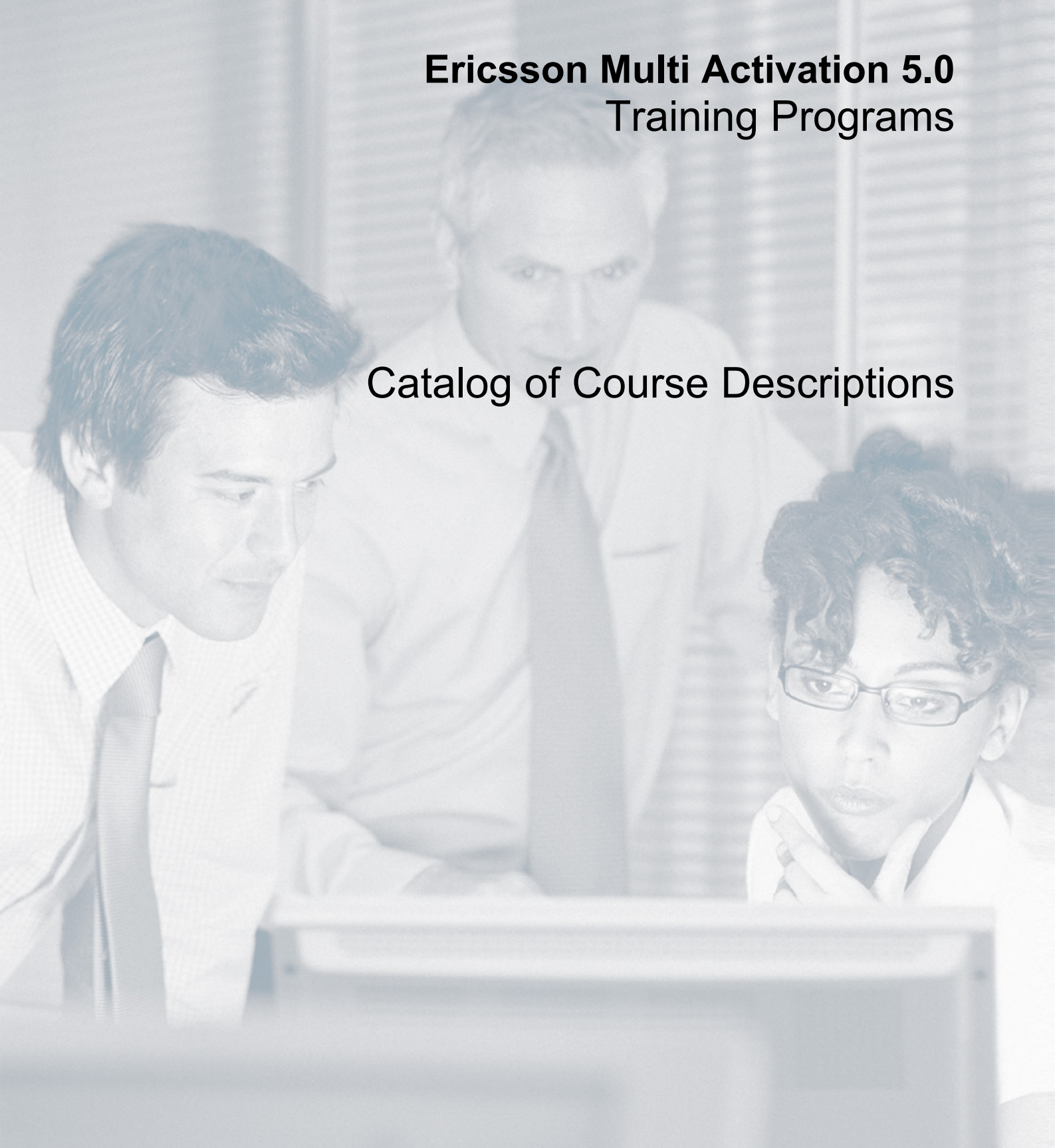




# **Ericsson Multi Activation 5.0 Training Programs**

## **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)
<b>Delivery Enablers</b>	
	Remote Training Lab (RTL)
	Web Portal (WP)
<b>Ericsson Education E-Learning</b>	
	EEOnline @ <a href="http://learning.ericsson.net/eeonline/">http://learning.ericsson.net/eeonline/</a>

## EMA 5.0 Delta



LZU 108 7523 R1A

### Description

If you want to gain knowledge on new features and changes about Multi Activation, this course is for you. This course, focuses on the impacts of new or updated features and products for Multi Activation.

