# Table of Contents

Message from ICEBE 2008 General Chairs ................................................................. xv  
Message from ICEBE 2008 Program Chairs .............................................................. xvii  
ICEBE 2008 Organizing Committee ........................................................................... xix  
ICEBE 2008 Program Committee ............................................................................. xxi  
ICEBE 2008 Keynote I ............................................................................................. xxiii  
ICEBE 2008 Keynote II ............................................................................................ xxiv  
ICEBE 2008 Keynote III .......................................................................................... xxv  
Message from the AiR 2008 Chairs ........................................................................... xxvi  
AiR 2008 Chairs and Committee .............................................................................. xxvii  
Message from the EM2I 2008 Chairs ....................................................................... xxviii  
EM2I 2008 Chairs and Committee .......................................................................... xxix  
Message from the SOAIC 2008 Chairs ................................................................. xxx  
SOAIC 2008 Chairs and Committee ...................................................................... xxxi  
Message from the SOKM 2008 Chairs ................................................................... xxxii  
SOKM 2008 Chairs and Committee ....................................................................... xxxiii  
Message from the BIMA 2008 Chairs .................................................................... xxxiv  
BIMA 2008 Chairs and Committee ........................................................................ xxxv  
Message from the DKEEE 2008 Chair .................................................................... xxxvi  
DKEEE 2008 Chairs and Committee ....................................................................... xxxvii
ICEBE 2008 Long Paper Sessions

Session 1: Software Engineering for e-Business - I

Architectural Design of the Online Auction System with AOSAD ................................................................. 5
Wen Jing, Ying Shi, NiYou Cong, and Zhang LinLin

Determining the Level of Perceived Risk in e-business Web 2.0 Interactions .................................................. 13
Omar Hussain, Elizabeth Chang, Tharam Dillon, and Farookh Hussain

Service-Oriented User Interface Modeling and Composition ........................................................................... 21
Wei-Tek Tsai, Qian Huang, Jay Elston, and Yinong Chen

A Model-Driven SOA Implementation of Multi-Channel Websphere Commerce Gift Center ................................................. 29
Yew-Huey Liu, Jih-Shyr Yih, Florian Pinel, and Trieu Chieu

Session 2: Software Engineering for e-Business - II

Performance Implications of Next-Generation Multi-processing Platforms on e-Business Server Applications ......................................................... 37
Qi Ming Teng, Xiao Zhong, Ying Li, and Ying Chen

A Component-Oriented Development Approach to E-Business Applications .................................................. 45
Wang Chu and Depei Qian

Context-Driven Business Process Adaptation for Ad Hoc Changes ............................................................... 53
Xia YongLin and Wei Jun

Context-Aware Distributed Reputation Management System ........................................................................... 61
Jinhwan Lee and Kwei-Jay Lin

Session 3: Data Management for e-Business - I: Service Data

A Federated UDDI System for Concurrent Access to Service Data ................................................................. 71
Qianhui Liang and Jen-Yao Chung

Service-Enabled Automatic Framework for Testing and Tuning Multi-tier System ........................................... 79
Dong Jun Lan, Pei Ni Liu, Jun Hou, Meng Ye, and Leslie S. Liu

Supporting Crisis Management Processes by Wirelessly Interconnected Tablet-PCs ......................................... 87
Cláudio Sapateiro, Pedro Antunes, Gustavo Zurita, Nelson Baloian, and Rodrigo Vogt

A Study and Performance Evaluation of the Multi-Tenant Data Tier Design Patterns for Service Oriented Computing ......................................................... 94
Zhi Hu Wang, Chang Jie Guo, Bo Gao, Wei Sun, Zhen Zhang, and Wen Hao An
Session 4: Data Management for e-Business - II: Data Models

A Model-Driven Object Store .................................................................105  
   Liangzhao Zeng, Hui Lei, Trieu Chieu, and Henry Chang

Answering an Inquiry from Heterogeneous Contexts ........................113  
   Jingzhi Guo, Zhuo Hu, Grigoris Antoniou, and Chi-Kit Chan

A Data Model for Heterogeneous Data Sources ................................121  
   Chaiyaporn Chirathamjaree

An Adapted Alternation Approach for Recommender Systems ..........128  
   Carme Julia, Angel D. Sappa, Felipe Lumbreras, Joan Serrat, and Antonio López

