ENG-513 - 4G Core Network

Description

The 4G Core Network, while built on the 3G UMTS (Universal Mobile Telecommunication System) service architecture, emerged through work at the 3GPP (3rd Generation Partnership Project – the mobile platform Standards Body) in an advanced versatile platform capable of processing large amounts of data more efficiently than earlier generations of cellular networks. This 3-day Training Course includes a detailed analysis of the architecture, interfaces, protocols, QoS, deployment and dimensioning of the EPC which supports higher throughput, lower latency, and mobility between 3GPP and non-3GPP radio access technologies. ="gi2_texte">

Learning Outcomes

At the end of the course, participants will be able to:

- Describe the architecture and interfaces between the E-UTRAN (the 4G air interface) and the EPC
- Characterize the performance capabilities of 4G SAE platform
- Discuss the different services carried by the Evolved Packet System (EPS) and their impact on traffic and signaling
- Outline the key protocols used for control and user traffic
- Explain the procedure for EPS bearer establishment and service data flow
- Explain options for carrying voice in 4G, including VoLTE, CSFB, SVLTE, OTT

Topics
The Training Course covers the following topics:
DAY 1

- Introduction, 3GPP, Evolved Packet Core
  - Introduction
  - 3GPP - 3rd Generation Partnership Project
  - EPS - Evolved Packet System

    - EPC interfaces
    - Roaming architecture
    - Non-3GPP access
    - Subscriber identities in EPC (Evolved Packet Core)
    - Call Flow

DAY 2

- Mobility and Bearer Management
    - MME Role and Architecture
    - MM and SM States
    - LTE/EPC Bearer Types and QoS
    - LTE/EPC Attach Procedure
    - LTE/EPC Detach Procedure
    - LTE/EPC Bearer Activation Procedure
    - LTE/EPC Service Request Procedures
    - Tracking Area Update (TAU)
    - LTE/EPC Handover
    - Call flows
        - LTE Attach & EPS Bearer Setup
        - Attach and Default Bearer Setup
        - Tracking Area Update
        - LTE S1 Handover

DAY 3

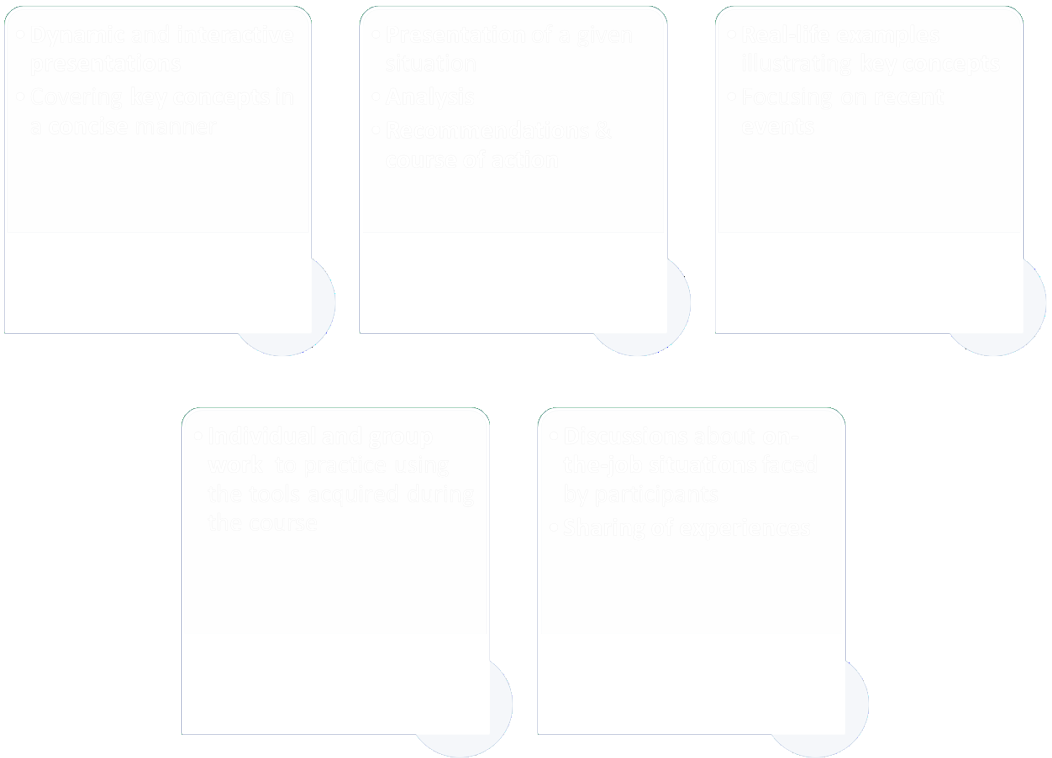
- Voice Services and SMS in LTE
    - Voice and SMS in LTE
    - VoLTE
    - CSFB (Circuit Switched FallBack)
    - SVLTE (Simultaneous Voice and LTE)
    - Over the Top (OTT) Services

Target Audience

- Engineers and technical staff who need a detailed introduction to 4G core networks, (as differentiated from the RF access portion of the network)

Methodology

A combination of engaging activities and dynamic presentations to stimulate and maximize participants' learning.



Location

A selection of Neotelis' training courses is held in various cities around the world. Please contact us at training@neotelis.com for the complete Yearly Training Calendar.

Neotelis can also deliver in-house sessions of this course specifically for your organization. Please contact us at training@neotelis.com for more information and a Proposal.

About Neotelis

Neotelis provides training, consulting, conferences and publications to the telecommunications industry worldwide. Its team of senior experts has trained thousands of executives and managers working for operators, regulators, policy-makers and governments in over 120 countries around the world.

4802 de Verdun St, Office #1, Montreal, QC, H4G 1N1 Canada
Tel: +1 514 281 1211 Fax: +1 514 281 2005
info@neotelis.com