

GPRS System Survey



LZU 108 876 R7A

Description

If you want to gain knowledge about the main principles around the mobile packet network (GPRS and EDGE), this course is for you. You will understand the basic concepts about GSM (including EDGE) and WCDMA air interface (including HSPA) and the main Ericsson products involved in the GPRS core network.

Learning objectives

On completion of this course the participants will be able to:

- 1 Explain the purpose of implementing packet switching in the existing GSM/WCDMA systems
 - 1.1 Understand the differences between Circuit switching and Packet switching
 - 1.2 Describe few GPRS Applications
 - 1.3 Describe the GSM/GPRS/WCDMA network Architecture
 - 1.4 List and explain GPRS system architecture
 - 1.5 Introduce 3GDT features
 - 1.6 List GPRS terminal features
- 2 Explain on overview level the air interface in GPRS covering the GSM network, including EDGE
 - 2.1 Explain GPRS Radio resource management
 - 2.2 Understand GPRS throughput announcement, Coding schemes, Number of timeslots allocated, Protocol headers added to payload and Cell charging in GPRS
 - 2.3 Describe EDGE enhancement compared to GSM
- 3 Explain on overview level the air interface covering the WCDMA networks including HSPA
 - 3.1 Briefly understand the QoS concept
 - 3.2 Describe the Radio Resource control states
 - 3.3 Describe the User plane bearers for WCDMA systems
 - 3.4 Understand how the bandwidth is managed across the air Interface
 - 3.5 Briefly understand HSPA.



- 4 Understand and briefly describe the GPRS/WCDMA traffic cases
 - 4.1 Show the GPRS transport architecture
 - 4.2 Explain the mobility management states
 - 4.3 State how the session management is handled
 - 4.4 List the Gb Concepts
 - 4.5 Explain on an overview level SGSN Pool Proxy functionality
- 5 List the functions and hardware for the WPP based SGSN for both GSM and WCDMA Systems as well as GGSN based on J20
 - 5.1 List the main hardware components in the GPRS network
 - 5.2 Explain the GPRS connectivity
 - 5.3 List the protocol stack in the GPRS interfaces
- 6 Describe the BSS and RAN architecture for GPRS in GSM/WCDMA
 - 6.1 Understand the configuration for Gb over IP connected to the PCU
 - 6.2 List the interfaces on the WCDMA RAN architecture
- 7 Explain on an overview level the packet switching network in Mobile-PBN
 - 7.1 Understand architectural and function overview of Mobile-PBN
 - 7.2 Describe the Mobile Softswitch Network Structure
 - 7.3 List the interfaces on the WCDMA RAN architecture
 - 7.4 Understand IP transport as in GP and IP
 - 7.5 Briefly understand DNS and Roaming
 - 7.6 Briefly understand Corporate Connectivity

Target audience

The target audience for this course is:

Field Technician, System Technician, System Engineer, Service Engineer, Network Design Engineer, Network Deployment Engineer, Service Design Engineer, Service Deployment Engineer.

This audience includes personnel in charge of the operation or engineering of Ericsson GSM SGSN and/or WCDMA SGSN nodes.



Prerequisites

The participants should have successfully completed the following courses:

Ericsson WCDMA System overview (2 days ILT or VCT) LZU108 5418

GSM System Survey (4 days ILT) LZU 108 852

Duration and class size

Duration and class size depend on the course being delivered in either version:

1. Instructor Led Training (ILT) Version:

The length of the course is 2 days and the maximum number of participants is 16.

2. Virtual Classroom Training (VCT) Version:

The length of the course is 2 days and no more than 16 students participating in the VCT Sessions are recommended. Ericsson does not recommend Centra Sessions longer than 3 hours a day.

Learning situation

This course is based on theoretical instructor-led lessons given in a classroom environment, or given in a virtual classroom over the net by an instructor.