

2008 IEEE Congress on Services (SERVICES 2008)		
2008 IEEE International Conference on Services Computing (SCC 2008)		
	2008 Summer School on Services Computing (SERVICES UNIVERSITY)	
	July 6, 2008 (Sunday)	July 7, 2008 (Monday)
8:00-10:00	Registration, Site Tour, and Social Networking	
10:00 - 12:00	Summer School on Services Computing	Summer School on Services Computing
12:00-13:00	Lunch (not included)	
13:00-15:00	Summer School on Services Computing	Summer School on Services Computing
15:00-15:30	PM Break	
15:30-17:30	Summer School on Services Computing	Summer School on Services Computing
5:30:00 PM --	1. No planned conference activities for conference participants (Enjoy Your Stay at Hawaii) 2. Editorial Board Meeting for IEEE Transactions on Services Computing (Invitation Only, Monday)	

**2008 IEEE Congress on Services (SERVICES 2008)
2008 IEEE International Conference on Services Computing (SCC 2008)**

July 8th, 2008 (Tuesday): Tutorials, Symposium, Workshop & WIP Day

Registration and Conference Site Tour

7:30-8:00	Registration and Conference Site Tour						
8:00-9:30	Registration and Conference Site Tour						
9:30-10:00	Registration and Conference Site Tour						
<i>Room</i>	<i>Room 1</i>	<i>Room 2</i>	<i>Room 3</i>	<i>Room 4</i>	<i>Room 5</i>	<i>Room 6</i>	<i>Room 7</i>
10:00 - 11:30	SCC/SERVICES Tutorial 1	MNPSC 2008	SOPOSE 2008	SWF 2008	WebX 2008	ESM 2008	SCC/SERVICES Tutorial 2
11:30-12:30	Lunch (not included)						
12:30-14:00	SCC/SERVICES Tutorial 1	MNPSC 2008	SOPOSE 2008	SWF 2008	WebX 2008	ESM 2008	SCC/SERVICES Tutorial 2
14:00-14:15	PM Break (Room)						
14:15-15:45	SCC/SERVICES Tutorial 3	MNPSC 2008	SOPOSE 2008	SWF 2008	Ph.D. Symposium	WSCA 2008	SCC/SERVICES Tutorial 4
15:45-16:30	PM Break with Freshments (Room)						
16:30-18:00	SCC/SERVICES Tutorial 3	MNPSC 2008	WS-Testing 2008	Emerging Services Technology	Ph.D. Symposium	WSCA 2008	SCC/SERVICES Tutorial 4
18:30-21:00	1. No planned conference activities for conference participants 2. Editorial Board Meeting for IEEE Transactions on Services Computing (Invitation Only)						

2008 IEEE Congress on Services (SERVICES 2008)

2008 IEEE International Conference on Services Computing (SCC 2008)

July 9, 2008 (Wednesday)

7:30-8:00	Breakfast						
8:00-9:30	SCC/SERVICES 2008 Keynote (Keynote Room)						
9:30-10:00	AM Break (Room)						
10:00-17:00	Job Fair (http://www.jobsintheservices.com); Innovation Showcase (Demo and Display); IEEE Body of Knowledge on Services Computing Initiative						
10:00-17:00	Internet Access Services (Room)						
<i>Room</i>	<i>Room 1</i>	<i>Room 2</i>	<i>Room 3</i>	<i>Room 4</i>	<i>Room 5</i>	<i>Room 6</i>	<i>Room 7</i>
10:00 - 11:30	SCC/SERVICES Tutorial 5	Panel 1	Research Session 1	Research Session 2	Industry Session 1	Industry Session 2	WIP Session 1
11:30-12:30	Lunch (not included)						
12:30-14:00	SCC/SERVICES Tutorial 5	Education Methodology Summit	Research Session 3	Research Session 4	Industry Session 3	Industry Session 4	WIP Session 2
14:00-14:15	PM Break (Room)						
14:15-15:45	SCC/SERVICES Tutorial 6	Education Methodology Summit	Research Session 5	Research Session 6	Industry Session 5	Industry Session 6	WIP Session 3
15:45-16:30	PM Break with Freshments (Room)						
16:30-18:00	SCC/SERVICES Tutorial 6	Panel 2	Research Session 7	Research Session 8	Industry Session 7	Industry Session 8	WIP Session 4
19:00-22:00	Congress Banquet (Time: 7:00-11:00; Keynote Room) and SERVICES UNIVERSITY Update						

