

TK930: EIR fundamentals

Duration

1.0 Days

Course Content

1. Introduction to EIR database

1.1 EIR: functions, features and benefits

1.1.1 Definition of an Equipment Identity Register

1.1.2 Features of EIR

1.1.3 Position of the One-EIR in a 3GPP Network

1.1.4 Functionality of EIR

1.1.4.1 EIR Functionality (GSM/UMTS)

1.1.4.2 EIR Functionality (LTE)

1.1.5 Benefits of EIR

1.2 Function of IMEI lists held on EIR

1.3 IMEI Lists held on EIR

2. EIR Protocols

2.1 MAP protocol

2.1.1 Map procedures

2.1.1.1 Location update

2.1.1.2 Mobile Terminating Call (MTC)

2.1.1.3 Mobile Terminating SMS

2.1.1.4 Reset Procedure

2.1.1.5 Purge Procedure

2.1.1.6 authentication procedure

2.1.1.7 Check IMEI procedure

2.2 DIAMETER protocol

2.2.1 Diameter Message Format

2.2.1.1 Diameter Header

2.2.1.2 Diameter AVPs

2.2.2 Diameter procedures

2.2.2.1 User Location Request

2.2.2.2 Authentication Information Request

2.2.2.3 Equipment Identity Check Request (ECR)

3. EIR: Architecture and interfaces

3.1 EIR and UDR

3.2 User Data Convergence architecture

3.2.1 UDC System architecture

3.2.2 Functional Entities

3.2.2.1 EIR Front Ends

3.2.2.2 Provisioning Front Ends

3.2.2.3 User Data Repository

3.2.2.5 IMEI DB interface

3.2.2.4 Other Network Elements

3.2.3 Information flow over Ef/f interface

3.2.3.1 EIR Call Flows

3.2.3.2 Check-IMEI Message Handling

3.2.4 EIR S13/S13' Interface Support

3.2.4.1 EIR S13 Connection States

3.2.4.2 S13 Supported Messages

3.2.4.3 S13 Supported AVPs

3.2.4.4 EIR S13/S13' Interface Support - ECA Message Encoding

3.2.4.5 EIR S13/S13' Interface Support Result Codes

3. IMEI Data

- 3.1 Structure of IMEI
- 3.2 Structure of IMEI Software Version (IMEI SV)
- 3.3 Check digit computation
- 3.3 Access IMEI Individual data held on EIR
- 3.4 Access IMEI Range data held on EIR
- 3.5 IMEI features
 - 3.5.1. EIR Searching Criteria based on IMSI
 - 3.5.2. EIR Statistics for Roaming IMEI Checks
 - 3.5.3 Device Locking
 - 3.5.4 Simplified Deployment Architecture
 - 3.5.5 SSHTR Mass Update Feature Enhancement