

Essentials of VoLTE

How to deliver voice services in 4G mobile networks



Overview

This course explains the principles and rationale for the VoLTE and IP Multimedia System (IMS). We will highlight the services it supports and offers, as well as putting it in context of the 3G and LTE networks.

Also discussed is the development of policy control in mobile networks. Policy control is arguably one of the most significant enhancements to the network. It allows an operator control the service environment for a customer per customer per service. It brings a very flexible framework for controlling service quality & charging policies.

Who can benefit

This program is designed to provide those working in the communications environment with an overview of issues and key aspects of VoLTE. In particular it is useful for those who are the decision makers within the organization.

Pre requisite knowledge

None

Outline

Part 1 - Introduction

VoLTE Services

- Background to voice/video over IP
- Interim voice solutions: CSFB
- How is VoLTE different
- The VoLTE call life cycle
- VoLTE standards & features

VoLTE/IMS Architecture & Operations

- What is the IMS?
- How does it relate to VoLTE?
- What is SIP (Session Initiation Protocol)?
- IMS basic functionality
- IMS in mobile & fixed line networks

Service Architecture

- VoLTE services
- High Quality Voice & voice coding
- Support for legacy SMS services
- Messaging and presences
- VoLTE and roaming

Part 2 – Connectivity Life Cycle

Delivering Voice in 4G networks

- Circuit switched Fallback (CS-FB)
- Voice over LTE via Generic Access (VoLGA)
- Voice over LTE

VoLTE/IMS System Architecture

- Architecture & interfaces
- Key components & functions
- Operation of the Call Session Control Function (CSCF)
- IMS application servers
- The Home Subscriber System (HSS)

VoLTE/IMS Protocols & Procedures

- SIP protocol operation
- Session Description Protocol (SDP)
- DIAMETER Protocol & Applications

Policy and Charging Control

- Policy and Charging Control concepts
- The Policy Control & Rules Function (PCRF)

VoLTE/IMS Operation

- VoLTE & CSFB signaling flows
- Registration & security features
- VoLTE/IMS voice call flow
- VoLTE/IMS roaming architecture

DURATION 2 days

MAXIMUM CLASS SIZE 12