RBS 6000 and Baseband

Training Programs

Catalog of Course Descriptions

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Introduction

Ericsson has developed a comprehensive Training Programs service to satisfy the competence needs of our customers, from exploring new business opportunities to expertise required for operating a network. The Training Programs service is delineated into packages that have been developed to offer clearly defined, yet flexible training to target system and technology areas. Each package is divided into flows, to target specific functional areas within your organization for optimal benefits.

Service delivery is supported using various delivery methods including:

Delivery Method
Instructor Led Training (ILT)
Web-based Learning (WBL)
Blended Learning/Training (BLD)

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Baseband Radio Node - Commissioning

LZU1082511 R1A

Description:

How is the Baseband radio node integrated on site? What will be the O&M tools used during integration? Will there be different O&M tools required to integrate a baseband used for GSM, WCDMA or LTE radio nodes? Which integration mode is applicable for the Baseband - LMT Integration, LMT Integration on-site configuration, Zero Touch integration, Zero Touch integration off-site pre-configuration?
These are just some of the question that will be answered in this course portfolio. This course will provide participants to know the conditions that will be essential before commissioning and integration activities. In addition, the participants will be able to have a hands-on experience of the procedures needed to commission and integrate a baseband on site.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Describe the RAN system
1.1 Explain the basic GSM, WCDMA and LTE Radio Access Network
1.2 Know the conditions when integrating a Baseband on site
1.3 List the integration steps of the Baseband

2 Describe the management tools used for Baseband
2.1 Know on an overview level EMGUI, EMCLI and Ericsson CLI
2.2 Install EMGUI and ECLI on the client
2.3 Configure a client to connect to the Baseband

3 Perform commissioning and integration on the Baseband
3.1 Power the radio node
3.2 Connect client to the Baseband
3.3 Integrate and monitor the integration
3.4 Check for any alarms
3.5 Complete and store integration report

Target audience:

This course is suitable for anyone who is required to commission a Baseband Radio Node at a site.

Prerequisites:

Successful completion of the following courses:

Ericsson Radio System Overview LZU1089991
LTE L16 eNode B Commissioning LZU1082165
WCDMA RAN W15 Node B Commissioning LZU1089947

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 8.

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Baseband Radio Node - Field Maintenance

LZU1082513 R1A

Description:

Are you ready for your Radio Node based on Baseband products?
The "Baseband Radio Node - Field Maintenance" course introduces the Field Maintenance personnel to the Baseband based radio node and its operation and maintenance interfaces available at the site. It also covers hardware maintenance procedures and concepts for a Baseband based site. Participants will log into the Baseband board and look at alarms, lock/unlock radio unit, collect logs and make configuration backups.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain on overview level the RAN site concept for RBS
1.1 Explain the basic GSM, WCDMA and LTE Radio Access Network
1.2 Explain briefly the Ericsson Radio System
1.3 Outline the different radio site components, including the Baseband products, and the radio products

2 Use the Customer Product Information (CPI)
2.1 Explain the CPI library structure of the node
2.2 Find information in the CPI Library with use of regular expression
2.3 List the important documents in the CPI for maintaining a Baseband Radio Node
2.4 Locate correct OPI to solve alarms
2.5 Know what different Tool Kits exist and how to order them

3 Perform maintenance procedures on the node
3.1 Explain the Baseband radio node hardware architecture
3.2 Identify the Baseband radio node connection interfaces
3.3 Explain the maintenance procedures
3.4 Explain how to handle faulty units
3.5 Connect to a Baseband radio node
3.6 Learn how to install and use the EMCLI

3.7 Learn some basic commands used in EMCLI that are relevant for a Field Maintenance personnel
3.8 Learn how to install and use the EMGUI
3.9 Learn the basic principle of the Managed Object Model (MOM)
3.10 Be able to read and explain the alarms
3.11 Interpret LEDs on the Baseband and Radio units
3.12 Extract the logs from the Baseband Radio Node

Target audience:

This course is suitable for anyone who is required to maintain and change hardware at a Baseband Radio Node site.

Prerequisites:

Successful completion of the following courses:

Successful completion of the following courses:
GSM System Survey, LZU108852 or/and
Ericsson WCDMA System Overview, LZU1085418 or/and
LTE/SAE System Overview, LZU1087020 or/and
Ericsson Radio System Overview, LZU1089991

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 8.

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Baseband Radio Node - Field Operation

LZU1082768 R1A

Description:

The "Baseband Radio Node - Field Operation" course introduces the Field Maintenance/Field Technician personnel to the Baseband based radio node and the regular operation and maintenance tasks performed at the site. The course also describes node integration and commissioning at the radio site. Which O&M tools are used during integration? Will there be different tools for GSM, WCDMA or LTE radio nodes? What are the differences and implications of various integration methods 'LMT Integration', 'LMT Integration on-site configuration', 'Zero Touch integration' and 'Zero Touch integration off-site pre-configuration'?

The course uses the Element Management Command Line Interface (EMCLI) which is the main tool for local access for the Baseband node. Participants will learn the procedures to access network elements and execute commands for generic operations, fault management, log handling, hardware and software management, configuration management and performance management.

Learning situation:

This is a Blended Learning.

The WBL component(s) is self-paced interactive learning with multimedia content, delivered online and the ILT component is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain briefly the Ericsson Radio System concept
1.1 Outline the different radio site components, including the Baseband products, the new radio products and enclosures

2 Describe the management tools used for Baseband
2.1 Know on an overview level EMGUI, EMCLI, Ericsson CLI, Integration tool and Emergency access web interface
2.2 How to install ECLI tool on the client PC
2.3 How to configure a client to connect to the Baseband

3 Understand the commissioning and integration process of a Baseband radio node.
3.1 Start the Integration GUI and initiate the integration
3.2 Integrate and monitor the process

3.3 Check for any alarms
3.4 Complete and store integration report

4 Perform Field Operation tasks using EMCLI tool
4.1 List the main generic commands in EMCLI
4.2 Explain how EMCLI handle Fault Management and Log files
4.3 Explain how EMCLI handle Hardware / Software Management
4.4 Explain the backup procedure with EMCLI
4.5 Perform lock/unlock and restart procedures with EMCLI
4.6 List main EMCLI commands for Performance Management
4.7 List main EMCLI commands for Configuration Management
4.8 List the specific commands for the Baseband

Target audience:

This course is suitable for anyone who is required to operate the Baseband Radio Node site in the field for routine tasks.

