TK511: CS Signaling

Duration

4.0 Days

Course Content

1. Introduction to signaling

- 1.1. Describe the term of signaling
- 1.2. Standardization bodies for 2G/3G core network protocols
- 1.3. Rel4 signaling protocols

2. MTP

- 2.1. TDM based MTP Rel4 network
- 2.2. MTP layers
- 2.3. MTP message structure
- 2.4. MTP related messages
- 2.5. SAAL MTP3b
- 2.6. SAAL and MTP3b message structure
- 2.7. MTP/SAAL functional procedure
- 2.8. Signaling flow

3. SIGTRAN

- 3.1. SIGTRAN protocol stack is applied in Rel4 network
- 3.2. SCTP function and structure
- 3.3. M3UA function and structure
- 3.4. SIGTRAN Signaling flow

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4. SCCP

- 4.1. SCCP in Rel4 network
- 4.2. SCCP functionalities
- 4.3. SCCP message structure
- 4.4. SCCP services: connection oriented, connectionless
- 4.5. SCCP message routing based

5. TCAP MAP

- 5.1. TCAP and MAP in Rel4 network
- 5.2. TCAP and MAP message structure
- 5.3. TCAP transaction portion, dialog portion and component portion
- 5.4. TCAP higher layer protocols transport
- 5.5. MAP functionalities and procedures

6. RANAP

- 6.1. RANAP in Rel4 network
- 6.2. RANAP protocol in Iu-CS interface
  - 6.2.1. Location update procedure
  - 6.2.2. Call setup procedure
- 6.3. RANAP signalling flow

7. MEGACO

- 7.1. MEGACO in Rel4 network
- 7.2. MEGACO in Mc interface
- 7.3. MEGACO message structure
- 7.4. Context, Termination, Signal
- 7.5. MEGACO message flows for call setup

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8. ISUP

- 8.1. ISUP in Rel4 network
- 8.2. ISUP message structure
- 8.3. ISUP call related procedures
- 8.4. ISUP message flows

9.BICC

- 9.1. BICC in Rel4 network
- 9.2. BICC messages in Nc interface
- 9.3. IPBCP inside BICC message
- 9.4. BICC signaling flow

10. SIP-I

- 9.1. SIP-I in Rel4 network
- 9.2. SIP messages in Nc interface
- 9.3. Structure of a SIP dialog for call control
- 9.4. Call control SIP requests
- 9.5. Provisional and final SIP response
- 9.6. SIP addresses
- 9.7. ISUP encapsulation
- 9.8. SIP bearer information
- 9.9. SIP Signaling flow

11. AoIP

- 11.1. BSC and MGW connection
- 11.2. BSSAP messages based on IP connection

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