Mobile Edge Computing
A key technology towards 5G

PRESENTER:CHIEH-YU LEE

ADVISOR:HUNG-YU WEI

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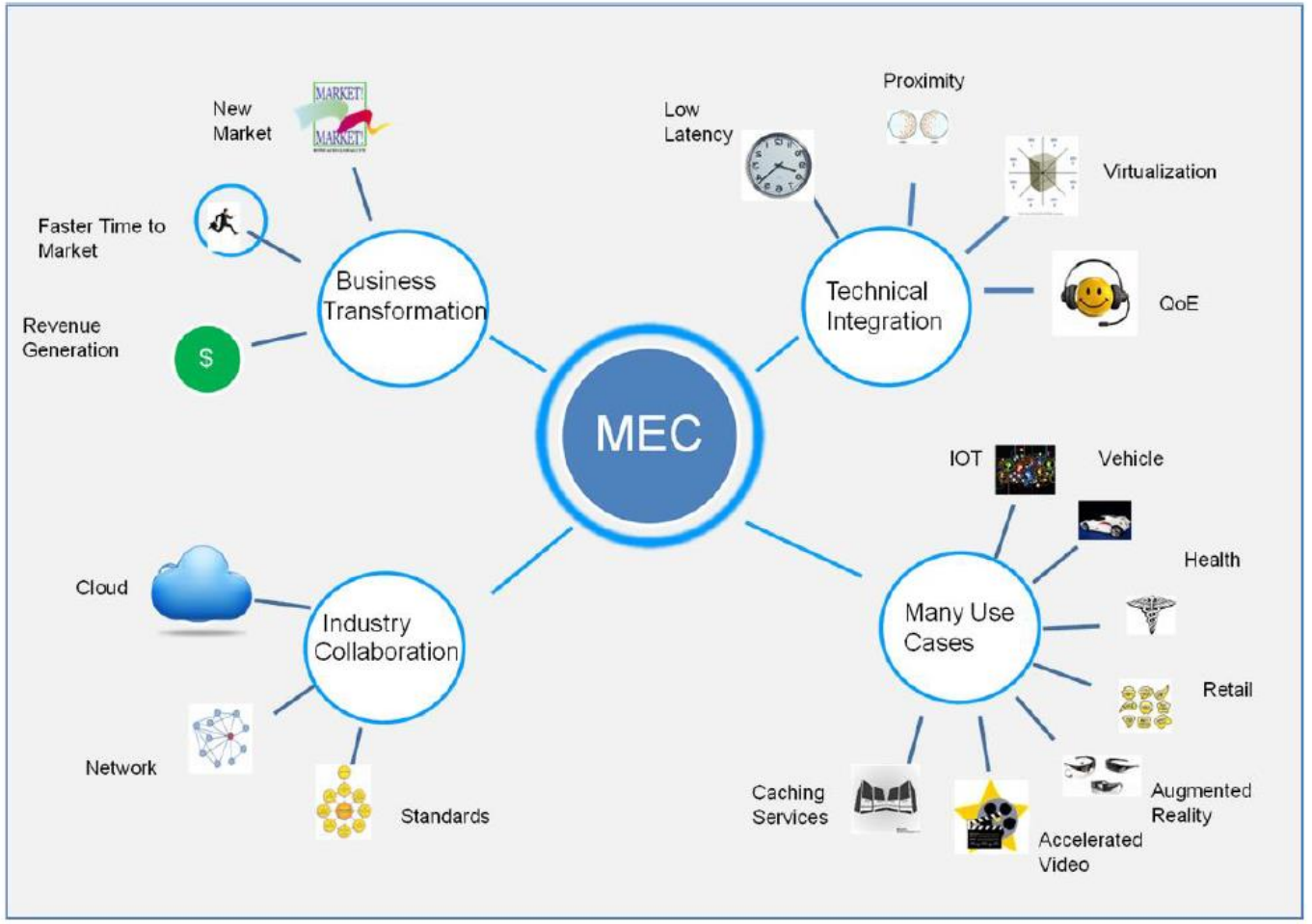
Market Drivers

