FOCUS

MICROSERVICES

24 Guest Editors’ Introduction
Microservices: The Journey So Far and Challenges Ahead
Pooyan Jamshidi, Claus Pahl, Nabor C. Mendonça, James Lewis, and Stefan Tilkov

36 Challenges of Domain-Driven Microservice Design: A Model-Driven Perspective
Florian Rademacher, Jonas Sorgalla, and Sabine Sachweh

44 Using Microservices for Legacy Software Modernization
Holger Knoche and Wilhelm Hasselbring

50 From Monolithic to Microservices: An Experience Report from the Banking Domain
Antonio Bucchiarone, Nicola Dragoni, Schahram Dustdar, Stephan T. Larsen, and Manuel Mazzara

56 On the Definition of Microservice Bad Smells
Davide Taibi and Valentina Lenarduzzi

63 Migrating Enterprise Legacy Source Code to Microservices: On Multitenancy, Statefulness, and Data Consistency
Andrei Furda, Colin Fidge, Olaf Zimmermann, Wayne Kelly, and Alistair Barros

FEATURE

73 Mythical Unit Test Coverage
Vard Antinyan, Jesper Derehag, Anna Sandberg, and Miroslaw Staron

MISCELLANEOUS

6 Contact Us

Inside IEEE Computer Society Information
Back Cover
DEPARTMENTS

4 From the Editor
Self-Evolving Software Architectures
Diomidis Spinellis

8 Practitioners’ Digest
Empirical Software Engineering, Predictive Models, and Product Lines
Jeffrey C. Carver, Eduardo Santana de Almeida, Rafael Capilla, Leandro Minku, Marco Torchiano, and Alejandro Valdezate

12 On DevOps
Mining the Ground Truth of Enterprise Toolchains
Mik Kersten

18 Pragmatic Architect
Agility, Risk, and Uncertainty, Part 2: How Risk Impacts Agile Architecture
Michael Waterman

20 Requirements
How Common Is Common Enough in Requirements-Engineering Practice?
Sarah Gregory

80 Reliable Code
Software Components
Gerard J. Holzmann

83 Insights
A Taxonomy of IoT Client Architectures
Antero Taivalsaari and Tommi Mikkonen

89 Impact
WordPress: A Content Management System to Democratize Publishing
Jordi Cabot

93 Redirections
Reconsidering Whether GOTO Is Harmful
Meiyappan Nagappan

96 Software Technology
Microservices
Xabier Larrucea, Izaskun Santamaria, Ricardo Colomo-Palacios, and Christof Ebert

101 Software Engineering
Nicolai Parlog on Java 9 Modules
Nate Black