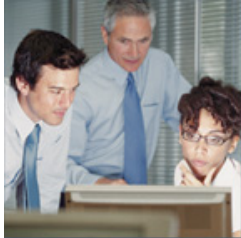
With the help of the student book provided in this course, and the guidance of a well-trained instructor, the participants will be able to learn the most important new concepts of provisioning in EMA since the version 4.0.8.

### Learning objectives

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

- 1 Define Ericsson Multi Activation (EMA) 5.0**
  - 1.1 Explain the basic principles of Multi Activation.
  - 1.2 Identify the main functions of Multi Activation in a telecom network.
  - 1.3 Briefly describe EMA 5.0 evolution
  - 1.4 List the Network Elements supported by EMA 5.0 Core
  
- 2 List the EMA features**
  - 2.1 List the basic features of EMA
  - 2.2 List the optional features of EMA
  - 2.3 List the Business Domains
  - 2.4 Describe the main features in each Business Domain
  
- 3 Describe EMA 5.0 Architecture & Integration**
  - 3.1 Define the internal EMA 5.0 Architecture
  - 3.2 Demonstrate EMA 5.0 Hardware
  - 3.3 Explain EMA 5.0 Integration Process
  
- 4 Define EMA Interfaces**
  - 4.1 Explain the three EMA interfaces
  - 4.2 Demonstration of EMA interfaces
  - 4.3 Define Service Order Scheduler
  
- 5 Describe the news in EMA GUI**
  - 5.1 Briefly description of some items of Provisioning menu
  - 5.2 Briefly description of some items of Administration menu

### Target audience



The target audience for this course is: Fundamentals, Customer Care Administrator, Service Technician, Service Engineer, Service Planning Engineer, Service Design Engineer, Service Deployment Engineer, Application Developer

### Prerequisites

The participants should be familiar with 2.5 G and 3G networks and service offerings, basic UNIX knowledge on command level and also working experience with the older versions of EMA or Successful completion of the following course:

EMA 5.0 Overview	LZU 108 7276 R1A
EMA 5.0 Configuration and Operation	LZU 108 7366 R1A

### 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"><li>EMA 5.0</li></ul>	1.5 hours
1	<ul style="list-style-type: none"><li>EMA 5.0 Features</li></ul>	1 hour
1	<ul style="list-style-type: none"><li>EMA 5.0 Architecture &amp; Integration</li></ul>	1 hour
1	<ul style="list-style-type: none"><li>EMA Interfaces</li></ul>	1.5 hours
1	<ul style="list-style-type: none"><li>News in EMA 5.0 GUI</li></ul>	1 hour

## EMA 5.0 Overview



LZU 108 7276 R2A

### Description

If you want to gain knowledge on how to improve User Provisioning efficiency, this course is for you. Multi Activation can operate with many different network elements, facilitating some routing provisioning and routing tasks. There are a lot of different ways of executing such activities, which influences directly in the performance and effectiveness of the service provided to the subscriber.

With the help of the student book provided in this course, and the guidance of a well-trained instructor, the participants will be able to learn the most important concepts of provisioning and EMA 5.0 FD3.

### Learning objectives

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

#### 1 Define Provisioning

- 1.1 Describe the basic principles of Provisioning
- 1.2 Describe Ericsson Provisioning System

#### 2 Define Ericsson Multi Activation (EMA) 5.0

- 2.1 Explain the basic principles of Multi Activation.
- 2.2 Identify main functions of Multi Activation inside telecom network.
- 2.3 Describe EMA 5.0 evolution

#### 3 List the Features in EMA

- 3.1 List the basic features of EMA
- 3.2 List the optional features of EMA
- 3.3 List the Business Domains
- 3.4 Describe the main features in each business domain

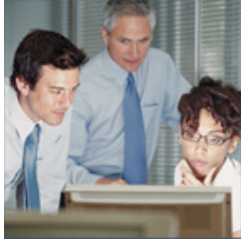
#### 4 Describe EMA 5.0 Architecture & Integration

- 4.1 Describe the internal EMA 5.0 architecture
- 4.2 Define Load Balancer Layer
- 4.3 Define Processing Layer
- 4.4 Define Resource Layer
- 4.5 Describe EMA 5.0 Hardware
- 4.6 Explain EMA 5.0 Integration Process

