

# Polynomial Analysis Algorithms for Free-Choice Workflow Nets

(Invited Talk)

Javier Esparza

Technische Universität München, Germany

esparza@in.tum.de

Workflow Petri nets are a popular formalism for modeling and analyzing business processes. A large number of models belong to the special class of free-choice workflow Petri nets. The state space of this class of workflows can grow exponentially in the size of the net, and so analysis algorithms based on its exploration have worst-case exponential runtime. We show that many analysis problems for this model can be solved in polynomial time by means of reduction algorithms that exhaustively apply syntactic reduction rules.