

EDITORIAL PREFACE

Services Quality, Testing and Discovery

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This issue of the *International Journal of Web Services Research (IJWSR)* collects four papers related to services quality, testing and selection.

The first paper is titled “Using XML-Based Multicasting to Improve Web Service Scalability”. Tekli, Damiani, and Chbeir tackle the performance challenge of SOAP by proposing an approach of Differential SOAP Multicasting (DSM). Based on the concept of Tree Edit Distance, they develop a *filter-differencing* approach to reduce message aggregation time, by identifying the common patterns and differences between SOAP messages. Simulation experiments are reported.

The second paper is titled “A Collaborative QoS-Aware Service Evaluation Method Among Multi-Users for a Shared Service”. Dou, Zhang, and Chen propose AHP (Analytic Hierarchy Process), a multi-criteria decision-making method, to transform qualitative personal preferences and user priorities into numeric weights. They also present a QoS-aware service evaluation method serving for a co-selection process over a shared service.

The third paper is titled “A Metamorphic Relation-Based Approach to Testing Web

Services without Oracles”. Sun, Wang, Mu, Liu, Wang, and Chen tackle the challenge of Web services testing, by proposing a metamorphic relation-based approach without oracles. Derived from the inherent properties of Web services under test, the proposed approach leverages metamorphic relations to generate test cases and evaluate test results. Case studies are presented.

The fourth paper is titled “Effective Service Composition in Large Scale Service Market: An Empirical Evidence Enhanced Approach”. Wang, Wang, and Xu present a semi-empirical services composition approach that extracts empirical evidence from historical experiences to provide guidance to service selection. Service communities and historical requirements are organized into clusters based on similarity measurement, and probabilistic correspondences between the two types of clusters are calculated through statistical analysis. Empirical experiments are presented.

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Liang-Jie (LJ) Zhang is senior vice president, chief Scientist, & director of research at Kingdee International Software Group Company Limited, and director of The Open Group. Prior to joining Kingdee, he was a research staff member at IBM Thomas J. Watson Research Center. Dr. Zhang has published more than 140 technical papers in journals, book chapters, and conference proceedings. He has 40 granted patents and more than 20 pending patent applications. Dr. Zhang received his PhD on Pattern Recognition and Intelligent Control from Tsinghua University in 1996. He chaired the IEEE Computer Society's Technical Committee on Services Computing since 2003. He also chaired the Services Computing Professional Interest Community at IBM Research from 2004 to 2006. He was the lead IBM researcher on Service-Oriented Architecture (SOA) solutions, web services, and interactive media systems. Dr. Zhang has served as the Editor-in-Chief of the International Journal of Web Services Research since 2003 and is the founding Editor-in-Chief of IEEE Transactions on Services Computing. He was elected as a Fellow of the IEEE in 2011, and in the same year won the IEEE Technical Achievement Award "for pioneering contributions to Application Design Techniques in Services Computing". Dr. Zhang also chaired the 2010 IEEE 3rd International Conference on Cloud Computing (CLOUD 2010) and its sister conferences.