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Software Engineering for Resilient Systems

8th International Workshop, SERENE 2016 Gothenburg, Sweden, September 5–6, 2016 Proceedings

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Preface

This volume contains the proceedings of the 8th International Workshop on Software Engineering for Resilient Systems (SERENE 2016). SERENE 2016 took place in Gothenburg, Sweden on September 5–6, 2016. The SERENE workshop is an annual event, which has been associated with EDCC, the European Dependable Computing Conference, since 2015. The workshop brings together researchers and practitioners working on the various aspects of design, verification, and assessment of resilient systems. In particular it covers the following areas:

- Development of resilient systems;
- Incremental development processes for resilient systems;
- Requirements engineering and re-engineering for resilience;
- Frameworks, patterns, and software architectures for resilience;
- Engineering of self-healing autonomic systems;
- Design of trustworthy and intrusion-safe systems;
- Resilience at run-time (mechanisms, reasoning, and adaptation);
- Resilience and dependability (resilience vs. robustness, dependable vs. adaptive systems);
- Verification, validation, and evaluation of resilience;
- Modelling and model based analysis of resilience properties;
- Formal and semi-formal techniques for verification and validation;
- Experimental evaluations of resilient systems;
- Quantitative approaches to ensuring resilience;
- Resilience prediction;
- Case studies and applications;
- Empirical studies in the domain of resilient systems;
- Methodologies adopted in industrial contexts;
- Cloud computing and resilient service provisioning;
- Resilience for data-driven systems (e.g., big-data-based adaption and resilience);
- Resilient cyber-physical systems and infrastructures;
- Global aspects of resilience engineering: education, training, and cooperation.

The workshop was established by the members of the ERCIM working group SERENE. The group promotes the idea of a resilient-explicit development process. It stresses the importance of extending the traditional software engineering practice with theories and tools supporting modelling and verification of various aspects of resilience. The group is continuously expanding its research interests towards emerging areas such as cloud computing and data-driven and cyber-physical systems. We would like to thank the SERENE working group for their hard work on publicizing the event and contributing to its technical program.

SERENE 2016 attracted 15 submissions, and accepted 10 papers. All papers went through a rigorous review process by the Program Committee members. We would like

to thank the Program Committee members and the additional reviewers who actively participated in reviewing and discussing the submissions.

Organization of a workshop is a challenging task that besides building the technical program involves a lot of administrative work. We express our sincere gratitude to the Steering Committee of EDCC for associating SERENE with such a high-quality conference. Moreover, we would like to acknowledge the help of Mirco Franzago from the University of L'Aquila, Italy for setting up and maintaining the SERENE 2016 web page and the administrative and technical personnel of Chalmers University of Technology, Sweden for handling the workshop registration and arrangements.

July 2016

Ivica Crnkovic
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Contents