Welcome to LTE

LTE_109d | On-Demand | LTE and VoLTE | Express
Course Duration: 1 hour

Long Term Evolution (LTE) is one of the choices for next generation broadband wireless networks and is defined by the 3GPP standards as an evolution to a variety of 3G wireless networks, including both UMTS and 1xEV-DO; its high data rates enable a wide range of advanced multimedia applications. This on-demand offers a quick, high-level overview of LTE radio and Evolved Packet Core (EPC) networks.

Intended Audience

This course is an end-to-end overview of LTE networks and is targeted for a broad audience. This includes those in sales, marketing, deployment, operations, and support groups.

Objectives

After completing this course, the student will be able to:

- Identify the motivations and goals for 4G networks
- Summarize the basic concepts of LTE Air Interface
- Sketch the high-level architectures of the E-UTRAN and EPC
- Describe the different categories of LTE UE
- Walk through a typical LTE call from power-up to service setup to disconnect
- Define the key services expected on LTE networks
- Illustrate the interworking solutions for GSM/UMTS and 1x/1xEV-DO networks
- Explain the important factors to consider when deploying LTE networks

Course Prerequisites

No Prerequisites

Outline

Motivations for 4G
1.1 3G limitations
1.2 LTE goals and targets
1.3 4G building blocks

2. LTE Network Architecture
2.1 LTE architecture goals
2.2 LTE network components
2.3 Evolved UTRAN (E-UTRAN)
2.4 Evolved Packet Core (EPC)

3. LTE Devices
3.1 Device categories
3.2 Role of SIM card

4. LTE Air Interface
4.1 Scalable bandwidth
4.2 Supported radio bands
4.3 OFDM/OFDMA concepts
4.4 Multiple antennas in LTE

5. LTE Services
5.1 Typical call setup sequence
5.2 Basic and enhanced services
5.3 Voice and SMS solutions
5.4 IP Multimedia Subsystem (IMS)
5.5 Policy and Charging Control (PCC)

6. LTE Deployment
6.1 Interworking with GSM/UMTS
6.2 Interworking with 1x/1xEV-DO
6.3 Deployment considerations
6.4 Backhaul options

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