

Oris: a tool for modeling, verification and evaluation of real-time systems

Giacomo Bucci · Laura Carnevali · Lorenzo Ridi · Enrico Vicario

Published online: 9 May 2010
© Springer-Verlag 2010

Abstract Oris is a tool for qualitative verification and quantitative evaluation of reactive timed systems, which supports modeling and analysis of various classes of timed extensions of Petri Nets. As most characterizing features, Oris implements symbolic state space analysis of preemptive Time Petri Nets, which enable schedulability analysis of real-time systems running under priority preemptive scheduling; and stochastic Time Petri Nets, which enable an integrated approach to qualitative verification and quantitative evaluation. In this paper, we present the current version of the tool and we illustrate its application to two different case studies in the areas of qualitative verification and quantitative evaluation, respectively.

Keywords Qualitative verification · Quantitative evaluation · Symbolic state-space enumeration · Time Petri Nets · Preemptive Time Petri Nets · Stochastic Time Petri Nets · Difference Bounds Matrix · Real-time systems