Prerequisites:

Successful completion of the following courses:

Ericsson Radio System Overview, LZU1089991

Duration and class size:

The length of the course is 2 days and 1 hour and the maximum number of participants is 8.

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Baseband Radio Node - Operation and Configuration

LZU1082512 R2A

Description:

Are you ready to introduce the most powerful baseband into your Radio Access Network? What are the features and functionalities of the new Baseband Radio Node? How will the configuration of transport and radio network managed objects look under the Ericsson Common Information Model? Which are the tools (user interfaces) that could be used to configure a Baseband? How would one handle the Configuration, Performance, Security and Fault management operations in a Baseband Radio Node?
"Baseband Radio Node Operation and Configuration" provides the answers to all the questions above. The course includes theoretical sessions where what need to be configured are described and investigated, followed by practical exercises in which the configurations are made.
The course introduces the Baseband unit [also known as (or associated with) “Baseband Radio Node” / MSRBS-V2 / COM / RCS / ECIM / G2 / DUS_gen2], and its features and characteristics. After the course, participants will be familiar with integration procedure, the managed objects that need to be configured according to the Ericsson Common Information Model. The Mul-, S1-, X2, Iub- and Abis- interfaces (with and without IpSec) including basic radio network configuration for LTE/WCDMA/GSM are defined during the training. The students also get hands-on experience (in the areas of Fault/ Software/ Configuration/ Performance/Security Managements) on a Baseband Radio Node unit deployed in an LTE /eNodeB, WCDMA/NodeB and GSM/BTS (18 software) environment.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain RAN Architecture, Ericsson Radio System building blocks and Baseband modules.
1.1 Describe the interfaces in Radio Access Network Architecture.
1.2 List the Building blocks in Ericsson Radio system
1.3 Describe the capabilities of Baseband 5216/5212, Baseband R503 and the new versions 6620/6630/ 6303/6502/6318 and P614.
1.4 Explain the hardware and software architecture of Baseband.
1.5 Compare the Hardware differences between Baseband, DUS 41 and DUL 20.

1.6 Explain the different possible options of O&M with the Baseband.

2 Describe the Transport Network functionalities and introduce ECIM MOM
2.1 Describe the Mu, S1, X2, Iub and Abis protocol and recognize the Managed objects related to Transport network.
2.2 List the transmission capabilities for Baseband Radio Node and Baseband Transport Node.
2.3 Relate the IP and Ethernet functionalities of Baseband to the RAN Transport Network
2.4 Introduce and Explain in the brief the Ericsson Common Information Model (ECIM)
2.5 Compare the Managed objects related to transport network in baseband with CPP nodes.
2.6 List out the different synchronization options that are supported by the Baseband.
2.7 Explain what IP Security (IPsec) is and how it is supported in RAN
2.8 Recognize Managed Objects related to IPsec implementation and some key attributes that define the working of IPsec

3 Explain the Radio Network in Baseband Radio Node
3.1 Explain the concept of cell and its relation to sector and antenna system in RBS.
3.2 Introduce the new radio products in Ericsson radio system
3.3 Recognize the Managed Objects related to radio network configuration
3.4 Relate the Managed Objects and figure out the changes according to Ericsson Common Information Model (ECIM)
3.5 Edit and implement the files for on-site usage that would create the Radio network (Cells, Cell relations) as applicable in an eNodeB, NodeB or BTS.

4 Describe the Integration, Operation and Management aspects of Baseband and implement them using the O&M tools.
4.1 Explain the possible External Management interfaces and login option to the Baseband
4.2 Describe in brief the Integration process for Baseband eNodeB and NodeB or BTS.
4.3 Explain the configuration files that are used in the integration of a Baseband Radio Node
4.4 Compare the different Configuration Options available for Baseband
4.5 Demonstrate with exercises the Configuration Management, Performance Management and Fault Management in the Baseband
4.6 Explain the Security Management process in the Baseband
4.7 Describe the process to collect the ESI/DCG logs and perform basic troubleshooting

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Target audience:

This course is suitable for anyone who is required to configure/operate/maintain Baseband Radio Node.

Prerequisites:

Successful completion of the following courses:

LTE/SAE System Overview, LZU1087020
LTE L16 Configuration, LZU1082168-Optional
or
WCDMA System Overview, LZU1085418
WCDMA EVO-C 8200 Configuration, LZU1088931-Optional
or
GSM System Survey, LZU108852
Ericsson Radio System Overview, LZU1089991 – Recommended

Duration and class size:

The length of the course is 3 days and the maximum number of participants per session is 8.

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Baseband Radio Node - Troubleshooting

LZU1082767 R1A

Description:

With the introduction of the new Ericsson Radio System, what are the main challenges while operating and handling Baseband Radio Node unit? What are the common faults, how are they detected and solved? How does Ericsson local/field support enable and collects logs from a Baseband unit?

The objective of this course is to describe the main troubleshooting processes for Baseband Radio Node unit.

During the course, the participants will be able to detect faults, analyze and collect different types of logs, perform alarm handling procedures, describe and use troubleshooting tools, initiate performance recordings, verify transport network connectivity, and execute emergency recovery procedure.

This training also offers hands-on experience in an LTE, WCDMA and GSM RAN environment.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Describe and use Baseband troubleshooting tools
1.1 List the areas in the Baseband unit that require troubleshooting knowledge
1.2 Review the Ericsson Common Information Model (ECIM) Managed Object Model (MOM)
1.3 Explain the main tools used to support the Baseband unit such as EMCLI, ECLI
1.4 Describe when to use the RBS related tools in troubleshooting the Baseband unit
1.5 Explain when to use the ENM related tools in troubleshooting the Baseband unit

2 Detail emergency recovery procedure and collect data
2.1 List how to collect detailed node data for customer service requests
2.2 Apply the Data Collection Guide for the Baseband unit using EMCLI, ECLI, EA tools.
2.3 Know the principles of node field recovery
2.4 Be able to perform node recovery actions

2.5 List and explain the functions of the various files that make up a Backup

3 Describe the steps involved in transport and radio network troubleshooting
3.1 Check O&M connectivity on the Mul interface
3.2 Discuss issues related to transport network configuration and actions required
3.3 Verify the Network Synchronization status
3.4 Discuss issues related to radio network configurations and actions required
3.5 Identify the Managed Objects that hold parameters related to mobility

4 Discuss and perform system Management level troubleshooting concepts
4.1 Explain troubleshooting CM, SM, PM, FM issues with EMCLI, ECLI, EA tools
4.2 List the related Managed objects for troubleshooting security Management issue
4.3 Expand and act on Alarms
4.4 Relate counter values to RBS's performance

Target audience:

This course is suitable for anyone who is required to have detailed knowledge of Baseband Radio Node troubleshooting procedures.