#### 5 Describe Supported Network Elements and solutions

- 5.1 List the Network Elements supported by EMA 5.0 Core

### Target audience



The target audience for this course is: Fundamentals, Customer Care Administrator, Service Technician, Service Engineer, Service Planning Engineer, Service Design Engineer, Service Deployment Engineer, Application Developer

### Prerequisites

The participants should be familiar with Telecommunication Principles, Service Layer Overview, and Unix Fundamentals

### 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"><li>• Introduction</li></ul>	0,5 hour
1	<ul style="list-style-type: none"><li>• Ericsson Multi Activation 5.0 FD3</li></ul>	1,5 hours
1	<ul style="list-style-type: none"><li>• Business Domain Provisioning</li></ul>	1,5 hours
1	<ul style="list-style-type: none"><li>• System Architecture &amp; Integration</li></ul>	2 hours
1	<ul style="list-style-type: none"><li>• Supported Network Elements &amp; Solutions</li></ul>	0,5 hour

## EMA 5.0 Interfaces



LZU 108 7364 R2A

### Description

If you want to gain knowledge on how to improve User Provisioning efficiency, this course is for you. Multi Activation can operate with many different protocols, each one recommended to specific nodes. There are a lot of provisioning procedures using different protocols.

With the help of the student book provided in this course, and the guidance of a well-trained instructor, the participants will be able to learn the most efficient ways of operating Multi Activation and executing user provisioning tasks and procedures.

### Learning objectives

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

#### 1 Define EMA

- 1.1 Determine the basic principles of Provisioning.
- 1.2 Describe Ericsson Provisioning System.
- 1.3 Demonstrate the interfaces among BS and EMA, also between EMA and Network elements.

#### 2 Define CAI Protocol

- 2.1 Discriminate CAI message format.
- 2.2 Briefly describe message flow of CAI protocol.
- 2.3 Execute provisioning procedures using CAI.
- 2.4 Interpret CAI return codes.

#### 3 Define XCAI Protocol

- 3.1 Define Service Order Scheduler.
- 3.2 Execute provisioning procedures using XCAI.
- 3.3 Interpret XCAI Error Codes.

#### 4 Define CAI3G Protocol

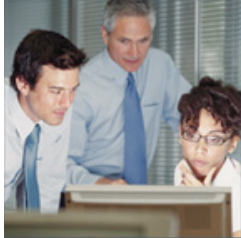
- 4.1 Briefly describe CAI3G message flow.
- 4.2 Define CAI3G Web Service Structure.
- 4.3 Determine protocols used in a CAI3G message.
- 4.4 Execute provisioning procedures using CAI3G
- 4.5 Interpret CAI3G Error Codes.

#### 5 Other protocols

- 5.1 List other protocols used between EMA and NEs

### Target audience





The target audience for this course is: Customer Care Administrator, Service Technician, Service Engineer, Service Planning, Design Engineer, Service Deployment Engineer and Application Developer.

### Prerequisites

The participants should be familiar with Ericsson Multi Activation 5.0 or Successful completion of the following course:

EMA 5.0 Overview                      LZU 108 7276 R2A

### Duration and class size

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

### Learning situation

This course is based on theoretical and practical 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.

<b>Day</b>	<b>Topics in the course</b>	<b>Estimated time</b>
1	<ul style="list-style-type: none"><li>• EMA 5.0 Overview</li></ul>	0,5 hour
1	<ul style="list-style-type: none"><li>• CAI Protocol</li></ul>	2 hours
1	<ul style="list-style-type: none"><li>• XCAI Protocol</li></ul>	1,5 hours
1	<ul style="list-style-type: none"><li>• CAI3G Protocol</li></ul>	1,5 hours
1	<ul style="list-style-type: none"><li>• Other Protocols</li></ul>	0,5 hour

## EMA 5.0 User Provisioning



LZU 108 7365 R2A

### Description

If you want to gain knowledge on how to improve User Provisioning efficiency, this course is for you. Multi Activation can operate with many different network elements inside different business domain. There are a lot of different ways of executing each activity, which influences directly in the performance and effectiveness of the service provided to the subscriber.

With the help of the student book provided in this course, and the guidance of a well-trained instructor, the participants will be able to learn the most efficient ways of operating Multi Activation in Wireless, Charging, IMS and Multimedia domains, executing user provisioning tasks and procedures.

