Table of Contents

Message from ICEBE 2007 General Chairs ................................................................. xvi
Message from ICEBE 2007 Program Chairs ................................................................. xviii
ICEBE 2007 Organizing Committee ........................................................................... xix
ICEBE 2007 Program Committee .............................................................................. xx
ICEBE 2007 Steering Committee .............................................................................. xxiii
ICEBE 2007 Keynote I ................................................................................................ xxiv
ICEBE 2007 Keynote II .............................................................................................. xxv
ICEBE 2007 Plenary Panel ......................................................................................... xxvi

Message from the SOAIC 2007 Chairs ....................................................................... xxvii
SOAIC 2007 Chairs and Program Committee .............................................................. xxviii

Message from SOSE 2007 Program Chairs ................................................................. xxx
SOSE 2007 Organizing Committee .............................................................................. xxxi
SOSE 2007 Program Committee ............................................................................... xxxii

Message from SOKM 2007 Chairs ............................................................................ xxxiii
SOKM 2007 Chairs and Program Committee .............................................................. xxxiv

ICEBE 2007 Long Paper Sessions

Session 1A: E-Commerce: Models and Applications

The Design and Implementation of a Semantic Service Mediation System ................ 3
  Liangzhao Zeng, Hui Lei, Michael Dikun, Henry Chang, and Guo Tong Xie

Model-Driven Specification of Software Services ...................................................... 13
  Boris Shishkov, Marten van Sinderen, and Bedir Tekinerdogan

A Tool Framework for KPI Application Development .............................................. 22
  Mari Abe, Jun-Jang Jeng, and Yinggang Li

Worksheet-Driven UMM Modeling of B2B Services ................................................. 30
  Christian Huemer, Marco Zapletal, Philipp Liegl, and Rainer Schuster
Session 2A: RFID, Sensor, and Service Technologies in Business Processes

Subscribing and Matching RFID-Related Events .......................................................... 41
   Beihong Jin, Shuang Yu, Xinchao Zhao, Zhenyue Long, and Yifeng Qian

RFID Assisted Object Tracking for Automating Manufacturing Assembly Lines ............... 48
   Jiahao Wang, Zongwei Luo, Edward C. Wong, and C. J. Tan

Extending SOA/MDD to Sensors and Actuators for Sense-and-Respond Business Processes .......... 54
   Han Chen, Paul B. Chou, Norman H. Cohen, and Sastry Duri

The Deep Structure of Service Management ................................................................... 62
   Santhosh Kumaran, Yingjie Li, and Pankaj Dhoolia

Session 3A: Security, Trust, and Privacy in E-Commerce

Real-Time Correlation of Network Security Alerts .......................................................... 73
   Zhitang Li, Aifang Zhang, Jie Lei, and Li Wang

A Study of Security and Performance Issues in Designing Web-Based Applications ................. 81
   Shin-Jer Yang and Jia-Shin Chen

Towards Quantifying the Possible Risk in e-Commerce Interactions for RDSS ......................... 89
   Omar Hussain, Elizabeth Chang, Farookh Hussain, and Tharam Dillon

The Design of a Rule-Based and Event-Driven Trust Management Framework ..................... 97
   Yan Wang, Kwei-Jay Lin, Duncan S. Wong, and Vijay Varadharajan

Secure Search of Private Documents in an Enterprise Content Management System ............. 105
   Trieu C. Chieu, Thao Nguyen, and Liangzhao Zeng

Session 3B: QoS of E-Business Middleware and Servers

Adaptive Self-Configuration of EJB Server: A Performance Model Approach ...................... 115
   Jianjun Hu, Heqing Guan, Hua Zhong, and Tao Huang

A Dynamic QoS Driven Pluggable GIS Grid Services Architecture .................................. 123
   Wenjun Li, Yingwen Wen, Dan Chen, Yongji Li, and Kaisheng Chen

Partition-Based Profit Optimisation for Multi-class Requests in Clusters of Servers .............. 131
   Ligang He, James Wenjun Xue, and Stephen A. Jarvis

