

A Microservices Architecture for Distributed Complex Event Processing in Smart Cities

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Workshop on the Distributed Smart City (WDSC'2018)



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Introduction and motivation

Smart Cities [Kitchin, 2014]

- Information and Communication Technology usage
- **Sensors e Actuators**
- Quality of life

Challenges

Smart City applications involve:

- Real time processing
- Situations: Fires and Car Accidents.

Complex Event Processing – CEP

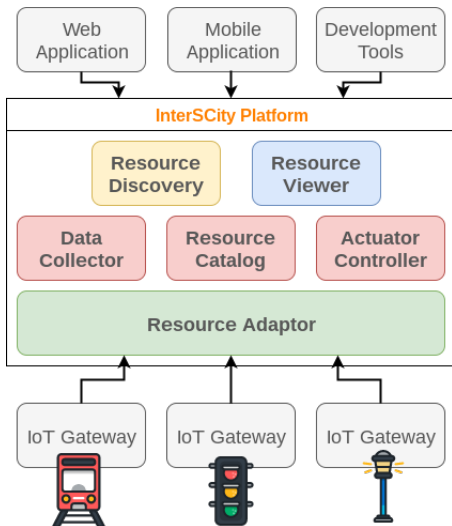
- Detection of specific situations based on occurrence patterns
- Open source tools do not provide large scale solutions

Objectives

Create a microservice architecture for distributed CEP:

- Based on **Microservices**
- **Dynamic distribution of event processing**
- **Load balancing techniques**

InterSCity platform integration



Requirements:

- Scalability
- Availability

Preliminary results

Implementation:

- Register of event types and web hooks
- Event type duplication verification

Next steps:

- Load balancing algorithms implementation
- Database scalability techniques



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