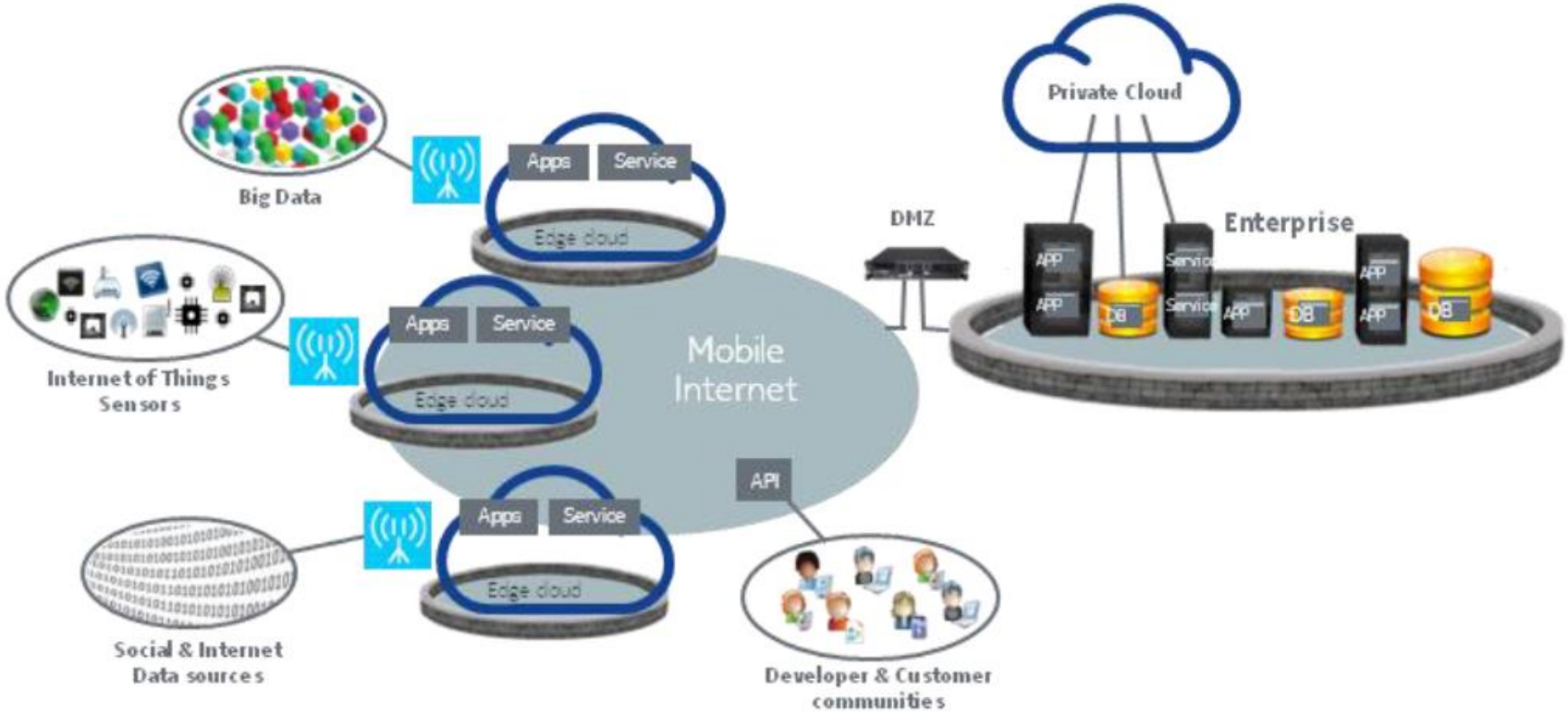
The market drivers of MEC include

- business transformation
- technology integration
- industry collaboration
- other use cases



Business Value

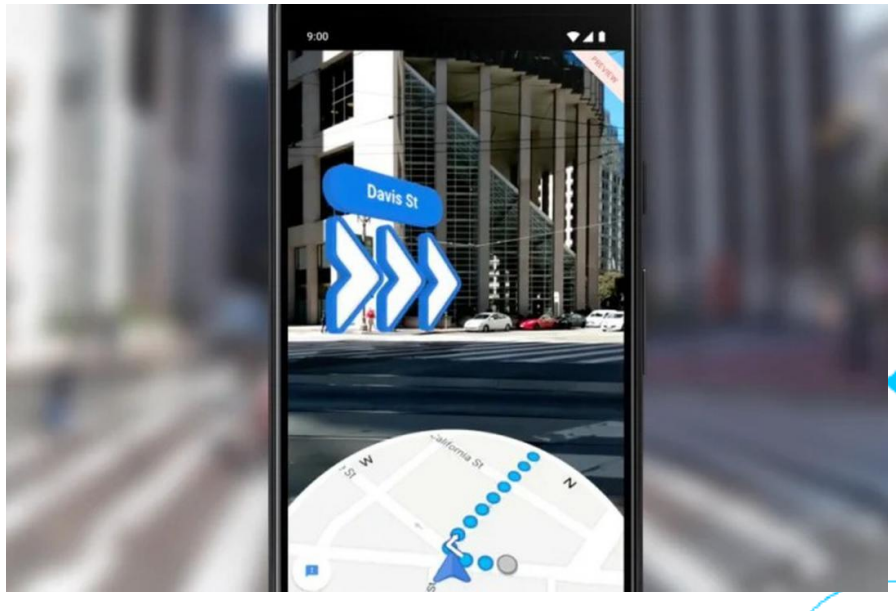
Improved QoE with Mobile Edge Computing in close proximity to end users

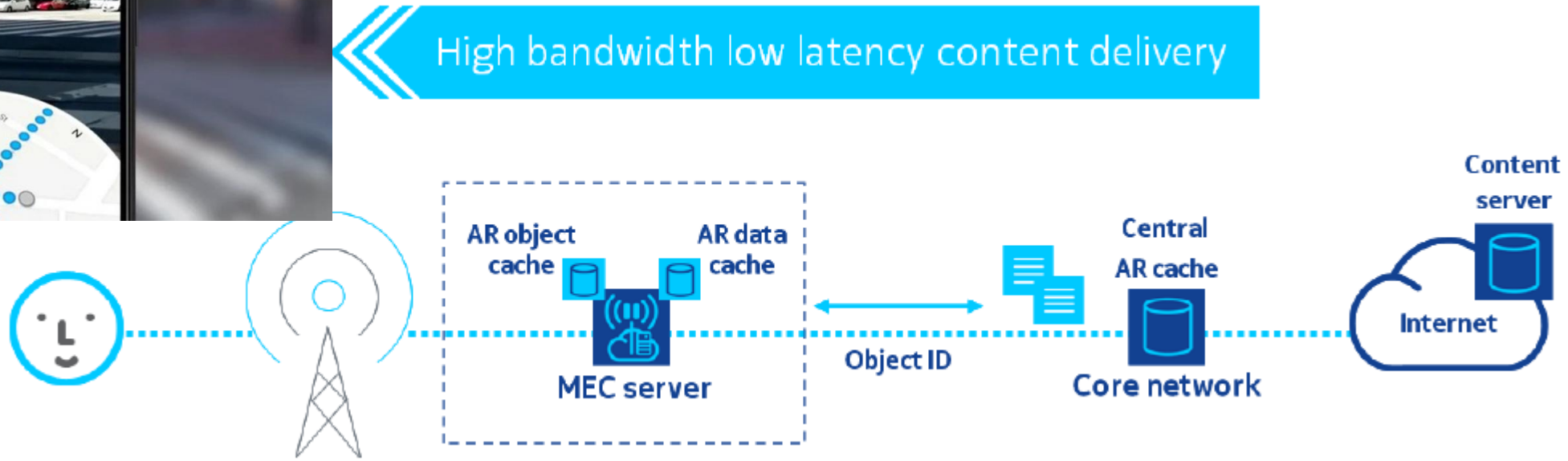


Mobile Edge Computing Service Scenarios

- Augmented Reality
- Intelligent Video Acceleration
- Connected Cars
- Internet of Things Gateway

