

4G and 5G Interworking in an Hour

CONTENTS

This course presents the technical overview of interconnection options and interworking procedures between 4G Evolved Packet System and 5G System, as specified in the current R16 3GPP standards.

The course focuses on the deployment options, network features and procedures for idle and connected mode device mobility and service continuity in a multi-access environment with 4G/5G core networks and possible inter-RAT dual connectivity scenarios.

PREREQUISITES

Technical knowledge of the architecture and procedures in the 4G and 5G systems is necessary.

Attending Apis “LTE System Overview” and “5G System Overview” courses or having the equivalent knowledge will allow the participants to benefit fully from the course.

NOTE: This course is not delivered with the FoldOut methodology.

Network Architecture

- High-level network architecture for 4G and 5G interworking
- Terminology for UE connections to Packet Data Networks in 2G, 3G, 4G and 5G
- 4G and 5G UE core network identities
- Overview of inter-system procedures for UE
- 5GC – EPC Interworking Architecture
- Interworking of 4G and 5G Subscription Databases and HSS – UDM Interactions

Interworking: Core Network

- Overview of idle mode mobility procedures between 2G, 3G, 4G and 5G
- UE operation mode and N26 interface
- Single and dual registration modes in EPC and 5GC
- Use of GUTIs
- Overview of connected mode mobility procedures between 2G, 3G, 4G and 5G
- Interworking procedures with and without N26 interface
- Parameters related to data connections handling and inter-system session continuity
- Glimpse at IMS specific procedures: RAT fallback and EPS fallback

Interworking: Access Network

- UE capabilities and RFSP
- UE radio capabilities handling in EPC and 5GC, capability identifiers for RACS
- UE connecting to ng-/eNB: system information parameters and CN selection
- Dual Connectivity: introduction and overview of Dual Connectivity procedures
- Interworking with Wi-Fi Access
- PDU session transfers between different access types (3GPP and Wi-Fi)
- Access Network Discovery and Selection Policy (ANDSP)
- Overview of PS-to-CS SRVCC from 5G NR to 3G UTRA FDD