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Quantitative
Modeling
In
Parallel
Systems

Response Time Approximations for Decision-Free TIPP Specifications

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Abstract This report contains characterizations of stochastic Process Algebra models that correspond to 1-safe Marked Graphs. Two different viewpoints to this problem are discussed, a *station oriented* point of view and an *event oriented* point of view. In the former Petri Nets are considered as parallel processes where each place corresponds to a sequential component. In the event oriented point of view the flow of tokens is modelled instead. Based on the

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latter one we describe conditions when and how SISO-cuts can be performed and show how to construct aggregated systems. The throughput of this class of models is computed via an iterative response time approximation algorithm.