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Model Driven Engineering of Critical Systems

Model driven techniques have been introduced in software engineering since many years. Research in the area has progressed in many directions: languages, processes, standards, technologies, tools. While they have proved to be effective in some application sectors, such as for embedded systems, it is hard to find documented success stories for real-world systems in many other fields. Indeed, there is some skepticism on their applicability for large-scale and/or critical industrial systems, which have high complexity and/or high costs of verification and validation: many companies still consider them risky. Full comprehension of risks, costs and benefits is not easy to achieve. A crucial factor is that their adoption requires changes in consolidated processes, and advanced engineering skills – focus is on modeling, rather than on implementation. These implications are often underestimated.

Short CV:

Stefano Russo is Professor of Computer Engineering at the Federico II University of Naples, Italy, Department of Electrical Engineering and Information Technologies (DIETI). He is **Chairman of the Curriculum in Computer Engineering**, and he leads the **MobiLab research group** on distributed and mobile systems.

He obtained a Degree in Electronic Engineering in 1988 and a Ph.D. in Computer and Systems Engineering in 1993, both from the Federico II University of Naples, where he then was Assistant Professor from 1994 to 1998, then Associate Professor up to 2002.

He served as **Deputy Head of the former Department of Computer and Systems Engineering (DIS)** from 2007 to 2012, and as **Director of the "C. Savy" National Laboratory of CINI** (National Inter-universities Consortium for Informatics) in Naples from 2004 to 2013.

He teaches Software Engineering and Distributed Systems. His research interests touch software dependability, testing, software aging, middleware pub-sub technologies, distributed and mobile computing.

Stefano co-authored over 150 scientific papers. He served as Co-chair or Program Committee member of many IEEE conferences and workshops, including - since 2004 - the International Symposium on Object/Component/Service-oriented Real-time Distributed Computing (**ISORC**), the International Workshop on Software Aging and Rejuvenation (**WoSAR**), and the IEEE Workshop on Software Certification (**WoSoCER**). He served as Guest Co-editor for Performance Evaluation and for Journal of Software. He is **Associate Editor of IEEE Transactions on Services Computing**.

Stefano's research has received public support by European Union, Italian Ministry, Regione Campania, and private sponsorships by several companies, including Selex Sistemi Integrati (now Selex ES), Ansaldo Breda, SESM, NEC Italia, FIAT Elasis.

He has been National Scientific Coordinator of the PRIN 2008 Project DOTS-LCCI on dependability of critical infrastructure (http://dots-lcci.prin.dis.unina.it).

He is Scientific coordinator for DIETI and CINI of the Public-Private Laboratory COSMIC (www.cosmiclab.it) on open source middleware platform for mission-critical systems, funded by MIUR from 2006 to 2009 and re-funded from 2012 under "PON Ricerca & Competitività 2007-13".

He is **co-founder of the Critiware s.r.l. spin-off company** (www.critiware.com)