WMQ: Towards a Fine-Grained QoS Control for E-Business Servers ................................ 139
   Wei Wang, Wenbo Zhang, Lei Zhang, and Tao Huang
Session 4A: Electronic Contracts and Knowledge Management in E-Business

A Web-Based and Email Driven Electronic Contract Management System .............................................. 149
Thomas Kwok, Thao Nguyen, Linh Lam, and Trieu Chieu

The Design of an Intelligent Accountability Architecture ................................................................. 157
Kwei-Jay Lin, Mark Panahi, and Yue Zhang

A Framework for Model Checking Web Service Compositions Based on BPEL4WS .................................. 165
Guilan Dai, Xiaoying Bai, and Chongchong Zhao

Knowledge Enhanced IT Service Management ............................................................................... 173
Hao Wang, Bo Yang, Liang Liu, Qian Ma, Ke Wei Sun, and Ying Chen

Session 4B: E-Commerce: Algorithms and Applications

Information Retrieval through SVG-Based Vector Images Using an Original Method .......................... 183
Kaiyuan Jiang, Zhiyuan Fang, Yuanting Ge, and Yu Zhou

A Fair and Transferable Off-line Electronic Cash System with Multiple Banks ................................... 189
Changji Wang, Qin Li, and Xingfeng Yang

Session 5A: Service Design and Collaboration

Design of Autonomic SLA Manager for Service Applications ............................................................ 197
Changyeol Choi, DuWan Cheun, and Soo Dong Kim

Towards Accountable Enterprise Mashup Services ........................................................................ 205
Joe Zou and Christopher J. Pavlovski

Research on Entropy-Based Collaborative Filtering Algorithm ...................................................... 213
Chunhui Piao, Jing Zhao, and Jun Feng

Forming Fuzzy Coalitions in Cooperative Superadditive Games ...................................................... 221
Minghua He, Xudong Luo, Nicholas R. Jennings, and Michael Wooldridge

Session 5B: Workflow and Negotiation Systems for E-Services

Facilitating Agile Model Driven Development and End-User Development for Evolving Web-Based Workflow Applications ............................................................. 231
Xufeng (Danny) Liang, Ioakim (Makis) Marmaridis, and Athula Ginige

Machine Learning for Negotiation Knowledge Discovery in e-Marketplaces ................................... 239
Raymond Y. K. Lau

A Hidden Credential Based Oblivious Automated Trust Negotiation Model ...................................... 247
Zhensong Liao, Hai Jin, and Deqing Zou
Session 6A: Agent Systems and Document Exchange

A Multi-agent System for e-Chartering .................................................................257
  Manolis S. Sardis and Maria A. Lambrou

  Jingzhi Guo and Xin Guan

User Controllable Data Grouping for Business Document Translation ...................276
  Shyh-Kwei Chen, Jen-Yao Chung, and Michael J. Ding

Session 6B: Design and Collaboration in E-Commerce Activities

Design of a Dynamic Composition Handler for ESB-Based Services .......................287
  Soo Ho Chang, Hyun Jung La, Jeong Seop Bae, Won Young Jeon, and Soo Dong Kim

Value and Goal Driven Design of E-Services .......................................................295
  Martin Henkel, Paul Johannesson, Erik Perjons, and Jelena Zdravkovic

Strategy, Model, and Platform for Collaborative Commerce ...................................304
  Shuangxi Huang and Yushun Fan

ICEBE 2007 Short Paper Sessions

Session 1C: Workflow and RFID Technologies

Analysis of RFID Adoption in China ......................................................................315
  Zongwei Luo, Zhining Tan, Zhicheng Ni, and Benjamin Yen

Agile Business Process Management with Sense and Respond .................................319
  Alexander Schatten and Josef Schiefer

Design an OSGi Extension Service for Mobile RFID Applications .........................323
  Jie Wu, Dong Wang, and Huanye Sheng

An Approach for Workflow Performance Evaluation Based on Discrete Stochastic
  Petri Net .............................................................................................................327
  Hao Jiang and Pei-an Wang

