Table of Contents

Preface.................................................................................................................................................. xvi

Section 1
Services Composition

Chapter 1
Web Services Compositions Modelling and Choreographies Analysis ................................. 1
Mohsen Rouached, Laboratoire d’InfoRmatique en Image et Systèmes d’information (LIRIS), France
Walid Fdhila, Université Henri Poincaré, France
Claude Godart, Université Henri Poincaré, France

Chapter 2
A Dependable Infrastructure for Cooperative Web Services Coordination .......................... 27
Eduardo Adilio Pelinson Alchieri, Federal University of Santa Catarina, Brazil
Alysson Neves Bessani, University of Lisbon, Portugal
Joni da Silva Fraga, Federal University of Santa Catarina, Brazil

Chapter 3
Protocol-Level Service Composition Mismatches: A Petri Net Siphon Based Solution ........ 50
PengCheng Xiong, Georgia Institute of Technology, USA
Calton Pu, Georgia Institute of Technology, USA
MengChu Zhou, Tongji University, China

Chapter 4
A Federated Approach to Information Management in Grids .............................................. 71
Mehmet S. Aktas, TUBITAK-Marmara Research Center, Turkey
Geoffrey C. Fox, Indiana University, USA
Marlon Pierce, Indiana University, USA
Section 2
Matchmaking and Substitution

Chapter 5
Specifying and Composing Web Services with an Environment Ontology-Based Approach .......... 105
  Puwei Wang, Renmin University of China, China
  Zhi Jin, Peking University and Chinese Academy of Sciences, China
  Lin Liu, Tsinghua University, China
  Budan Wu, Beijing University of Posts and Telecommunications, China

Chapter 6
Managing the Replaceability of Web Services Using Underlying Semantics ......................... 124
  Dunlu Peng, University of Shanghai for Science and Technology, Shanghai, China
  Xiaoling Wang, East China Normal University, Shanghai, China
  Aoying Zhou, East China Normal University, Shanghai, China

Chapter 7
Similarity Measures for Substituting Web Services ................................................................. 143
  Maricela Bravo, Centro de Investigación y de Estudios Avanzados, Mexico
  Matias Alvarado, Centro de Investigación y de Estudios Avanzados, Mexico

Chapter 8
Service Flavors: Differentiating Service Offerings in a Services Marketplace ...................... 171
  Harshavardhan Jegadeesan, SAP Labs, India
  Sundar Balasubramaniam, BITS, India

Section 3
Quality of Services (QoS)

Chapter 9
Flexible Probabilistic QoS Management of Orchestrations......................................................... 195
  Sidney Rosario, INRIA Centre Rennes Bretagne Atlantique, France
  Albert Benveniste, INRIA Centre Rennes Bretagne Atlantique, France
  Claude Jard, ENS Cachan Bretagne, IRISA, Bruz, France

Chapter 10
Optimal Fault Tolerance Strategy Selection for Web Services .................................................. 218
  Zibin Zheng, The Chinese University of Hong Kong, China
  Michael R. Lyu, The Chinese University of Hong Kong, China
Chapter 11
Satisfying End User Constraints in Service Composition by Applying Stochastic Search Methods ................................................................. 238

Freddy Lecue, The University of Manchester, UK
Nikolay Mehandjiev, The University of Manchester, UK

Chapter 12
The MACE Approach for Caching Mashups ......................................................................................................................... 261

Osama Al-Haj Hassan, University of Georgia, USA
Lakshmish Ramaswamy, University of Georgia, USA
John A. Miller, University of Georgia, USA

Section 4
Security and Privacy

Chapter 13
Enhancing Security Modeling for Web Services Using Delegation and Pass-On ................................................. 286

Wei She, University of Texas at Dallas, USA
I-Ling Yen, University of Texas at Dallas, USA
Bhavani Thuraisingham, University of Texas at Dallas, USA

Chapter 14
Behavioral Attestation for Web Services Based Business Processes ............................................................................ 308

Masoom Alam, Institute of Management Sciences, Pakistan
Mohammad Nauman, Institute of Management Sciences, Pakistan
Xinwen Zhang, Samsung Information Systems America, USA
Tamleek Ali, Institute of Management Sciences, Pakistan
Patrick C. K. Hung, University of Ontario Institute of Technology, Canada
Quratulain Alam, Institute of Management Sciences, Pakistan

Chapter 15
Analyzing Communities of Web Services Using Incentives .................................................................................. 330

Babak Khosravifar, Concordia University, Canada
Jamal Bentahar, Concordia University, Canada
Ahmad Moazin, Concordia University, Canada
Philippe Thiran, University of Namur, Belgium

Chapter 16
DiALog: A Distributed Model for Capturing Provenance and Auditing Information ............................... 352

Christoph Ringelstein, University of Koblenz-Landau, Germany
Steffen Staab, University of Koblenz-Landau, Germany
Chapter 17
Selective Service Provenance in the VRESCo Runtime ................................................................. 372

Anton Michlmayr, Vienna University of Technology, Austria
Florian Rosenberg, CSIRO ICT Centre, Australia
Philipp Leitner, Vienna University of Technology, Austria
Schahram Dustdar, Vienna University of Technology, Austria

Compilation of References ................................................................................................................. 395

About the Contributors ...................................................................................................................... 419

Index.................................................................................................................................................. 428