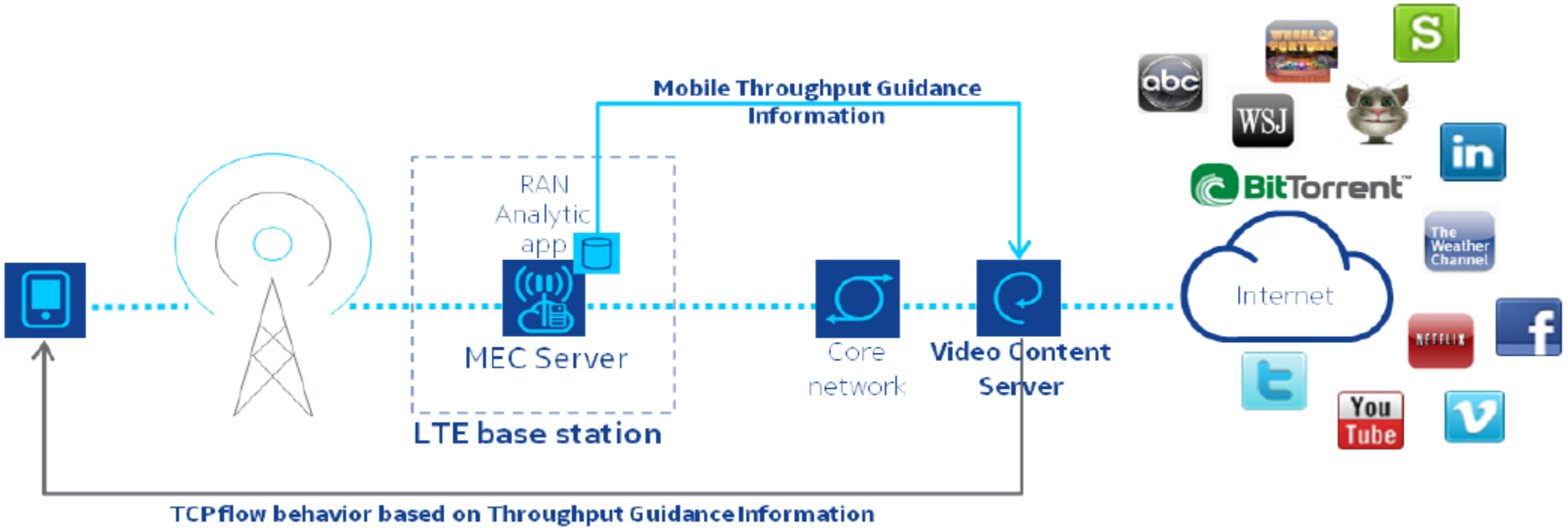
Augmented Reality Service Scenario





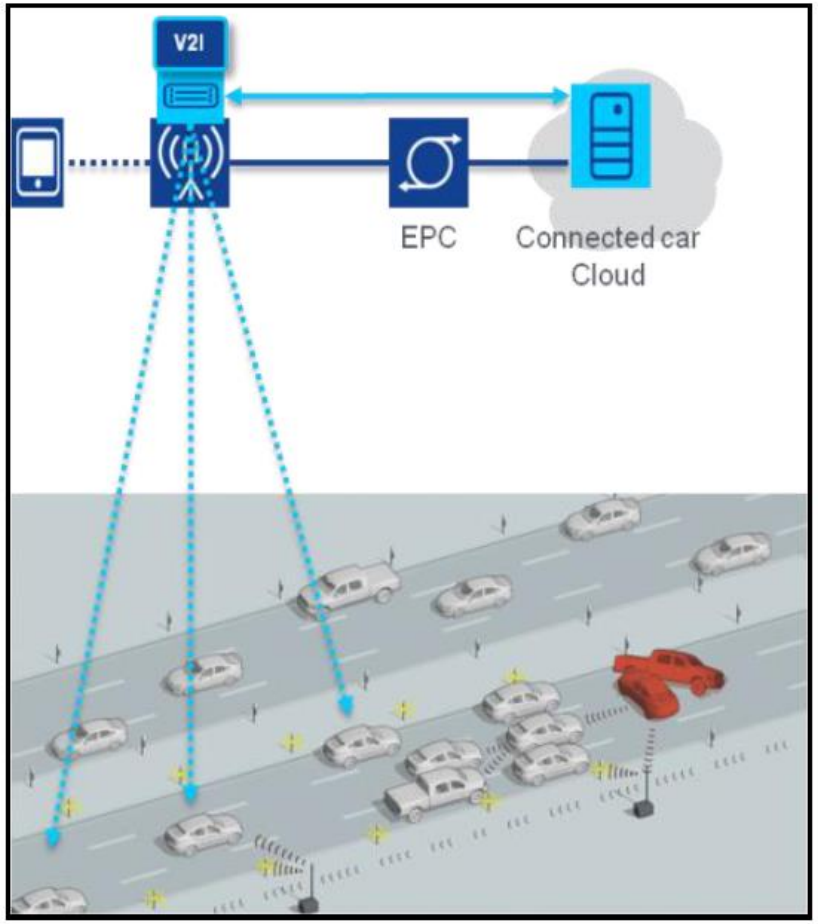
Intelligent Video Acceleration Service Scenario

Radio analytics application, which resides in a MEC server, provides the video server with an indication on the throughput estimated to be available at the radio downlink interface.