Session 5: Data Management for e-Business - III: Knowledge in Data

The New CIO: From Technician to Business Strategist and the Implications for E-Commerce .................................................................139  
   Andres Fortino

URL Rule Based Focused Crawler ........................................................147  
   Xiaolin Zheng, Tao Zhou, Zukun Yu, and Deren Chen

Constrained Skyline Computing over Data Streams ..........................155  
   Jin-xian Lin and Jing-jing Wei

Session 6: Service Engineering - I: Service Discovery and Description

Towards Personalized Ranking in Web Service Selection ....................165  
   Wenge Rong, Kecheng Liu, and Lin Liang

Metadata Discovery for a Service-Broker Architecture .......................173  
   Raymond Farmer, Adam Raybone, Rehan Uddin, Michael Odetayo, and Kuo-Ming Chao

A Run-Time Service Discovery Tool for Web Services Compositions ....179  
   Mohsen Rouached and Claude Godart

Structured NL Representation for Bridging the Knowledge Gap in Semantic Web Services .........................................................................188  
   William Song and Joe Geldart

Session 7: Service Engineering - II: Service Model and Composition

A RESTful Architecture for Service-Oriented Business Process Execution .................................................................197  
   Santhosh Kumaran, Rong Liu, Pankaj Dhoolia, Terry Heath, Prabir Nandi, and Florian Pinel

Automated Configuration of System Infrastructure for SOA-Based Enterprise Computing .................................205  
   Thomas Phan and Wen-Syan Li

Ensuring the Consistent Concurrent Execution of Service Composition under Relaxed Isolation .................................................................213  
   Li Lin, Zongtao Zhao, Hua Zhong, and Jun Wei
A Formal Approach to Devising a Practical Method for Modeling Reusable Services ..........................................................................................................................................................................................221
   Jin Sun Her, Hyun Jung La, and Soo Dong Kim

Session 8: Service Engineering - III: Service-Oriented Applications and QoS

A General QoS Error Detection and Diagnosis Framework for Accountable SOA ...........................................................................................................................................................................231
   Soo Ho Chang and Kwei-Jay Lin
Robust Application-Level QoS Management in Service-Oriented Systems ...........................................................................................................................................................................239
   Qianhui Liang, Hoong Chuin Lau, and Xindong Wu
ACORD Standards Based SOA Solution for Insurance Industry - Combine ACORD eForms with Business Services through XForms Standard ...........................................................................................................................................247
   Qiang Wang, Ying Chun Guo, Min Li, and Xiao Feng Zhao
A Service Engineering Approach to a Mobile Parking Guidance System in uHealthcare ..........................................................................................................................................................255
   Weider D. Yu and Margaret Chan

Session 9: Trust Evaluation and Real-Time Transactions

The Evaluation of Situational Transaction Trust in E-Service Environments ...........................................................................................................................................................................265
   Yan Wang and Ee-Peng Lim
AHP-Based Multi-Dimension Credit Evaluation Model for E-Commerce ..........................................................273
   Xiang Chen, Yi Liu, and Hao Sun
A Real-Time Payment Scheme for SIP Service Based on Hash Chain ...........................................................................................................................................................................279
   Jianguo Hao, Jia Zou, and Yiqi Dai

Session 10: Privacy Preserving and Security Evaluation

PGMAP: A Privacy Guaranteed Mutual Authentication Protocol Conforming to EPC Class 1 Gen 2 Standards ...........................................................................................................................................................................289
   Jiahao Wang, Edward C. Wong, and Terry Ye
Privacy Preserving in Ubiquitous Computing: Challenges & Issues ...........................................................................................................................................................................297
   Tinghuai Ma, Shin-Dug Kim, Jun Wang, and Yawei Zhao
How to Trust DRE Voting Machines Preserving Voter Privacy ...........................................................................................................................................................................302
   Yunho Lee, Seungjoo Kim, and Dongho Won
Security Weaknesses in Chang and Wu’s Key Agreement Protocol for a Multi-Server Environment ...........................................................................................................................................................................308
   Youngsook Lee and Dongho Won

Session 11: Mobile and Pervasive Commerce - I

SmartRF-A Flexible and Light-Weight RFID Middleware ...........................................................................................................................................................................317
   Anirudh Ghayal, Zuber Khan, and Rajat Moona
New Programming Model for Pervasive Computing ...........................................................................................................................................................................325
   Qingsong Yao, Shan Chang, Yong Qi, and Li Ming
A Semantic-Enabled Mobile Directory Service for RFID-Based Logistics

