



Charging System 3.0 Training Programs

Catalog of Course Descriptions












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:

Icon	Delivery Method
	Instructor Led Training (ILT)
	Seminar (SEM)
	Workshop (WS)
	Virtual Classroom Training (VCT)
	Web Based Learning (WBL)
	Short Article (SA)
	Streaming Video (SV)
	CD-ROM (CD)
	Structured Knowledge Transfer (SKT)

Delivery Enablers

	Remote Training Lab (RTL)
	Web Portal (WP)

Ericsson Education E-Learning

http://www.ericsson.com/solutions/learning/delivery_methods/wbl.shtml

Charging Control Node (CCN) Operation



LZU 108 6322 R4A

Description

This course provides information about configuration procedures for the Charging Control Node in the Charging System.

Learning objectives

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

- 1 Operate the CCN Manager Application environment
 - 1.1 Locate CCN in the CS 3.0 network
 - 1.2 Introduce the Node Management Toolbox Applications
 - 1.3 Describe the role of CCN Manager Application
 - 1.4 Describe the LDAP protocol and the concept of Managed Objects (MO)
 - 1.5 List and explain supporting CPI documents
 - 1.6 Navigate the CCN Manager GUI
 - 1.7 Describe the data categories within CCN Manager
 - 1.8 Outline the CCN configuration order of priority

- 2 Manipulate CCN Manager configuration data
 - 2.1 Explore CCN settings common to all services
 - 2.2 Configure access, service and function settings
 - 2.3 Be aware of all parameters within the fields

- 3 Obtain CCN statistics
 - 3.1 Describe where statistics are obtained in CCN
 - 3.2 List the categories of statistical counters in CCN
 - 3.3 Recognize how statistical measurements are handled
 - 3.4 Describe how statistical files can be viewed

- 4 Manage and troubleshoot CCN Faults
 - 4.1 Identify the Alarm Interfaces: local alarm display, OSS, SNMP
 - 4.2 Examine the alarm database in TSP
 - 4.3 Monitor the error logging process
 - 4.4 Retrieve data to support troubleshooting.

- 5 Discuss system administration
 - 5.1 Be aware of the CCN hardware and software configuration on TSP
 - 5.2 Navigate the Node Management GUI
 - 5.3 Identify maintenance procedures.

Target audience

The target audience for this course is: System Technicians, Service Technicians, System Engineers, Service Engineers, System Administrators.



Prerequisites

Successful completion of the following courses:

- TSP 4.0 Overview LZU 102 660
- The Server Platform (TSP) Node Management LZU 102 665
- Charging Control Node (CCN) Overview LZU 108 6321

Duration and class size

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

Learning situation

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

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Introduction to the CCN and Operation	2 hours
1	<ul style="list-style-type: none">• Operate the CCN configuration application environment	5
2	<ul style="list-style-type: none">• Manipulate CCN Manager configuration data	3
2	<ul style="list-style-type: none">• Analyze CCN statistics and reports	2
2	<ul style="list-style-type: none">• Manage and troubleshoot CCN faults	1
2	<ul style="list-style-type: none">• Look at Node Maintenance Functions	1

Charging Control Node (CCN) Overview



LZU 108 6321 R4A

Description

This course informs students about the role of the Charging Control Node (CCN) in the Charging System 3.0 CP5 network. The course explains the CCN network context, explores selected traffic cases and introduces the CCN configuration application. The course also looks at the optional Service Aware Charging and Control feature (SACC).

Learning objectives

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

- 1 List the main functions of CCN in a CS 3.0 CP5 network.
- 2 Identify and describe the CCN machine-machine interfaces and the main features of the signaling interfaces (CS1+, CAPv1-3, Diameter SCAP/SRAP, ERTC).
- 3 Describe how charging occurs using CCN by explaining selected traffic cases.
- 4 Introduce the CCN Manager GUI, identify the main menus and options and describe the configuration principles.
- 5 Identify the major network impact on the following when CCN is integrated into the network: MSC/GPRS/SDP/SGSN/Service Class and Tariff Structure/IP Network.
- 6 Describe the optional feature PRS (SACC).
- 7 List some of the statistics available within CCN.