Prerequisites:

Successful completion of the following courses:

Ericsson Radio System Overview, LZU1089991
Baseband Radio Node - Operation and Configuration - LZU1082512

Duration and class size:

The length of the course is 2 days and the maximum number of participants per session is 8.

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Ericsson Radio System Overview

LZU1089991 R5A

Description:

Do you need to understand how Ericsson Radio System is a solution to the changing radio access needs towards the 5G? What are new products that have been introduced in Ericsson Radio System which will coexist with the existing products in Ericsson's radio access networks? The "Ericsson Radio System Overview" course provides the participants with a comprehensive overview of Ericsson's new packaging of the radio access network products in Ericsson Radio System.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical instructor-led lessons.

Learning objectives:

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

1 Discuss the evolution of the radio access network
1.1 Identify a typical existing site and its challenges to meet the future demands
1.2 List the requirements for the future networks with roadmap
1.3 Explain the multi-standard, multi-band and multi-layer solutions with Ericsson Radio System
1.4 Discuss how a typical Ericsson Radio System based site could look like

2 List the features of the baseband products
2.1 Identify and list the primary features of new Basebands
2.2 List the existing Digital Units and explain their primary features
2.3 Explain with use cases different baseband deployment configurations

3 Describe the different Fronthaul products suited for macro and small cell deployments
3.1 Describe what Fronthaul is
3.2 Explain the characteristics and products under DWDM and CWDM
3.3 List and understand the specifications of Fronthaul 6392

4 Identify different Radio Products and their primary features
4.1 List the characteristics of the latest radio units including the 5G/NR radios that are available in Ericsson Radio System
4.2 Describe the characteristics and the usage of the new Remote Radio Units (RRUs)

4.3 Explain the characteristics and advantages of the Antenna Integrated Radio (AIR) products
4.4 List the benefits of the new installation options and features Introduced

5 Describe the wide range of Backhaul products for Outdoor and Indoor Scenarios
5.1 List the various Aggregation Units offered in Ericsson Radio System, and explain their usage
5.2 List the characteristics of the new products in Router 6000 Series
5.3 Match the new products in the Mini Link Portfolio to the Indoor and Outdoor usage

6 List the new enclosure and power options available under Ericsson Radio System Hardware
6.1 Describe the different Enclosure options and its Outdoor/indoor functionality
6.2 Identify Power System Solutions for Macro, Main remote and Hybrid configurations
6.3 Explain small cell implementation with the various Indoor Power Products
6.4 Discuss the Installation options and Configuration for the Power Products

7 Expand the products under Small cell portfolio and describe their features and benefits
7.1 List the characteristics of New Micro RBS, Pico RBS, Radio Dot System (RDS) and their configuration options
7.2 List the characteristics and usage of the various Wi-Fi Access Points (AP) products

8 List and discuss the available Energy solution options under the Ericsson Radio System portfolio
8.1 Describe the various energy saving solutions implemented for a site deployment
8.2 Explain how Ericsson radio system products helps in reducing Total Cost of Ownership (TCO) and power consumption for the operator
8.3 Explain, with examples, how one can build energy-optimized networks

Target audience:

This course is suitable for anyone who is required to be familiar with Ericsson Radio System.

Prerequisites:

Successful completion of the following courses:

Successful completion of the following courses:
LTE/SAE System Overview, LZU1087020 (ILT)
or
LTE/SAE Overview, LZU1087318 (WBL)

Duration and class size:

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

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Ericsson WCDMA System Overview

LZU1085418 R21A

Description:

Do you need to understand what 3rd generation systems are all about? Do you get lost when people talk about Wideband Code Division Multiple Access (WCDMA) system? This course explains the purpose of the WCDMA Core, Radio, and Service Network Elements together with the standardization of the WCDMA access network. In addition, the participants will learn how Ericsson's mobile core network solution connects to external networks such as WCDMA Radio Access Networks, PSTN Networks, PABXs, IMS/VoIP networks or other Mobile Networks. The focus is on general principles rather than specific technical details

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical instructor-led lessons.

Learning objectives:

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

1 Detail the nodes and interface in WCDMA Network
1.1 Explain the idea of the converged industries and the layered core network
1.2 Present the 3GPP network model, and Ericsson network
1.3 Explain on overview level the functionality of each node and its architecture
1.4 Show some statistics about WCDMA today and the market trend related to technology

2 Understand the standardization bodies involved in 3rd generation
2.1 Distinguish the Standardization bodies involved in the WCDMA Systems
2.2 Give in own words why standards are important in Telecommunications
2.3 Acknowledge what standardization bodies are, and what are their functions
2.4 Express the concept of full duplex communication and FDD.
2.5 State the frequency bands and systems chosen for the different areas

3 Explain on an overview level the Ericsson Mobile Core Network Solution
3.1 Explain on an overview level the architecture of the mobile core network
3.2 Describe the Mobile Softswitch Solution
3.3 Detail the architecture and functions of the MSC-Server and M-MGW
3.4 Describe the two nodes involved in the P.S, domain of the core network
3.5 Recall the transport domain, and the various transport technologies used
3.6 Describe interconnections and protocols in the C.S. and P.S. Domains
3.7 Identify the function of the main database nodes

3.8 Explain basic traffic cases in the Mobile Softswitch Solution

4 Explain the 3rd Generation Radio Access Network
4.1 Explain various access techniques
4.2 State the coding types used in WCDMA, and how they prevent interference in the uplink and downlink
4.3 Recognize the Importance of power control
4.4 List the different handover scenarios in terms of soft, softer and hard handover
4.5 Acknowledge the architecture of the Ericsson RAN Nodes RNC and RBS
4.6 Identify the basic principles of HSDPA and EUL

5 Detail the Network Services involved in WCDMA
5.1 Acknowledge the functions of the service layer
5.2 Detail various terminal technologies and platforms used
5.3 Identify the difference between Applications and enablers, and detail some of the more common enablers
5.4 Acknowledge the architecture and operation of the IP Multimedia Subsystem (IMS)

Target audience:

This course is suitable for anyone who is required to be familiar with Ericsson's WCDMA System.

Prerequisites:

Successful completion of the following courses:

The participants should be familiar with general telecom technologies.

