

5G Voice Solutions - VoNR and EPS Fallback

This learning takes an in-depth look at the architecture and operation of voice solutions in 5G networks such VoNR and EPS Fallback. This flexible training combines instructor-led and self-paced activities to enhance the learning experience and effectiveness.

Intended Audience

Planning, design, engineering and operations personnel

Objectives

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

- Sketch the architecture for voice services in 5G
- Describe the VoNR and EPS fallback services
- Illustrate the signaling flow for VoNR calls in 5G
- Describe the codecs used for VoNR
- Sketch the signaling procedures for EPS fallback
- Identify call flows for emergency services in 5G

What You Can Expect

- Prerequisite: 5G Networks and Services
- Prerequisite: Working knowledge of VoLTE, LTE and IMS operations
- Required Equipment: PC with access to Wireshark
- Total Expert-Led Live Duration: 9 HOUR
- Total Self-Paced Duration: 5 HOUR

Outline

1. Voice services in 5G

- 1.1 4G, 5G, and IMS network architecture
- 1.2 Introduction to EPS Fallback
- 1.3 Introduction to VoNR

Exercise: Voice Services in 5G

2. 5G and IMS Registration

- 2.1 5G Architecture and Operations
- 2.2 PDU Session, IMS Registration Call Flows
- 2.3 Voice with IMS and VoNR
- 2.4 IMS Pre-Call Functions
- 2.5 IMS Registration

Exercise: 5G and IMS Registration

3. EPS Fallback Operations

- 3.1 LTE Interworking
- 3.2 EPS and RAT Fallback
- 3.3 Call Origination with EPS Fallback
- 3.4 Call Termination with EPS Fallback

- 3.5 Ending the Call
- 3.6 EPS Fallback Call Flows

Exercise: EPS Fallback

4. Voice over NR (VoNR) Operations

- 4.1 VoNR call model
- 4.2 Call Setup
- 4.3 Resource Establishment
- 4.4 Call Termination

Exercise: VoNR call setup

5. Emergency calls in 5G

- 5.1 E-Call in 5G with VoNR
- 5.2 Call Setup – Pre-conditions Assumed
- 5.3 E-Call Using EPS Fallback

Exercise: Emergency calls in 5G

Final Assessment

Week 1	Week 2	Week 3
Session 1 (3 hrs)	Session 2 (3 hrs)	Session 3 (3 hrs)