Keynote

Component-Based and Model-Driven Engineering: what is the difference? A CBSE perspective

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Model-driven Engineering (MDE) and component-based software engineering have many similarities but also their own specific. The goals are similar – by raising the abstraction level of software system development, the goal is increase the development efficiency, effectiveness, and quality. Reusability plays an important role in both approaches. Components (mostly assumed as software components) are the fundamental parts in both MDE and CBSE approaches. In many CBSE approaches the emphasis is on component models, and system modeling using component models. Yet there are some clear differences – while the ultimate result of MDE is generated executable code from models (using modeling languages), CBSE aims at reusability in general, and in particular reusability of the executable code. What are the common characteristics then? Which achievements from one approach can be utilised in the other approach? Is it possible to combine the results for each approach? In the modern era of ambiguous computing new challenges are imposed on software system development – dynamic architecture, heterogeneous platforms, energy and other resources constraints, real-time issues, etc.. How these challenges are reflected in CBSE and how they can be used in MDE? In this presentation we will address these questions and identify some possible directions in further research in CBSE & MDE.

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