Duration and class size:

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

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GSM System Survey

LZU108852 R16A

Description:

Are you lost when discussing GSM network basic concepts? If you are starting to work in different areas of GSM system and need a general overview, this is the course you are looking for. It will provide you with knowledge about Ericsson's GSM based systems and GSM 800/900/1800/1900.

It will focus on GSM terminology, wireless concepts, functions of network nodes, and the Ericsson implementation of those network nodes. Completing this training you will have all the initial knowledge you need to proceed in competence development in other areas.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical instructor-led lessons.

Learning objectives:

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

1 Know how mobile systems have evolved over the time and tell the history of GSM development.
1.1 Recognize benefits of having a standard
1.2 Describe the GSM geographical network structure and node functions
1.3 Know the GSM frequency bands
1.4 List subscriber services provided in the GSM network

2 List Ericsson's GSM System divisions and components and perceive how Ericsson has been involved in GSM since its inception and took an active part in the GSM specification process.
2.1 List network components and describe their functions
2.2 Describe optional additional network entities functions
2.3 Briefly present Protocols used in the GSM Access and Core Networks

3 Know basic concepts of wireless communications and its importance to provide a good knowledge of how GSM Systems works.
3.1 Explain Time Division Multiple Access technique (TDMA)
3.2 List the transmission problems and their solutions
3.3 Recognize how Adaptive Multi-Rate (AMR) can increase capacity
3.4 Explain the feature VAMOS.

4 List and identify GSM System mandatory concepts of air interface, their functions and required specifications.
4.1 Know the concepts of physical channel and a logical channel
4.2 List one important piece of information sent on each of 3 different logical channels
4.3 Briefly explain the idea of mapping
4.4 Show the time slot power saving feature

5 Differentiate the platforms that provide the network nodes and functionalities that are basis to provide Circuit and Packet switching, including AXE and CPP platform principles, list the main components and outline the main features.
5.1 Know the function of APT and APZ
5.2 Differentiate functions that can be implemented using AXE platform modularity
5.3 Explain how the group switch switches calls
5.4 Discriminate the AXE 810 hardware structure
5.5 Discriminate the CPP Hardware Platform
5.6 Show CPP Interconnection Structure
5.7 Clarify functions that can be implemented using CPP platform

6 Explain how Ericsson implements the functions and nodes of the GSM switching system.
6.1 Name the nodes in the Switching System
6.2 Know Ericsson's Mobile Softswitch Solution
6.3 List which nodes that are contracted for the security procedure in the GSM system
6.4 Briefly explain the purpose of Authentication, Ciphering and Equipment Check

7 List and identify Radio Access Network system nodes, its functions and required specifications.
7.1 Outline the main functions of a BSC, TRC and RBS
7.2 Explain the new BSC Evo Controller
7.3 Describe the Abis over IP and Abis Optimization solution
7.4 Briefly Explain A-Interface over IP
7.5 Explain the feature Iur-g
7.6 List the Ericsson's RBS 2000 and 6000 configurations
7.7 Explain Multistandard RBS Mixed Mode (GSM)
7.8 Explain the RBS architecture and functional blocks
7.9 List the RBS 6000 Configurations

8 Clarify the GSM traffic cases to consolidate all the GSM Network concepts using basic traffic cases examples.
8.1 Explain the purpose of GSM ID-number (MSISDN, IMSI, TMSI, MSRN and LAI)
8.2 Know the handover, locating and location updating concepts
8.3 Briefly describe how a traffic case works

9 Explain the basic concepts and difficulties of planning a cellular network, based on examples and explanations.
9.1 List the stages in the cell planning process
9.2 Explain the terms Grade of Service (GOS) and 'Erlang'

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9.3 Name 2 types of Interference
9.4 Describe briefly the feature 'Re-Use of Frequencies within a Cell'
9.5 Know what is meant by the term 'Hierarchical Cell Structure'
9.6 Describe briefly the feature 'BCCH in Overlaid Sub cell'

10 Recognize Ericsson's Operation and Support System – OSS as an important tool for operation and maintenance in GSM network describing its features and functions.
10.1 Explain the functions of the Operations and Support System
10.2 Describe the architecture of the Operations and Support System
10.3 Outline the implementation of the Multi Mediation
10.4 Appreciate the implementation of the Ericsson Multi Activation

11 List the most common and main subscriber services, explaining their functions, features, and specifications.
11.1 Define the different types of services available in the network
11.2 Indicate one of each of the following service types in the network: teleservices, bearer services and supplementary services
11.3 Identify one of the Ericsson innovative services in the network.
11.4 Briefly describe the mobile intelligent network services available with Ericsson GSM systems
11.5 Know the need and advantages of the CAMEL system

12 Identify charging and accounting concepts.
12.1 Identify their functions, features and required specifications
12.2 Explain the fact that the charging concept is changing due to the introduction of new technologies such as GPRS, UMTS
12.3 List three call components
12.4 Explain the future of billing

13 Discriminate how data calls are initiated in the GSM network and cite examples of how a data call is handled in a GSM network through a traffic case analysis.
13.1 Explain the data transmission services which GSM offers
13.2 Describe a GSM data traffic case
13.3 List the data transmission services which GPRS offers
13.4 List the things that can lead to improved GPRS end-user performance
13.5 Describe a GPRS data traffic case
13.6 Analyze PS DL Power Control
13.7 Explain the EDGE and EDGE Evolution.

14 Have an overview of the possible future functionality of GSM-based systems
14.1 Describe the evolution of GSM to WCDMA systems
14.2 List the technologies that will bridge these two systems including HSCSD, EDGE, GPRS, WCDMA and HSPA and LTE
14.3 Explain the 3G system and feature Adaptive Traffic Control
14.4 Clarify the Fast Return to LTE after Call Release and LTE to GSM NACC
14.5 Explain IoT in GSM.

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Target audience:

This course is suitable for anyone who is required to have detailed knowledge of GSM network.

Prerequisites:

Successful completion of the following courses:

The participants should be familiar with telecommunication basics.

Duration and class size:

The length of the course is 4 days and the maximum number of participants per session is 16.

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GSM/WCDMA/LTE RBS 6xxx Field Maintenance

LZU108xxxx RxA

Description:

There are many RBS 6000 field maintenance courses that are collectively described here. All these courses (except the RBS 6401 and RBS 6402) are Digital Unit (DU)-based. They are all 1-day in duration. Please consult Ericsson Learning Services for ordering the course description or the course occasion. The full list of courses is at the end of this description.

