



## 5G and MEC Integration

Multi Access Edge Computing (MEC) plays a crucial role as a key enabler for upcoming 5G-based services. This course provides a comprehensive understanding of the synergy between these two technologies. Initially, it covers the fundamental concepts, followed by a detailed exploration of the standardized MEC architecture from both ETSI and 3GPP perspectives. The emphasis is placed on the System and Host Level components, with a subsequent analysis of how MEC seamlessly integrates with the 5G Service Based Architecture. Furthermore, the course delves into the various 5G techniques and technologies that MEC effectively leverages. Key topics covered include AF Influenced Traffic Routing, LADNs, Uplink Classifiers, Branching Points, and SSC.

### Audience

Knowledge on 5G Technology

## Content of the Training:

### 1) MEC Deployment: Key Concept & Framework

#### □ Deployment of Multi-access Edge Computing

- Use Cases
- MEC Applications Functions
- Illustrative Scenario

#### □ MEC Key Concepts

- Connectivity Frameworks
- Local Access to the Data Network.
- Standardization of MEC.

#### □ ETSI MEC Framework and Architecture

- 3GPP Release Edge Computing
- MEC Framework
- MEC Orchestrator
- MEC Platform

### 2) MEC Procedures and 5G Integration

- ETSI MEC Procedural Aspects.
  - App Package On-Boarding
  - MEC App Instantiation
  - 3GPP MEC High Level Architecture
- MEC Integration with 5G Core
  - 5G and 3GPP Edge Integration
  - Edge Configuration Server Discovery
  - MEC Service Provisioning
  - 3GPP Edge Computing Registration
- MEC Operational Aspect
  - Edge App Server Instantiation
  - Edge App Server Deployment
  - Edge App Server Requirements IOC
  - Edge App Server Function IOC

### 3) MEC Local Network Dynamics and Uplink Classifiers

- Multi-access Edge Computing 5G Enablers
  - Local Network Overview
  - Application Function Impact on Traffic Routing
  - Control of Traffic Routing
  - Role of UPF in Local Networks
  - Data Networks in Local Areas
  - UE Presence in Area of Interest
  - Quality of Service (QoS) in Local Networks
- Uplink Classifiers and Branching Point
  - Uplink Classifiers

- PFCP Session Management
- Tunnel Management During Uplink Classifiers Addition
- Uplink Classifier Mechanisms
- IPv6 Multi-Homing and Branching Points

#### 4) Exploring 5G and MEC: From Standards to Security

##### □ 5G & MEC – Session and Service Continuity

- Session and Service Continuity Overview
- Session and Service Continuity Mode 1
- Session and Service Continuity Mode 2
- Session and Service Continuity Mode 3
- MEC Service Continuity in Mobility Scenarios

##### □ MEC in NFV and SDN Environments

- Network function virtualization (NFV) in MEC
- MEC architecture in an NFV environment
- Application Scenarios of the MEC/NFV
- Software defined networking (SDN) in MEC
- SDN Infrastructure

##### □ MEC Standardization & Security Considerations

- Overview of the involvement of standardization groups
- Standards organizations and Network operators involved in MEC
- Synergized Mobile Edge Cloud architecture

- MEC Security Considerations
- Relationship of service providers in MEC network deployments