

Technology Primer: Voice over Wi-Fi (VoWiFi)

Instructor Led Live Virtual Class | Duration: 0.5 day | Course Number: TPR1006

Technology Primers

LTE networks are under tremendous pressure to provide high quality services, both non-real time (e.g. Internet, email, ftp) and real-time (e.g. Voice, video and instant messaging). It is advantageous for LTE networks to selectively off-load certain types of traffic at certain times to Wi-Fi networks by clearly defining network level and usage control policies. This session is designed to provide an insight into one of those services, VoWiFi (Voice over Wi-Fi), which provides enhanced multimedia services for subscribers. The session describes the VoWiFi service and how it differs from existing VoLTE capabilities. A discussion of the new network elements introduced with this feature shows how interworking is achieved with the VoLTE network. This session looks at high level call flows for VoLTE calling scenarios using VoWiFi including handovers. A brief insight is also given into QoS management as well.

Intended Audience

This is an introductory level technical course, primarily intended for those in system design, system integration and test, systems engineering, network engineering, operations, and support.

Learning Objectives

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

- Explain the motivation and requirements for VoWiFi
- Identify key network components and their functions
- Identify the interfaces and protocols used for VoWiFi
- List LTE network elements used for interconnection with Wi-Fi networks
- Describe typical VoWiFi use cases
- List important VoWiFi services
- Identify and list VoWiFi QoS requirements

Suggested Prerequisites

- [LTE_102] LTE Overview (eLearning)
- [LTE_112] VoLTE Overview (eLearning)
- [LTE_129] Exploring VoLTE: Architecture and Interfaces (eLearning)
- [LTE_130] Exploring VoLTE: Signaling and Operations (eLearning)

Course Outline

1. VoWiFi Calling

- 1.1. Definition of VoWiFi
- 1.2. Market drivers, use cases and typical application scenarios

2. Network Architecture of VoWiFi

- 2.1. Architectural requirements
- 2.2. Network architecture for VoWiFi
- 2.3. Network elements, interfaces and protocols

3. High-level Use Cases

- 3.1. UE configuration for VoWiFi
- 3.2. Wi-Fi access and voice call initiation
- 3.3. Handover from VoLTE to Wi-Fi
- 3.4. VoWiFi to VoLTE handover

4. VoWiFi Services

- 4.1. Voice and video calls
- 4.2. Internet access
- 4.3. Emergency calling
- 4.4. VoWiFi QoS