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Holger Giese Grigore Rosu (Eds.)

Formal Techniques for Distributed Systems

Joint 14th IFIP WG 6.1 International Conference, FMOODS 2012
and 32nd IFIP WG 6.1 International Conference, FORTE 2012
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Proceedings

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Foreword

In 2012, the seventh International Federated Conferences on Distributed Computing Techniques (DisCoTec) took place in Stockholm, Sweden, during June 13–16. It was hosted and organized by KTH Royal Institute of Technology. The DisCoTec 2012 federated conference was one of the major events sponsored by the International Federation for Information Processing (IFIP) and it acted as an umbrella event for the following conferences:

- The 14th International Conference on Coordination Models and Languages (Coordination)
- The 12th IFIP International Conference on Distributed Applications and Interoperable Systems (DAIS)
- The 14th Formal Methods for Open Object-Based Distributed Systems and 32nd Formal Techniques for Networked and Distributed Systems (FMOODS/-FORTE)

Together, these conferences cover the complete spectrum of distributed computing subjects ranging from theoretical foundations to formal specification techniques to systems research issues.

At a plenary session of the conferences, Schahram Dustdar of Vienna University of Technology and Bengt Jonsson of Uppsala University gave invited talks. There was also a poster session, and a session of invited talks from Swedish companies involved in distributed computing: Spotify, Peerialism, and severalnines.com. In addition to this, there were three workshops:

- The Third International Workshop on Interactions Between Computer Science and Biology (CS2BIO) with keynote talks by Jane Hillston (University of Edinburgh, UK) and Gianluigi Zavattaro (University of Bologna, Italy)
- The 5th Workshop on Interaction and Concurrency Experience (ICE) with keynote lectures by Marcello Bonsague (Leiden University, The Netherlands) and Ichiro Hasuo (Tokyo University, Japan)
- The 7th International Workshop on Automated Specification and Verification of Web Systems (WWV) with a keynote talk by José Luiz Fiadeiro (University of Leicester, UK)

I would like to thank the Program Committee Chairs of each conference and workshop for their effort. The organization of DisCoTec 2012 was only possible thanks to the dedicated work of the Publicity Chair Ivana Dusparic (Trinity College Dublin, Ireland), the Workshop Chair Rui Oliveira (Universidade do Minho, Portugal), the Poster Chair Sarunas Girdzijauskas (Swedish Institute of Computer Science, Sweden), the Industry-Track Chair György Dán (KTH Royal College of Technology, Sweden), and the members of the Organizing Committee from KTH Royal Institute of Technology and the Swedish Institute of

Computer Science: Amir H. Payberah, Fatemeh Rahimian, Niklas Ekström, Ahmad Al-Shishtawy, Martin Neumann, and Alex Averbuch. To conclude I want to thank the sponsorship of the International Federation for Information Processing (IFIP) and KTH Royal Institute of Technology.

June 2012 Jim Dowling

Preface

This volume contains the proceedings of the FMOODS/FORTE 2012 conference, a joint conference combining the 14th IFIP International Conference on Formal Methods for Open Object-Based Distributed Systems (FMOODS) and the 32nd IFIP International Conference on Formal Techniques for Networked and Distributed Systems (FORTE) held during June 13–14, 2012, in Stockholm.

FMOODS/FORTE was hosted together with the 14th International Conference on Coordination Models and Languages (COORDINATION) and the 12th IFIP International Conference on Distributed Applications and Interoperable Systems (DAIS) by the federated conference event DisCoTec 2012, devoted to distributed computing techniques and sponsored by the International Federation for Information Processing (IFIP).

FMOODS/FORTE provides a forum for fundamental research on the theory and applications of distributed systems. Of particular interest are techniques and tools that advance the state of the art in the development of concurrent and distributed systems and that are drawn from a wide variety of areas including model-based design, component and object technology, type systems, formal specification and verification and formal approaches to testing. The conference encourages contributions that combine theory and practice in application areas of telecommunication services, Internet, embedded and real-time systems, networking and communication security and reliability, sensor networks, service-oriented architecture, and Web services.

The FMOODS/FORTE 2012 program consisted of 16 regular papers which were selected by the Program Committee (PC) out of 42 submissions. Each submitted paper was evaluated on the basis of at least four detailed reviews from 31 PC members and 56 external reviewers. The final decision of acceptance was preceded by a thorough online discussion of the PC members. The selected papers constituted a strong program of stimulating, timely, and diverse research.

We are deeply indebted to the PC members and external reviewers for their hard and conscientious work in preparing 166 reviews. We thank Jim Dowling, the DisCoTec General Chair, for his support, and the FMOODS/FORTE Steering Committee for their guidance. Our gratitude goes to the authors for their support of the conference by submitting their high-quality research works. We thank the providers of the EasyChair conference tool that was a great help in organizing the submission, the reviewing process, and the production of the proceedings.

April 2012

Holger Giese
Grigore Rosu

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