

## GUEST EDITORIAL PREFACE

# Special Issue on Services Discovery and Verification

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This issue of the International Journal of Web Services research (IJWSR) collects four papers related to services discovery and verification.

The first paper is titled *Optimizing Complex Service-based Workflows for Stochastic QoS Parameters*. Schuller, Lampe, Eckert, and Schulte address the challenge of selecting services based on QoS constraints from candidate services with similar functionality. Specially, they focus on QoS parameters following a stochastic distribution. They model the Service Selection Problem for structured and unstructured workflows in conjunction with stochastic QoS parameters, and reduce the impact of stochastic QoS behavior on total cost.

The second paper is titled *Service Oriented Solution Modeling and Variation Propagation Analysis based on Architectural Building Blocks*. Zhang and Zhang tackle the challenge of lacking a systematic engineering process and tool supported by reusable architectural artifacts. They present a method of architectural building blocks (ABB)-based SOA solution design, enabling event-based variation notification and propagation analysis. A UML-extended

prototype tool was reported to enable solution-level enforcement.

The third paper is titled *A Bounded Model Checking Approach for the Verification of Web Services Composition*. Zahoor, Munir, Perrin, and Godart tackle the issue of formal verification of declarative Web services composition processes. Leveraging Event Calculus (EC) as the modeling formalism, they present a bounded model-checking based approach using satisfiability solving (SAT). Performance study is also reported.

The fourth paper is titled *Mashup Service Recommendation based on Usage History and Service Network*. Cao, Liu, Tang, Zheng, and Wang tackle the issue of service discovery. They present a method to recommend mashup services to users based on their interests extracted from their usage history and service network. A mashup service recommendation prototype system is reported.

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*Min Luo has over 20+ years of successful professional career, including over 14 years of Head and Chief Architect at Huawei,, Executive Architect and Chief Architect at IBM Software Group and Global Services, and two of the Fortune 500 transportation companies Conrail and Norfolk Southern. He is an established expert in the field of next negation software defined networking (SDN), enterprise architecture and information systems, whole life cycle software application and product development, business intelligence, and business process optimization. He is also a pioneer and one of the recognized leading experts and educators in Service-oriented architecture (SOA), Model/business-driven architecture and development (MDA-D), and component/object-oriented technologies. Dr. Min Luo is also a well known figure in the professional society and industry, while he is a distinguished member in numerous technical program committees, servers on panels, and delivers invited talks on topics of SOA, ESB, Software, Cloud Computing, Enterprise Architecture and their best practices, etc. Dr. Luo received his Ph.D. in Electrical and Computer Engineering from Georgia Institute of Technology in 1992.*