| Course ID | Course Title |
|---|---|
| **VOLTE** | **VoLTE (Voice over LTE) and Alternatives** |
| Course Duration | |
| **3 days** | |

**Related Courses**

- LTE Tutorial (LTE-CT, 3 days)
- LTE Air Interface Techniques (LTEAI, 3 days)
- LTE Signaling (LTESIG, 3 days)

**Aimed At**

Those who wish to exploit the opportunities presented by VoLTE

**Group Size**

5-25

**Prerequisites**

Basic knowledge of LTE, IP technology, LTE signaling, LTE Mobility, and LTE air interface.

**Course in a Nutshell**

3GPP2 had originally intended LTE as an IP-based technology that would handle voice by reverting to 2G/3G or by employing VoIP. Mobile operators perceived this as a lack of standardization and are also facing increasing competition from the OTT (Over the Top) applications such as Skype and WhatsApp.

VoLTE offers a standard for voice and messaging over LTE, provides for handover from/to legacy networks, allows the carriers to use an economical mix of available technology options (2G, 3G, or 4G), and helps them counter the OTT threat. This course will help you understand and realize the potential of VoLTE. Covered in detail are VoLTE as well as alternatives technologies such as CSFB to WCDMA and CSFB to CDMA2000.

**Customize It!**

We can customize this course to your technical requirements.

**Learn How To**

- Plan for VoLTE

- Plan for alternatives (CSFB)

- Explain how VoLTE works

- Implement VoLTE and/or CSFB in your network

**Course Outline**

- LTE/EPC Network Architecture
  - LTE architecture
  - EPC architecture
  - LTE node description
  - EPC node description
  - LTE/EPC: Various implementations

- LTE Voice Traffic Implementation: Options for Fallback to Another Technology
  - SVLTE: Simultaneous 2G/3G Voice and 4G Data
  - CSFB: CS FallBack
  - VoLTE: Voice over LTE using IMS

- MSS: Mobile Soft Switch Solution
  - Need for MSS
  - MSS implementation; 3GPP releases
  - MSS signaling and interconnections

- IMS VoLTE Implementation
  - IMS architecture
  - IMS standards
  - IMS Node elements
  - IMS MMtel solution for voice traffic
  - IMS signaling introduction

- MSS/IMS Interworking
  - Interlayer signaling
  - IMS as an MSS service layer
  - LTE RAN accessibility to IMS
  - WiFi accessibility to IMS

- LTE/3G/2G IP RAN Transport Implementation
  - LTE IP RAN transport capacity planning
  - 3G/2G IP RAN transport capacity planning
  - Mixing inter-technology RAN transport network

- LTE Cell Planning Principles for CSFB, SRVCC and VoLTE
  - LTE cell planning issues
  - QoS for PS traffic and VoLTE traffic
  - Cell range vs. CSFB implementation
  - Optimizing planning
  - Impact on LTE and 3G/2G IP RAN transport capacity

- SRVCC implementation

- ◦ Network architecture
- ◦ Traffic cases
- ◦ Parameter optimization

- CSFB implementation

  - ◦ Network architecture
  - ◦ Traffic cases
  - ◦ Signaling description
  - ◦ Radio parameter planning/optimizing
  - ◦ 3G cell planning interactions
  - ◦ 2G cell planning Interactions
  - ◦ Statistics; troubleshooting

*DCN*                 *NTDR-Ltm-vf*