

The Next Generation of UPPAAL

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Abstract

We present the design and internal data structures for the next generation of UPPAAL. Early experimental results demonstrate that the new implementation based on these structures improves the efficiency of UPPAAL by about 80% in both time and space. In addition, the new version is built to handle hierarchical models. The challenge in handling hierarchy comes from the very dynamic structure of hierarchical systems: the levels of concurrency and the scope of data variables and clocks are changing. We present data structures and a searching scheme for state space exploration of hierarchical models.