MOBILE EDGE COMPUTING

REPORT BY WEIQING HUANG
AGENDAS

• Concepts about MEC
• Drivers of MEC technique
• Characters and prime objectives
• Challenges
• Application scenarios
• Researches
• Reference
CONCEPTS OF MEC

Mobile Edge Computing is a model for enabling business oriented, cloud computing platform within the radio access network at the close proximity of mobile subscribers to serve delay sensitive, context aware applications.
CONCEPTS OF MEC

Tradition edge network
perform traffic control flow (forwarding and filtering of packets)

Mobile edge computing
cloud servers are also deployed in each base station (enabling computation and storage at the edge network, real time radio access network information, allow the edge to be handled by third-party partner)
DRIVERS

1. QoE: Mobile user do not get the same satisfaction compare to desktop due to resource constraints of mobile devices (processing power, battery lifetime and storage capacity) – partly solved by cloud computing

2. Long latency for data exchange between public clouds and edge devices – partly solved by cloudlet based offloading
CHARACTERS AND PRIME OBJECTIVES

• **Characters:** low latency, proximity, high bandwidth, and real-time insight into radio network information and location awareness

• **Prime objectives:**

  1. Optimization of mobile resources by hosting compute intensive application, such as image processing, m-gaming, at the edge network.
  2. Optimization of the large data before sending to the cloud.
  3. Enabling cloud services within the close proximity of mobile subscribers.
  4. Providing context-aware services with the help of RAN information
CHALLENGES

• Standard Protocol
• Simulation Platform
• Mobility Management
• Heterogeneity
• Pricing Model
• Scalability
• Security
APPLICATION SCENARIOS

1. Dynamic Content Optimization
2. Computational Offloading in IoT
3. Mobile Big Data Analytics
4. Smart Transportation
RESEARCHES

• FemtoClouds
• Computation Offloading Among the Peers of Mobile Devices
• Multi-User Computation Offloading
• Edge Accelerated Web Browsing (EAB) Prototype
• Collaborative Context-aware Real Time Application
• Etc.
REFERENCE

• IEEE_Conference: A Survey on Mobile Edge Computing

• Mobile edge computing: A key technology towards 5G
THANKS !

QUESTION?