Target audience

The target audience for this course is: Service Planning Engineers, Service Design Engineers, Network Design Engineers, Network Deployment Engineers, Service Deployment Engineers, System Technicians, Service Technicians, System Engineers, Service Engineers, Field Technicians, System Administrators, Business Developers, Customer Care Administrators, Fundamentals.

This audience covers any personnel requiring a technical introduction to the role of the Charging Control Node, CCN, in current and in future Charging System networks.

Prerequisites

Successful completion of the following courses:

TSP 5 Overview, LZU 108 6441

Charging System 3.0 Overview LZU 108 6254

Duration and class size

The length of the course is 1 day and the maximum number of participants is 16.

**Learning situation**

This course is based on theoretical instructor-led lessons given in a classroom environment.

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Describe the CCN Architecture and Interfaces	1hr 30mins
	<ul style="list-style-type: none">• Identify and describe the main features of the signaling interfaces (CS1+, CAPv1-3, Diameter SCAP/SRAP, ERTC)	1hr 25mins
	<ul style="list-style-type: none">• Describe how charging occurs using CCN by explaining selected traffic cases	30 mins
	<ul style="list-style-type: none">• Introduce the CCN Manager Application, identify the main menus options and describe the configuration principles	1hr
	<ul style="list-style-type: none">• Identify network impact when CCN is integrated into the network:	1hr
	<ul style="list-style-type: none">• Describe the optional feature PRS (SACC).	45mins
	<ul style="list-style-type: none">• List some of the statistics and reports available within CCN	30mins



Global Services

Charging System (CS) 3.0 MINSAT Customer Care



LZU 108 6255 R4A

Description

Customer Care personnel must deal efficiently with their customers to deliver the best possible service to them.

This course focuses on the customer care interface and explains the application and platform supporting the customer care role. The participants learn how to perform necessary customer care tasks, querying and maintaining account information on the MINSAT server. Participants will learn how to provision and administer subscriber accounts, how to handle voucher queries and how to administer new optional features for Charging System 3.0 CP5.

This course will ensure that all staff will be able to quickly and effectively deal with any customer issues.

Learning objectives

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

- 1 Examine the nodes that comprise the Charging System 3.0 CP5 network with particular emphasis on the AIR, MINSAT, VS, IVR (HP-IVR or Ericsson IVR (IN-IVR)), DWS and SDP functionality.
- 2 Explain the main function of MINSAT in the context of the Charging System 3.0 CP5 Architecture. To describe how to manage the system subscribers using the MINSAT GUI.
- 3 Explain the life cycle of a prepaid subscription. To describe overall functions and features so that support and verification of subscriber problems can be done.
- 4 Explain the different MINSAT access levels and the Customer Care role.
- 5 Utilise the Customer Care GUI to perform operations on subscriber accounts, for example: debits, rebates, voucher refills, change of service class etc.

Target audience

The target audience for this course is: Customer Care Administrators. This audience need to become familiar with the Customer Care role and responsibilities and who need to fully understand the GUI supporting those responsibilities.

Prerequisites

There are no prerequisites for this course.



Duration and class size

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

Learning situation

This is a task-oriented learning course based on tasks in the work process given in a technical environment using equipment and tools, which are accessed remotely.

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

Day	Topics in the course	Estimated time
1	Module 1 - Introduction	1 30 hours
	Module 2 – MINSAT Customer Care GUI	
	• View Subscriber Information, Account History, Subordinate Information	30 mins
	• Account Administration	30 mins
	• Voucher and Credit Card Refills	20 mins
	• Rebates and Debits	20 mins
	• View or change Language Setting, Service Class and Name and Address	20 mins
	• Family and Friends service	20 mins
	• HLR Profile and Barred Numbers	20 mins
	• View Voucher details and Promotion Plans	30 mins
	• Understand Advanced Pane	30 mins
	• Community Group data	20 mins
	• Service Offerings	20 mins
	• Account Group data	20 mins
	• USSD EoC Notifications	20 mins

Charging System (CS) 3.0 Overview



LZU 108 6254 R4A



LZU 108 6254/9 R4A

Description

Operator staff who will use the Charging System must be aware of the possibilities and features of the system.

