2009 IEEE International Conference on e-Business Engineering

(ICEBE 2009)

Macau, China
21-23 October 2009
2009 IEEE International Conference on e-Business Engineering

ICEBE 2009

Table of Contents

Message from ICEBE 2009 General Chairs
Message from ICEBE 2009 Program Chairs
ICEBE 2009 Organizing Committee
ICEBE 2009 Program Committee
ICEBE 2009 Reviewers
ICEBE 2009 Keynote I
ICEBE 2009 Keynote II
ICEBE 2009 Industry Keynote
ICEBE 2009 Invited Talk
Message from the AiR 2009 Chairs
AiR 2009 Chairs and Program Committee
Message from the SOAIC 2009 Chairs
SOAIC 2009 Chairs and Committee
Message from the SOKMBI 2009 Chairs
SOKMBI 2009 Chairs and Committee
Message from the ASOC 2009 Chair
ASOC 2009 Chairs and Committee

Session 1: Software Engineering for e-Business

Using an Enterprise Mashup Infrastructure for Just-in-Time Management of Situational Projects .................................................................3

Shahriar Mohammadi, Ali Khalili, and Sarah Ashoori

Ontology Module Metrics ............................................................................................................................................................................11

Sunju Oh and Joongho Ahn

Impacts Separation Framework for Performance Prediction of E-Business Systems ..........................................................19

Xiang Huang, Wenbo Zhang, Bo Zhang, and Jun Wei
Session 2: Data and Knowledge Management for e-Business - I

Personalized Scheduling Search Advertisement by Mining the History Behaviours of Users .................................................................29
  Guangyi Xiao, Zhiguo Gong, and Jingzhi Guo
Efficient Web Page Main Text Extraction towards Online News Analysis .................................................................37
  Baoyao Zhou, Yuhong Xiong, and Wei Liu
Name Disambiguation Using Semantic Association Clustering ..............................................................................42
  Hai Jin, Li Huang, and Pingpeng Yuan

Session 3: Data and Knowledge Management for e-Business - II

Agent-Based Electronic Market With Ontology-Services ..............................................................................51
  Nuno Silva, Maria João Viamonte, and Paulo Maio
Multi-agent Modeling and Analysis for E-Commerce Transaction Network Based on CAS Theory ..............................................................................59
  Chunhui Piao, Xufang Han, and Shuren Zhang
Towards an Open, Self-Adaptive and P2P Based e-Market Infrastructure .................................................................67
  Li Guo, John Darlington, and Brian Fuchs
Simulation-Based Evaluation of Workflow Escalation Strategies ..............................................................................75
  Ka-Leong Chan, Yain-Whar Si, and Marlon Dumas

Session 4: Integration and Collaboration - I

Virtual Wealth Realization in Virtual and Real Worlds ..............................................................................85
  Jingzhi Guo, Angelina Chow, Zhiguo Gong, and Chengzheng Sun
A Service-Based Framework for Pharmacogenomics Data Integration ..............................................................................95
  Kun Wang, Xiaoying Bai, Jing Li, and Cong Ding
Role-Centric RESTful Services Description and Composition for E-Business Applications .................................................................103
  Hao Yu, Cheng Zhu, Hongming Cai, and Boyi Xu
Rule-Based Service Oriented Business Network Process Realization in Dynamic Virtual Enterprises .................................................................111
  Alireza Khoshkbarforoushha and Mohammad Aghdasi

Session 5: Service Engineering - I

A Multiple Objectives Optimization Approach for QoS-Based Web Services Compositions .................................................................121
  Ci-Wei Lan, Rick C.S. Chen, Addison Y.S. Su, Angus F.M. Huang, Stepehen J.H. Yang, and Jen-Yao Chung
The Design and Implementation of Service Reservations in Real-Time SOA .................................................................129
  Mark Panahi, Weiran Nie, and Kwei-Jay Lin
An Evaluation of a Service-Oriented Platform for Indexing Media Collections .................................................................137
  Juan Miguel Espinosa Carlin, Diana Luz, and Cheng Abusabal
**Session 6: Service Engineering - II**

Dependency-Guided Service Composition for User-Centric SOA .......................... 149

*W.T. Tsai, Peide Zhong, Xiaoying Bai, and Jay Elston*

A Methodology for Transactional Risk Assessment and Decision Making in e-Business Interactions .......................................................... 157

