

eMBMS Overview

eLearning (H5) | Average Duration: 1 hour | Course Number: LTE_117

4G LTE

Mobile operators around the world are deploying Long Term Evolution (LTE) in order to support the ever increasing demand for speed and data throughput. Video is becoming a significant component of the information carried by mobile networks. Techniques related to content distribution are critical for the operators to maximize the spectral efficiencies and provide acceptable coverage and capacity for subscribers. eMBMS (evolved Multimedia Broadcast Multicast Services) is a technology designed for LTE networks that supports efficient distribution of broadcast and multicast contents. This course provides an overview of eMBMS technology. Starting with a quick introduction to eMBMS, the course then describes example usage scenarios followed by an architecture discussion. The course covers the end-to-end operations in eMBMS and concludes with a look at how eMBMS is supported over the air on LTE networks.

Intended Audience

This course is an overview of eMBMS and is targeted for a broad audience. This audience includes those in product management, planning, integration, operations, and end-to-end service deployment groups.

Learning Objectives

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

- Describe what eMBMS technology is
- Sketch the architecture of the eMBMS network
- Mention functions of network interfaces in an eMBMS network
- Identify signaling and traffic paths within the eMBMS network
- Explain the concept of MBSFN
- Specify example MBMS development features in various releases of 3GPP
- Describe possible eMBMS deployment scenarios

Suggested Prerequisites

- [LTE_102] LTE Overview (eLearning)

Course Outline

1. Introduction

- 1.1. What is eMBMS?
- 1.2. eMBMS transmission modes
- 1.3. eMBMS usage

2. eMBMS Architecture

- 2.1. 3-layer functional model
- 2.2. Functional architecture and nodes
- 2.3. Network interfaces
- 2.4. Traffic and signaling paths

3. eMBMS Operations

- 3.1. Broadcast and multicast operations
- 3.2. Session control procedures
- 3.3. Traffic transmission and reception scenarios

4. eMBMS Air Interface

- 4.1. MBSFN and service areas
- 4.2. Resource allocation options
- 4.3. Standards and development

5. Deployment Scenarios

- 5.1. Event driven deployment scenario
- 5.2. Content dependent deployment scenario

6. Summary

Put It All Together

Assess the knowledge of the participant based on the objectives of the course