

abstract for the keynote talk

Compositional dependability modeling using arcade

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Dependability is a key concern for today's complex computer and communication systems. To make sure that such an application meets all its dependability requirements, a rigorous and systematic analysis is required.

This talk introduces ARCADE, a formally well-rooted and extensible framework for dependability evaluation. It has been designed so as to combine the strengths of previous approaches to the evaluation of dependability. Key feature is its formal semantics in terms of Input/Output-Interactive Markov Chains, which enables both compositional modeling and compositional analysis, enabling great computational reductions for many models. The ARCADE approach is also extensible, and hence adaptable to new circumstances or application areas.

In this talk, I will introduce the new modeling approach, discuss its formal semantics and illustrate its use with two case studies.