



Who Should Attend?

This course is designed for personnel involved in planning of Evolved Packet Core from the perspective of engineering, operating, and maintaining EPC systems. Practical and theoretical knowledge is valuable for both technical professionals and engineers.

Course Scope

1. EPC planning overview.
 - Traffic planning — objectives, inputs, activities.
 - Traffic modelling.
 - Theoretical models.
 - CS/PS real-time and non-real-time services.
 - IP networks and Internet.
 - Modern services – VoLTE, ViLTE.
2. EPC Connectivity.
 - EPC architecture.
 - LTE Attach.
 - Dedicated bearer setup.
 - VoLTE/ViLTE session setup.
 - Interconnect to other EPC.
 - Interconnect to other IMS.
 - International roaming for LTE and IMS.
3. Traffic Parameters.
 - Key EPC domain parameters and KPIs.
 - Supplementary PS domain parameters and KPIs.
 - Key IMS domain parameters and KPIs.
 - Supplementary IMS domain parameters and KPIs.
4. Traffic Modelling.
 - Bearer services.
 - User profiles and requirements.
 - PS traffic.
 - VoLTE traffic modelling and cases.
5. Traffic Distribution and Dispersion.
 - Reference network model.
 - Subscriber distribution.
 - Traffic dispersion.
6. EPC Capacity Planning.
 - EPC network solution.
 - EPC network topology design.
 - EPC dimensioning considerations.
7. IMS Capacity Planning.
 - Network planning.
 - Detailed network design.
 - IMS network solution – nodal perspective.



- IMS network solution – features.
- MGW, HSS, CSCF dimensioning principles.
- 8. DIAMETER Signalling.
 - Signalling load and volume calculation.
 - DIAMETER Protocol.
 - PCC – features.
 - Bearer setup and control.
 - Gx, Rx, Cx, S6 interfaces.
 - Flow-based charging.
 - Gx, Gy, S9 signalling cases, calculations.
- 9. SIP Signalling.
 - SIP messages, calculations.
- 10. GTP Signalling.
 - S5, S8, S11 interfaces.
 - GTP messages, calculations.

Course Objectives

This course is designed to provide core, radio, and transport network engineers with knowledge about Evolved Core Network planning. An introduction to EPC is provided to justify the need for EPC planning in LTE/IMS enabled networks.

Prerequisites

Participants should have basic knowledge of LTE networks. Signalling knowledge of GSM, WCDMA and IP technology is an advantage.

Training Structure

Four-day training divided into logical sessions.

Methodology

Instructor-led training.