This course provides the participants with a general technical knowledge of the Ericsson Charging System 3.0 CP5. The course focuses on describing the features of Charging System 3.0 CP5, its architecture and how traffic cases are handled. It also focuses on the structure and function of this network with particular emphasis on all nodes involved and new capabilities. The node platforms and interfaces are examined along with the service features, both basic and optional.

The course prepares students for further study on specific nodes and applications so that the Charging System can be utilised to its full potential.

Learning objectives

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

- 1 Explain the nodes that comprise the Charging System 3.0 network with particular emphasis on the ADM, AIR, MINSAT, CCN, VS, IVR and SDP functionality.
- 2 Analyze the function of each network node and explain the hardware and software architecture of the Charging System 3.0 CP5 nodes.
- 3 Define the purpose of the various interfaces and protocols and describe the man-machine interfaces as listed in the CPI documentation.
- 4 Highlight and explore the new functionality and new and improved features introduced with Charging System 3.0 CP5.
- 5 Identify the interaction of network nodes by examining a selected group of Traffic Cases.

Target audience

The target audience for this course is: Service Planning Engineers, Service Design Engineers, Network Design Engineers, Network Deployment Engineers, Service Deployment Engineers, System Technicians, Service Technicians, System Engineers, Service Engineers, System Administrators, Application Developers, Business Developers.

Prerequisites

There are no prerequisites for this course.



Duration and class size

The length of the course is 1 day and the maximum number of participants is 16.

Learning situation

There are two versions of this course:

- **ILT version:** This course is based on theoretical instructor-led lessons given in a classroom environment.
- **VCT version:** This is a theoretical course given in a virtual classroom over the net by an instructor. The course contains modules like slide presentations, exercises, self-paced studies and tests.

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Charging System 3.0 CP5 Network Architecture, Node Functions and Traffic Cases	2hrs 30mins
	<ul style="list-style-type: none">• Charging System Subscriber Management and Lifecycle Management.	1hr 30mins
	<ul style="list-style-type: none">• Charging System 3.0 Features with particular emphasis on Subscriber Segmentation, Community Charging, Lifecycle notification to external system and FBC	2hrs
	<ul style="list-style-type: none">• Interfaces towards and within the Charging System	1hr

Charging System (CS) 3.0 System Administration



LZU 108 6253 R4A

Description

Operators must ensure that their Charging System is running as efficiently as possible and that there is no network downtime.

The course teaches the participants how to administer, operate & maintain the Charging System. It is an instructor-lead-training (ILT) course for the MINSAT, AIR Server, Voucher Server and SDP systems. Participants will be shown how to complete daily routine tasks on the servers to ensure the smooth running of the Charging System. They will also learn how to configure all the servers to deliver the best service possible to customers.

This will ensure the best possible service for the operator and hence the end customer.

Learning objectives

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

1. Describe the hardware architecture of the Charging System 3.0 CP5 network as outlined in the CPI documentation.
2. Describe the key features and functions of each node
3. List the nodes and their software components
4. List the new operations and maintenance functions and changes to existing functions.
5. List the system administration tasks (for example: start, stop and check the status of the nodes).
6. Describe the naming, location, structure and handling of the node log files.
7. Configure all nodes to provide the service.

Target audience

The target audience for this course is: System Technicians, Service Technicians, System Engineers, Service Engineers, System Administrators.

This audience will work on system administration, operation and maintenance of the MINSAT, AIR, Voucher Servers and SDPs in the Charging System 3.0 CP5 network.

Prerequisites

The participants should be familiar with the network architecture and features of Charging System CS 3.0 and they must be able to use UNIX commands. This knowledge could be gained from experience or by attending the following courses:

- Charging System 3.0 Overview, LZU 108 6254
- UNIX Fundamentals LZUBB 108 170

Duration and class size

The length of the course is 4 days and the maximum number of participants is 8.

