ΔΙΑΛΕΞΗ

" A streaming data flow system and programming model for cloud applications"

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Περίληψη – Abstract

The cloud is moving towards serverless: a new model of application execution where the operations are performed by the cloud provider and pricing corresponds to the actual use of resources. Yet the existing serverless offerings provided by all major cloud providers and termed Function as a Service (FaaS) fail to realize the serverless vision. FaaS infrastructures adequately support stateless functions that are useful for simple use cases like image manipulation, but they are a bad fit for stateful functions or event-driven applications conforming to the microservices architecture. Event-driven cloud applications require lowlatency processing, direct function-to-function communication, and support for transaction processing. They also need an intuitive programming model that abstracts away system responsibilities such as transaction processing and fault recovery making no compromises to application consistency. Leveraging the latest advances in consistent fault tolerance, performance, and scalability in stream processing that allow streaming systems to depart from analytics use cases, we propose to execute event-driven cloud applications on a streaming dataflow system. In this talk I will present the vision, the progress towards its realization, and the open challenges.

Marios Fragkoulis is a postdoctoral researcher at TU Delft, working on scalable stream processing. Marios holds a PhD in main memory data analytics from the Athens University of Economics and Business and a MSc in computing from Imperial College London. He is the co-creator of Clonos, a consistent causal recovery approach for highly available streaming data flows, and dgsh, the directed graph shell.

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