2008 IEEE Congress on Services (SERVICES 2008)							
2008 IEEE International Conference on Services Computing (SCC 2008)							
	July 10, 2008 (Thursday)						
7:30-8:00	Breakfast						
8:00-9:30	SCC/SERVICES 2008 Keynote or Keynote Panel (Keynote Room)						
9:30-10:00	AM Break (Room)						
10:00-17:00	Job Fair (http://www.jobsintheservices.com); Innovation Showcase (Demo and Display); IEEE Body of Knowledge on Services Computing Initiative						
10:00-17:00	Internet Access Services (Room)						
Room	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
10:00 - 11:30	SCC/SERVICES Tutorial 5	Services Computing Contest	Research Session 9	Research Session 10	Industry Session 9	Industry Session 10	SOA Industry Summit
11:30-12:30	Lunch (not included)						
12:30-14:00	SCC/SERVICES Tutorial 5	Services Computing Contest	Research Session 11	Research Session 12	Industry Session 11	Industry Session 12	SOA Industry Summit
14:00-14:15	PM Break (Room)						
14:15-15:45	SCC/SERVICES Tutorial 6	Services Computing Contest	Research Session 13	Research Session 14	Industry Session 13	Industry Session 14	SOA Industry Summit
15:45-16:30	PM Break with Freshments (Room)						
16:30-18:00	SCC/SERVICES Tutorial 6	Services Computing Contest	Research Session 15	Research Session 16	Industry Session 15	Industry Session 16	SOA Industry Summit
18:30-23:00	TBD						

2008 IEEE Congress on Services (SERVICES 2008)							
2008 IEEE International Conference on Services Computing (SCC 2008)							
	July 11, 2008 (Friday)						
7:30-8:00	Breakfast						
8:00-9:30	SCC/SERVICES 2008 Keynote (Keynote Room)						
9:30-10:00	AM Break (Room)						
10:00-17:00	Job Fair (http://www.jobsintheservices.com); Innovation Showcase (Demo and Display); IEEE Body of Knowledge on Services Computing Initiative						
10:00-17:00	Internet Access Services (Room)						
Room	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
10:00 - 11:30	WIP Session 5	WIP Session 6	Research Session 17	Research Session 18	Industry Session 17	Industry Session 18	SOA Standards
11:30-12:30	Lunch (not included)						
12:30-14:00	WIP Session 7	Education Methodology Summit	Panel 3	Panel 4	SOA Industry Summit	SOA Industry Summit	SOA Standards
14:00-14:15	PM Break (Room)						
14:15-15:45					SOA Industry Summit	SOA Industry Summit	SOA Standards
15:45-16:00	PM Coffee Break (Room)						
16:00-17:00	1. Status Report of the 2008 IEEE Services Computing Contest 2. Closing Remarks (Keynote Room)						
17:00	Have A Great Trip Back Home!						

SERVICES & SCC 2008 KEYNOTES

Development of Adaptive Service-based Software

Stephen S. Yau
Professor of Computer Science and Engineering
Director, Information Assurance Center
Arizona State University

Abstract:

Adopting service-oriented architecture in large-scale distributed applications, such as e-business, healthcare, transportation, scientific computing, and homeland security, requires adaptive service-based software (ASBS), which has the capability of monitoring the changing system status, analyzing and controlling tradeoffs among multiple QoS features, and adapting its service configuration to satisfy multiple QoS requirements simultaneously. Development of ASBS with multiple QoS monitoring and adaptation capabilities in dynamic environments expeditiously and cost-effectively requires major improvements on software technology.

We will first discuss the challenges for the development of ASBS with satisfactory QoS in dynamic environments and related ongoing research, such as autonomic computing and situation awareness. Then, an overview of our research on the development of ASBS will be presented. Major research issues and possible approaches to dealing with them, such as declarative specification of situation awareness and security requirements, automated agent synthesis for situation-aware workflows, and establishing performance models for ASBS to support the development of QoS monitoring and adaptation capabilities, will be discussed.