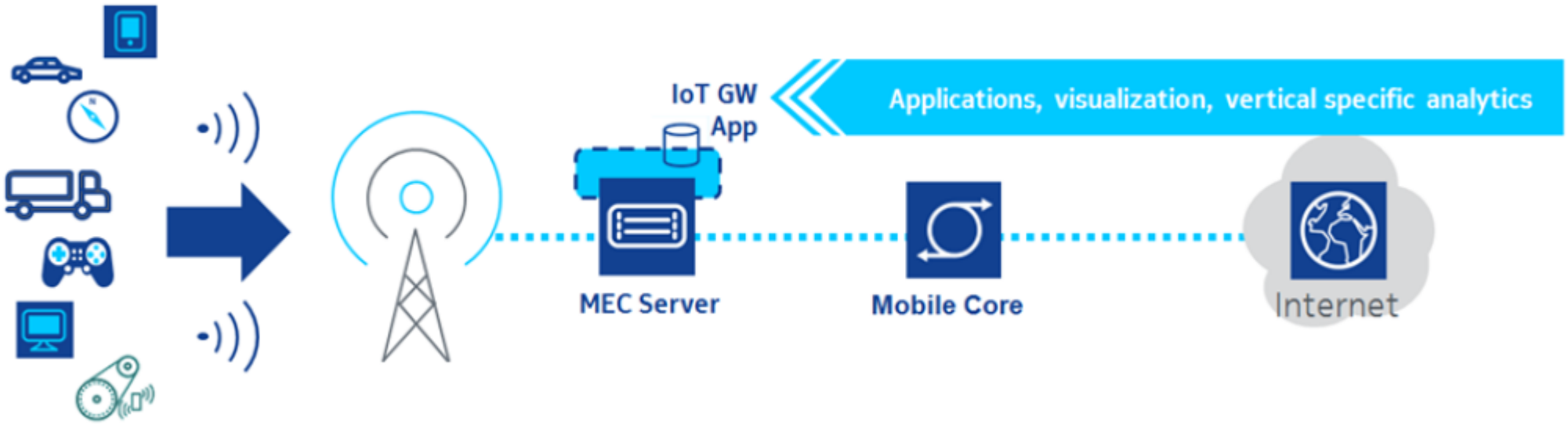
Connected Vehicles Service Scenario

The roadside MEC application inform adjacent MEC servers about the events and enable servers to propagate warnings to cars that are close to the affected area.



IoT Gateway Service Scenario

MEC can be used to connect and control devices remotely, analyse and provide real time provisioning and analytics.



Deployment Scenarios

- Mobile Edge Computing servers can be deployed at multiple locations, such as
  - LTE macro base station (eNodeB) site
  - 3G Radio Network Controller (RNC) site
  - multi-Radio Access Technology (RAT) cell aggregation site
  - aggregation point (which may also be at the edge of the core network)
- MEC applications can be intelligently and flexibly deployed in a seamless manner on different MEC platforms based on technical and business parameters.

Proofs of Concept

- To showcase the Mobile Edge Computing concept, the ISG MEC has developed a Proof of Concept process, specified in GS MEC-IEG 005.
- GS MEC-IEG 005 [2] specifies the process and criteria that a Proof of Concept demonstration must adhere to in order to be accepted as a MEC PoC.

Conclusions

- Mobile Edge Computing enables innovative service scenarios that can ensure enhanced personal experience and optimized network operation
- MEC supports different deployment options, as MEC Servers can be located at different places within the Radio Access Network depending on technical and business requirements.
- A MEC Proof-of-Concept (PoC) program has been established to demonstrate the viability of MEC implementations.