The following is the course description for the course "WCDMA RBS 6601 Field Maintenance" (LZU1087675 R5A):

This course is a task-based course covering hardware replacement and maintenance of the RBS 6601 standard node with RRUS 01 type (optional radio units for hybrid configuration such as RRUW, RRUS 02, RRUS 11, RRUS 12, mRRUS 12 and AIR 11/21 are available in the Appendix). The participants will perform hardware fault localization, hardware replacement and configuration tasks on RBS 6601 type. On completion of this course the participants will also be familiar with the features of the operation and maintenance tools such as Element Manager (EM), COmmand Line Interface (COLI) and Node Command line Interface (NCLI).

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain on overview level the WCDMA RAN Site Concept for RBS
1.1 Explain the basic WCDMA Radio Access Network
1.2 Outline the RBS 6000 portfolio and Support System
1.3 Understand RBS 6000 Building Block and Hybrid configuration
1.4 Identify the Distribution Frame (DF) and the Site Support Unit
1.5 Identify the Antenna System Controller, (ASC) and the Remote Electrical Tilt Unit,

2 Perform maintenance and configuration tasks on the RBS 6601 nodes
2.1 Explain RBS 6601 Main features
2.2 Explain the RBS 6601 Hardware architecture
2.3 Identify the RBS 6601 Connection interfaces

2.4 Explain DUW Hardware architecture
2.5 Identify the MU connection Interfaces
2.6 Explain the Battery Backup System 6601
2.7 Understand the RBS 6601 Maintenance procedures
2.8 Explain RBS 6601 Handling faulty equipment

3 Use the Customer Product Information (CPI) and Tool Kits
3.1 Explain the CPI Library structure of the node
3.2 Find information in the CPI Library with use of regular expression
3.3 Find operational instructions (OPI) and maintain the node according to the OPI
3.4 Find additional information on an alarm and solve the problem with the help of the
3.5 Know the different tool kits exist and how to order the Tool Kits

4 Connect to a node using COLI and also using NCLI
4.1 Understand basic commands using COLI and using NCLI
4.2 Have a basic understanding of the functionality and technology used in COLI and
4.3 Understand the basic principles behind the Managed Object Model (MOM)
4.4 Understand the file system in a CPP based node
4.5 Investigate the purpose and location of various types of logs

5 Use the Element manager (EM)
5.1 Download and start the Element Manager
5.2 Access and use the different "Views"; Containment, ATM, Equipment, IP, Licensing,
5.3 Find the alarm list and comment on the Alarms and Events on the Alarm and Event
5.4 Access the property help feature from each window
5.5 Create a Customized View (User Defined) in Element Manager
5.6 Handling License Key Files, LKF
5.7 Explain how to format the node
5.8 Explain how to load the basic package software

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Target audience:

This course is suitable for anyone who is required to perform hardware replacement at the WCDMA site with RBS 6601 enclosure.

Prerequisites:

Successful completion of the following courses:

Ericsson WCDMA System Overview, LZU1085418
RBS 6000 Overview, LZU1087503
CPP Node Features and Functions, LZU1086116

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 8.

List of courses under this example description

- GSM RBS 6101 Field Maintenance (LZU1087894)
- GSM RBS 6102 Field Maintenance (LZU1087643)
- GSM RBS 6201 Field Maintenance (LZU1087646)
- GSM RBS 6202 Field Maintenance (LZU1088284)
- GSM RBS 6301 Field Maintenance (LZU1087891)
- GSM RBS 6601 Field Maintenance (LZU1087674)
- WCDMA RBS 6101 Field Maintenance (LZU1087895)
- WCDMA RBS 6102 Field Maintenance (LZU1087644)
- WCDMA RBS 6201 Field Maintenance (LZU1087647)
- WCDMA RBS 6202 Field Maintenance (LZU1088278)
- WCDMA RBS 6301 Field Maintenance (LZU1087892)
- WCDMA RBS 6302 Field Maintenance (LZU1088932)
- WCDMA RBS 6401 Field Maintenance (LZU1089576)
- WCDMA RBS 6501 Field Maintenance (LZU1089732)
- LTE RBS 6101 Field Maintenance (LZU1087896)
- LTE RBS 6102 Field Maintenance (LZU1087645)
- LTE RBS 6201 Field Maintenance (LZU1087648)
- LTE RBS 6202 Field Maintenance (LZU1088285)

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LTE RBS 6301 Field Maintenance (LZU1087893)

LTE RBS 6401 Field Maintenance (LZU1089575)

LTE RBS 6402 Field Maintenance (LZU1089944)

LTE RBS 6501 Field Maintenance (LZU1089729)

LTE RBS 6601 Field Maintenance (LZU1087890)

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LTE eNodeB (Digital Unit -based) Commissioning

LZU1082387 R1A

Description:

Do you need to explain how to integrate a Digital Unit (DUL/DUS) based eNodeB implemented on an RBS 6000 from a site perspective? What does Autointegration imply and how is it different from manual integration?
This course provides the participants with hands-on experience of the procedures that need to be performed for the commissioning and integration of the eNodeB at the site.

NOTE: This course is based on DU-BASED eNodeB implementation.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Describe the LTE system from an overview level
1.1 Describe on an overview level the RBS 6000 platform and Hardware
1.2 List the integration steps of RBS 6000
1.3 Explain how the integration process would be different when integrating with a smartphone

2 Use the management tools available at the LTE RBS site
2.1 Use the Element Manager (EM) to find information relevant for an LTE RBS commissioner
2.2 Use the Command Line Interface (CLI) to print some basic information
2.3 Configure a client computer to connect to the RBS to open the Element Manager

3 Perform commissioning and integration of the RBS
3.1 Power up the RBS
3.2 Check the RBS status
3.3 Connect the client computer
3.4 Select the integration scenario
3.5 Integrate the RBS manually
3.6 Explain how the integration procedure differs with Auto-Integration
3.7 Monitor the RBS integration

3.8 Verify the external alarms
3.9 Check the hardware status
3.10 Test the User Plane Traffic
3.11 Complete and store integration report

Target audience:

This course is suitable for anyone who is required to commission a DU-based eNodeB at the RBS site.

Prerequisites:

Successful completion of the following courses:

LTE/SAE System Overview LZU1087020
RBS 6000 Overview LZU1087503
Or
LTE Overview WBL LZU1082395
RBS 6000 in a Nutshell WBL LZU1087504

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 8.

