Welcome to the first issue of the IEEE Transactions on Services Computing in 2010. In this issue, I am pleased to publish six research papers, which include two regular submissions and four papers from a Special Section on Transactional Web Services. In this editorial preface, I would like to introduce these papers in the context of the body of knowledge areas of services computing. The theme of this issue is Context-Aware Application Integration and Transactional Behaviors.

Application integration faces challenges of creating a context-aware way to support the integration of all different kinds of legacy applications, packaged applications, and custom applications. In the Web application scenario, the server-side application components and server-side components need to be integrated in a seamless manner in order to satisfy business requirements. In the body of knowledge areas of Service Mash-up (M.11.3.b) and Integration of Activity Modeling (M.7.2.b), the first paper is entitled “Semantic-Based Mashup of Composite Applications” by Anne H.H. Ngu, Michael P. Carlson, Quan Z. Sheng, and Hye-young Paik. The authors present a way to enable progressive composition of non-Web-service-based components such as portlets, Web applications, native widgets, legacy systems, and Java Beans. Then, they introduce a novel application of semantic annotation with a matching algorithm to find functionally equivalent components.

Identifying the right services in a specific context is another challenge in the area of application integration. In the body of knowledge areas of Context-Aware QoS Model (M.12.1.a) and Services Discovery (M.3.3), the second paper, “Computing Service Skyline from Uncertain QoWS” by Qi Yu and Athman Bouguettaya, presents a way to identify the right service providers to satisfy service consumers’ requirements. The authors present a concept called p-dominant service skyline and a corresponding algorithm to compute service skyline from Web services of uncertain quality with an analytical study and extensive experiments.

The following four papers are part of the Special Section on Transactional Web Services. They are related to the body of knowledge areas of Web Services (M.3) in the context of the TSC Taxonomy.

- “Event-Based Design and Runtime Verification of Composite Service Transactional Behavior” by Walid Gaaloul, Sami Bhiri, and Mohsen Rouached.
- “FACTS: A Framework for Fault Tolerant Composition of Transactional Web Services” by An Liu, Qing Li, Liusheng Huang, and Mingjun Xiao.
- “Rule-Based Coordination of Distributed Web Service Transactions” by Michael von Riegen, Martin Husemann, Stefan Fink, and Norbert Ritter.
- “TQoS: Transactional and QoS-Aware Selection Algorithm for Automatic Web Service Composition” by Joyce El Haddad, Maude Manouvrier, and Marta Rukoz.

This special section was edited by guest editors Youakim Badr (INSA-Lyon, France), Djamal Benslimane (Université Lyon 1, France), Zakaria Maamar (Zayed University, U.A.E.), and Ling Liu (Georgia Institute of Technology, USA). I would like to take this opportunity to send my special thanks to them. I also want to thank the reviewers of this special section for their great contributions to the valuable review comments given in the comprehensive review process.

I hope you enjoy all six of the papers presented in this issue of TSC. I look forward to your contributions as contributing authors and reviewers for future TSC papers.

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Editor-in-Chief