>	
An Efficient Certificate Authority for Ad Hoc Networks	97
<i>Jaydip Sen and Harihara Subramanyam</i>	
Design and Analysis of a Game Theoretic Model for P2P Trust Management	110
<i>M. Harish, N. Anandavelu, N. Anbalagan, G.S. Mahalakshmi, and T.V. Geetha</i>	

Hasslefree: Simplified Access Control Management for XML Documents 116
Ashish Tripathi and M.M. Gore

LISA: LIghtweight Security Algorithm for Wireless Sensor Networks 129
Somanath Tripathy

Section 3 - Network Management

An Optimal Weighted-Average Congestion Based Pricing Scheme for Enhanced QoS 135
Koteswara Rao Vemu, Shalabh Bhatnagar, and N. Hemachandra

Distributed Resource Adaptation for Virtual Network Operators 146
Con Tran, Jahangir Sarker, and Zbigniew Dziong

Maximum Lifetime Tree Construction for Wireless Sensor Networks 158
G.S. Badrinath, Phalguni Gupta, and Sajal K. Das

Overlay Network Management for Scheduling Tasks on the Grid 166
Kovendhan Ponnaivaikko and D. Janakiram

Section 4 - Network Services

An End-Systems Supported Highly Distributed Content Delivery Network 172
Jaison Paul Mulerikkal and Ibrahim Khalil

An Analytical Estimation of Durability in DHTs 184
Fabio Picconi, Bruno Baynat, and Pierre Sens

A Multiple Tree Approach for Fault Tolerance in MPLS Networks 197
Sahel Alouneh, Anjali Agarwal, and Abdeslam En-Nouaary

Selective Querying and Other Proposals for a Less Congested Gnutella Network 203
K.G. Srinivasa, Anuj Bhatt, Sagnik Dhar, K.R. Venugopal, and L.M. Patnaik

Section 5 - e-Application Engineering

Language Support and Compiler Optimizations for STM and Transactional Boosting 209
Guy Eddon and Maurice Herlihy

Unifying Denotational Semantics with Operational Semantics for Web Services 225
Huibiao Zhu, Jifeng He, and Jing Li

PHAC: An Environment for Distributed Collaborative Applications on P2P Networks	240
<i>Adnane Cabani, Srinivasan Ramaswamy, Mhamed Itmi, and Jean-Pierre Pécuchet</i>	
Webformer: A Rapid Application Development Toolkit for Writing Ajax Web Form Applications	248
<i>David W.L. Cheung, Thomas Y.T. Lee, and Patrick K.C. Yee</i>	
Section 6 - e-Application Services	
Continuous Adaptive Mining the Thin Skylines over Evolving Data Stream	254
<i>Guangmin Liang and Liang Su</i>	
Service Recommendation with Adaptive User Interests Modeling	265
<i>Cheng Zhang and Yanbo Han</i>	
An Approach to Aggregating Web Services for End-User-Doable Construction of GridDoc Application	271
<i>Binge Cui</i>	
An Adaptive Metadata Model for Domain-Specific Service Registry	277
<i>Kun Chen, Yanbo Han, Dongju Yang, Yongshan Wei, and Wubin Li</i>	
Section 7 - e-Applications	
Globalization from the Information and Communication Perspective	283
<i>Wojciech Cellary</i>	
WAND: A Robust P2P File System Tree Interface	293
<i>Saikat Mukherjee, Srinath Srinivasa, and Saugat Mitra</i>	
A Tsunami Warning System Employing Level Controlled Gossiping in Wireless Sensor Networks	306
<i>Santosh Bhima, Anil Gogada, and Rammurthy Garimella</i>	
Relation Extraction and Validation Algorithm	314
<i>Lobna Karoui and Nabil El Kadhi</i>	
A Fair-Exchange and Customer-Anonymity Electronic Commerce Protocol for Digital Content Transactions	321
<i>Shi-Jen Lin and Ding-Chyu Liu</i>	
A Practical Way to Provide Perfect Forward Secrecy for Secure E-Mail Protocols	327
<i>Sangjin Kim, Changyong Lee, Daeyoung Kim, and Heekuck Oh</i>	
Augmentation to GT4 Framework for B2B Collaboration over Grid	336
<i>Jitendra Kumar Singh, K.N. Praveen, and R.K. Ghosh</i>	
Author Index	345