

# Special Issue on Modeling and Implementation of Service-Oriented Enterprise Systems

*IEEE Transactions on Services Computing (TSC)*

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## Call for Papers

With the advancement of Services Computing technologies, most corporate and other institutions have been implementing service-oriented architectures and Web services, resulting in service-oriented transformation of enterprise information systems. This has led to a major shift in the way enterprise systems are developed and managed.

For instance, major software development tools such as JDeveloper from Oracle, Visual Studio from Microsoft, and Eclipse from IBM have added new features to support planning, analysis, design, and implementation of service-oriented systems. However, the recent progress and efforts in industrial research and development have not been matched in intensity by academic research in modeling and management of service-oriented enterprise systems. As such, this special issue is to advocate more concerted efforts from the academia and industrial researchers.

The movement towards Services Computing adoption for modernizing enterprise has appeared in a number of forms such as service-oriented architectures, software as a service, platform as a service, Web services, data center outsourcing, virtualization, and cloud computing, all of which should have a significant impact on research and education in enterprise systems. These new technologies and new business practices require new methods of modeling since the basic artifacts of system development are services and their relationships as opposed to objects in object-oriented programming and components in component-based software development. Furthermore, the realization of service-orientation in enterprise systems often starts with business processes that in turn help identify repeatable tasks that will use services. The implementation of services requires the development of new applications or integration with existing applications.

The special issue welcomes original and cutting-edge theoretical and applied research that makes innovative contributions to the following general issues:

- (1) Rendering next-generation modeling methodologies, frameworks and processes useful for the development of service-oriented enterprise systems,
- (2) Investigating effective principles and techniques for developing enterprise services in real-world institutions,
- (3) Developing real world tools and systems that balance technical significance and business concerns in business processes and enterprise systems, and
- (4) Discussing trends and directions of next-generation enterprise system theories and applications.

## Topics:

Original contributions, not currently under review or accepted by another journal, are solicited in relevant areas of Modeling and Implementation of Service-Oriented Systems including (but not limited to) the following:

- Mathematical foundations of enterprise modeling that includes business process modeling, integration and management

- Formal analysis and design of service-oriented systems
- Modeling of hybrid human- and software-based service systems
- Modeling & design of integrated human and computational services
- Federations and integration of service systems
- Formal models of negotiation and orchestration of service level agreements
- Model-driven architecture, development, and compliance issues in services computing
- Metrics and performance analysis of services systems
- Modeling and development of interorganizational services systems
- Modeling and design of event-driven and real-time service systems
- Modeling and implementation of service-based utility, virtualization, and/or cloud computing
- Case studies of service-based systems in large-scale enterprises

### **Submission**

Prospective authors should prepare manuscripts according to the *Information for Authors* found at [www.computer.org/tsc](http://www.computer.org/tsc), where more information about this special issue will be available soon.

### **Schedule**

Deadline for paper submission: 30-Apr-09

Completion of first review: 31-Jul-09

Revision due: 30-Oct-09

Final decision notification: 30-Dec-09

Publication materials due: 31-Jan-10

### **Guest Editors**

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## Short Biography of Guest Editors

Dr. J. Leon Zhao is Eller Professor of MIS, Eller College of Management, University of Arizona and also holds a joint appointment in the Department of Computer Science, University of Arizona. He taught previously at HKUST and College of William and Mary, respectively. He holds a Ph.D. and M.S. from Haas School of Business, UC Berkeley, M.S. from UC Davis, and B.S. from Beijing Institute of Agricultural Mechanization. He has published about 150 research articles in journals, books, and conferences. He received an IBM Faculty Award in 2005 for his work in business process management and services computing. Leon has been associate editor of Information Systems Research, IEEE Transactions on Services Computing, Decision Support Systems, and Journal of Web Services Research, among others. He has co-edited nine special issues in various IS journals and chaired numerous conferences including the IEEE Conference on Services Computing (2006), and the First China Summer Workshop on Information Management (2007), and the IEEE Symposium on Advanced Management of Information for Globalized Enterprises (2008).

Dr. Alan R. Hevner is an Eminent Scholar and Professor in the Information Systems and Decision Sciences Department in the College of Business at the University of South Florida. He holds the Citigroup/Hidden River Chair of Distributed Technology. Dr. Hevner's areas of research interest include information systems development, software engineering, distributed database systems, service systems and technologies, and healthcare information systems. He has published over 150 research papers on these topics and has consulted for a number of Fortune 500 companies. Dr. Hevner received a Ph.D. in Computer Science from Purdue University. He has held faculty positions at the University of Maryland and the University of Minnesota. Dr. Hevner is a member of ACM, IEEE, AIS, and INFORMS.

Dr. Dongsong Zhang is an Associate Professor in the Department of Information Systems at the University of Maryland, Baltimore County. He received a Ph.D. in Management Information Systems from the University of Arizona. His current research interests include computer-mediated collaboration and communication, knowledge management, context-aware mobile computing, information personalization, and service science. His work has been published or will appear in journals such as *Communications of the ACM*, *Journal of Management Information Systems*, *IEEE Transactions on Knowledge and Data Engineering*, *IEEE Transactions on Software Engineering*, *IEEE Transactions on Multimedia*, *IEEE Transactions on Systems, Man, and Cybernetics*, *IEEE Transactions on Professional Communication*, among others. Dr. Zhang has received research grants and awards from NIH, Google Inc., and Chinese Academy of Sciences.