About the Speaker:



Stephen S. Yau is currently a professor of computer science and engineering and the director of Information Assurance Center at Arizona State University (ASU), Tempe. He served as the chair of the Department of Computer Science and Engineering at ASU in 1994-2001. Previously, he was on the faculties of Northwestern University, Evanston, Illinois, and University of Florida, Gainesville.

He served as the president of the Computer Society of the Institute of Electrical and Electronics Engineers (IEEE) and on the IEEE Board of Directors and the Board of Directors of Computing Research Association. He also served as the editor-in-chief of IEEE COMPUTER magazine, and organized many national and international major conferences, including the World Computer Congress sponsored by International Federation for Information Processing (IFIP) in 1989. He founded and organized the Annual International Computer Software and Applications Conference (COMPSAC) sponsored by the IEEE Computer Society, in 1977.

SERVICES & SCC 2008 KEYNOTES

Business Cloud: Bringing The Power of SOA and Cloud Computing

Moderator: Liang-Jie Zhang (IBM T.J. Watson Research Center, USA)

Panelists (alphabetical order):

- Carl K Chang (Iowa State University, USA)
- Ephraim Feig (Motorola, USA)

Panel Theme:

This panel aims to bring the power of Service-Oriented Architecture (SOA) and Cloud Computing together to deliver business and practical value to the emerging software applications, hardware, and business process provisioning services over the Internet. The leading companies in the industry are moving applications and data to the Internet. Typically, there are three following resources that can be provisioned and consumed over the Internet.

- Computing resource sharing that includes computing power, storage, and machine provisioning
- Software application sharing that handles software as a service and mashup of value-added applications
- Business process sharing that supports business process outsourcing, composition, and provisioning

There are great opportunities for us to explore a converging software and services architecture for enterprise users and consumer users. The challenges also co-exist in terms of developing a unified application development environment for Cloud Computing as well as creating a scalable, reusable, and configurable provisioning platform for Cloud Computing.

The key focus of this panel is to discuss and debate

- What's Cloud Computing? Can we leverage Grid Computing to enable it?
- How to leverage SOA to build a scalable Cloud Computing infrastructure?
- How to build killer applications in Cloud Computing environment?
- Lessons learnt on how to bring the power of SOA and Cloud Computing together
- What is the right strategy and execution practice to create Services Computing Curriculum to get more skilled people ready for Business Cloud?

About the Speaker:

Moderator

Liang-Jie Zhang (LJ) is a Research Staff Member and Program Manager of Application Architectures and Realization at IBM T.J. Watson Research Center. Dr. Zhang is the founding chair of IBM Research's Services Computing Professional Interest Community and has been leading an IBM Service-Oriented Architecture (SOA) tooling and architecture research projects since 2001. He has

been co-leading IBM's SOA Solution Stack (aka SOA Reference Architecture: Solution View) project since 2004. His new book *Services Computing* has been published by Springer. He has received 2 IBM Outstanding Technical Achievement Awards, 9 IBM Creative Contribution Awards, an Outstanding Achievement Award by the World Academy of Sciences, and an Innovation Leadership Award from Chinese Institute of Electronics. Dr. Zhang has 36 granted patents and 20 pending patent applications. As the lead inventor, he holds federated Web services discovery and dynamic services composition patents. He is the chair of IEEE Computer Society Technical Committee on Services Computing. He has been appointed as the founding Editor-in-Chief of IEEE Transactions on Services Computing.

Panelists

Carl K. Chang was 2004 IEEE Computer Society President. Upon completing his presidency for the Computer Society, he was appointed to be the 2005 Chair of the IEEE Meetings and Services Committee reporting to the IEEE Board of Directors. Previously he served as the Editor-in-Chief for IEEE Software (1991-94). Chang is Professor and Chair of the Department of Computer Science at Iowa State University. He received a PhD in computer science from Northwestern University.