### Learning objectives

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

#### 1 Briefly Describe EMA and User Provisioning

#### 2 Determine EMA inside Wireless domain:

2.1 Investigate the actions that may be performed in the activation of:

2.1.1 Home Location Register

2.1.2 Equipment Identity Register

2.1.3 Authentication Center

2.1.4 Flexible Number Register

2.2 Setup communications with the nodes

#### 3 Determine EMA inside IMS domain:

3.1 Briefly evaluation of the IMS network;

3.2 Validate the actions that may be performed in the activation of an IMS network;

3.3 Setup communications with the nodes.

#### 4 Determine EMA inside Access domain:

4.1 Briefly evaluation of the Access network;

4.2 Validate the actions that may be performed in the activation of an Access network;

4.3 Supported Network elements.

#### 5 Determine EMA inside Charging domain:

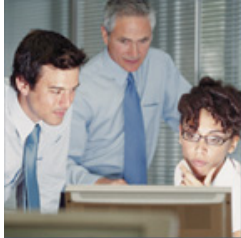
5.1 Briefly evaluation of the Charging System;

5.2 Validate the actions that may be performed in the activation of Charging System;

5.3 Setup communications with the nodes.

#### 6 Determine EMA inside Enterprise domain:

6.1 Briefly evaluation of the Enterprise domain



6.2 Setup communications with the nodes.

**7 Determine EMA inside Multimedia domain:**

7.1 Validate the actions that may be performed in the activation of:

7.1.1 Messaging Centers

7.1.2 Video Gateway

7.1.3 MML

**Target audience**

The target audience for this course is: Service Engineer, Service Planning, Design Engineer, Service Deployment Engineer and Application Developer

**Prerequisites**

The participants should be familiar with Ericsson Multi Activation 5.0 or Successful completion of the following modules:

EMA 5.0 Overview LZU 108 7276 R2A

EMA 5.0 Interfaces LZU 108 7364 R2A

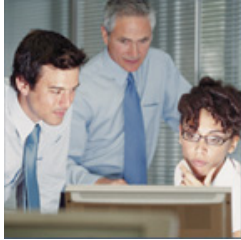
EMA 5.0 Configuration and Operation LZU 108 7366 R2A

**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 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.

<b>Day</b>	<b>Topics in the course</b>	<b>Estimated time</b>
1	<ul style="list-style-type: none"><li>• Introduction to Provisioning and EMA</li></ul>	1 hour
1	<ul style="list-style-type: none"><li>• EMA inside Wireless Domain</li></ul>	2.5 hours
1	<ul style="list-style-type: none"><li>• EMA inside IMS Domain</li></ul>	2 hours
1	<ul style="list-style-type: none"><li>• EMA inside Access Domain</li></ul>	0.5 hour
2	<ul style="list-style-type: none"><li>• EMA inside Charging Domain</li></ul>	2.5 hours
2	<ul style="list-style-type: none"><li>• EMA inside Enterprise Domain</li></ul>	0.5 hour
2	<ul style="list-style-type: none"><li>• EMA inside Multimedia Domain</li></ul>	3 hours

## EMA 5.0 Configuration and Operation



LZU 108 7366 R2A

### Description

If you want to gain knowledge on how to improve Configuration and Operation activities in EMA 5.0 FD3, this course is for you. Multi Activation can operate with many different network elements, facilitating some operators routing tasks and managing the system in a accurated way. There are a lot of different ways of executing such activities, which influences directly in the performance and effectiveness of the service provided to the subscriber.

With the help of the student book provided in this module, and the guidance of a well-trained instructor, the participants will be able to learn the most efficient ways of operating Multi Activation and executing user provisioning tasks and procedures.

### Learning objectives

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

#### **1 Use EMA to provision users using GUI:**

- 1.1 Demonstrate EMA GUI
- 1.2 Create, retrieve, delete and modify subscriber data using GUI in the following Network Elements: AUC, EIR, HLR, MC, PPS, FNR, FMC CAC and UMTS PDC FNR.
- 1.3 Investigate the Processing Log.

#### **2 Configure Multi Activation for provisioning of network elements:**

- 2.1 Configure different nodes using GUI (i.e. HLR, HSS, MMS);
- 2.2 Setup clusters;
- 2.3 Configure CAI DC;
- 2.4 Configure CAI3G DC;
- 2.5 Test the communication between EMA and configured node.

