LTE Evolved Packet Core
Training (2 days)

`4G`

With LTE 3GPP has taken out traditional circuit switched elements (MSC) from core network and packet core elements are evolved to provide enhanced data services with better user experience. This course provides a good understanding of LTE/SAE architecture, interfaces, elements (e.g. MME, S-GW, P-GW) and their functional details. A basic understanding of 3GPP technologies like UMTS, LTE would be beneficial for anyone attending this course.

Who Should Attend

This is advanced level course and suitable for telecom professionals including design, testing , support & sales engineers who already have some understanding of LTE & UMTS technologies.

Objective

After completing this course, the audience will be able to:
- Understand LTE Evolution & Architecture
- Define LTE EPC Interfaces & Nodes (e.g MME)
- Describe LTE EPC Interface protocols & functions
- Explain signaling procedures

Course Contents

LTE Overview
- Evolution & High Level Requirements
- High level architecture for the evolved system
- LTE-SAE Nodes
- Functional Architecture E-UTRAN EPC
- LTE-SAE Interfaces

Evolved UTRAN
- EUTRAN Architecture
- eNodeB Functions
- X2 Interface
- S1 Interface

SAE Functions & Architecture
- EPC/SAE Requirements
- SAE Elements & Functions
- HSS, MME, S-GW, PDN-GW, PCRF
- Interfaces and protocols

SAE Identities & Procedures
- SAE Identities (e.g EPS Bearer, GUTI, TAI)
- Registration
- Attach, Detach
- SAE Mobility

Security
- Integrity and Encryption
- AAA Procedures.
- Key Hierarchy.
- IPSec, ESP

SAE QoS, Policy and Charging
- Policy and Charging Control Architecture
- QoS & QoS Mapping
- QoS Profiles
- Charging

SAE Interworking Architecture & Signaling
- CS and PS Interworking
- Interworking with GSM/GPRS
- Interworking with UMTS