# Table of Contents

## Part 1. Architectures for Dependability

Enhancing Dependability Through Flexible Adaptation to Changing Requirements ........................................ 3  
*Michel Wermelinger, Georgios Koutsoukos, Hugo Lourenço, Richard Avillez, João Gouveia, Luís Andrade, and José Luiz Fiadeiro*

A Self-optimizing Run-Time Architecture for Configurable Dependability of Services ........................................................ 25  
*Matthias Tichy and Holger Giese*

Achieving Critical System Survivability Through Software Architectures ............ 51  
*John C. Knight and Elisabeth A. Strunk*

Reliability Support for the Model Driven Architecture ................................. 79  
*Genaína Nunes Rodrigues, Graham Roberts, and Wolfgang Emmerich*

Supporting Dependable Distributed Applications Through a Component-Oriented Middleware-Based Group Service ................. 99  
*Katia Saikoski and Geoff Coulson*

## Part 2. Fault Tolerance in Software Architectures

Architecting Distributed Control Applications Based on (Re-)Configurable Middleware ................................. 123  
*Geert Deconinck, Vincenzo De Florio, and Ronnie Belmans*

A Dependable Architecture for COTS-Based Software Systems Using Protective Wrappers ................................. 144  
*Paulo Asterio de C. Guerra, Cecília Mary F. Rubira, Alexander Romanovsky, and Rogério de Lemos*

A Framework for Reconfiguration-Based Fault-Tolerance in Distributed Systems ................................. 167  
*Stefano Porcarelli, Marco Castaldi, Felicita Di Giandomenico, Andrea Bondavalli, and Paola Inverardi*

On Designing Dependable Services with Diverse Off-the-Shelf SQL Servers ............ 191  
*Ilir Gashi, Peter Popov, Vladimir Stankovic, and Lorenzo Strigini*

A Model and a Design Approach to Building QoS Adaptive Systems ................. 215  
*Paul D. Ezhilchelvan and Santosh Kumar Shrivastava*
## Part 3. Dependability Analysis in Software Architectures

Quantifiable Software Architecture for Dependable Systems of Systems  
*Sheldon X. Liang, Joseph F. Puett III, and Luqi*  
241

Dependability Modeling of Self-healing Client-Server Applications  
*Olivia Das and C. Murray Woodside*  
266

Multi-view Software Component Modeling for Dependability  
*Roshanak Roshandel and Nenad Medvidovic*  
286

## Part 4. Industrial Experiences

A Dependable Open Platform for Industrial Robotics – A Case Study  
*Goran Mustapic, Johan Andersson, Christer Norström, and Anders Wall*  
307

Model Driven Architecture – An Industry Perspective  
*Chris Raistrick and Tony Bloomfield*  
330

### Author Index

351
Architecting Dependable Systems II
Lemos, R. de; Gacek, C.; Romanovsky, A. (Eds.)
2004, XII, 350 p., Softcover
ISBN: 978-3-540-23168-4