Developing Software for Multi-Access Edge Computing

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ADVISOR:HUNG-YU WEI

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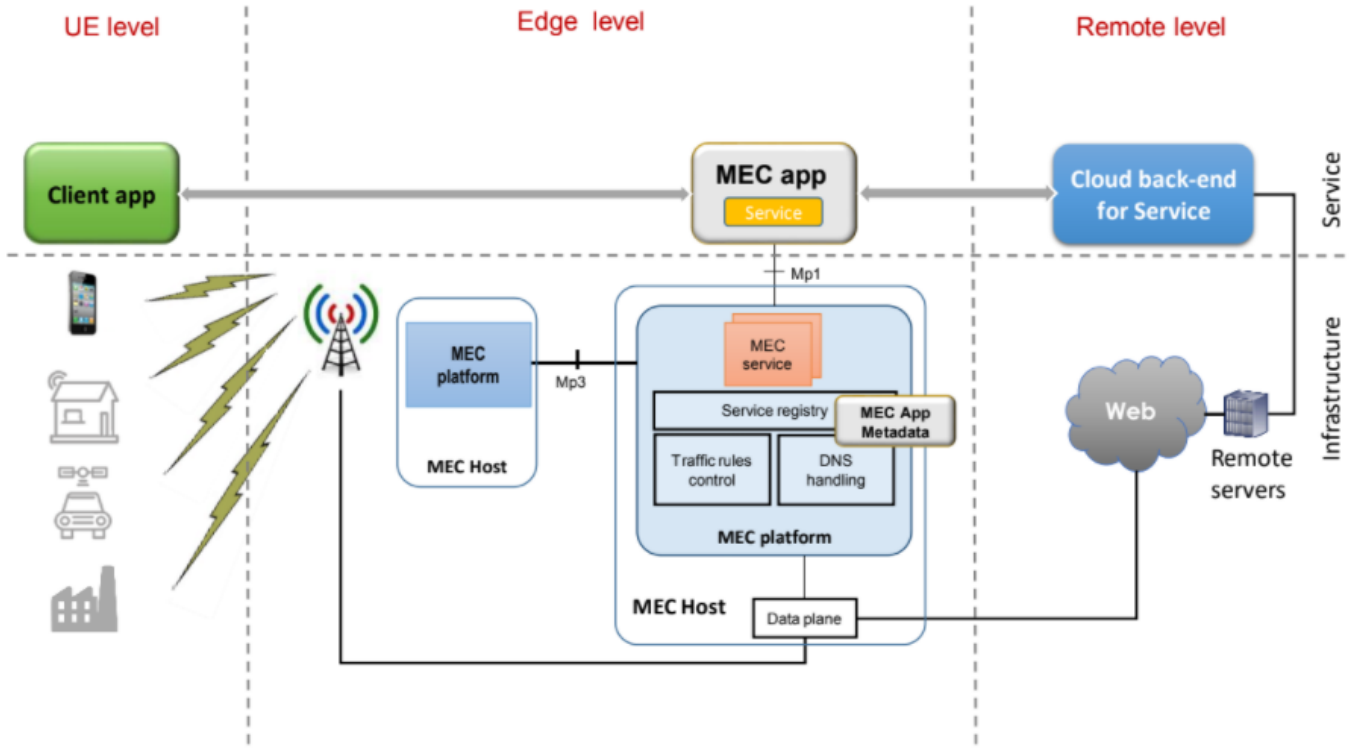
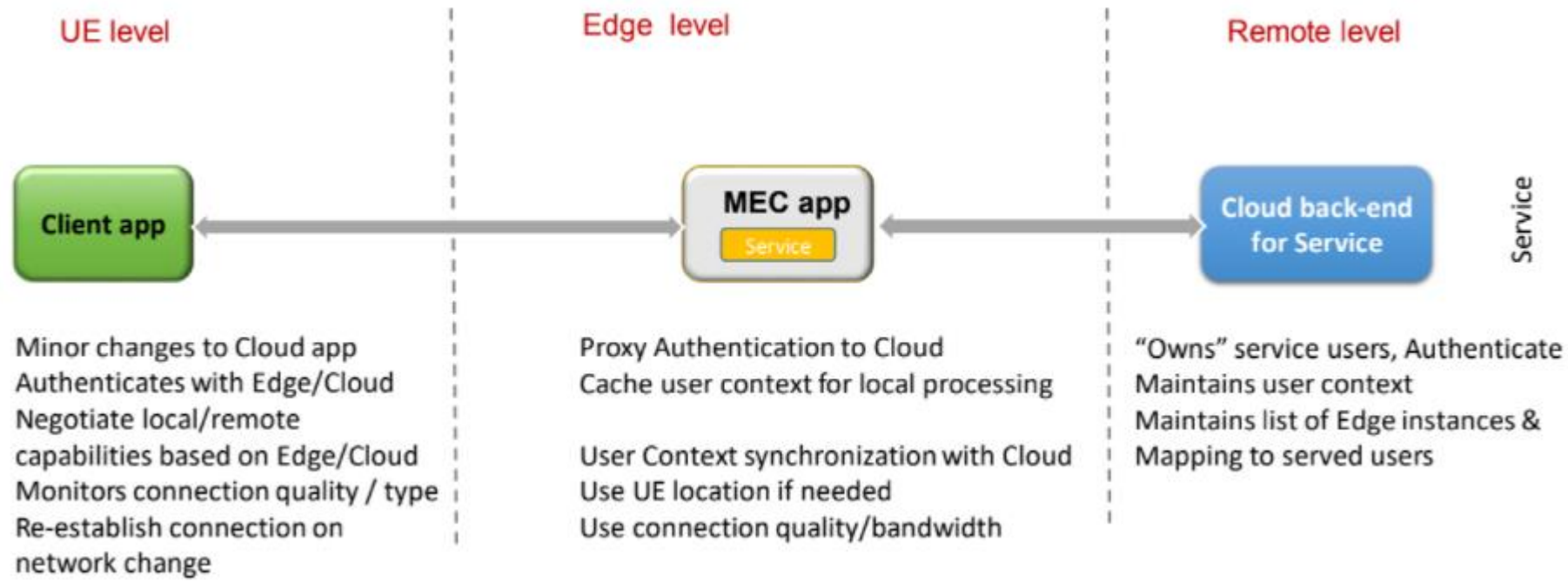
The need for an evolved approach

New application development paradigm introduced by MEC



Designing with the Edge in Mind

Example of splitting an application into “terminal”, “edge” and “remote” components

