

IMS for VoLTE in Half a Day

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This course presents the IMS technology as used for handling the multimedia telephony service in 4G, as specified in GSMA and the current (R16) 3GPP standards.

The course presents the UE and network features and definitions that guarantee establishment, handling, and service continuity for the telephony service over LTE. Basic set of features for VoLTE service as defined in the GSMA IR.92 for the UEs, 4G/LTE and IMS is discussed.

PREREQUISITES

Technical knowledge of the mobile telecom systems is crucial.

Attending the Apis' half-day "LTE/4G" and "IMS Architecture" 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.

VoLTE UE

- Requirements on VoLTE-compatible UEs
- UE Identification in IMS: IMPU, IMPI with ISIM/USIM options
- UE as a SIP UA
- VoLTE-specific procedures in the UE: LTE Attach, PDN Connection Establishment, IMS Registration, VoLTE Session Setup

E-UTRA (LTE) as an IMS IP-CAN

- Requirements on the E-UTRA network for voice connections
- QoS guarantees to set up resources for SIP Signalling on Default EPS Bearer and for the voice samples on Dedicated EPS Bearer
- Resource description in EPS, QCI
- Routing options: Local Breakout, Home Routed traffic
- CSFB as a pre-IMS call continuity feature
- VoLTE-specific procedures and basic parameters in the EPS: LTE Attach, PDN Connection Establishment to IMS

IMS as the control platform

- Summary of the IMS functionalities
- EPS/LTE as one of the Access Networks that can act as IMS IP-CANs
- Untrusted WiFi as one of the Access Networks that can act as IMS IP-CANs
- Multimedia Telephony as one of the possible services handled by IMS
- MMtel Subscription in IMS: IMS Service Profile for VoLTE, including initial Filter Criteria
- IMS Application Servers for VoLTE: TAS, SCC AS
- Policy and Charging Control with PCRF as a Policy Manager
- VoLTE-specific procedures and basic parameters in IMS: IMS Registration for MMtel, VoLTE Session setup, SRVCC
- Supplementary Services handling
- Interworking between IMS and legacy CS: IMS breakout/break-in
- SMS over IMS