Learning situation

This is a task-oriented learning course based on tasks in the work process given in a technical environment using equipment and tools.

This learning product combines instructor-led training with task-oriented based exercises on the MINSAT, AIR Server, Voucher Server and SDP. Access to MINSAT, AIR Server, Voucher Server and SDP is required for delivery of this course either in a test environment or at an operator site.

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

Day	Topics in the course	Estimated time
1	Introduction MINSAT Customer Care GUI	60 mins
	<ul style="list-style-type: none"> • View Subscriber Information, Account History, Subordinate Information • Account Administration • Voucher and Credit Card Refills • Rebates and Debits • View or change Language Setting, Service Class and Name and Address • Family and Friends service • HLR Profile and Barred Numbers • View Voucher details and Promotion Plans • Understand Advanced Pane • Community Group data • Service Offerings • Account Group data • USSD EoC Notifications 	30 mins 30 mins 20 mins 20 mins 20 mins 20 mins 20 mins 30 mins 30 mins 20 mins 20 mins 20 mins
2	Voucher Server	
	<ul style="list-style-type: none"> • Identify the hardware components of the Voucher Server • Identify the various software on the Voucher Server • Identify the Redundancy Techniques • Identify the Directory Structure of Voucher Server • Identify the various FDS components 	30 mins 15 mins 15 mins 15 mins 60 mins

- Perform essential software maintenance on the Voucher Server 120 mins
- Check the Disks, SS7 Links and Oracle 20 mins
- Event Logs and System Monitor 15 mins
- Setup Users, User Groups and Function Group 30 mins
- Generate and load batch files of vouchers 30 mins
- Generate Voucher Reports 30 mins
- Identify the hardware components of the Voucher Server 30 mins
- Identify the various software on the Voucher Server 15 mins

3

AIR Server

- Identify the hardware components of the AIR Server 60 mins
- Identify the software components of the AIR Server 15 mins
- Identify the Directory Structure of AIR Server 15 mins
- Understand the function of the Account Finder 120 mins
- Identify the AIR FDS Components 60 mins
- Perform essential software maintenance on the AIR server 60 mins
- Check the Disks, SS7 Links and Oracle 20 mins
- Setup Users, User Groups and Function Group 30 mins
- Setup a service class 15 mins
- Configure AIR for refills and promotion plans 60 mins

4

SDP Server

- Identify the hardware components of the SDP server 60 mins
- Identify the various software in the SDP 15 mins
- Identify Directory Structure 15 mins
- Explain the component structure of the SDP server software 75 mins
- Perform essential software maintenance on the SDP server 180 mins
- Check the Disks, SS7 Links, database and storage management 15 mins
- Setup Users, User Groups and Function Group 30 mins

Charging System (CS) 3.0 Tariff Handling



LZU 108 6334 R3A

Description

Operators must charge their subscribers in a clear and open fashion while also ensuring there is no revenue leakage. Also with new features and functionality charging has become a very complex process.

This course focuses on Charging System 3.0 CP5 new and improved tariff functionality. The course will explore the impact of community charging, subscriber segmentation, lifecycle notification and USSD rating trees. It will also cover the Account Management structure.

The course teaches students to design, test and activate selection structures for realtime rating of all calls in the network.

Learning objectives

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

- 1 Describe the general enhancements available in CS 3.0 CP5 Tariff Handling
- 2 Explain and configure tariffs based on Community Charging Support
- 3 Explain and configure tariffs based on Improved Subscriber Segmentation Support
- 4 Enable enhanced USSD Notifications to the subscriber
- 5 Describe and illustrate how to set up Life-Cycle Notifications to External Systems
- 6 Configure the Account Management structure

Target audience

The target audience for this course is: Service Deployment Engineers, Business Developers.

This audience would be working in designing new schemes for business development and implementing the technical solution for those schemes.