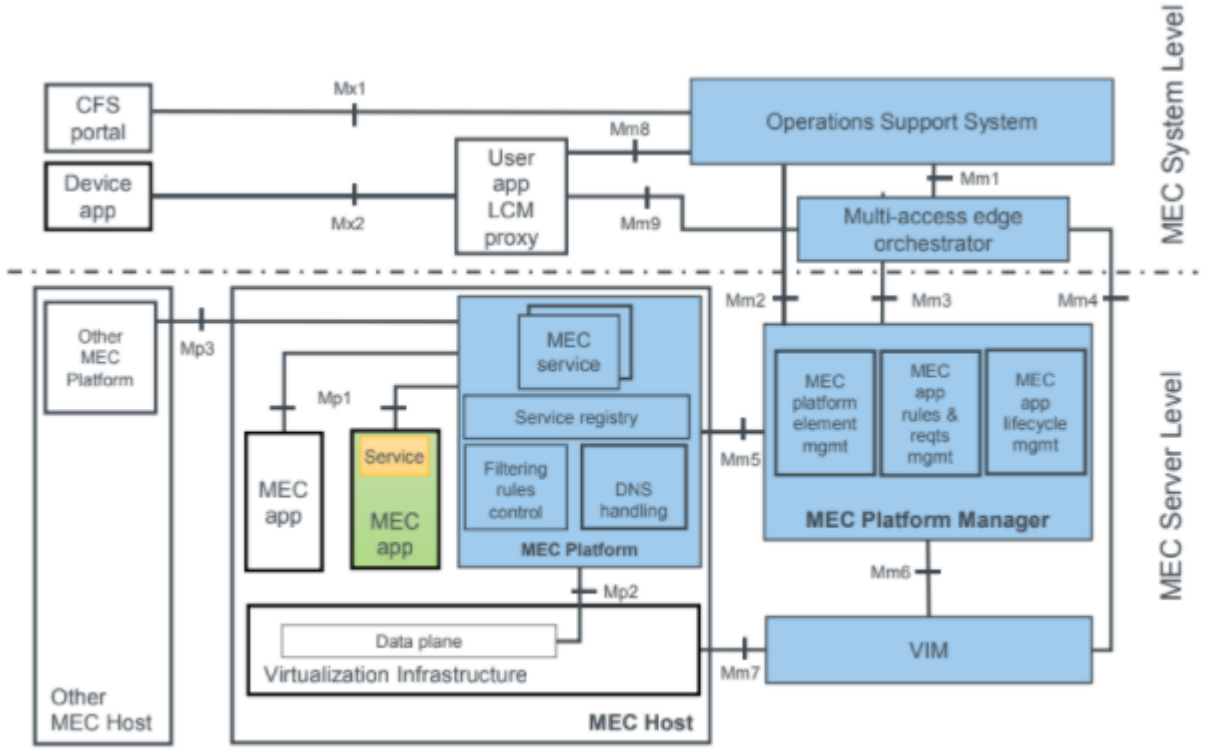


MEC communications in 4 phases

- Phase 1 – MEC application packaging & on-boarding
- Phase 2 – MEC application instantiation
- Phase 3 – communication between client-side app and MEC app
- Phase 4 – usage of the MEC platform and services

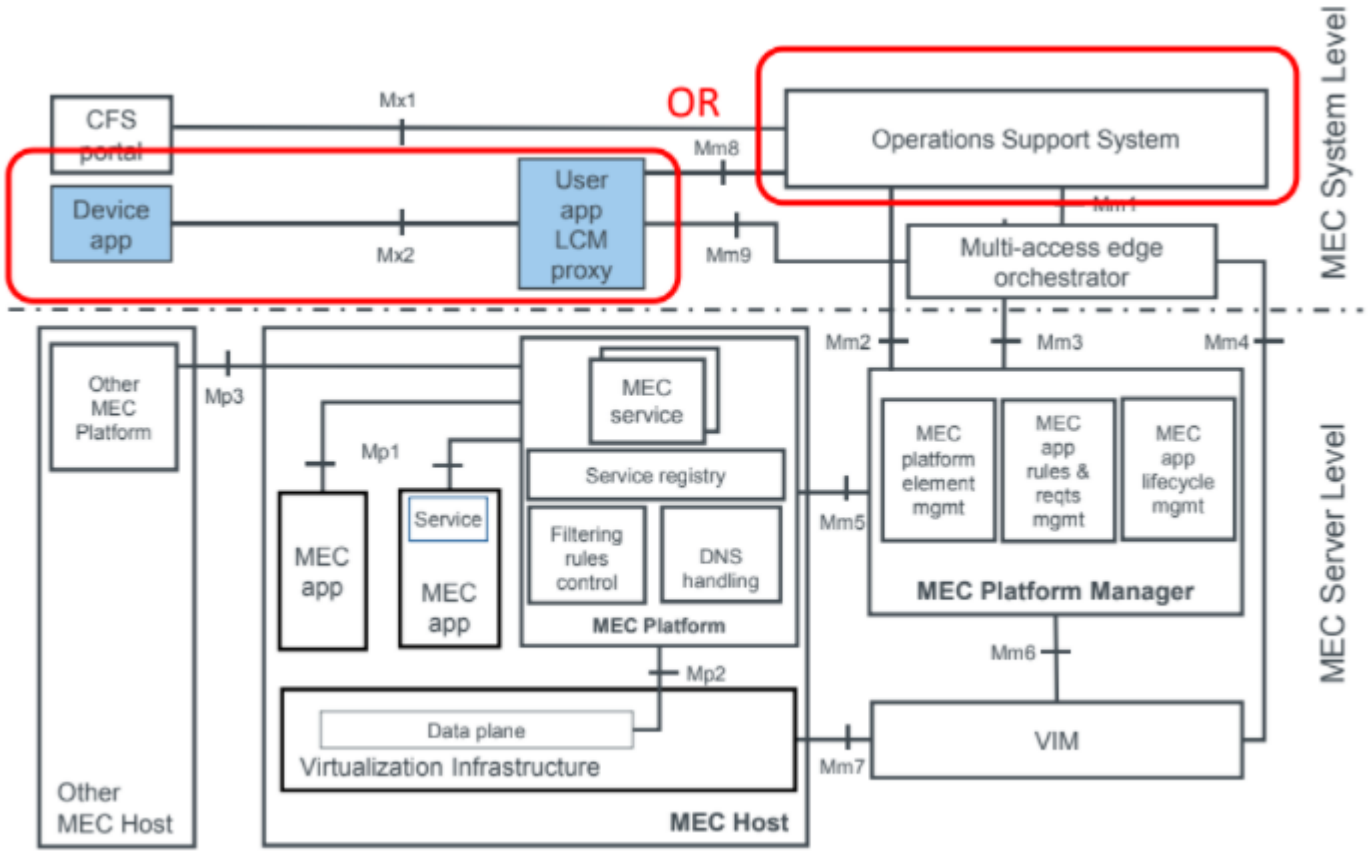
Phase 1: MEC application packaging & on-boarding

