Abstract

In 2003, the Object Management Group (OMG) officially introduced the Model-Driven Architecture (MDA). The specification explains how different OMG standards could be used together. MDA focuses on the concepts of Platform Independent Models and Platform Specific Models, two viewpoints on software systems, and how mappings between these two can be made in order to streamline software development. Through this approach, the functional specification of the system and the implementation specification are separated, allowing for better reuse and portability. An important technique used in MDE is model transformation. A model transformation is a process of automatic generation of a target model from a source model, according to a transformation definition, which is expressed in a model transformation language. This paper focuses on model engineering terminology and theory of model generation. The paper describes overall MDA scenario and emphasizes on model transformation. As model transformation is an important area in model driven development, we have compared various techniques available for model transformation. The paper also focuses on model theory and model composition techniques used for model weaving. In 2003, the Object Management Group (OMG) officially introduced the Model-Driven Architecture (MDA). The specification explains how different OMG standards could be used together. MDA focuses on the concepts of Platform Independent Models and Platform Specific Models, two viewpoints
on software systems, and how mappings between these two can be made in order to streamline software development. Through this approach, the functional specification of the system and the implementation specification are separated, allowing for better reuse and portability. An important technique used in MDE is model transformation. A model transformation is a process of automatic generation of a target model from a source model, according to a transformation definition, which is expressed in a model transformation language. This paper focuses on model engineering terminology and theory of model generation. The paper describes overall MDA scenario and emphasizes on model transformation. As model transformation is an important area in model driven development, we have compared various techniques available for model transformation. The paper also focuses on model theory and model composition techniques used for model weaving.

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Modeling Theories and Model Transformation Scenario for Complex System Development


Index Terms

Computer Science

Software Engineering
Keywords
MDA  PIM  PSM  Model Transformation