Michele Ruta, Tommaso Di Noia, Eugenio Di Sciascio, Giacomo Piscitelli, and Floriano Scioscia

User Acceptance Testing of Mobile Payment in Various Scenarios

Henry Ho, Simon Fong, and Zhuang Yan

Session 12: Industry Experience and Applications - I

Applying Pattern Approach for Solution Architecture Design: A Case Study in Retail Solution

Xin Zhang, Zhongjie Li, Wei Sun, Zhongbo Jiang, Jonathan Adams, and Paul Verschueren

A Web Services Integration to Manage Invoice Identification, Metadata Extraction, Storage and Retrieval in a Multi-tenancy SaaS Application

Thomas Kwok, Jim Laredo, and Sridhar Maradugu

A Supplier Performance Evaluation Solution for Proactive Supplier Quality Management

Sai Zeng, Mitchell A. Cohen, Benjamin J. Steele, and Jakka Sairamesh

Applying SOA and Web 2.0 to Telecom: Legacy and IMS Next-Generation Architectures

Rebecca Chen, Victor Shen, Tony Wrobel, and Christina Lin

ICEBE 2008 Short Paper Sessions

Session 13: Software Engineering for e-Business - III

Modeling Electronic Money Dynamics: A Complex System Perspective

Hao Sun, Yueting Chai, and Yi Liu

Managed Business Artifacts

Anil Nigam, Jun-Jang Jeng, Tian Chao, and Henry Chang

A Framework of User Model Based on Semi-Supervised Techniques

Xiaojian Ding, Yuancheng Li, and Yinliang Zhao

Agile Partner Selection Based on Meta-heuristic Algorithm

Zheng Lin and Lubin Wang

Session 14: Data Management for e-Business – IV: Data Collection, Searching and Monitoring

Automatic Product Information Acquisition for Supermarkets Using Internet and RF Wireless Network

Lin-Song Weng, Ching-Lung Lin, and Hsueh-Hsien Chang

BPMN-Based Modeling of B2B Business Processes from the Neutral Perspective of UMM/BPSS

Hyoung Do Kim
Structural Analysis of R & D Division from Patent Documents ......................................................... 423
  Yurie Iino, Yasuhiro Yamada, and Sachio Hirokawa

Real-time Performance Monitoring for an Enterprise Information Management System ......................... 429
  Trieu C. Chieu and Liangzhao Zeng

Session 15: Service Engineering – IV: Service-Oriented System Implementation

A Disclosure Framework for Service Accountability in SOA ........................................................................ 437
  Joe Zou, Christopher J. Pavlovski, and Yan Wang

Design Support for Advanced Network Programming Applications .......................................................... 443
  Dionisis Adamopoulos

Data Messaging Based Approach for Web Service Composition .................................................................. 449
  Nawal Guermouche, Boualem Benatallah, and Claude Godart

Access Control for Human Tasks in Service Oriented Architecture .............................................................. 455
  Xin Wang, Yanchun Zhang, and Hao Shi

SCPM: Facilitating Process-Centric Deployment in Enterprise System Implementation .................................... 461
  Qinhua Wang, Changrui Ren, Shao Bing, Jin Dong, Hongwei Ding, and Wei Wang

An Amphibian Service-Oriented Agent Model for Cooperative Distributed Systems ....................................... 467
  Ying Daisy Wang, Hamada Ghenniwa, and Weiming Shen

Session 16: Trust, Privacy and Security

A Trust and Risk Framework to Enhance Reliable Interaction in E-Commerce .............................................. 475
  Yan Li, Ming Zhao, Huiping Sun, and Zhong Chen

Automated Trust Negotiation Based on Concurrent Zero-Knowledge for e-Business Applications .................. 481
  Shangyuan Guan, Xiaoshe Dong, Yiduo Mei, Weiguo Wu, and Zhengdong Zhu

  Huanzhao Wang, Xinjian Zhai, and Peijun Chen

Towards Practical Privacy Preserving Technology Adoption Analysis Service Platform ............................... 493
  Zongwei Luo