Prerequisites

The participants should be familiar with implementing tariffs and service class using the SDP TMA and SMA tools or they should have successfully completed either of the following courses:

- PrePaid System (PPS) 3.4 Tariff Handling LZU 108 5904
- PrePaid System (PPS) 3.5 and 3.6 Tariff Handling LZU 108 6064
- Charging System 3.0 Overview LZU 108 6321

Duration and class size

The length of the course is 4 days and the maximum number of participants is 8

Learning situation

This course is based on theoretical and practical instructor-led lessons given in both classroom and in a technical environment using an SDP with TMA, which can also be accessed remotely.

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate. (This paragraph is mandatory).

Day	Topics in the course	Estimated time
1	• Chapter 1 Charging System 3.0 CP5 New Features	3.5 hrs
	• Chapter 1 Exercises	3.5 hrs
2	• Chapter 2 Community Charging	3.5 hrs
	• Chapter 2 Exercises	2 hrs
	• Chapter 3 Subscriber segmentation support	1.5 hrs
3	• Chapter 3 Exercises	2 hrs
	• Chapter 4 USSD Notification	1 hr
	• Chapter 4 Exercises	2.5 hrs
	• Testing of all Structures	1.5 hr
4	• Chapter 5 Lifecycle Notification	1 hrs
	• Chapter 5 Demo	.5 hrs
	• Chapter 6 Account Management	2 hrs
	• Chapter 6 Exercises	3.5 hrs

Convergent Charging and Billing Overview



LZU 1086836 R1A



LZU 108 6836/9 R1A

Description

An increasing number of operators meet challenges when they need to charge for new multi media services in a multi network and multiparty environment, with short Time to Market and secured revenues. Complex and non-compatible systems for revenue management makes introduction of new services a costly and time-consuming experience.

The Convergent Charging & Billing Solution Overview course provides the participants with a general technical knowledge of the Convergent Charging Solution. The course describes its key drivers, benefits, architectural structural and Ericsson's three solution offerings.

All in all, Convergent Charging handles end-to-end revenue management processes which will be the cornerstone of successful business for the operator. It will create competitive advantages for operators in cost efficiency, marketing capabilities, and financial risk management. This course will emphasize the benefits of converging pre and post paid subscribers into one fully scalable system.

Learning objectives

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

- 1 Explain the concept of Convergent Charging & Billing Solution
 - 1.1 Define the market situation for the Convergent Charging & Billing Solution
 - 1.2 Explore the key drivers pushing Convergent Charging & Billing Solution within the telecoms Industry
- 2 Explain the Convergent Charging architectural concept with emphasis on the common business horizontal and common charging control platform
 - 2.1 List and explore the benefits of Convergent Charging & Billing Solution
- 3 Describe Ericsson's two Convergent Charging & Billing Solution offerings and explore their differences
 - 3.1 Explain the following solution offerings and their processes
 - CRM/ERP as Business Horizontal
 - Billing & Customer Care as Business Horizontal
 - 3.2 Differentiate between the above solution offerings

Target audience

The target audience for this course is: Service Planning Engineers, Service Design Engineers, Network Design Engineers, Network Deployment Engineers, Service Deployment Engineers, System Technicians, Service Technicians, System Engineers, Service Engineers, Field Technicians, System Administrators, Application Developers, Business Developers, Customer Care Administrators.

This audience covers any personnel requiring a technical introduction to Convergent Charging & Billing Solution.

Prerequisites

There are no prerequisites for this course.

Duration and class size

ILT: The length of the course is 1 day and the maximum number of participants is 16.

VCT: The length of the course is 2 half day sessions and the maximum number of participants is 16.

Time schedule

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none"> • Introduction to Convergent Charging • Discuss the mobile network market • Explore key drivers for Convergent Charging • Two- Layered Architecture • Charging Control and Business Horizontal Domain • Benefits of Convergent Charging • Ericsson's Solution Offerings • Entry Level Solution 	<p>0.5 hrs</p> <p>0.5 hrs</p> <p>0.5 hrs</p> <p>0.5 hrs</p> <p>1 hr</p> <p>0.5 hrs</p> <p>2 hrs</p> <p>2 hrs</p>