

Preface

The way software is developed is changing. It must take into account multifaceted constraints such as unpredictable markets, evolving customer requirements, pressures of shorter time-to-market, etc. At the same time, software is controlling critical functionalities in several domains such as transportation, health care, manufacturing, and IT infrastructures. As a result, modern software systems require on the one hand adding frequently (daily or weakly) new features, functionalities, or new versions of software artifacts according to changing contexts, business opportunities, or customer feedback, on the other hand ensuring their resilience – the ability of a system to persistently deliver its services in a dependable way even when facing changes, unforeseen failures, and intrusions.

The SERENE 2015 workshop provides a forum for researchers and practitioners to exchange ideas on advances in all areas relevant to software engineering for resilient systems, including, but not limited to:

1. 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)

2. 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

3. Case studies and applications

- Empirical studies in the domain of resilient systems
- Methodologies adopted in industrial contexts
- Cloud computing and resilient service provisioning
- Resilient cyber-physical systems and infrastructures
- Global aspects of resilience engineering: education, training, and cooperation

This volume contains the papers presented at SERENE 2015, 7th International Workshop on Software Engineering for Resilient Systems, held during September 7–8, 2015 in Paris.

There were 18 submissions. Each submission was reviewed by at least three, and on average 3.1, Program Committee members. The committee decided to accept 10 papers.

We adopted EasyChair for managing the submission, reviewing, and proceedings phases.

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