Practical Access Control Management for Outsourced EPC-Related Data in
  RFID-Enabled Supply Chain .............................................................................331
  Sergei Evdokimov and Oliver Günther

A Dynamic Load Balancing Approach Based on the Standard RFID Middleware Architecture ........337
  Jae Geol Park, Heung Seok Chae, and Eul Seok So

Session 2C: Analysis and Modelling in E-Business

A Human-Centered e-Business System Analysis and Modeling Method ....................343
  Lixin Zhou
A Requirement Analysis Pattern Selection Method for E-Business Project Situation ........................................ 347
Shu-Hang Guo, Yu-Qing Lan, Mao-Zhong Jin, Jing Gao, and Hong-Juan Li

Analyzing and Improving Internet Voting Protocol ......................................................................................... 351
Bo Meng

Concern Oriented Business Process Modeling ................................................................................................. 355
Jian Wang, Jun Zhu, Haiqi Liang, and Ke Xu

Analyzing Service Usage Patterns: Methodology and Simulation ................................................................. 359
Qianhui Liang and J. Y. Chung

Social Network Analysis of Online Marketplaces .............................................................................................. 363
Pushpa Kumar and Kang Zhang

**Session 3C: E-Business Case Studies**

Research on Service Oriented Platform of Integration Application for Textile Industry in China .................................................. 371
Zirui Gao and Bingyong Tang

Empirical Study on the Influence of E-Shopping Prejudice to E-Customer Satisfaction ...................................... 375
Sizong Wu, Weibing Yin, and Guoyue Xiong

Management and Education on the Case-Based Complex e-Business Systems Based on Agent Centric Ontology and Simulation Games ......................................................................................... 379
Shen-Tzay Huang, Ming-Chuan Hsu, and Wen-Hao Lin

A Case Study: Adoption of Information Technology in E-Business of United Arab Emirates .................................................. 383
Fahim Akhter

E-Business in Thailand: A Case Study of Two Thai Search Engine Companies .................................................. 388
Vasin Chooprayoon, Chun Che Fung, and Arnold A. Depickere

Study on Credit Evaluation Model and Algorithm for C2C E-Commerce ............................................................................. 392
Chunhui Piao, Jing An, and Meiqi Fang

Measuring Website Usability of Chinese Enterprise with a Heuristic Procedure .................................................. 396
Chang Jinling and Guan Huan

**Session 4C: Performance, Security and Personalization Services**

The Contribution of Intelligent System in Forming Trust and Competitiveness during Online Transactions .................................. 403
Fahim Akhter

An Enhanced Verifier-Free Remote User Password Authentication Scheme ............................................................................. 406
Wei-Chi Ku, Chun-Hao Hwang, and Hao-Rung Chung

A Data Flow Optimization Based Approach for BPEL Processes Partition ................................................................. 410
Yanlong Zhai, Hongyi Su, and Shouyi Zhan
Toward an On-demand Option Rating Service for e-Business ..................................................414
Raymond Y. K. Lau, K-S Wong, K-F Fung, and S-Y Ho

ICEBE 2007 Industrial Sessions

Session 1B: Service Management and Solutions

Service Obligations Management in IT Outsourcing ..............................................................421
Liang Liu, Hui Lei, Dongjun Lan, Raymond E. Rose, J. S. Seymour, and Murthy V. Devarakonda

Relooking at Services Science and Services Innovation ........................................................427
Hong Cai, Jen-Yao Chung, and Hui Su

Collaborative Workflow Management with Alerts: An Integrated Retailing System
for Garments Brands ..................................................................................................433
Donald S. F. Wong and Dickson K. W. Chiu

Business-Driven SOA Solution Development .......................................................................439
Lianjun An and Jun-Jang Jeng

Session 2B: Case Studies and Reports

Problems and Prospects of Multi Application Smart Cards in the UK Financial Industry ..........447
Konstantinos Markantonakis and Keith Mayes