Ephraim Feig is a Senior Director at Motorola. Prior to his joining Motorola, he was Chief Technology Officer and Chief Marketing Officer of Kintera, Inc. from 2000 until 2006 and a researcher and R&D manager at IBM from 1980 until 2000. He was elected IEEE Fellow for contributions to signal processing, holds 27 US patents, and has published more than 100 technical articles. Dr. Feig has served as an adjunct professor at several universities, including Columbia University, The City College of New York and New York Polytechnic Institute. He is a founding member of the IEEE Computer Society Technical Committee on Services Computing and this year's Program Chair of IEEE SCC. He serves on advisory boards at CUNY, UCSD and USD, and is on the board of directors of the San Diego Symphony Orchestra.

SERVICES & SCC 2008 KEYNOTES

Cloud Computing

Mahmoud Naghshineh
Director Service Delivery
IBM Research
IEEE Fellow

About the Speaker:

Cloud computing is viewed as a game-changing paradigm for enterprise and internet environments and has created palatable excitement among industry and academic leaders. It offers great opportunities for innovative web-delivered services beyond the traditional computing and internet models and is at the intersection of major new trends such as large scale mega datacenters, new programming models, social and collaborative networking, and innovative IT service delivery paradigms. In this talk, we will describe key cloud computing trends and innovation opportunities that it promises to create in traditional IT environments and the potential it offers to fuel the explosive growth in social networking, mobile internet, and open collaboration platforms.

Panel Sessions

Web Services for Group Decision and Negotiation Support

Tung Bui

Tutorial Session 1
From Mathematical Model to Systematic SOA Solution Design Tool

Nianjun Zhou
IBM T.J. Watson Research Center

Liang-Jie Zhang
IBM T.J. Watson Research Center

Abstract:

Service-Oriented Architecture (SOA) is an architectural style for solution architects to create and manage new value added solutions by leveraging various solution artifacts such as business processes, services, packaged applications, and manageable attributes throughout their lifecycle. In this tutorial, we present our initial findings of mathematical modeling of a selected SOA solution architecture. It includes the steps required from a mathematical model to a real implementation of SOA solution tool using XML annotation, XML transformation, UML models and artifact generation with context-aware enabling utilities. We will start from the introduction of SOA concept, solution architecture, and practices in the field. Then we will present a mathematical abstraction of description of an SOA solution model using graph theory and define concepts to capture the relationships, constrains and notations of an SOA solution's building blocks. In addition, XML is introduced and leveraged to convert this mathematical abstraction into materialized description of an SOA solution model which is independent from the product-specific tooling environment. As an example, we will introduce an SOA modeling tool using UML and context-aware software plug-in on top of IBM's Rational Software Architect (RSA) to illustrate the seamless connection between the mathematical model and a reusable software system.

About the speakers

Dr. **Nianjun Zhou** has been working in IBM since 1997. Now, he is the research staff member of IBM Watson research lab in the area of services computing. Before joining research, he led the efforts of grid computing including server grid and client grid in IBM CIO. Before joining IBM, he has been a research scientist of New York State Department of Environmental Conservation. Dr. Zhou received his Ph.D from Rensselaer Polytechnic Institute (RPI) in Electrical Engineering focus on Ad Hoc/Sensor network routing overhead for variable topology network. His interesting is using computer methodologies and technologies to innovate new ideas, develop new infrastructure and applications which enhance the computing resources utilities, efficiency of knowledge and information management.

Dr. **Liang-Jie Zhang** is a Research Staff Member (RSM) in Services Technologies Department at IBM T.J. Watson Research Center. He is the worldwide lead of an IBM's SOA solution design and modeling tool. He has been co-leading the IBM-wide SOA Solution Stack project since 2004. Dr. Zhang is one of the leading research pioneers of Service-Oriented Architecture (SOA) and Web Services. Dr. Zhang was the lead inventor and architect of Business Explorer for Web Services (BE4WS), WSIL Explorer, and Web Services Outsourcing Manager (WSOM), all released by IBM alphaWorks. In 2001, he led a worldwide team to create the first comprehensive Web services-based Managed E-Hub to enable services provisioning and business on-boarding for supporting business process on demand. He is the founding Editor in Chief of IEEE Transactions on Services Computing.

