ETSI Multi-access Edge Computing (MEC) – 1 day

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In 2022 technologies and trends such as Massive Internet of Things (MIoT) and the roll-out of 5G call for a service deployment platform which can deliver high bandwidth as well as ultra-low latency for certain users and applications.

ETSI's work on Multi-access Edge Computing (MEC) addresses this, by defining and standardizing an efficient data processing architecture, that extends the existing cloud computing capabilities.

The main objectives of MEC can be summarized as:

- Optimization of mobile network resources by hosting compute-intensive applications at the edge of the network
- Allowing pre-processing of the large data volumes before sending data deeper into the cloud
- Enabling cloud services within the proximity of mobile subscribers, and
- Providing context aware so called MEC Services to MEC Applications with the help of radio access network information.

In doing so, MEC enables a wide variety of applications for which very low latencies are required, such as applications for driverless vehicles, virtual/augmented reality (VR/AR), robotics and immerse media.

PREREQUISITES

NFV knowledge is recommended but not compulsory. Apis' 5G System Overview is highly recommended for background knowledge.

Note: This course is not delivered with the FoldOut methodology.

Introduction to Edge Computing

- What is Edge Computing and where is the Edge?
- IoT and Edge Application Scenarios
- Some Use Cases:
  - Vehicle-to-Infrastructure (V2I)
  - Extended Reality (XR)
  - Video Analytics
  - Intelligent Video Acceleration
- Status and Framework of ETSI MEC

ETSI MEC Architecture

- MEC Host
- MEC Platform
- MEC Services
  - Radio Network Information Service, RNIS
  - Location Services
  - UE Identity
  - Traffic Management
- MEC Applications
- MEC Orchestrator (MEO)
- MEC Platform Manager (MEPM)
- Virtualization Infrastructure Manager (VIM)
- Reference Points

ETSI MEC Procedures

- Onboarding of MEC Applications

- MEC Application Descriptor
- Instantiation and Operation of MEC Applications
- Client App and MEC App Communication
- User App Look-up
- Application Context Create
- Receiving Notification Events
- Location Constraint Look-up
- Application Mobility

ETSI MEC Integration with 5G

- ETSI MEC in 5G
- Procedures at MEC App Instantiation
- UE Location & User Plane Change Reporting to MEO
- 5G Core Network Procedures at MEC App Relocation

Related ETSI and 3GPP Development

- ETSI MEC vs ETSI Network Function Virtualization (NFV)
- 3GPP SA6 for 5G Verticals
- 3GPP EDGEAPP and Common API Framework (CAPIF)