

EPC Signaling (TK421)

Prerequisites

Participants must have advanced knowledge of mobile Core Network especially in the Packet Core. For background knowledge, we recommend the TEKonsult course "EPC System Overview".

Target groups

Participant who are working on the operation, troubleshooting, planning and optimizing the EPC networks.

Duration

5.0 days

Course Content

EPC Introduction

- Evolution of the 2G and 3G Core Networks
- EPS network architecture and nodes
- Pool concept for MME and S-GW
- EPC Network Interfaces and protocols
- EPS Security Mechanisms: Authentication, Key Agreement and IPsec

Mobility, Connection and Session Management in EPS

- Mobility Areas
- LTE-UE Identifications
- Terminologies for Mobility and Connection Management
- Mobility and Connection states
- Pool concept for MME and SGW
- The EPS bearer concept

S1 Interface and Protocols

- S1 Interface Overview
- S1-U Interface
- The S1-MME Interface
- S1AP main procedures

Interworking with other Radio Access Technologies

- Interworking with 3GPP Access Networks
- Interface for interworking between E-UTRAN and GERAN/UTRAN
- CS Domain interworking – Voice Call Continuity and CS Fallback
- Interworking with Non-3GPP access

IP Multimedia Subsystem (IMS)

- Multimedia over IP using SIP
- IMS architecture and basic traffic cases
- IMS relation to EPS

Policy and Charging Control (PCC)

- What is Policy and Charging Control?
- PCC architecture
- The PCRF and PCEF