Designing Models and Systems to Support IT Management: A Case for Multilevel Modeling

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MULTI 2016 Keynote

MODELS 2016
Saint-Malo, France
4th October, 2016.

In the past, IT management was primarily focussed on technical aspects of IT infrastructures. In recent years, more and more organizations became aware of the pivotal relevance their IT infrastructures has for staying competitive. Therefore, IT managers are expected to not only provide IT services, but also to justify investments and costs with respect to the benefit the IT creates. On the one hand this responsibility demands for methods that allow for reducing the complexity of both, the IT infrastructure and the business. On the other hand, it is required accounting for interdependencies between these two areas. Enterprise architectures or enterprise models address this task by integrating models of the IT infrastructure and of enterprise software systems with models of the organizational action system. This talk will at first describe principle challenges of designing and (re-) using languages for enterprise modeling and outline why a multilevel language architecture is suited to cope with these challenges. Against this background, specific requirements of modeling for IT management will be looked at in more detail. It will then be shown how a multilevel language architecture does not only enable to satisfy these demands, but also to develop powerful tools to support IT management that are based on a common representation of models and code.