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LTE Overview - WBL

LZU1082394 R1A

Description:

What is Long Term Evolution (LTE)? What is the Evolved Packet Core (EPC) Architecture? How does the LTE air interface produce user bit rates? How is LTE evolving to meet the demands of the networked society? This Web-Based Learning (WBL) course provides an insight into the LTE 4G technology. This tutorial will give you a basic knowledge about the LTE/EPC Architecture and Radio Interface. You will also learn about the evolution of LTE as specified by the 3GPP.

Learning situation:

This is a Web-Based Learning.

This is a self-paced interactive learning with multimedia content, delivered online.

Learning objectives:

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

1 Give an overview of LTE/EPC architecture & terminology
1.1 Explain the nodes that make up the Evolved Packet System (EPS)
1.2 Describe the EPC Quality of Service (QoS)
1.3 Explain the EPS Bearer concept
1.4 Describe how mobility is supported in the EPS

2 Explain the basics of the LTE radio interface
2.1 Describe Orthogonal Frequency-Division Multiplexing (OFDM)
2.2 Describe Single Carrier Frequency Division Multiple Access (SC-FDMA)
2.3 Explain adaptive coding, modulation and MIMO are used in LTE
2.4 Explain how LTE downlink and uplink user bit rates are achieved

3 Give an overview of the evolution of LTE
3.1 List the main contents of the 3GPP releases from R99 to R15
3.2 Describe the highlights of LTE Advanced
3.3 Describe the highlights of LTE Advanced Pro
3.4 List the main objectives for 5G according to 3GPP release 15

Target audience:

This course is suitable for anyone who is required to be familiar with LTE 4G technology.

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of the course is approximately 1 hour.

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LTE/SAE System Overview

LZU1087020 R17A

Description:

If you want to know what LTE/SAE (Long Term Evolution / System Architecture Evolution) is, this course will give you an overview of the new radio technology and protocols involved in the E-UTRAN (Evolved UTRAN, also referred to as LTE) and the architecture behind EPC (Evolved Packet Core, also referred to as SAE – System Architecture Evolution). The course also provides descriptions of the RBS hardware and the operation and maintenance concepts.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical instructor-led lessons.

Learning objectives:

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

1 Explain the background and architecture of E-UTRAN and EPC
1.1 Describe the evolution of cellular networks
1.2 Summarize the evolution of 3GPP releases, from release 99 to release 14
1.3 Explain the logical architecture of EPS and the interworking with other technologies
1.4 Explain the EPS bearer concept and give an overview of the LTE QoS framework

2 Describe the EPC Architecture
2.1 Describe the interfaces in EPS
2.2 Describe the Evolved Packet Core (EPC)
2.3 Describe the role of the MME, S-GW and PDN-GW

3 Describe the E-UTRAN Architecture
3.1 List the functionality of the eNodeB
3.2 Describe the radio interface techniques; OFDM and SC-FDMA and the physical bit rates
3.3 Discuss Link Adaption in LTE
3.4 Describe the basic principles of MIMO
3.5 Explain the concept of Advanced Carrier Aggregation
3.6 Describe the RBS 6000 Hardware for LTE
3.7 Describe the Ericsson Radio System
3.8 Explain Heterogeneous Network
3.9 Outline on overview level the security in LTE
3.10 Describe the different type of synch in LTE

4 Describe key LTE Solutions
4.1 Explain the options for Voice; CS Fallback and VoLTE
4.2 Describe the LTE Broadcast Service, eMBMS
4.3 Explain Location services

5 Explain the various LTE mobility scenarios
5.1 Describe LTE idle mode mobility
5.2 Detail Intra LTE connected mode mobility; handovers and session continuity
5.3 Explain IRAT Handover scenarios

6 Describe the Operation & Maintenance logic in LTE Radio Access Network
6.1 Identify the need for different levels of management and its tools
6.2 List the various O & M areas in LTE RAN
6.3 Explain the concepts related to Smart Simplicity and Self-Organizing Networks (SON)

7 Describe the road to 5G
7.1 Describe some use cases for 5G and their radio solutions
7.2 Describe Cloud solution
7.3 Explain v-RAN ideas

Target audience:

This course is suitable for anyone who is required to be familiar with LTE and SAE networks.

Prerequisites:

Successful completion of the following courses:

A general knowledge in cellular systems and radio technology.

Duration and class size:

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

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Mixed Mode Configuration in RBS

LZU1082324 R1A

Description:

How is mixed mode configured in the baseband and digital units? What conditions should be met for LTE-WCDMA, LTE-GSM and GSM_WCMDA mixed mode implementation? What are the possible hardware, software and synchronization methods that would support the mixed mode implementation?

Mixed Mode Configuration in RBS course will be able to help to determine the solution for the questions mentioned above. This course is a combined theory and practical instructor led course, discussing and applying mixed mode concept, mixed mode possible scenarios, hardware and software configurations and synchronization options on baseband and digital units.

The course focuses on LTE, WCDMA and GSM mixed mode implementation (DU and Baseband). In addition, it will also include management tools, O&M view and Node group synchronization configurations. The students would be able to get a hands-on experience to perform mixed mode configuration.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain the RAN System Architecture, Mixed Mode Concept in DU and Baseband modules
1.1 Explain the basic GSM, WCDMA and LTE Radio Access Network
1.2 Describe the features and capabilities of the baseband unit and digital units
1.3 Explain the benefits of the mixed mode feature Implementation
1.4 Determine the different RAT mixed mode scenarios
1.5 Detail the hardware requirements and cabling connections for mixed mode implementation

2 Know the synchronization methods supported for baseband and digital Units
2.1 Introduce Node group Synchronization-Mixed Mode CPRI
2.2 List the Synchronization options supported for Digital Units

2.3 Know the configuration needed in Basebands for the mentioned synchronization options

3 List the configuration steps in Multi-Standard Mixed Mode Baseband and Radio Configurations

3.1 Explain the interworking of mixed mode using baseband and digital units

3.2 Explain the configuration for LTE-WCDMA Mixed Mode implementation on a baseband unit

3.3 Explain the configuration for LTE-GSM Mixed Mode implementation on a baseband unit

3.4 Explain the configuration for GSM-WCDMA Mixed Mode implementation on a baseband unit

3.5 Compare the O&M similarities for the above Mixed mode scenarios

Target audience:

This course is suitable for anyone who is required be able to configure/operate/maintain a RBS in a mixed-mode environment.