Tutorial Session 2
Identity Management for Services

Elisa Bertino
Purdue University

Kenji Takahashi
NTT, Japan

Abstract:

This tutorial will explore critical issues concerning identity management for the emerging service oriented society. Identity management must be incorporated as an integral part of service infrastructures to make identity available to services across organizations in a secure and privacy protected manner. Identity data is crucial for successfully providing personalized experiences for legitimate users of services. It is important that the users have strong control over their identity data to foster a socially responsible service industry. The goal of this tutorial is to give participants a detailed understanding of the prospects for, and issues arising from, identity management in the emerging service oriented industry. In this tutorial, we will first introduce basic notions concerning identity, identity lifecycle and federated digital identity management. We will then give an overview of identity management for services and illustrate best practices and lessons learned in real settings using case studies. We will discuss fundamental methods of identity management (e.g., authentication and authorization techniques), examine enabling technology (e.g., technical standards) and initiatives (Liberty Alliance, Shibboleth, CardSpace), explore the key challenges and research trends (e.g., security and performance).

About the speakers

Elisa Bertino is Professor at Purdue University and Research Director of CERIAS. Her current research interests include digital identity management, computer security, privacy, service oriented architectures, healthcare applications. She has given invited talks and tutorials at several conferences, including the IEEE ICWS 2006 where she presented a tutorial on “Security in SOA and Web Services”. She is a Fellow Member of IEEE and ACM.

Kenji Takahashi is a Senior Research Engineer, Supervisor at NTT Information Sharing Platform Laboratories in Tokyo, Japan. He is working on identity management technologies for next generation networks. His research interests are in the interdisciplinary areas of security, identity, and usability. He is also very active in technical standardization, such as Liberty Alliance. Dr. Takahashi has given many talks and tutorials at international conferences, including the following ones related to the proposed topic: - “Application Service Providers: System Development Using Application Services over the Net” at IEEE/ACM ICSE 2000. - “Identity Management” at ACM CCS 2004.

Tutorial Session 3
Services and Processes: Models, Analysis, and Systems

Wil van der Aalst
The Netherlands

Abstract:

Services and processes are closely intertwined and some refer to languages like BPEL as "programming in the large" thus illustrating the role of processes in service computing. The tutorial focuses on the process-aspects of services. BPEL is the de-facto standard for process support in a SOA context. However, processes can be interpreted in a broader way and many things can be learned from experiences in the BPM and workflow area. This tutorial will first provide an overview of the different approaches and languages. Contemporary systems and languages will be linked to foundational concepts and techniques. After this overview the tutorial will focus on the analysis of services. On the one hand it will be shown that process models can be analyzed in various ways (from performance analysis to verification). On the other hand, one can analyze the actual behavior of services through monitoring and process mining. The tutorial will report on many practical experiences with process analysis. It will be demonstrated that spectacular can be achieved using technology that is available today. For example, it is possible to verify large collections of models and detect errors. Moreover, by using event logs or tapping of messages processes can be constructed automatically and used for performance analysis, social network analysis, etc. Moreover, the same data and tools can be used to check conformance, e.g., is a service behaving as it should? At TU/e there is a lot of experience in the area of BPM, WFM, SOA, and process analysis. TU/e has probably the largest research group on BPM in the world with more than 50 researchers working on topics mentioned above.

About the speaker

Prof. **dr.ir. Wil van der Aalst** is a full professor of Information Systems at the Technische Universiteit Eindhoven (TU/e) having a position in both the Department of Mathematics and Computer Science and the Department of Technology Management. Currently he is also an adjunct professor at Queensland University of Technology (QUT) working within the BPM group there. His research interests include workflow management, process mining, Petri nets, business process management, process modeling, and process analysis. Wil van der Aalst has published more than one hundred journal papers, fifteen books (as author or editor), and more than two hundred conference/workshop publications. Many of his papers are highly cited (his H-number is 49 according to Google Scholar) and his ideas have influenced researchers, software developers, and standardization committees working on process support. He has been a co-chair of many conferences including the Business Process Management conference, the International Conference on Cooperative Information Systems, the International conference on the Application and Theory of Petri Nets, and the IEEE International Conference on Services Computing. He is also editor/member of the editorial board of several journals, including the Business Process Management Journal, the International Journal of Business Process Integration and Management, the International Journal on Enterprise Modelling and Information Systems Architectures, Computers in Industry, IEEE Transactions on Services Computing, Lecture Notes in Business Information Processing, and Transactions on Petri Nets and Other Models of Concurrency. For more information about his work visit: www.workflowpatterns.com, www.workflowcourse.com, www.processmining.org, www.yawl-system.com, www.wvdaalst.com.

