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Title: Security, reliability and trust in cloud digital service chains – GUARD platform

Abstract: Evolving computing paradigms are progressively introducing new design, development, and operation models for digital services, which increasingly leverage service-oriented architectures and microservices patterns to create data-centric applications. This approach eventually brings more agility in the overall service lifetime management, but also introduces additional security and privacy concerns that cannot be effectively addressed by legacy device- and infrastructure-centric models. In this talk, the recent developments in secure cloud computing business-related models will be surveyed, along with the presentation of the main results of the H2020 GUARD project. The GUARD project developed an extensible platform for building detection and analytics services for advanced assurance and protection of trustworthy and reliable business chains which span multiple administrative domains and heterogeneous infrastructures. GUARD advocates the implementation of embedded security capabilities in digital services that can be accessed and orchestrated through API, similar to what already happens for management and operation purposes. GUARD features are demonstrated in two challenging use cases in the Smart Mobility and eHealth domains. The detailed information about the GUARD platform is available on the following webpage - <https://guard-project.eu/>.

Biography: Joanna Kołodziej graduated in Theoretical Mathematics from the Jagiellonian University in Cracow (Poland) in 1992, where she also received the PhD in Theoretical Computer Science in 2004. In the period of 1992-1997 she worked as a project manager and senior CAD/CAM project manager in Petroleum Engineering (Bipronaft Cracow and INES Project Studio). In September 2012 she joined Cracow University of Technology as Associate Professor and Professor. Since October 1, 2019 she works also as full-time professor in NASK Poland (www.nask.pl) in Warsaw, Poland. She is a full professional member of ACM and SIGEVO group. She is also a research fellow in Intelligent Information Systems Group at AGH University of Science and Technology, Cracow (Poland). The main topics of her research are evolutionary computation, grid and cloud computing, intelligent networking, scalable computation, multi-agent systems, global optimization meta-heuristics, cybersecurity in ICT systems and blockchain. She is an author of 200+ papers published in international journals, books and conference proceedings of the research area. Prof. Kołodziej is an author of one monograph and guest editor of the 15 other books edited by Springer Vlg. She has served as a guest editor of 25+ special issues of highly indexed journals in the domain. She is serving as the area editor of several top journals including IEEE Transactions on Services Computing, IEEE Access, Sensors, Cluster Computing, Simulation Modelling Practice and Experience. Her H-index values are: 34 (in Google Scholar- <https://scholar.google.com/citations?user=J8GCqsAAAAAJ&hl=pl>), 27 (in Scopus) and 23 (in WoS).