Service Information Hub for Service Lifecycle Management: A Progress Report .................453
Yew-Huey Liu and Jun-Jang Jeng

e-Monitoring of Outsourcing IS Project in Financial Institutions: A Case Study
on Mandatory Provident Fund Projects in Hong Kong .......................................................460
Vincent C. T. Chan, Dickson K. W. Chiu, Stephanie Chow, and Patrick C. K. Hung
SOAIC 2007
IEEE International Workshop on Service-Oriented Applications, Integration and Collaboration

Session 1: Service Modeling and Frameworks

Service-Oriented Business Process Modeling and Performance Evaluation Based on AHP and Simulation ................................................................. 469
Sen Zeng, Shuangxi Huang, and Yushun Fan

A Framework for Extensible Collaborative Asset-Based Service Engagement ........................................... 477
Fan Jing Meng, Ying Huang, Shun Xiang Yang, and Hui Su

Fang Zhiyuan, Zhang Jingchun, Wang Lei, Zhou Yu, and Mo Minghui

A Rewriting Based Model for Nondeterministic Composite Web Service System................................. 492
JunFeng Wu and HuaiKou Miao

Session 2: Requirements, Mediation and Measurement

Task Oriented Web Service Requirement Framework.............................................................................. 503
Yu Cheng, Hexin Lv, Ji Gao, and Huamao Gu

Mediation Architecture for Integration of Heterogeneous Discipline Focused Workflow Languages.................................................................................. 507
Ray Farmer, Adam Raybone, Rehan Uddin, Michael Odetayo, and Kuo-Ming Chao
The Design and Implementation of a Search Engine Marketing Management System (SEMMS) Based on Service-Oriented Architecture Platform .................................................. 513
Weider D. Yu and Andy Lin

An Adaptable Fault-Tolerance for SOA Using a Peer-to-Peer Framework ........................................ 520
Stephen Hall and Gerald Kotonya

DRESR: Dynamic Routing in Enterprise Service Bus .............................................................. 528
Xiaoying Bai, Jihui Xie, Bin Chen, and Sinan Xiao

A Concurrent G-Negotiation Mechanism for Grid Resource Co-allocation ................................... 532
Benyun Shi and Kwang Mong Sim

Adaptive User Interface Generation for Web Services .......................................................... 536
Jiang He and I-Ling Yen

Consumer-Centric Web Services Discovery and Subscription ................................................... 543
Xuanzhe Liu, Li Zhou, Gang Huang, and Hong Mei

A Privacy Protection Method for P2P-Based Web Service Discovery ........................................... 551
Kuien Liu, Qing Wang, Jun Han, and Hu Wu

ASM-TL: An Abstract Service Model Enabling Adaptive Matchmaking ....................................... 559
Wanghu Chen, Yanbo Han, Chen Liu, Jing Wang, and Shuying Yan

A Domain-Independent Ontology for Non-Functional Requirements ........................................ 563
Glen Dobson, Stephen Hall, and Gerald Kotonya

Service-Oriented Modeling: An Ontology-Based Approach ...................................................... 567
Budan Wu and Zhi Jin

Service Composition Using Product Configuration Technology .................................................. 573
Mikko Raatikainen, Katrine Jokinen, Paavo Kotinurmi, and Varvana Myllärniemi
Session S4: Service-Oriented Techniques of Security, Trust, Privacy and QoS

A QoS View of Web Service Choreography .................................................................607
Zhao Xiangpeng, Cai Chao, Yang Hongli, and Qiu Zongyan

Systematic Security Analysis for Service-Oriented Software Architectures ......................612
Yanguo (Michael) Liu and Issa Traore

QoS Metrics for Evaluating Services from the Perspective of Service Providers ..............622
Si Won Choi, Jin Sun Her, and Soo Dong Kim

A Practical Framework of Dynamic Monitors in Service-Oriented Computing ................626
Du Wan Cheun, Jeong Seop Bae, Won Young Jeon, Hao Yuan, and Soo Dong Kim

QoS-Based Web Services Selection ..............................................................................631
Hongbing Wang, Ping Tong, Phil Thompson, and Yinsheng Li