Prerequisites:

Successful completion of the following courses:

Successful completion of the following courses:
Ericsson Radio System Overview LZU1089991
Baseband 5216/5212 Handling LZU1082172
Multistandard Baseband 52xx Field Maintenance LZU1082173

Duration and class size:

The length of the course is 2 days and the maximum number of participants per session is 8.

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Remote Site Management (RSM) Operation

LZU1082395 R1A

Description:

What is RSM? What are the components or nodes that make the RSM? Do you have sufficient knowledge to operate and manage an RSM Network?

These are just some of the questions that will be answered in this course. The RSM Operation and Management course will cover operation and management of the network through the ESC Manager. Fault, Configuration, Performance, Software and Security Management are the ESC Manager's functionality that will be covered in this course. The course will have theoretical sessions where the set-up, maintenance and use will be discussed, followed by the practical session to apply and perform the actual operation and management of the RSM network through the ESC Manager.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain the Remote Site Management (RSM) architecture
1.1 Identify the components and its functionalities that make the RSM
1.2 Know the different interface or ports in the ESC and EPP
1.3 Explain the functionality of the Misc I/O and External Alarm ports in either the ESC or EPP
1.4 Describe the different features that can be connected to the RSM network using the ESC

2 Perform software management in the ESC Manager
2.1 Describe the steps necessary for the installation and administration of the ESC Manager
2.2 Know the concepts of the ESC Manager
2.3 Know and describe the ESC Manager GUI
2.4 Know how to download software upgrade packages to ESCs and to their connected equipment

3 Perform security management functionality of the ESC Manager
3.1 Know how to create users and user groups
3.2 Explain the access rights of the users belonging to a specific user group

3.3 Describe the security management panel GUI

4 Perform configuration settings in the ESC Manager
4.1 Be able to describe the GUI structure
4.2 Know how to create and configure the ESC and the connected site equipment
4.3 Know how to do changes on multiple sites by running templates
4.4 Learn how to configure a port or interface in the ESC

5 Perform fault management in the RSM Network
5.1 Be able to set up triggers to get precise alarm monitoring
5.2 Know how to monitor alarms in the ESC and their connected equipment
5.3 Know how to isolate and resolve problems in the RSM

6 Perform performance management
6.1 Know the setting required to view reports, statistics and real time data for one site or the whole network
6.2 Be able to compare sites with each other
6.3 Be able create reports for presentation to the CTO and COO

Target audience:

This course is suitable for anyone who is required to understand and operate the Remote Site Management components.

Prerequisites:

Successful completion of the following courses:

Have competence specified for the Functional Skills Commissioning Technician Radio Products
Have basic understanding in English
Be an educated or experienced Technician/Engineer

Duration and class size:

The length of the course is 2 days and the maximum number of participants per session is 8.

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SIU 02 / TCU 02 T15 Operation and Configuration

LZU1089961 R1A

Description:

This training describes the operation and configuration procedures for SIU 02 / TCU 02.
The participants will verify the SIU 02 / TCU 02 functions, hardware, features, managed object model and the configuration procedures using the command line interface (CLI).

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain SIU 02 / TCU 02 Introduction, Hardware and Features.
1.1 Explain the main SIU 02 / TCU 02 functions.
1.2 Describe the SIU 02 / TCU 02 hardware details.
1.3 Show installation examples for SIU 02 / TCU 02.
1.4 Describe the main features for SIU 02 / TCU 02.

2 Describe SIU 02 / TCU 02 Managed Object Model.
2.1 Describe the managed object (MO) concept, structure and relations.
2.2 Identify an example of the Managed Information Base (MIB).

3 List the main SIU 02 / TCU 02 CLI Commands.
3.1 Explain the SIU 02 / TCU 02 local connection and command line.
3.2 Show the main CLI commands.

4 Configure the main SIU 02 / TCU 02 Features.
4.1 Configure O&M Access.
4.2 Configure the Synchronization.
4.3 Configure the Abis over IP using Ethernet and E1/T1.
4.4 Configure the RBS WCDMA and LTE over Ethernet.
4.5 Configure the ACL, BFD, BVI and Bridging.

Target audience:

This course is suitable for anyone who is required to configure/operate/maintain a SIU02/TCU02.

Prerequisites:

Successful completion of the following courses:

GSM System Survey, LZU107852
Ericsson WCDMA System Overview, LZU1085418
LTE/SAE System Overview, LZU1087020
IP Networking, LZU102397
IP in GSM Radio Access Network, LZU1087035
IP in WCDMA Radio Access Network, LZU1087379
GSM BSS RBS 2000 Basics, LZU1088833
RBS 6000 Overview, LZU1087503

Duration and class size:

The length of the course is 3 days and the maximum number of participants per session is 8.

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SIU 02 TCU 02 T15 Field Maintenance

LZU1089962 R1A

Description:

The objective of this course is to describe the field maintenance procedures for SIU 02 / TCU 02. The students will be able to learn both hardware types and characteristics, Managed Object Model, main commands and maintenance tasks.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Explain SIU 02 / TCU 02 functions, hardware, features.
1.1 Explain the main SIU 02 / TCU 02 functions.
1.2 Describe the SIU 02 / TCU 02 hardware details.
1.3 Show installation examples for SIU 02 / TCU 02.
1.4 Describe the main features for SIU 02 / TCU 02.

2 Explain SIU 02 / TCU 02 managed object model.
2.1 Describe the managed object (MO) concept, structure and relations.
2.2 Identify an example of the Managed Information Base (MIB).

3 Show SIU 02 / TCU 02 main CLI commands.
3.1 Explain the SIU 02 / TCU 02 local connection.
3.2 Explain the SIU 02 / TCU 02 command line.
3.3 Show the main CLI commands.

4 Perform SIU 02 / TCU 02 maintenance procedures.
4.1 Extract XML files from SIU 02 / TCU 02.
4.2 Reset the SIU 02 / TCU 02 to Factory Settings.
4.3 Run XML files in SIU 02 / TCU 02.
4.4 Describe how to check the O&M IP.
4.5 Perform the Data Collection Guideline in SIU 02 / TCU 02.

Target audience:

This course is suitable for anyone who is required to perform field maintenance activity at the SIU/TCU site.

Prerequisites:

Successful completion of the following courses:

GSM System Survey, LZU107852
Ericsson WCDMA System Overview, LZU1085418
LTE/SAE System Overview, LZU1087020
IP Networking, LZU102397
IP in GSM Radio Access Network, LZU1087035
IP in WCDMA Radio Access Network, LZU1087379
GSM BSS RBS 2000 Basics, LZU1088833
RBS 6000 Overview, LZU1087503

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 8.