*Omar Hussain, Tharam Dillon, Elizabeth Chang, and Farookh Hussain*

Audio Watermarking Pre-process Algorithm ........................................ 165

*Huan Li, Zheng Qin, and Liping Shao*

---

**Session 7: Security, Privacy and Open Source - I**

Trust and Privacy in Dissemination Control ........................................ 173

*Xiaojun Ye, Zude Li, Bin Li, and Feng Xie*

The Development Mode of Trust E-commerce Services ........................ 181

*Yulong Shen, Qingqi Pei, Xinghua Li, Hailing Feng, and Jianfeng Ma*

Research on Trust Management Model for E-Commerce Based on Fuzzy Clustering Method .............................................................. 188

*Chunhui Piao and Xiuna Gan*

---

**Session 8: Security, Privacy and Open Source - II**

Achieving P-Sensitive K-Anonymity via Anatomy ........................................ 199

*Xiaoxun Sun, Hua Wang, Jiuyong Li, and David Ross*

On the Detection of DDoS Attackers for Large-Scale Networks ............... 206

*Dalia Nashat, Xiaohong Jiang, and Susumu Horiguchi*

Collusion-Resistant Sabotage-Tolerance Mechanisms for Volunteer Computing Systems ................................................................. 213

*Kan Watanabe, Masaru Fukushi, and Susumu Horiguchi*

Symmetrically Oblivious Envelope Protocol ........................................ 219

*Bao-Hong Li, Kun Zhen, and Yin-Liang Zhao*

---

**Session 9: Mobile and Pervasive Commerce**

A Heuristic Algorithm for Broker Deployment in RFID Applications ........ 227

*Yifeng Qian, Beihong Jin, and Donglei Cao*

RFIDSLT: A Data Lineage Tracing Method for Complex Query over RFID Streams ................................................................. 233

*Yongli Wang, Jiang-Bo Qian, and Ran Ma*

Virtual Credit Cards on Mobile for M-Commerce Payment ........................ 241

*Narongrit Waraporn, Manawat Sithiyavanich, Hathaichanok Jiwarawattanasawat, and Narin Pakchai*

A Multi-step Task Allocation Algorithm of Mobile Agent Based on Mobile Ad Hoc Network ................................................................. 247

*Hui He, Fan Wei, and Yong Qi*
### Session 10: Industry Experience and Applications - I

The Design and Implementation of a Smart Building Control System .......................... 255  
*Han Chen, Paul Chou, Sastry Duri, Hui Lei, and Johnathan Reason*

Exploring Practical Mobile Interaction for Enterprise Business Process ......................... 263  
*Juwei Shi, Lina Ren, Jiajia Wen, Yabo Li, and Qi Yu*

Cross Border Financing Scheme Design under the RMB Currency Swap Framework ........ 271  
*Zongwei Luo*

### Session 11: Industry Experience and Applications - II

Dynamic Scaling of Web Applications in a Virtualized Cloud Computing Environment .................................................. 281  
*Trieu C. Chieu, Ajay Mohindra, Alexei A. Karve, and Alla Segal*

Designing a Credit Approval System Using Web Services, BPEL, and AJAX .................. 287  
*Vincent C.T. Chan, Dickson K.W. Chiu, Michelle Watson, Patrick C.K. Hung, Haiyang Hu, Hua Hu, and Yi Zhuang*

How Can We Successfully Implement the ERP Activity? .............................................. 295  
*Te-King Chien and Huei-Shan Tseng*

### Session 12: Data and Knowledge Management for e-Business - III

Hierarchical Classification of Business Information on the Web Using Incremental Learning .......................................................... 303  
*Yi Wang, Zhiguo Gong, and Jingzhi Guo*

Temporal Exception Prediction for Loops in Resource Constrained Concurrent Workflows ............................................................ 310  
*Iok-Fai Leong and Yain-Whar Si*

Knowledge-Based Supervision Model for Electronic Payment ...................................... 316  
*Hao Sun, Yueting Chai, and Yi Liu*

A P2P-Based E-Business Portal Model ........................................................................ 321  
*Zixuan Shao, Zhiyuan Fang, and Jie Yang*

Calibrating Resource Allocation for Parallel Processing of Analytic Tasks .................. 327  
*Jianfeng Yan and Wen-Syan Li*

