Table of Contents

Research Papers

Business Process Management

Configuration Rule Mining for Variability Analysis in Configurable Process Models	1
ProcessBase: A Hybrid Process Management Platform	16
A Multi-objective Approach to Business Process Repair	32
Memetic Algorithms for Mining Change Logs in Process	
Choreographies	47
Flexible Batch Configuration in Business Processes Based on Events Luise Pufahl, Nico Herzberg, Andreas Meyer, and Mathias Weske	63
Automatic Generation of Optimized Workflow for Distributed Computations on Large-Scale Matrices	79
Service Composition and Discovery	
A Dynamic Service Composition Model for Adaptive Systems in Mobile Computing Environments	93
Optimal and Automatic Transactional Web Service Composition with Dependency Graph and 0-1 Linear Programming	108
A Framework for Searching Semantic Data and Services with SPARQL Mohamed Lamine Mouhoub, Daniela Grigori, and Maude Manouvrier	123



Conformance for DecSerFlow Constraints	139
Integrating On-policy Reinforcement Learning with Multi-agent Techniques for Adaptive Service Composition Hongbing Wang, Xin Chen, Qin Wu, Qi Yu, Zibin Zheng, and Athman Bouguettaya	154
Service Design, Description and Evolution	
An Agent-Based Service Marketplace for Dynamic and Unreliable Settings	169
Architecture-Centric Design of Complex Message-Based Service	
Systems	184
Managing Expectations: Runtime Negotiation of Information Quality Requirements in Event-Based Systems	199
C2P:Co-operative Caching in Distributed Storage Systems	214
Detection of REST Patterns and Antipatterns: A Heuristics-Based	
Approach	230
How Do Developers React to RESTful API Evolution?	245
Cloud and Business Service Management	
How to Enable Multiple Skill Learning in a SLA Constrained Service System?	260
Sumit Kalra, Shivali Agarwal, and Gargi Dasgupta	200
ADVISE - A Framework for Evaluating Cloud Service Elasticity	
Behavior	275

Table of Contents	XIX
Transforming Service Compositions into Cloud-Friendly Actor Networks	2 91
A Runtime Model Approach for Data Geo-location Checks of Cloud Services	306
Heuristic Approaches for Robust Cloud Monitor Placement	321
Compensation-Based vs. Convergent Deployment Automation for Services Operated in the Cloud	336
Research Papers - Short	
Ensuring Composition Properties	
On Enabling Time-Aware Consistency of Collaborative Cross-Organisational Business Processes	351
Weak Conformance between Process Models and Synchronized Object Life Cycles	359
Failure-Proof Spatio-temporal Composition of Sensor Cloud Services Azadeh Ghari Neiat, Athman Bouguettaya, Timos Sellis, and Hai Dong	368
Quality of Services	
Probabilistic Prediction of the QoS of Service Orchestrations: A Truly Compositional Approach	378
QoS-Aware Complex Event Service Composition and Optimization Using Genetic Algorithms	386
Towards QoS Prediction Based on Composition Structure Analysis and Probabilistic Models	394

Semantic Web Services

Orchestrating SOA Using Requirement Specifications and Domain Ontologies	403
Estimating Functional Reusability of Services Felix Mohr	411
Negative-Connection-Aware Tag-Based Association Mining and Service Recommendation	419
Service Management	
Choreographing Services over Mobile Devices	429
Adaptation of Asynchronously Communicating Software	437
Handling Irreconcilable Mismatches in Web Services Mediation Xiaoqiang Qiao, Quan Z. Sheng, and Wei Chen	445
Cloud Service Management	
Evaluating Cloud Users' Credibility of Providing Subjective Assessment or Objective Assessment for Cloud Services	453
Composition of Cloud Collaborations under Consideration of Non-functional Attributes	462
Bottleneck Detection and Solution Recommendation for Cloud-Based Multi-Tier Application	470
Business Service Management	
Towards Auto-remediation in Services Delivery: Context-Based Classification of Noisy and Unstructured Tickets	478

Table of Contents	XXI
ITIL Metamodel	486
Formal Modeling and Analysis of Home Care Plans	494
Effort Analysis Using Collective Stochastic Model	502
Trust	
A Novel Equitable Trustworthy Mechanism for Service Recommendation in the Evolving Service Ecosystem	510
Semantics-Based Approach for Dynamic Evolution of Trust Negotiation Protocols in Cloud Collaboration	518
Social Context-Aware Trust Prediction in Social Networks	527
Service Design and Description	
Decidability and Complexity of Simulation Preorder for Data-Centric Web Services	535
Market-Optimized Service Specification and Matching	543
Designing Secure Service Workflows in BPEL	551
Industrial Papers	
Runtime Management of Multi-level SLAs for Transport and Logistics Services	560

XXII Table of Contents

Single Source of Truth (SSOT) for Service Oriented Architecture (SOA)	
	590
Author Index	599