Abstract

Statically undecidable inconsistencies in VDM++ models can result in runtime errors when executing the model. The absence of these inconsistencies can be verified by proving the corresponding proof obligation to be valid. This thesis comprises two main steps. The first is a translation of functional VDM++ models to semantically equivalent HOL models. The second is an automated proof of the obligations that are generated from a VDM++ model. The combination of these two steps can ensure consistency of the model and thereby stability of the execution.