Introduction of Connected car based on MEC

Jun Zhao
Lab. 2025
1. Background
2. Connected car based on MEC
3. Impact to Operators
4. What China telecom do
Imagine traveling on a highway with traffic jam miles ahead...

Can we do better?
Drive to a new city and you want to find the *best* parking

Use a Parking Map!

- No *real-time* information provided
- e.g. current occupancy

Use GPS

Again, can we do better?

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What is a connected car

- Vehicles are equipped with sensing, computing and wireless devices
- Vehicles talk to road-side infrastructure (V2I) and other vehicles (V2V)
- Has all the desirable properties
Why we need connected car?

► Safety
    • 42,800 Fatalities, 2.8 Million Injuries
    • ~$230.6 Billion cost to society

► Efficiency
  – Traffic jams waste time and fuel
  – In 2013, US drivers lost a total of 3.5 billion hours and 5.7 billion gallons of fuel to traffic congestion

► Convenience and entertainment on-the-move
Background

Applications

- Collision warning
- Congestion detection
- Road hazard warning
- Stoplight assistant
- Toll collection
- Deceleration warning
- Emergency vehicle warning
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Mobile Edge Computing (MEC) provides an IT service environment and cloud-computing capabilities at the edge of the mobile network, within the Radio Access Network (RAN) and in close proximity to mobile subscribers. The aim is to reduce latency, ensure highly efficient network operation and service delivery, and offer an improved user experience.
MEC can be used to extend the connected car cloud into the highly distributed mobile base station environment, and enable data and applications to be housed close to the vehicles. This can reduce the round trip time.
Connected car based on MEC

Technology basis of MEC

- High performance generic computer
- Storage hardware

The hardware infrastructure

- Cloud computing
- Virtualization

Software platform

- Wireless communication with high speed
- The standard communication interface technology

Communication technology

- Open platform
- Development kits
- Development of the community

Application ecology

Protocol IT

We speak your language

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Connected car based on MEC

Impact to Operators

What China telecom do
Impact to operator

1. Load dropping
   - Local shunt
   - Bandwidth saving

2. Transition
   - Pipeline to Integrated platform provide
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Present
China telecom OBD(On-Board Diagnostic) car networking systems to meet the needs of the owners as the core goal, integrate the real-time interactive vehicular services such as the vehicle detection based on the accurate location information, safe driving, making friends, entertainment et al.

Future plan
Based on LTE micro base station environment, to verify the vehicular network platform based on MEC and explore new business model.
Thank You!