

Contents

Part I Autonomic Computing

General-Purpose Autonomic Computing	3
Radu Calinescu	
Software Architecture-Based Self-Adaptation	31
David Garlan, Bradley Schmerl, and Shang-Wen Cheng	
Mobile Agent Middleware for Autonomic Data Fusion in Wireless Sensor Networks	57
Aristides Mpitzopoulos, Damianos Gavalas, Charalampos Konstantopoulos, and Grammati Pantziou	
Component-Based Autonomic Management for Legacy Software	83
Daniel Hagimont, Patricia Stolf, Laurent Broto, and Noel De Palma	
Dynamic WSDL for Supporting Autonomic Computing	105
Michael Brock and Andrzej Goscinski	
Bio-inspired Cognitive Radio for Dynamic Spectrum Access	131
Giacomo Oliveri, Marina Ottonello, and Carlo S. Regazzoni	
Introducing Autonomous Behaviors into IMS-Based Architectures	155
Mohamed Boucadair	
Embodied Cognition-Based Distributed Spectrum Sensing for Autonomic Wireless Systems	179
Luca Bixio, Andrea F. Cattoni, Carlo S. Regazzoni, and Pramod K. Varshney	
Autonomic Peer-to-Peer Systems: Incentive and Security Issues	205
Yu-Kwong Kwok	

Part II Autonomic Networking

Toward Autonomic Networks: Knowledge Management and Self-Stabilization	239
Raouf Boutaba, Jin Xiao, and Qi Zhang	
Autonomic Networking in Wireless Sensor Networks	261
Mengjie Yu, Hala Mokhtar, and Madjid Merabti	
iNetLab: A Model-Driven Development and Performance Engineering Environment for Autonomic Network Applications	285
Hiroshi Wada, Chonho Lee, Junichi Suzuki, and Tetsuo Otani	
Network Reconfiguration in High-Performance Interconnection Networks	313
R. Casado, A. Bermúdez, A. Robles-Gómez, O. Lysne, T. Skeie, Å.G. Solheim, and T. Sødning	
Autonomic Management of Networked Web Services-Based Processes	333
Farhana H. Zulkernine, Wendy Powley, and Patrick Martin	
Concepts for Self-Protection	355
Tanja Zseby, Heiko Pfeffer, and Stephan Steglich	
Formal Aspects of Self-* in Autonomic Networked Computing Systems . . .	381
Phan Cong-Vinh	
Autonomic Information Diffusion in Intermittently Connected Networks	411
Sara Alouf, Iacopo Carreras, Álvaro Fialho, Daniele Miorandi, and Giovanni Neglia	
Dynamic and Fair Spectrum Access for Autonomous Communications	435
Jianhua He, Jie Xiang, Yan Zhang, and Zuoyin Tang	
Index	455