Detecting SYN Flooding Agents under Any Type of IP Spoofing .................................................................. 499
  Dalia Nashat, Xiaohong Jiang, and Susumu Horiguchi

Overview of Security Threats for Smart Cards in the Public Transport Industry .......................................... 506
  Konstantinos Markantonakis, Keith Mayes, Damien Sauveron, and Ioannis G. Askoxylakis
Session 17: Mobile and Pervasive Commerce - II

Supporting High Updates Disk-Based Index in Road Network ..........................................................517
Liangxu Liu, Weimin Li, Yongming Guo, and Jiajin Le

BlueStar: Managed Services for Enterprise Mobility .................................................................523
Steve Mastrianni, David Bantz, Terrence Beuchner, Tom Chefalas, George Edwards,
Dongjun Lan, Gary Leonardi, Leslie Liu, Randy Moulic, Dennis G. Shea, Jinho Song,
and Drew Wyskida

User-Centered Design and Evaluation of WAP-Based Systems ..................................................528
Rahat Iqbal, Nazaraf Shah, Kuo-Ming Chao, and Konstantian Karatsivi

Session 18: Industry Experience and Applications - II

Strategic Co-operative R&D and Firm Performance in Emerging B2B E-Commerce ..................537
Jijiao Jiang and Jingwen Zhang

Cognition Change from Skype Internet Phone User by Qualitative Perspectives ....................543
Yung-Chih Yen, Chia-Chen Yen, and Jih-Shih Hsu

A Web-based CMS/PDM Integration for Product Design and Manufacturing .........................549
Chia-Chen Yen, Chiaming Yen, and Jih-Shih Hsu

AiR 2008 IEEE International Workshop on Advances in RFID

QTS ALOHA: A Hybrid Collision Resolution Protocol for Dense RFID Networks ..................557
Yan Xinqing, Yin Zhouping, and Xiong Youlun

Surface Acoustic Wave Based Radio Frequency Identification Tags .......................................563
Lin Wei, Han Tao, and Shui Yongan

Security of an RFID Protocol for Supply Chains .................................................................568
Ton van Deursen and Sasa Radomirovic

Design and Analysis for RFID Authentication Protocol .........................................................574
Zhen Zhang, Shijie Zhou, and Zongwei Luo

Research on Data Processing in RFID Middleware Based on Event-Driven .........................578
Yulian Fei, Gonglian Jin, and Ruqi Wu

EM2I 2008 IEEE International Workshop on E-Marketplace Integration and Interoperability

Ontological User Profiling on Personalized Recommendation in e-Commerce .........................585
Siping He and Meiqi Fang

A SOA-Based ARIS Model for BPR ......................................................................................590
Chen Li, Jiayin Qi, and Huaying Shu

A New Credit Based Micropayment Scheme ........................................................................596
Fuqing Wang, Wei Dong, and Yindong Ji
From Information Processing to Information Flow: Application to Consumer Mind.................................................................................................................................602

Sabah Al-Fedaghi

Research on Credit Evaluation Model and Algorithm for B2B e-Commerce .........................................................................................................................606

Chunhui Piao, Changyou Zhang, Xufang Han, and Jing An

SOAIC 2008 IEEE International Workshop on Service-Oriented Applications, Integration and Collaboration

Session SOAIC-1: Service-Oriented Applications and Integration

IT and Business Integration through the Convergence of Virtualization, SOA and Distributed Computing .......................................................................................................................615

Jackson He and Enrique Castro-Leon

Applying Service-Oriented Architecture into an Augmented Reality E-business System .................................................................................................................................621

Rui Wang and Xiangyu Wang

QoS-Aware Service Selection under Consumer’s Reputation ..........................................................................................................................627

Ping Wang, Kuo-Ming Chao, Chi-Chun Lo, and Yinsheng Li

A Peer-to-Peer e-Market Organized within Mobile Devices Based on Distributed Services .............................................................................................................633

Zhou Yu, Fang Zhiyuan, and Li Ning

An Agent Based Wrapper Mechanism Used in System Integration .........................................................................................................................637

Chenguang Zhao, Qingshan Li, Meisheng Wang, Yingqiang Wang, and Yuping Li

Session SOAIC-2: Service-Oriented Modeling and Development

Verifying Service-Oriented Requirements Using Model Checking ..............................................................................................................................643

