

5GC-Signaling & Protocol Analysis

Duration: 2 full days or 4 x ½ day
Methodology: Online Delivery

Table of Contents:

Part 1: Warming Up / Getting Up to Speed

- **Shape of 5G: Technical View**
- **Options 1 - 7**
 - Option 1
 - Option 2
 - Option 3, 3a, 3x
 - Option 4
 - Option 5
 - Option 6
 - Option 7, 7a, 7x
- **Going back to Rel 14: The EPC with CUPS**
- **Mobile Edge Computing and Network Slicing**
- **QoS & Network Slicing**
 - Network Slicing
 - **QoS-Profile**
 - 5QI
 - ARP
 - RQA
 - GFBR
 - UL+DL
 - MFBR UL+DL
 - Max. Packet Loss Rate UL+DL
 - Notification Control
 - Session AMBR
 - UE AMBR

Part 2: Architecture Details: Open Cloud, Virtualization & Acceleration

- **Introducing Service Based Architectures (SBA)**
- **Definition: RESTful Communication**
- **Hands On: HTTP Methods used on RESTful Interfaces**
- **5GC in SBA plus NW Functions**

Part 3: HTTP/2 => Theory

- **Essentials of HTTP/2**
- **HTTP/2 Frame Types**
 - General Frame Headers
 - HEADERS
 - DATA
 - GOAWAY
 - PING
 - PRIORITY
 - PUSH PROMISE
 - RESET STREAM
 - SETTINGS
 - WINDOW UPDATE
- **Concatenation of HTTP/2-Frames**
- **Pseudo Headers**

Part 4: HTTP/2 => Practice

- **HTTP/2 Session Setup**
- **HTTP/2 at Work: CRUD**
 - POST-Method: Create a Resource
 - PUT-Method: Create or Update a Resource

- GET-Method: Read a Resource
- PATCH-Method: Update a Resource partially
- DELETE-Method: Delete a Resource
- **Hands in the Mud**
 - Analysis of an HTTP/2 based scenario within the 5GC
 - Detailed Message Analysis: AMF => UDM
 - Other Message Examples

Part 5: Towards the UE: Registration, Mobility and Session Management

- **Inter-RAT Mobility w/ and w/o N26-interface**
- **Single <=> Dual Registration Mode**
- **VoNR**

Part 6: Towards the UE: Registration, Mobility and Session Management

- **NG-AP**
- **PFCP**