

Preface

The following papers were presented at the Workshop on Dependable Software for Critical Infrastructures – Verlässliche Software für kritische Infrastrukturen (DSCI 2011), held October 6, 2011 in Berlin as part of the INFORMATIK 2011 conference.

Future infrastructures for energy, traffic, and computing will depend on software to an unprecedented amount. Future infrastructures will be based on technologies such as virtual power plants, the “Internet of Energy”, simulation-based traffic management, and cloud computing. Driven by irrefutable demands for reduced energy consumption, smarter services, and total integration, future infrastructures will be decentralized, self-organizing, adaptive, and open. Thus future infrastructures are virtualized: they provide services in the real world, but internally implement services in a software-driven way via dynamically configured subunits and system levels. The requirements to software reliability – in particular, functionality, performance, adaptivity, availability, fault tolerance, correctness, safety, security, privacy, trustworthiness – cannot be handled by today’s technology.

The development of new methods for software dependability and the extension of available software reliability techniques as to meet the requirements of virtualized infrastructures is, thus, of high relevance for society.

The DSCI workshop aimed to bring together researchers and developers from all relevant areas. The nine contributed research papers contained in these proceedings stem from computer science, electrical engineering, legal studies, and technology assessment.

We wish to sincerely thank all the authors who submitted their work for presentation at the workshop. And we would like to thank the Program Committee members as well as additional referees for their effort in the review and selection process.

In addition to the contributed papers, the program included an excellent keynote talk. We are grateful to Ragnar Schierholz (ABB Corporate Research) for accepting the invitation to address the workshop.

October 2011

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