Tutorial Session 4

Software as a Service (SaaS): Security Strategy, Risk Management, Static Analysis and Assessment Tool

Patrick C. K. Hung

University of Ontario Institute of Technology
(UOIT), Canada

Wendy Hui

College of Information Technology, Zayed
University, Abu Dhabi, U.A.E

Abstract:

Software as a Service (SaaS) is an emerging software design, implementation and delivery model. The main property of SaaS is that the software requesters do not own the software itself but rather use it through an Application Programming Interface (API) accessible over the Web. The software providers own the software and SaaS is generally priced on a per-user basis, sometimes with a minimum number of users. As security has become an essential component for all software, several security solutions for XML data have been proposed. In addition to security issues, survivability requires SaaS in a service overlay network to be able to fulfill their missions in a timely manner, even in the presence of attacks, threats, or failures due to unreliable communication channels. Because of the severe consequences of failure, software requesters are focusing on SaaS survivability as a key risk management strategy for businesses.

Technically this tutorial will review the topics of XML and a portfolio of related standards in response to the growing need for a platform independent language for supporting SaaS design, implementation and delivery. This tutorial aims to present and discuss various security issues of SaaS. This tutorial will cover the fundamental concepts of security strategy and risk management from the managerial perspectives of SaaS. This tutorial will discuss security risks and related security issues in SaaS. Strategy and policy topics on how to find the right balance between security and usability will be addressed as well as the management of maintaining a secure SaaS infrastructure. This tutorial will also address the common practices and related tools/procedures for addressing those security risks such as static analysis and assessment tool. A research prototype of security assessment tool by MilesScan will also be presented and demonstrated in the tutorial.

About the speakers

Dr. Patrick Hung is an Assistant Professor at the Faculty of Business and Information Technology in UOIT and an Adjunct Assistant Professor at the Department of Electrical and Computer Engineering in University of Waterloo. He is an executive committee member of the IEEE Computer Society's Technical Steering Committee for Services Computing, a steering member of EDOC "Enterprise Computing," and an associate editor/editorial board member/guest editor in several international journals such as the IEEE Transactions on Services Computing, International Journal of Web Services Research (JWSR) and International journal of Business Process and Integration Management (IJBPM).

Dr. Wendy Hui holds a Ph.D. in Information Systems from the Hong Kong University of Science and Technology (HKUST). She is currently an Assistant Professor at Zayed University, Abu Dhabi, U.A.E. Her research interests include Economics of Information Systems, Information Security, and Technology-Assisted Learning. Her work has been accepted at Journal of Management Information Systems (JMIS), Decision Support Systems (DSS), IEEE Transactions on Systems, Man and Cybernetics, Part A (IEEE SMCA), and Communication of the AIS (CAIS).

Industry Research Partner: Mr. Steven Siu, Director, MilesScan Technologies, Hong Kong

Tutorial Session 5

Business Entities: Modeling Process and Information

Frederick Wu
IBM T.J. Watson
Research Center, US

Santhosh Kumaran
IBM T.J. Watson
Research Center, US

Rong Liu
IBM T.J. Watson
Research Center, US

Abstract:

