Incremental Model Transformation Tools
for Models of Rich Languages

Hana Mkaouar[1]

[1] Telecom Paris, Institut Polytechnique de Paris, France
mkaouar.hana@gmail.com

Abstract   Incremental model transformation (IMT) tools have been proposed to improve performances of model transformations by updating only the parts of a model that need to be changed when another model on which it depends has been changed. Yet, the question is how these tools are suitable for modeling large and complex systems with rich modeling languages as required by industry. In this paper, we report the results of a benchmark of the most mature IMTs tools. Particularly, we benchmark MoTE, eMoflon and VIATRA to evaluate their usability, maintainability and runtime performances in transforming models written in the rich standard architecture description language AADL. Besides the capability to process large models, our benchmark also assesses IMT tool performances according to the different kinds of complex structures that typically exist in models of rich languages, as well as the complexity of the transformation specifications typical of real systems modeled with AADL. Our results show that none of the benchmarked tools meet all the requirements for handling today's real-world systems.

Keywords incremental model transformations, AADL, MoTE, eMoflon, VIATRA