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Small Cells Deployment on the way to 5G

LZU1082695 R1A

Description:

What are the fundamental considerations one should keep in mind while deploying LTE small cells? The course examines the Ericsson products, features, solutions, radio network design aspects and the operation and maintenance considerations while deploying small cells.
As LTE radio access networks prepare to coexist with the 5G RAN, the course provides that holistic small cell knowledge which becomes increasingly important in evolving radio networks.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical instructor-led lessons.

Learning objectives:

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

1 Explain the concept of Small cells and integrated networks in RAN
1.1 Describe the need for Small Cells
1.2 Demonstrate how to better utilize small cells
1.3 Identify Ericsson small cell product portfolio and integrated network solution

2 List the features and functions related to small cells.
2.1 Explain the multi-band, multi-standard, multi-layer configurations possible within the small cell portfolio.
2.2 Describe the components of each of the small cell products, describing the various radio configurations (RDS, RBS 6402, micro radios) and deployment options.
2.3 Explain key LTE features available in the small cell portfolio, such as LAA, CBRS, MSMM
2.4 Explain the advantages of an indoor RDS deployment over a traditional DAS deployment.

3 Create a small cell basic radio plan
3.1 Describe the planning and dimensioning process in a small cell radio network deployment
3.2 Describe aspects to consider when deciding where to deploy small cells
3.3 List and explain the primary parameters related to Small Cell deployment

4 Describe the Integration steps and the tools used for Operation and Management of small cells
4.1 Explain integration aspects in small cells
4.2 Compare the integration procedures for various small cell products deployment

4.3 Explain how IPSec tunnel setup is configured and its importance in a unsecured deployment scenario.
4.4 Explain Operation and Management in small cell products including the Pico RBS, the RDS and the micro radios

5 Explain the impact that small cells will have on 5G deployments
5.1 Describe the emerging 5G applications that are driving 5G development indoors and outdoors, including enhanced mobile broadband, critical machine type communications and massive machine type communications
5.2 Discuss the important role that the Radio Dot System will play in indoor 5G applications, in particular, industrial applications

Target audience:

This course is suitable for anyone who is required to be familiar with Small Cells.

Prerequisites:

Successful completion of the following courses:

LTE L18 Air Interface - LZU1082699 – ILT
LTE L18 Protocols and Procedures - LZU1082693 – ILT
LTE L18 Radio Network Functionality - LZU1082701 - ILT
LTE L18 Advanced Radio Network Features - LZU1082694 - ILT
LTE L18 Radio Network Design - LZU1082697 - ILT
LTE Configuration with ENM - LZU1082698 - ILT
LTE Operation with ENM - LZU1082393 - ILT
ENM 18 Operations for Radio Access Network - LZU1082671 - ILT

Duration and class size:

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

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WCDMA RAN Node B (Digital Unit – Based) Commissioning

LZU1082346 R1A

Description:

This course provide the participants hands-on experience of the procedures that need to be performed for the commissioning and integration of the RBS 6000 series.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

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

1 Detail the principle of Integration in WCDMA RAN Network
1.1 Identify WCDMA System Architecture
1.2 Summarize the steps involved in RAN Integration Nodes
1.3 Show the Integration Flow
1.4 Explain which management tools are needed for each step

2 Identify Pre-Configuration Activities before Commissioning
2.1 Recognize all Requirements for Commissioning
2.2 Explain the steps that need to be performed in the RAN
2.3 Explain the steps need to be performed in CN before RBS Integration

3 Perform the commissioning and integration of the RBS
3.1 Perform Initial Configuration of the RBS
3.2 Configure the Thin Client to connect to the RBS
3.3 Configure the Node IP address
3.4 Load Basic Packet SW
3.5 Perform basic hardware configuration using the Cabinet Equipment Wizard
3.6 Perform Site Basic Configuration of the RBS
3.7 Configure the O&M access for the RBS using the O&M access configuration wizard
3.8 Verify Synchronization status to ensure stability of the node
3.9 Perform Site External Configuration on the node
3.10 Integrate the external hardware for site, sectors and cells using the Site External
3.11 List the steps needed and perform site-external configuration on the node
3.12 Explain briefly Site Specific configuration
3.13 Detail what is configured during Site Specific configuration

3.14 Load Site Specific Transport and Radio Network scripts
3.15 Perform Configuration Validation
3.16 Validate IP/ATM connectivity
3.17 Verify RBS Local Cell and verify LED status
3.18 Explain the Baseband Hardware and x3 R(RUS) Radio Unit

Target audience:

This course is suitable for anyone who is required to commission a DU-based nodeB (for WCDMA) at a RBS site.

Prerequisites:

Successful completion of the following courses:

CPP Node Features and Functions, LZU1086116
RBS 6000 Overview, LZU1087503
WCDMA RAN Field Maintenance, LZU1085510

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 8.

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Working with Radio Dot System (RDS)

LZU1082785 R1A

Description:

This web-based learning course is intended to cover key topics about the Radio Dot System including a high-level overview, a hardware description, deployment scenarios, connectivity and network management.

Learning situation:

This is a Web-Based Learning.

This is a self-paced interactive learning with multimedia content, delivered online.

Learning objectives:

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

1 Describe the features and capabilities of the Radio Dot System.
1.1 Provide a high-level explanation of the Radio Dot System and explain why we need indoor small cells.

2 Describe the hardware parts of the RDS access nodes.
2.1 Describe the components that make up the Radio Dot System.

3 Describe the different components, mounting options and cabling requirements.
3.1 Explain the RDS Architecture.
3.2 Describe components and indicators on the Radio Dot.
3.3 Describe Radio Dot mounting options
3.4 Explain the Radio Dot Interface
3.5 Explain the cabling requirements and recommendations.

4 Describe the various deployment options.
4.1 Explain the deployment and configuration options of the RDS
4.2 Describe how the Ericsson Indoor Planner can be used to design your indoor network

5 Identify the different management applications available to perform configuration, operation and monitoring of the RDS nodes.
5.1 Describe the integration process at a high level.
5.2 Discuss the Ericsson Network Manager Tools that will be used to manage the RDS network.

Target audience:

This course is suitable for anyone who is required to be familiar with RDS.

Prerequisites:

Successful completion of the following courses:

Strong working knowledge on Baseband or DU-based eNodeB in the areas of operation, configuration and planning

Duration and class size:

The length of the course is approximately 2 hours.

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