Department of Mathematics, Statistics and Computer Science
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Presents

Automated Translator from Petri Net Models to the DiVinE Model Checker

by

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Workflows have proven to be a useful conceptualization for the automation of business processes. Correctness of the workflow models is critical for proper execution of the business processes. Petri nets are a popular tool for describing and analyzing concurrent, asynchronous, distributed, parallel, nondeterministic, and/or stochastic systems. Many Workflow Management Systems (WfMS) are based on Petri nets and are continuously evolving to help the design and deployment of automated business processes and to aid their execution and monitoring. However, the absence of verification facilities in most WfMS causes the resulting implementation of complex workflow models to be at risk of undesirable runtime executions. Model checking is a well-developed formal verification technique which explores every possible execution path of a process or system model to determine the correctness of a desired system property. Model checking can facilitate the verification of workflow models, provided that we can conveniently implement the workflow model. Using the input language of current model checkers to build a workflow model is an immense and complex task which poses a major problem in the workflow verification domain. In this proposal, we outline how an automatic translator from a Petri net model to the input language of a model checker may be built which will facilitate workflow verification by omitting much of the manual effort in the process of workflow verification.

Refreshments will be served before the talk in AX24A