

Introduction to Signaling in 2G/3G Rel 4 (TK610)

Prerequisites

Participants must have some technical knowledge in telecommunications, and some basic knowledge of 2G/3G networks.

Target groups

Personal, technician and engineers who operate and maintain RAN network.

Duration

5.0 days

Course content

Introduction

- Release 4 concept
- Core network protocols in 2G/3G Rel4 network
- Protocol stacks and interfaces

MTP: Message Transfer Part

- Functionality of the three MTP layers
- MTP message structure
- MTP procedures

SAAL: Signaling ATM Adaptation Layer and MTP3-b

- Function and message structure of SAAL and MTP3-b
- Important SAAL messages and their parameters
- MTP/SAAL functional procedures

SIGTRAN, SS7overIP

- Function and structure of SCTP messages
- Important SCTP messages and their parameters
- Function and structure of M3UA messages
- Important M3UA messages and their parameters

SCCP

- Functions of SCCP in a CCS7 protocol stack
- Structure of a SCCP messages
- Important SCCP messages and their parameters
- SCCP services: connection oriented, connectionless

RANAP

- Transport of RANAP messages on the Iu-CS interface
- Functions of the RANAP signaling protocol on the Iu-CS interface
- Important RANAP messages and their parameters
- RANAP location update procedure on the Iu-CS interface
- RANAP call setup procedure on the Iu-CS interface

TCAP & MAP

- Transport of TCAP and MAP messages on various interfaces
- Structure of a TCAP/MAP message
- Functions of TCAP transaction portion, dialog portion and component portion
- TCAP support for exchange of messages from higher layer protocols
- MAP application context and its application
- MAP functionalities and procedures

AAL Type 2 Signaling

- Transport of AAL2 signaling messages on the IuCS and Nb interface
- Purpose of AAL2 signaling
- AAL2 signaling procedures
- Important AAL2 signaling messages and their parameters

MEGACO

- Transport of MEGACO messages on the Mc interface
- MEGACO protocol concepts: Context, Terminations, Signals
- MEGACO message structure
- Important MEGACO messages and their parameters

ISUP: ISDN User Part

- Function and message structure of ISUP
- Call- and maintenance related ISUP procedures
- Important ISUP messages and their parameters

BICC

- Call setup procedures with BICC
- Transport of BICC messages on the Nc interface
- Important BICC messages and their parameters
- Application transport mechanism inside BICC messages
- Transfer of IPBCP signaling inside BICC messages

SIP

- Transport of SIP messages
- SIP addresses SIP-URI and TEL-URI
- Structure of a SIP dialog for call control on the Nc interface
- SIP requests and responses
- Transport of bearer information inside SIP messages