Entities involved in Application on-boarding, instantiation and operation



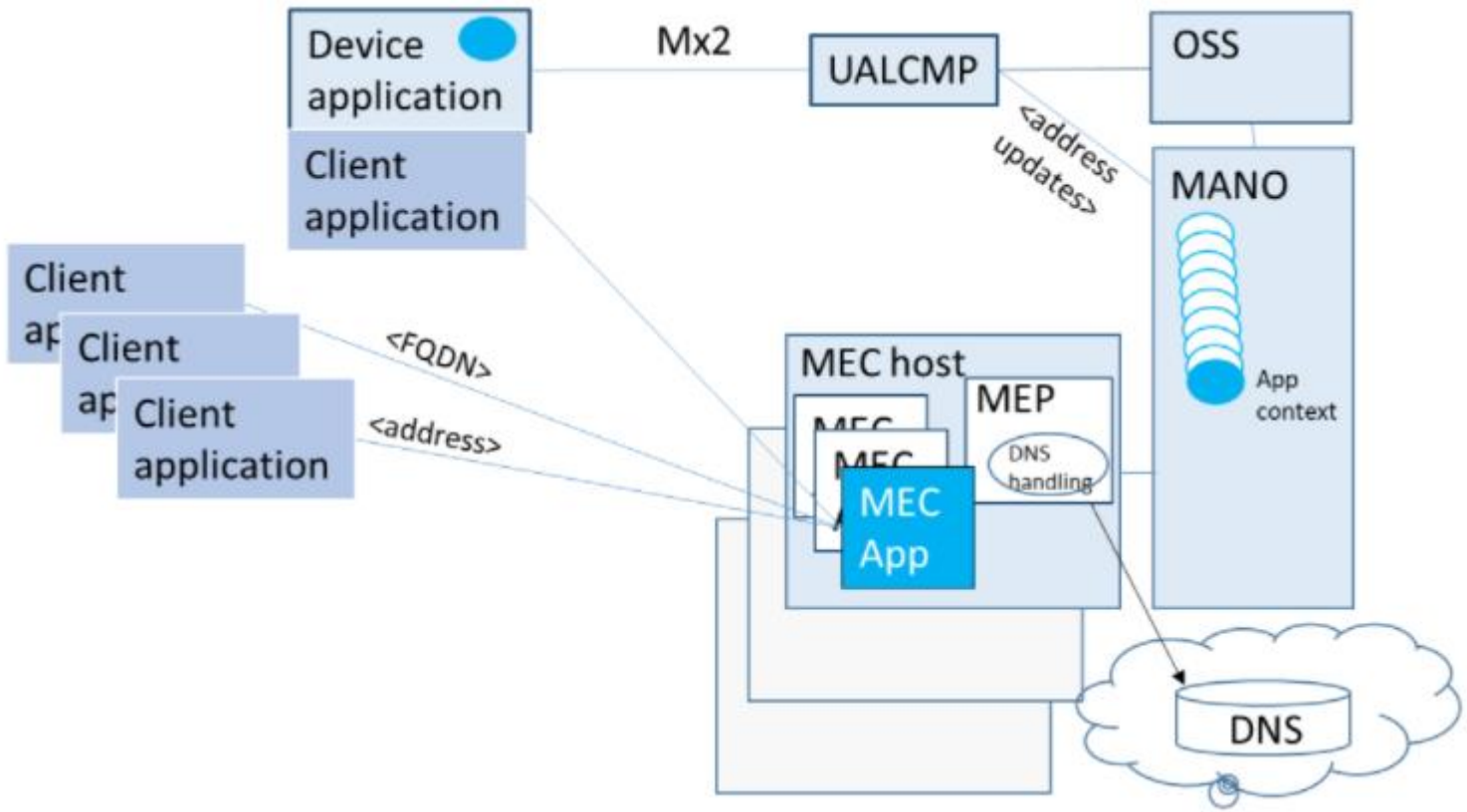
Phase 2: MEC app instance instantiation and operation