Xiaoxia Cao, Huaikou Miao, and Qingguo Xu

A Scripting Language Used for Defining the Integration Rule in Agent System ........................................................................................................649

Hua Xing, Qingshan Li, Yingqiang Wang, Chenguang Zhao, Shaojie Mao, and Guolin Zhang

A Service-Oriented Development Platform with Precise Service Discovery .................................................................................................................655

Gang Liu, Xiaoyan Wu, Enmei Tang, Qianhui Liang, and Yinsheng Li

Modeling and Analyzing Composite Semantic Web Service Using Petri Nets ...........................................................................................................660

Huaikou Miao, Tao He, and Zhongsheng Qian

On Web Service Construction Based on REpresentation State Transfer ............................................................................................................665

Jin Zhang, Feng-lin Li, and Chi-Hung Chi
SOKM 2008 IEEE International Workshop on Service-Oriented Knowledge Management

An Empirical Study of Information Service Quality Evaluation Factors System ...........................................671
Zhiyuan Fang, Huiyang Zhang, Kaiyin Huang, and Yu Zhou

HAWK: A Focused Crawler with Content and Link Analysis ........................................................................677
Xiaoyun Chen and Xin Zhang

A Wiki Service for Investment Knowledge Management .................................................................681

Toward Tourist Service Integration and Personalization with Semantic Web Services: A Case Study in Hong Kong .................................................................687
Ka Cheuk Wu and Dickson K.W. Chiu

BIMA 2008 IEEE International Workshop on Business Intelligence Methodologies and Applications

Session BIMA-1: BI Methodologies and Applications - I

Towards a Data Warehouse Contextualized with Web Opinions ............................................................697
Juan Manuel Pérez, Rafael Berlanga, Maria José Aramburu, and Torben Bach Pedersen

A Framework for Business Data Analysis ..............................................................................................703
Takashi Suenaga, Shoko Takahashi, Miho Saji, Junko Yano, Kei-ichiro Nakagawa, and Jun Sekine

Bringing Business Objects into Extract-Transform-Load (ETL) Technology ............................................709
Huong Morris, Hui Liao, Sriram Padmanabhan, Sriram Srinivasan, Phay Lau, Jing Shan, and Ryan Wisnesky

An Integrated Use of CWM and Ontological Modeling Approaches towards ETL Processes ..................715
Anh-Duong Thi Hoang and Binh Thanh Nguyen

Session BIMA-2: BI Methodologies and Applications - II

Ascertaining the Semantic and Linguistic Level of Perceived Risk in e-Business Interactions ..................723
Omar Hussain, Elizabeth Chang, Tharam Dillon, and Farookh Hussain

Seamless User-Interface for Business Intelligence ....................................................................................728
Jan Seeburger, Achim P. Karduck, and Asarnusch Rashid

Business Process and Risk Models Enrichment: Considerations for Business Intelligence .........................732
Amadou Sienou, Achim P. Karduck, Elyes Lamine, and Hervé Pingaud

Modeling Online User Behavior .............................................................................................................736
Alfredo Milani, Judith Jassò, and Silvia Suriani
DKEEE 2008 IEEE International Workshop on Data and Knowledge Engineering for E-service and E-business

Session DKEEE-1: E-business Management Enabling Technologies (long)

  Yue Zhang and Kwei-Jay Lin
Ontology Evolution Issues in Adaptable Information Management Systems ..................................................................................753
  Yinglin Wang, Xijuan Liu, and Rongwei Ye
Research of Reflective Component Model Based on the Separation of Multidimensional Concerns ..........................................................759
  Gang Xiao, Rongchun Ruan, Jiawei Lu, Fei Gao, and Yuanming Zhan

Session DKEEE-2: Modeling in SOA and Grid Environment (short)

Visualized Monitoring of Virtual Business Process for SOA ...............................................................767
  Tiejun Ou, Wei Sun, Changjie Guo, and Jing Li
An Extended SOA Model for Customer-Centric E-Commerce ............................................................771
  Garyfallos Fragidis and Konstantinos Tarabanis
An Integrated Development Environment for Synthesising Web Services ...........................................776
  Dionisis Adamopoulos
GMDBSCAN: Multi-Density DBSCAN Cluster Based on Grid ..............................................................780
  Chen Xiaoyun, Min Yufang, Zhao Yan, and Wang Ping

Author Index ..............................................................................................................................................784