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NJSZT Újklub (IEEE CS-NJSZT Fórum) presents:

Software Technology Forum

Date: 11 December 2015, Friday, 10:00 a.m. (registration from 9.00 a.m.)

Venue: ELTE Faculty of Informatics, H-1117 Budapest, Pázmány Péter sétány 1/c, 0-803
Registration is required: www.inf.elte.hu/szoftvertechreg

PD Dr.habil. Bernhard Schätz
Dipl.-Inform. Univ. (fortiss/TU Munchen)

Model-Based Development and Cyber-Phyisical Systems — New Challenges and Possible Solutions

Cyber-Physical Systems (CPS) are often understood as networked embedded systems. However, characteristics — as, e.g., identified in the CyPhERS Roadmap Europe — of CPS highlight challenges, which illustrate a real shift of paradigm compared to those systems.

The presentation identifies — starting from the state-of-art tool-supported technologies of model-based development as found in the automotive domain, and following the characterization of CPS provided in CyPhERS — three principles, which present new dimensions of system complexity. Furthermore, the presentation illustrates model-based approaches to address these dimensions, using networked energy systems as an example.

Dr. Ráth István
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computer science engineer
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Incremental Queries and Transformations for Engineering Critical Systems

Model-driven engineering (MDE) is widely used nowadays in the design of embedded systems, such as in the automotive, avionics or telecommunication domains. Behind the scenes, design and verification tools frequently exploit advanced model query and transformation techniques to support various rich tool features. The rapid increase in the size and complexity of system models has drawn significant attention to incremental model query and transformation approaches, which enable fast and incremental reactions to model changes caused by systems engineers or automated design steps. In this presentation, we overview two open source Eclipse projects, IncQuery and VIATRA, which have been actively used as a basis for developing various academic and industrial tools for critical systems.