

Call for Papers

IEEE Transactions on Services Computing (TSC)

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

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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, 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

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