Support Architecture for Serverless computing: model considerations and potential trends

Antonio Corradi

University of Bologna – DISI
Department of Computer Science and Engineering

16th June 2022
Serverless has much attractiveness …

For serverless, we can forecast the same evolution of the services in MultiCloud and cloud continuum

- **SOA** and **QoS** - Synchronous paradigm, ACID
- Scalability, Replication, Efficiency
- Asynchronicity, Event, MOM, …
- Use **CAP** (Consistency, Availability, Partition tolerance)
- Automate everything, anything can fail, … → Eventual consistency
Support Architecture for Serverless computing

Serverless implies a support and execution model

The main point of our model is the idea of event and triggering in an asynchronous pattern
Support Architecture for Serverless computing

Basic Components

- **Trigger** the starting event
- **Controller** for scheduling & resource management
- **Executor** in charge of the function support environment
Support Architecture for Serverless computing

Function composition permits

• defining the merging of functions

• controlling the chaining on conditions

• executing a function to coordinate other function execution
Support Architecture for Serverless computing

Serverless spreading

Enlarging applications, without limit to the life cycle

- **QoS**: not only elastic configuration
- **Dynamicity and Adaptation** to long life
- The infrastructure support must widen management of applications from configuration to reconfiguration of the entire life cycle

Multiserverless as a trend
Thanks

Antonio Corradi
antonio.corradi@unibo.it
WOSCx
Unveiling Future Serverless technologies

• How do you see Serverless Computing in five years? Increasing and enlarging in technical applications
What are the Application areas?

• Propose a technical challenge to solve in the next years
Serious gaming, Edge computing, Vehicle Mobility, Health, Agri-food and Precision architectures
Looking for several killer applications

• What question would you want to ask another participant? Standardization of platforms and interconnection
To minimize lock in
How can we make future WOSCx better?

• Making specific topic venues as regular discussion forums as a continuous path with regular community checkpoints

Antonio Corradi
antonio.corradi@unibo.it