### Session 13: Integration and Collaboration - II

Value at Risk Management in Multi-period Supply Inventory Coordination .................. 335  
*Zheng-ying Cai, Rong Xin, and Renbin Xiao*

Enterprise Isomorphic Mapping Mechanism: Towards Ontology Interoperability in EIS Development .................................................. 340  
*Gan Mingxin*

Baidu.com's Case Study - Pros and Cons of Website Ranking Service under Chinese Anti-monopoly Mechanism .................................................. 346  
*Yimeei Guo, Dongsheng Yan, and Weiwan Zhang*
Price Dispersion in C2C Market Based on Multi-agent Modeling and Simulation ......................................................351
Qiuju Yin, Lihui Min, and Peng Miao

Session 14: Service Engineering - III

Technical Challenges and Solution Space for Developing SaaS and Mash-Up Cloud Services .................................................................359
Hyun Jung La, Si Won Choi, and Soo Dong Kim
An Ontology-Driven Discovery Architecture to Support Service Composition ..........................................................365
Yingzi Wang, Xiaolin Zheng, and Deren Chen
Combining Intelligent Agent with the Semantic Web Services for Building an e-Commerce System ..........................................................371
Bao Cui-Mei
A Comparative Study between WSCI, WS-CDL, and OWL-S ..................................................................................................377
Maria Emilia Cambronero, Gregorio Diaz, Enrique Martinez, and Valentín Valero
A Method of QoS Measurement Based on User Behavior Analysis .........................................................................................383
Guo-qi Liu, Zhi-liang Zhu, Dan-cheng Li, and Ying Liu

Session 15: Service Engineering - IV

A Quantitative Service Accountability Model .........................................................................................................................391
Joe Zou, Christopher J. Pavlovski, Christopher De Vaney, and Yan Wang
Applying Context-Awareness to Service-Oriented Architecture ..............................................................................................397
Lian Yu, Yang Yang, Yongchao Gu, Xu Liang, Shan Luo, and Frank Tung
A P2P-Based Semantic Web Services Composition Architecture .................................................................................................403
Zhu Zhengdong, Hu Yahong, Lan Ronggui, Wu Weiguo, and Li Zengzhi
A SOA Based Software Engineering Design Approach in Service Engineering ........................................................................409
Weider D. Yu and Chia H. Ong
Modeling E-Commerce Website Quality with Quality Function Deployment ..............................................................................417
Chang Jinling, Song Tong, Li Chuncan, and Song Tao

Session 16: Security, Privacy and Open Source - III

Trust-Based Access Control for Privacy Protection in Collaborative Environment .................................................................425
Min Li, Hua Wang, and David Ross
A Solution of Electronic Authentication Services Based on PKI for Enabling e-Business ..........................................................................431
Xiaoqi Zhang, Meina Song, and Junde Song
Preventing Wormhole Attacks in Mobile Commerce .............................................................................................................437
Hao-Ting Pai and Fan Wu
AiR 2009: IEEE International Workshop on Advances in RFID Session 1

The Research of User Participation Mechanism in Education Resource Warehouse Based on the Microformat Concept ................................................................................................................................. 445

Xinying Zhang, Zhenzhen Meng, and Lei Fan

Evaluation and Research on Green Strength of Reverse Logistics System ................................................................................................................................. 451

Sheng Zeng and Wei Yu

Enhancements to a Lightweight RFID Authentication Protocol ................................................................................................................................. 454

Xiaowen Zhang, Zhandyang Zhang, and Xinzhou Wei

Calculation and Application in RFID of the PCB Spiral Inductors ................................................................................................................................. 460

Dong Hui, Yisheng Zhu, and Baishan Zhao

Research on Urban Traffic Improvement Based on Meticulous Traffic Design ................................................................................................................................. 465

XianYong Gan and HongYi Yang

AiR 2009: IEEE International Workshop on Advances in RFID Session 2

Risk Analysis and Measurement in Warehouse Financing ................................................................................................................................. 469

Ying Yin, Zongwei Luo, and Yulian Fei

RFIDGlove: A Wearable RFID Reader ............................................................................................................................................. 475

Leire Muguira, Juan Ignacio Vazquez, Asier Arruti, Jonathan Ruiz de Garibay, Izaskun Mendia, and Silvia Renteria

RFID Middleware Event Processing Based on CEP ............................................................................................................................................. 481