In this tutorial, we present a business process and information modeling approach based on our research results and engagement experiences over the past five years. A business process model describes actions taken by business (human or system) actors to achieve a strategic or operational goal. Traditionally, most of the work in this area, like workflow modeling, is activity-centric and focuses on prescribing activities and their sequences, for example, by stating "first we do A, then B, then C, and while doing C we also do D." This approach has a number of drawbacks, particularly when the goal is to consolidate business processes across organizations, generate IT solutions that are in close alignment with business goals, and achieve desirable features like scalability, flexibility and modularity as business processes become complex and large. In response to these challenges, we developed a new modeling paradigm that models process activities in the context of information entities. Although a business process may involve a large number of information entities, very often we observe that only a small number of them (for example, the claim in an insurance claim process) are key drivers of the flow of activities in the process. The business process itself is the path of these "business entities" through their lifecycles, from their initial states to their final states. Therefore, a complex process can be viewed as the intersecting life cycles of such entities. In this tutorial, we will first introduce the concept of business entities and a method for discovering business entities from existing activity-centric process models. Second, we will describe the modeling of business entity lifecycles as formal state machines and representing business processes as interacting state machines. A formal technique for verifying such process models will be also introduced. Third, we will demonstrate that SOA-based IT solutions can be automatically generated from such business entity models. Moreover, as this new paradigm has been successfully tested through customer engagements, in this tutorial, we will select a couple of case studies to show how it was applied to solve real customer problems. Finally, we will compare this new approach with traditional process modeling approaches and show the advantages of this approach in achieving process scalability, flexibility and modularity.

About the speakers

Dr. **Frederick Wu** leads a team of researchers in the area of model-driven enterprise solutions at IBM Thomas J. Watson Research Center. He has worked in the area of electronic commerce and business integration for the past nine years. He holds S.B., S.M., and Ph.D. degrees from the Massachusetts Institute of Technology.

Dr. **Santhosh Kumaran** leads a team of researchers in the area of model-driven business integration at IBM Thomas J. Watson Research Center. His research interest is in using formal models to explicitly define the structure and behavior of an enterprise and employing these models to integrate, monitor, analyze, and improve its performance.

Dr. **Rong Liu** is a researcher at IBM Thomas J. Watson Research Center. Her research interest includes entity centric business modeling, process modeling and verification, workflow systems, Petri net technologies and supply chain management.

Tutorial Session 6

Enterprise Service Architectures

Aditya K. Ghose
Decision Systems Laboratory, School of

George Koliadis
Decision Systems Laboratory, School of

Computer Science and Software
Engineering, University of Wollongong,
NSW 2522 Australia.

Computer Science and Software
Engineering, University of Wollongong,
NSW 2522 Australia.

Abstract:

An executive service architecture helps provide a high-level blueprint of the complexity underlying an enterprise, which can be used by senior management, as well as technical, IT and operational personnel in key decision and change processes. With the growing popularity of the SOA paradigm, and the increasing emphasis on the application of business process management principles, it is becoming increasingly important for organizations to understand their service architectures by answering questions such as what services the enterprise supports, which enterprise actors/units offer these services, which services support cross-enterprise value chains, which processes rely on these services, which processes implement these services, which of these are critical to realizing enterprise goals, which services are redundant etc. This tutorial presents the current state-of-the-art in enterprise service architectures and explores a set of novel approaches to the problem. The tutorial will begin by exploring a competence theory for enterprise service architectures, by discussing the key questions that such enterprise service architectures must help answer. An initial competence theory will be presented based on the existing literature. Attendees will be encouraged to identify and discuss gaps, if any, in the competency theory presented. A wide repertoire of frameworks that can serve as the basis for enterprise service architectures will then be reviewed. These include Porter's Value Chain model (subsequently implemented in VCOR and extended to the Value Network model), Kaplan and Norton's Strategy Maps, the Business Motivation Model (BMM), the ARIS House of Business Engineering (HOBE) architecture, the Business Process Architecture Framework (BPAF) and Role-Activity Diagrams. More research-oriented frameworks such as i*, e3 Value, the Semantic Object Model (SOM) and the Toronto Virtual Enterprise Ontology (TOVE) will also be examined in detail. Each of these (and others) will be evaluated against the competence theory discussed above. Gaps in functionality will be highlighted, and will form the basis for motivating a new set of frameworks for enterprise service architectures that support a variety of techniques for relating service and process portfolios to enterprise models.

