Table of Contents

Research Papers - Long

business Process Modeling	
Computing Degree of Parallelism for BPMN Processes Yutian Sun and Jianwen Su	1
State Propagation in Abstracted Business Processes	16
Push-Enabling RESTful Business Processes	32
Quality of Service 1	
QoS Analysis for Web Service Compositions Based on Probabilistic	
QoS	47
Constraint-Based Runtime Prediction of SLA Violations in Service	
Orchestrations	62
Optimizing Decisions in Web Services Orchestrations	77
Formal Methods	
Decidability Results for Choreography Realization	92
Conformance Testing for Asynchronously Communicating Services Kathrin Kaschner	108
Programming Services with Correlation Sets Fabrizio Montesi and Marco Carbone	125
Verification of Deployed Artifact Systems via Data Abstraction Francesco Belardinelli, Alessio Lomuscio, and Fabio Patrizi	142



XaaS Computing

Cloud in the Cloud	157
ivina Kaviani, Eric Wonstaater, and Rouger Lea	
VM Placement in non-Homogeneous IaaS-Clouds	172
Service Discovery	
Place Semantics into Context: Service Community Discovery from the WSDL Corpus	188
WTCluster: Utilizing Tags for Web Services Clustering	204
Similarity Function Recommender Service Using Incremental User Knowledge Acquisition	219
Revealing Hidden Relations among Web Services Using Business Process Knowledge	235
Service Science and Management	
Towards a Service System Ontology for Service Science Elisah Lemey and Geert Poels	250
Support for the Business Motivation Model in the WS-Policy4MASC Language and MiniZnMASC Middleware	265
WS-Governance: A Policy Language for SOA Governance José Antonio Parejo, Pablo Fernandez, and Antonio Ruiz-Cortés	280
QoS-Based Task Scheduling in Crowdsourcing Environments	297
Service Security and Trust	
Model Driven Security Analysis of IDaaS Protocols	312

Table of Contents	XV
Credibility-Based Trust Management for Services in Cloud Environments	328
Talal H. Noor and Quan Z. Sheng	
Service Monitoring	
Monere: Monitoring of Service Compositions for Failure Diagnosis Bruno Wassermann and Wolfgang Emmerich	344
Multi-layered Monitoring and Adaptation	359
Service Composition	
Efficient, Interactive Recommendation of Mashup Composition Knowledge	374
A Semantic and Information Retrieval Based Approach to Service Contract Selection	389
Modeling and Managing Variability in Process-Based Service Compositions	404
Quality of Service 2	
QoS-Driven Proactive Adaptation of Service Composition	421
A Quality Aggregation Model for Service-Oriented Software Product Lines Based on Variability and Composition Patterns Bardia Mohabbati, Dragan Gašević, Marek Hatala, Mohsen Asadi, Ebrahim Bagheri, and Marko Bošković	436
Optimization of Complex QoS-Aware Service Compositions Dieter Schuller, Artem Polyvyanyy, Luciano García-Bañuelos, and Stefan Schulte	452

Research Papers – Short

Business Process Modeling	
Goal-Driven Business Process Derivation	467
Defining and Analysing Resource Assignments in Business Processes with RAL	477
Cristina Cabanillas, Manuel Resinas, and Antonio Ruiz-Cortés	-, -
Stochastic Optimization for Adaptive Labor Staffing in Service	487
Systems	401
Declarative Enhancement Framework for Business Processes	495
XaaS Computing	
RSCMap: Resiliency Planning in Storage Clouds	505
Dynamically Selecting Composition Algorithms for Economical Composition as a Service	513
A Service Model for Development and Test Clouds	523
Quality of Service	
Time Based QoS Modeling and Prediction for Web Services Leilei Chen, Jian Yang, and Liang Zhang	532
CANPRO: A Conflict-Aware Protocol for Negotiation of Cloud Resources and Services	541
Game-Theoretic Analysis of a Web Services Collaborative Mechanism	549
Babak Khosravifar, Jamal Bentahar, Kathleen Clacens, Christophe Goffart, and Philippe Thiran	

Table of Contents	XVII
Importance Sampling of Probabilistic Contracts in Web Services	557
Particle Filtering Based Availability Prediction for Web Services Lina Yao and Quan Z. Sheng	566
A Penalty-Based Approach for QoS Dissatisfaction Using Fuzzy Rules	574
Service Runtime Infrastructures	
Cellular Differentiation-Based Service Adaptation	582
Graceful Interruption of Request-Response Service Interactions	590
Adaptation of Web Service Interactions Using Complex Event Processing Patterns	601
Service Migration and Adoption	
Employing Dynamic Object Offloading as a Design Breakthrough for SOA Adoption	610
A Survey of SOA Migration in Industry	618
Service Composition	
Forms-Based Service Composition	627
Contractually Compliant Service Compositions Enrique Martínez, Gregorio Díaz, and M. Emilia Cambronero	636
Profit Sharing in Service Composition	645

XVIII Table of Contents

Service Applications

A Predictive Business Agility Model for Service Oriented	
Architectures	653
Mamoun Hirzalla, Peter Bahrs, Jane Cleland-Huang,	
Craig S. Miller, and Rob High	
Personal-Hosting RESTful Web Services for Social Network Based	
Recommendation	661
Youliang Zhong, Weiliang Zhao, and Jian Yang	
Work as a Service	669
Daniel V. Oppenheim, Lav R. Varshney, and Yi-Min Chee	
Author Index	679