

**Service-Oriented Software and Systems Engineering –  
A Vision for the Automotive Domain**

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Increasing interactions among automotive software functions and the ensuing complexity demand new ways of developing automotive systems. Many functions deployed in the vehicle cut across physical and logical boundaries. Capturing the core interactions underlying system functions, creating logical service architectures and mapping them to varying deployment architectures and product lines are central development tasks that cross-cut requirements capture, architecture design, implementation and validation/verification. The service-oriented development approach we propose addresses these fundamental aspects of automotive system design. In this talk I will demonstrate the description techniques, methodology and tools we have developed, and discuss their application in the context of automotive case studies.

Dr. Ingolf Krueger is an Assistant Professor in Residence in the Computer Science and Engineering (CSE) Department of UCSD's Jacobs School of Engineering; he also directs the "Software & Systems Architecture & Integration" functional area within the California Institute for Telecommunications and Information Technology (Calit2). Dr. Krueger is a member of the UCSD Divisional Council of Calit2. He holds a Ph.D. from Technische Universität München, Germany, and an M.A. from the University of Texas at Austin. Dr. Krueger's major research interests are service-oriented software & systems engineering for distributed, reactive systems, software architectures, description techniques, verification&validation, and development processes. The application domains to which he applies his research results span the entire range from networked embedded systems to Internet-wide business information architectures. Dr. Krueger has co-organized the Automotive Software Workshop San Diego 2004. Publications pertaining to these areas are available at URL: <http://www-cse.ucsd.edu/~ikrueger/publications.htm>

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