About the speakers

Aditya Ghose is a Professor in the School of Computer Science and Software Engineering at the University of Wollongong, and Director of that university's Decision Systems Lab. His research has been published in the top venues in service-oriented computing (SCC and ICSOC), software modelling (ER), software evolution (IWSSD, IWPSE) and AI (AAAI, AAMAS and ECAI). He has an invited speaker at the Schloss Dagstuhl Seminar Series in Germany and the Ban International Research Station in Canada. He has also been a keynote speaker at several conferences, and program/general chair of several others. He is a senior technical advisor to several companies both in Australia and Canada.

George Koliadis holds a BSc Honours from the University of Wollongong, and is currently in his PhD candidature at this institution. He has previously worked on large-scale software engineering projects for the Australian Taxation Office, and as a researcher for a collaborative research centre in Sydney, Australia. His research and applied interests include Business Process Management, Conceptual Modeling, and Requirements Engineering.

2008 IEEE International Conference on Services Computing

SCC 2008

Regular Research Papers

Research Session 1 – Access Control

Verification of Access Control Requirements in Web Services Choreography

Federica Paci, Mourad Ouzzani, and Massimo Mecella

Pattern-based Policy Configuration for SOA Applications

Fumiko Satoh, Nirmal K. Mukhi, Yuichi Nakamura, and Shinichi Hirose

Monitoring Dependencies for SLAs: The MoDe4SLA Approach

Lianne Bodenstaff, Andreas Wombacher, Manfred Reichert, and Michael C. Jaeger

Research Session 2 – Access Control

Towards Effective Project Management across Multiple Projects with Distributed Performing Centers

Rohit M. Lotlikar, Ramana Polavarapu, Sadhika Sharma, and Biplav Srivastava

Optimizing Change Request Scheduling in IT Service Management

Leila Zia, Yixin Diao, Daniela Rosu, Chris Ward, and Kamal Bhattacharya

Predictive Admission Control Algorithm for Advanced Reservation in Equipment Grid

Jie Yin, Yuexuan Wang, Meizhi Hu, and Cheng Wu

Research Session 3 – Access Control

End-to-End Versioning Support for Web Services

Philipp Leitner, Anton Michlmayr, Florian Rosenberg, and Schahram Dustdar

Representing and Accessing Design Knowledge for Service Integration

Karthikeyan Umapathy and Sandeep Purao

Incomplete Preference-driven Web Service Selection

Hongbing Wang, Junjie Xu, and Peicheng Li

Research Session 4 - Business

Zazen: A Mediating SOA Between Ajax Applications and Enterprise Data

Avraham Leff and James Rayfield

To Establish Enterprise Service Model from Enterprise Business Model

P. Jamshidi, M. Sharifi, and S. Mansour

SCOOP: Automated Social Recommendation in Enterprise Process Management

Huiming Qu, Jimeng Sun, and Hani Jamjoom

Research Session 5 – Case Study

Auction Based Models for Ticket Allocation Problem in IT Service Delivery Industry

Prasad M Deshpande, Dinesh Garg, and N Rama Suri

Experimental Robustness Evaluation of JMS Middleware

Marco Vieira, Henrique Madeira, and Nuno Laranjeiro

Locating Components Realizing Services in Existing Systems

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A Conflict Neighbouring Negotiation Algorithm for Resource Services in Dynamic Collaborations

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SDMA: A Service-Based Architecture of Data Mining Application

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An Interdisciplinary Methodology for Building Service-oriented Systems on the Web

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SOAMS: A Novel SOA-based System and Network Management Model and Scheme

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Extended BPEL System for e-Engineering Framework by Considering the Characteristics of Mechanical Engineering Service

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WSLA+: Web Service Level Agreement Language for Collaborations

Surya Nepal, John Zic, and Shiping Chen

A Methodology for Model-Driven Web Application Composition

Dimitrios A. Kateros, Georgia M. Kapitsaki, Nikolaos D. Tselikas, and Iakovos S. Venieris

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Towards a General Framework for Web Service Composition

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A Fuzzy-set based Semantic Similarity Matching Algorithm for Web Service
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A Framework for QoS Driven Selection of Services
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