Session S5: Service-Oriented Applications and Implementation

A Service-Oriented Collaborative Development Platform for Digital Courts ..................641
Yingxiao Xu, Yinsheng Li, Liansheng Wang, Junshuai Shi, and Jianping Shen

Model-Driven Service Development for A-posteriori Application Integration ..............649
Thomas Haase

Roadmap to a Full Service Broker in Service-Oriented Architecture ..........................657
W. T. Tsai, Xinyu Zhou, Yinong Chen, Bingnan Xiao, Raymond A. Paul, and William Chu

Requirement Engineering in Service-Oriented System Engineering ..........................661
W. T. Tsai, Z. Jin, P. Wang, and B. Wu

DJ: A Transparent Java-Integrated Data Access System ............................................669
Shih-wei Liao and Keqiang Wu
Session S6: XML and SOA Education

Automatic Recommendation of Quality Requirements for Software Services .......................... 679
  SiMing Li, Chi-Hung Chi, Chen Ding, Shuo Chen, and Ying Huang

Designing a Service-Oriented Computing Course for High Schools ...................................... 686
  W. T. Tsai, Yinong Chen, Xin Sun, Gary Bitter, and Mary White

Architecting the Service Oriented Data Center ........................................................................ 694
  Enrique Castro-Leon, Jackson He, Mark Chang, and Hugh Mercer

Parallel XML Transformations on Multi-core Processors ...................................................... 701
  Yuanhao Sun, Tianyou Li, Qi Zhang, Jia Yang, and Shih-wei Liao

A Practical Approach for Measuring IT Effectiveness of Business Processes .......................... 709
  Rahil Hosseini and Mahdi Mazinani
# SOKM 2007

**IEEE International Workshop on Service-Oriented Knowledge Management**

## Session 1: Service Discovery and Modeling in E-Business

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Service Model for Customer-Centric Electronic Business</td>
<td>Garyfallos Fragidis and Konstantinos Tarabanis</td>
<td>723</td>
</tr>
<tr>
<td>A Semantic Web Based Peer to Peer Service Discovery Mechanism for Intelligent Business Process</td>
<td>Desheng Li, Ruzhi Xu, and Haiyang Wang</td>
<td>730</td>
</tr>
<tr>
<td>The Impact of Organizational Learning on Lack of Team’s Expertise Risk in Information Systems Projects</td>
<td>Chun-Hui Wu and Kwoting Fang</td>
<td>738</td>
</tr>
</tbody>
</table>

## Session 2: Knowledge Management

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Proposal of Conditions of Personal Engagement in Knowledge Harvesting</td>
<td>Che-Hung Liu, Dasaratha Rama, and Irma Becerra-Fernandez</td>
<td>747</td>
</tr>
<tr>
<td>SOA-Trust: Towards Developing Trustworthy RFID Enabled Intelligent Service Solutions</td>
<td>Zongwei Luo, Jenny S. Li, and Edward Wong</td>
<td>751</td>
</tr>
<tr>
<td>Adaptive Algorithmic Schemes for E-Service Strategic Management Methodologies: Case Studies on Knowledge Management</td>
<td>Alexandra Lipitakis</td>
<td>755</td>
</tr>
<tr>
<td>Trust Assessment in Web Services: An Extension to jUDDI</td>
<td>Hrushikesha Mohanty, Kakarlamudi Prasad, and R. K. Shyamasundar</td>
<td>759</td>
</tr>
</tbody>
</table>

## Author Index

<table>
<thead>
<tr>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Che-Hung Liu</td>
<td>747</td>
</tr>
<tr>
<td>Dasaratha Rama</td>
<td>747</td>
</tr>
<tr>
<td>Irma Becerra-Fernandez</td>
<td>747</td>
</tr>
<tr>
<td>Zongwei Luo, Jenny S. Li, and Edward Wong</td>
<td>751</td>
</tr>
<tr>
<td>Alexandra Lipitakis</td>
<td>755</td>
</tr>
<tr>
<td>Hrushikesha Mohanty, Kakarlamudi Prasad, and R. K. Shyamasundar</td>
<td>759</td>
</tr>
</tbody>
</table>