COURSE DESCRIPTION

CERTIFIED LTE RADIO PLANNING AND OPTIMISATION PROFESSIONAL

Format: Face to Face, Live on Web
Duration: 2 Days, 4 x 3 Hours
COURSE SUMMARY

HIGHLIGHTS

- Highly focused and in-depth training from the experts - including relevant updates from OVUM’s extensive research team
- PACE enabled training to maximise competency development - see inside
- Trainers and programme directors that are experts, industry experienced, and highly accomplished training professionals
- Training outcomes and competency development designed to meet your specific requirements

OUTCOMES & COMPETENCY DEVELOPMENT

Participants will develop or be able to:

- An overall comprehension of all strategic and technical issues concerning the implementation of voice over LTE
- Contribute much more effectively to strategic discussions related to the deployment of voice services within LTE
- Evaluate implementation options for VoLTE and CS Fallback solutions
- Fully understand the LTE and IMS signalling procedures for a variety of call scenarios
- Fully understand the QoS and bearer implications for VoLTE
- An understanding of VoLTE performance and capacity
- Confidence to discuss potential issues regarding VoLTE, CSFB implementation
- Make decisions on technology implementation and procurement that are commercially viable, minimise risk, and in line with the strategy and goals of the wider organization.

COURSE SUMMARY

Voice and voice related services for next generation mobile broadband services such as LTE will be managed and delivered over IP based networks. This programme will cover all aspect of IMS and its capabilities in respect of delivering voice services via the LTE network.

The crucial elements of LTE architecture, bearers and QoS are outlined as well the structure and protocol of the IMS. The course participant will learn about the identities and configurations required for the UE and LTE core and IMS in order to provision the LTE voice service.

CS Fallback is an important interim service and this programme will discuss the network requirements to support the fallback solution in both the UE procedure and core network. Interworking between IMS voice and CS voice and various mobility scenarios will also be covered.

Full end-to-end LTE and IMS signalling procedures will be examined, including initial attach and registration, bearer and QoS control and SIP/SDP interaction for various call and non-call related situations.

UA, ETISALAT

“The trainer was passionate and exhumes a broad knowledge of the subject matter.

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Telecomsacademy.com

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+44 (0)20 7017 4144

Book via email
training@telecomacademy.com
**COURSE CONTENTS**

**LTE AND IMS, ARCHITECTURE AND PROTOCOLS**
- LTE RAN and Radio Interface
- EPC Elements, Interfaces and Protocols
- IMS Elements, Interfaces and Protocols
- LTE Bearers, QoS and Scheduling
- IP Address Allocation
- LTE and IMS Identities
- Call Procedures Overview
- CS Fallback
  - Fallback Principles
  - Fallback Architectural Requirements
  - Fallback to GSM
  - Fallback to UMTS
- IMS and Services
  - Service Provisioning Overview
  - Enforcement and Allowed Services
  - Service Triggering Information
  - Application Server Selection
  - Application Server Behaviour

**VOLTE CHARGING AND BILLING**
- Review of the high-level billing architecture
- Charging models and requirements
- 3GPP specifications relating to charging
- Online and offline charging functions
- Credit management triggers
- Termination actions
- Flow-based charging concept and SDF charging examples
- Charging rules
- Gating and QoS control
- SDF detection
- Bearer service establishment, modification and termination procedures (online and offline)
- The IMS and charging

**VOLTE SIGNALLING**
- Device configuration and Subscription
- EPS Attach and Default Bearer Activation
- IMS Registration/De-Registration
- IMS VoIP Session
- SIP Invite and SDP
- Media Negotiation
- Media Resource Reservation and Policy Control
- Session Release
- Voice Continuity
  - PS-PS Inter-System Handover
  - SR-VCC
- IMS Emergency Session
  - Emergency Registration
  - Emergency Session

**VOLTE SERVICES**
- MMTEL Service Definition
- MMTEL Architecture
- Supplementary Services
- Messaging
  - Session Based Messaging
  - Interworking with SMS
  - SMS over IP