MEC app instantiation options



Phase 3: client-side app and MEC app communication

Communications between terminals and the MEC system

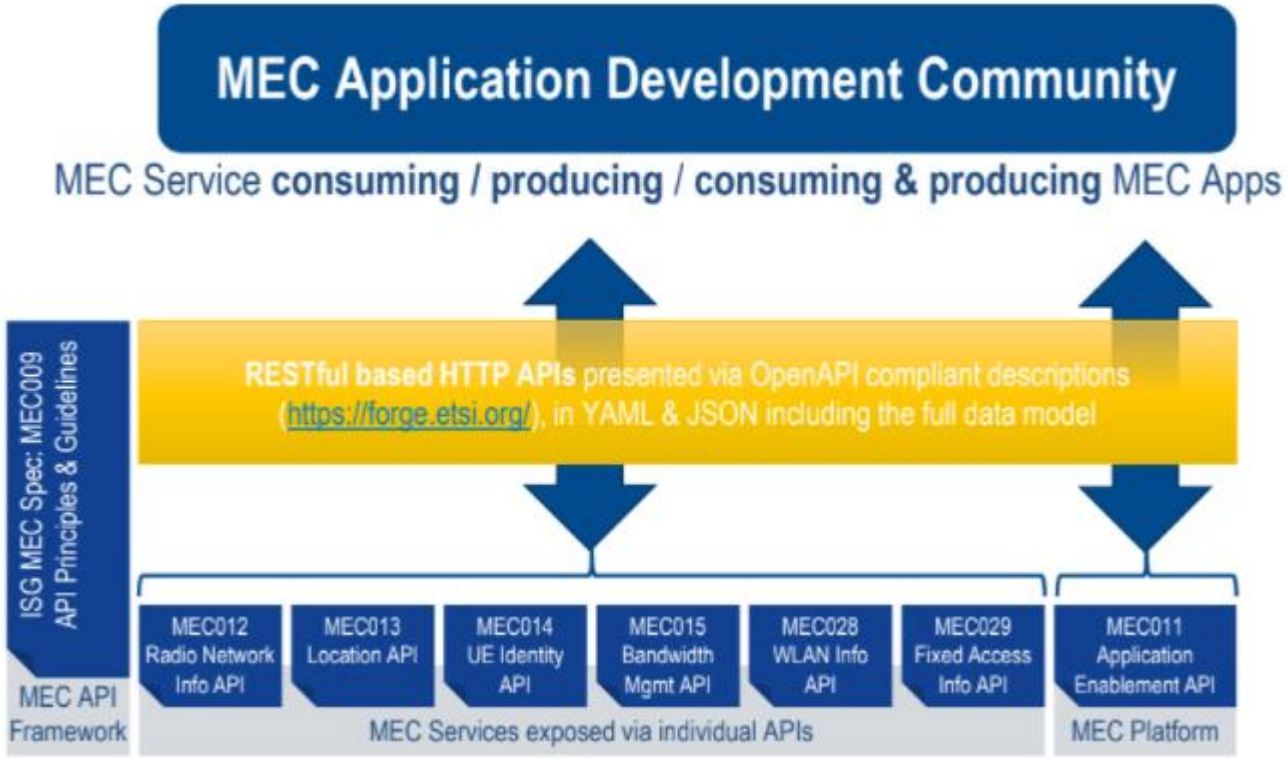


Phase 4: usage of the MEC platform and services

- **Radio Network Information API**
- **Location API**
- **Bandwidth Manager API**
- **UE Identity API**

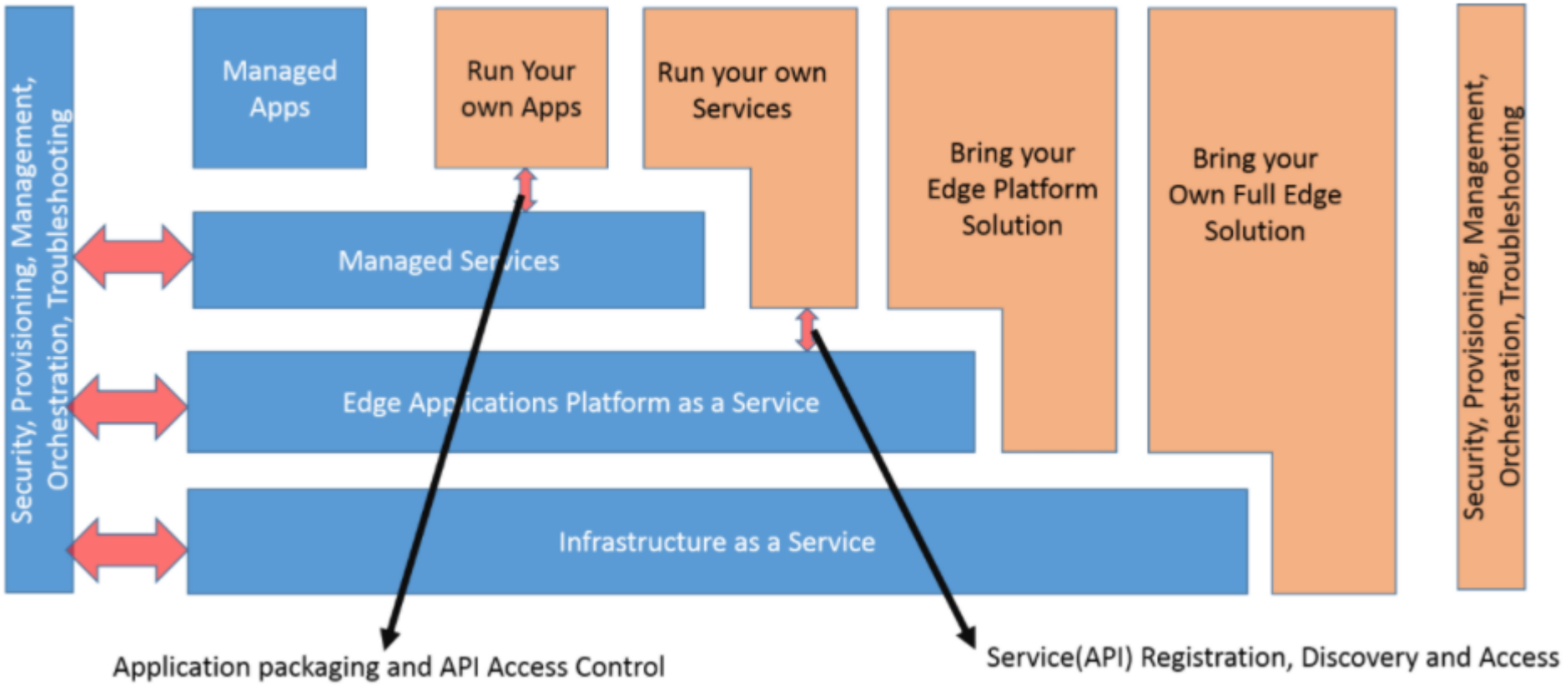
Phase 4: usage of the MEC platform and services

overview of the MEC Platform and Services from a developer perspective



Future evolutions: Edgy DevOps

Overview of different cloud business models



Thank you for listening!