ZERO-TOUCH NETWORK AND SERVICE MANAGEMENT IN THE CONTEXT OF MONB5G (DECENTRALIZED MANAGEMENT SYSTEM FOR NETWORK SLICING IN BEYOND 5G)



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DETAILED INFORMATION ABOUT THE TALK

Abstract:

The fast and global development and expansion of the 5G technology, affects a great variety of applications in a multiplicity of sectors and creates and ecosystem for technological and business innovation. The future 5G networks are projected to support massive numbers of network slices with different performance requirements, functionality and timespans, working concurrently. The high number of slices together with the already high complexity of the network slicing solution, make network management and orchestration a hard -or even a problematic - task. The Zero-touch network and Service Management (ZSM) framework is a next-generation management system, aiming to have all operational processes and tasks executed automatically, ideally fully autonomous.

The EU-funded MonB5G project intends to deal with ZSM-oriented solutions and with the inclusion of AI-and ML-based tools, to simplify and enhance network slice management and orchestration tasks. MonB5G proposes an innovative architecture to “address” the issues related to ZSM, by enabling distribution of functions and provision of strong separation of management of network slices’ runtime and orchestration domains. In this talk, I will talk about MonB5G’s ZSM approach that aims to facilitate self-managed slices composed of self-managed functions, achieve specific management goals and minimize interactions between architectural entities by means of embedding Artificial Intelligence at multiple levels (for example by means of hierarchical closed-loop controls and aggregated Key Performance Indicators (KPIs)) and ensure secure management, programmability and energy efficiency of network slicing for beyond 5G networks.

Bio of the speaker:

Dr. Engin Zeydan is a Senior Researcher in the Communication Networks Division at Centre Tecnològic de Telecomunicacions de Catalunya (CTTC) in Barcelona, Spain. He received his PhD degree from the Department of Electrical and Computer Engineering at Stevens Institute of Technology, Hoboken, NJ, USA in 2011 and M.S. and B.S. degrees from the Department of Electrical and Electronics Engineering at Middle East Technical University, Ankara, Turkey, in 2006 and 2004, respectively.

Before joining CTTC in 2018, he worked as an R&D Engineer for Avea (a Turkish mobile operator) between 2011 and 2016, as Senior R&D Engineer in Turk Telekomunikasyon A.S between 2016 and 2018 and a part-time instruction at Electrical and Electronics Engineering department of Ozyegin University between January 2015 and June 2018. Dr. Zeydan has been primarily responsible for carrying out European Commission and nationally funded research activities at Türk Telekomunikasyon and Avea.

He has been involved in many European level projects such as H2020 projects MonB5G (as Project Coordinator, 2021-present), 5Growth (2019-2022) and Clear5G (as WP leader, 2017-2018), FP7 projects MOTO (as WP leader, 2012-2015) and CROWD (2014-2015) in collaborations with various industries and universities. He is co-author of over 120+ papers in international journals and conferences and holds 10 granted patents at Turkish Patent Institute. His research interests are in the areas of telecommunications and data engineering/science.