**VOLTE MOBILITY**
- Mobility Options
  - Handovers
  - Fallback
- SRVCC Architecture
- SRVCC Operation and Signalling
- CSFB Architecture
- CS Operation and Signalling

**VOLTE ROAMING**
- Typical Interconnect Model
- UE - IMS connectivity Options
- VoLTE Interconnection Options
- IMS Interworking
- IPX Services and Interfaces
- Signalling for VoLTE Roaming
OUR TRAINING SERVICES

TELECOMS ACADEMY STRUCTURE

Our training programmes are delivered worldwide as part of the training and development plans of many operators, vendors, and service providers. The programmes cover a wide range of competency development requirements.

To ensure we meet the training needs of the industry as effectively as possible, we operate three schools:

School of Telecoms Management
Business training tailored to the telecoms industry, ranging from the intensive 5-day Telecoms Mini MBA to specialist leadership and marketing training.

School of Advanced Communication Technologies
Covering a multitude of technologies, these courses range from overviews aimed at nontechnical staff to in-depth engineering training.

Distance Learning
Our comprehensive suite of Distance Learning programmes provide an excellent opportunity to expand knowledge and build confidence.

PACE ENABLED TRAINING

Our programmes are PACE Enabled – a training method that optimises both training value and student engagement. It delivers highly efficient competency development that is focused squarely on practical application in the work place. It is simple in concept and comprises four key elements;

- Preparation – Pre-course preparation in order to “hit the ground running”
- Application – Applied Learning that focuses on practical application in order to maximise both training value
- Consolidation – Post-course continuing competency development, access to resources and on-going support
- Experience – An outstanding end-to-end training experience designed to develop competences as effectively as possible

OUR TRAINERS

We only use trainers and programme directors that satisfy the following three criteria:

- Experts in their field
- High level of Industry Experience
- Expert facilitators and training professionals.

All our trainers have undergone a rigorous election process and are subject to continuous monitoring and evaluation. Each trainer is accredited for specific courses or topic areas. Whether engineers or business experts, all our trainers are required to continue their own development within their specialist areas, and to broaden their Industry view of trends, best practice and technology.

This is achieved by our on-going work with many tier 1 operators and vendors, and by full exposure to Ovum research and KNect 365 TMT worldwide events.

UNIVERSITY ACCREDITATION

Some of our programmes have been accredited by the University of Derby Corporate; a UK-based university highly acclaimed in the area of employer engagement. They are at the forefront of the drive to integrate highly focused industry-led training with the academic rigor and quality control of university-based education. Our comprehensive Advanced Telecoms Management Series have been accredited Post-Graduate Level, with our extensive suite of Distance Learning at Undergraduate Level)

We would be happy to discuss extending accreditation to tailored ATMS or programmes based on our Distance Learning modules. Although accreditation is specific to these programmes, the work we do with the University of Derby enable us to develop and apply best practice across our portfolio.

CUSTOMISED IN-HOUSE TRAINING

Telecoms Academy has worked with countless companies to deliver customised training programmes. We take time to understand your requirements, you’ll work with our specialist training team to ensure that we deliver your perfect training programme for your business.

A customised training programme from Telecoms Academy ensures you get a course that precisely matches your organisation’s needs, presented by a first-rate training organisation, with access to all the latest industry research and analysis.

Why choose in-house training from Telecoms Academy?

- Content can be customised to focus on the issues you want – work with us to develop the training course to match the exact needs.
- Unique industry research – from Ovum’s team of industry leading analysts
- Expert trainers – our team of versatile trainers have the knowledge and experience to deliver a highly effective learning experience
- The most efficient way to train your staff – at the time and location to minimise disruption
- Flexible delivery options – with a range of instructor led, distance learning and virtual classroom formats available you can build a blended solution to maximise training effectiveness over the long term
- Pre and post course assessment – can be included in programmes to measure competencies and check on the required progress.

Contact us to discuss how we can build your perfect programme.