New Development Techniques--New Challenges for Verification and Validation

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Abstract:

The new thrust towards model-based, or specification centered, development techniques promises to reduce development costs and increase software quality. Model-based techniques center the development effort around one or more high-level models of the system of interest, and relies heavily on tools for visualization, analysis, and code generation---tools that will largely replace tasks that were previously done manually. This transition from manual development to predominantly automated development relying on tools raises new and challenging verification and validation problems, in particular when developing critical software systems that require certification. This talk will discuss the verification and validation challenges arising from the increased reliance on tools and point out directions for future research efforts.