Yulian Fei, Jun Hu, Ertian Hua, and Zongwei Luo

Hash-Based Tag Ownership Transfer Protocol against Traceability ................................................................................................................................. 487

Yongming Jin, Huiping Sun, and Zhong Chen

A New Frame Size Adjusting Method for Framed Slotted Aloha Algorithm ................................................................................................................................. 493

Cuicui Yu and Feng Zhou

Research on the Maintenance Decision-Making of Cement Concrete Pavement Based on Preventive Maintenance ............................................................................................................................................. 497

Jian Zhao and Jia Xu

SOAIC 2009: IEEE International Workshop on Service-Oriented Applications, Integration and Collaboration Session 1

A Reputation-Based Service Selection Scheme ............................................................................................................................................. 501

Ping Wang, Kuo-Ming Chao, Chi-Chun Lo, Ray Farmer, and Pu-Tsun Kuo

The Fitness Evaluation Model of SAAS for Enterprise Information System ............................................................................................................................................. 507

Yonghe Lu and Bing Sun

Open Identity Management Framework for SaaS Ecosystem ............................................................................................................................................. 512

Wang Bin, Huang He Yuan, Liu Xiao Xi, and Xu Jing Min

Proxy Pattern Informatization Research Based On SaaS ............................................................................................................................................. 518

Huawen Li and Qingjie Wang
Customizable Data Exchange Based on Web Service .................................................................522

Jun Xu, Gang Xiao, JiaWei Lu, Qianhui Liang, and Jun Shen

SOAIC 2009: IEEE International Workshop on Service-Oriented Applications, Integration and Collaboration Session 2

A Global Information Model for Service-Oriented System Engineering ........................................529

Yinsheng Li, Yunyi Zhang, Han Chen, and Ying Huang

Multi-level Based Framework for Organizing and Composing Semantic Web Services ..................535

N. Temglit and M. Ahmed Nacer

The Research of Evaluation and Index System Based on IT Enterprise Service

Capability ...........................................................................................................................................541

Zhiyuan Fang, Lin Zhao, and Zixuan Shao

User-Centered Design and Visualization of Service Oriented Recommender Agents:

An Approach to Achieve Better Consumers' Involvement in E-Commerce Systems ......................545

Rui Wang and Xiangyu Wang

SOKMBI 2009: IEEE International Workshop on Service-Oriented Knowledge Management and Business Intelligence Session 1

Influence Factors to Web2.0 Websites Users' Attitude and Behavioral Intention ..................................553

Zhiyuan Fang, Meiyuan Xiao, Yang Jie, and Shao Zixuan

Ontological User Profiling and Language Modeling for Personalized Information

Services ...........................................................................................................................................559

C.F. So, Chapmann C.L. Lai, and Raymond Y.K. Lau

Ontology Based Content Management for Digital Television Services .............................................565

Benjamin Lui, Dickson K.W. Chiu, Haiyang Hu, Hua Hu, and Yi Zhuang

SOKMBI 2009: IEEE International Workshop on Service-Oriented Knowledge Management and Business Intelligence Session 2

Knowledge-Based Application Generator: An Automatic Approach

to Service-oriented Knowledge Management of Systems Knowledge .............................................573

Michael M. T. Ho

Audit Trail Analysis for Traffic Intensive Web Application ..................................................................577

Ka-I Pun and Yain-Whar Si

Online PSO for Web Marketing Optimization .....................................................................................583

Alfredo Milani and Valentino Santucci
ASOC 2009: IEEE International Workshop on Applications and Services on Cloud

Service Component Architecture for Vending Machine System in Cloud Computing
Infrastructure .................................................................................................................................................. 591

Feng-Cheng Lin, Yi-Shiou Lee, Chih-Hao Hsu, Kuan-Yu Chen, and Tzu-Chun Weng

An Approach to Children Surveillance with Sensor-Based Signals Using Complex Event Processing
.................................................................................................................................................................... 596

Ruei-Kai Lee, Chih-Hao Yu, Min-Siong Liang, and Ming-Whei Feng

A Cloud-Based Trajectory Index Scheme .................................................................................................. 602

Shih-Tsun Chu, Chao-Chun Yeh, and Chun-Lung Huang

An Ecosystem Approach for Healthcare Services Cloud ........................................................................... 608

Henry H. Chang, Paul B. Chou, and Sreeram Ramakrishnan

Author Index