#### **3 Employ Operation tools:**

- 3.1 Explore the processing queue;
- 3.2 Implement access control methods;
- 3.3 Use the consistency tool;
- 3.4 Monitor alarms using the system monitor.

#### **4 Create and execute batch files using the Service Order Batch Handler:**

- 4.1 Create and execute a CAI/CAI3G Batch file;
- 4.2 Schedule a batch job.
- 4.3 Analyze SOBH response codes

**5 Verify if Solaris system and EMA are working properly:**

- 5.1 Confirm some information of Solaris Operational System;
- 5.2 Analyze EMA process in crontab;
- 5.3 Use basic EMA line commands;
- 5.4 Check logs from EMA;
- 5.5 Verify EMA backups.

**Target audience**

The target audience for this module is: Service Engineer, Service Planning, Design Engineer, Service Deployment Engineer and Application Developer.

**Prerequisites**

The participants should be familiar with Ericsson Multi Activation 5.0 or Successful completion of the following modules:

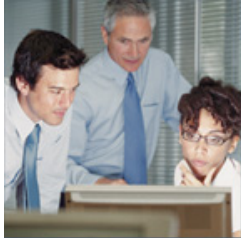
EMA 5.0 Overview	LZU 108 7276 R2A
EMA 5.0 Interfaces	LZU 108 7364 R2A

**Duration and class size**

The length of the module 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 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.

<b>Day</b>	<b>Topics in the course</b>	<b>Estimated time</b>
1	<ul style="list-style-type: none"><li>• Provisioning Using GUI</li></ul>	3 hours
1	<ul style="list-style-type: none"><li>• Configuration</li></ul>	3 hours
2	<ul style="list-style-type: none"><li>• Employ Operation Tools</li></ul>	3 hours
2	<ul style="list-style-type: none"><li>• Service Order Batch Handler</li></ul>	2 hours
2	<ul style="list-style-type: none"><li>• Administration</li></ul>	1 hour

## EMA 5.0 SDK Composer



LZU 108 7367 R2A

### Description

If you want to deploy Manage Objects, that makes Multi Vendor Network Elements fits in your network and improve your Subscriber Views in your CAS/BSS system, this course is for you. By lacking of knowledge about the tools or features available or how even to handle them, the operator may face difficulties when trying to adapt different Network Elements.

With the EMA 5.0 SDK Composer student book and the guidance of the instructor, the attendees will be able to to create and implement support for Multi Vendor Network Elements and Subscriber Views using SDK.

### Learning objectives

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

#### **1 Define Dup Programming Language**

- 1.1 Determine DUP Syntax
- 1.2 Create Variables in DUP
- 1.3 List Data Types in DUP
- 1.4 Determinate some DUP Internal functions
- 1.5 Define the use of exceptions in DUP

#### **2 Determine EMA 5.0 Composer**

- 2.1 Briefly determine Multi-Vendor within EMA
- 2.2 Briefly determine Subscriber View within EMA
- 2.3 Install Eclipse
- 2.4 Discuss the main functions of Eclipse
- 2.5 Install EMA Composer plug-in under Eclipse
- 2.6 Demonstrate the main functions of Composer plug-in
- 2.7 Demonstrate the development process to create a Multi Vendor and a Subscriber view

#### **3 Interpret EMA 5.0 SDK for Multi Vendor**

- 3.1 Implement Process Logic for routing and MO's operation
- 3.2 Implement Network Logic to send the commands to NE
- 3.3 Install a Multi Vendor
- 3.4 Test and debug
- 3.5 Handle error codes



**4 Interpret EMA 5.0 SDK for Subscriber View**

- 4.1 Implement MO's actions for Create, Get, Set and Delete commands
- 4.2 Install a Subscriber view
- 4.3 Test and debug the Subscriber View
- 4.4 Handle error codes in SV
- 4.5 Indicate Rollback functionality

**5 Create Java Downstream Codes**

- 5.1 Test JavaLink Codes
- 5.2 Configure JavaLink in Composer
- 5.3 Implement Java Codes inside SDK/Multi Vendor

**Target audience**

The target audience for this course is: Application Developers, Service Deployment Engineer, Service Planning and Design Engineer.

**Prerequisites**

The participants should be familiar with Ericsson Multi Activation 5.0, have skills in any programming language (such as C/C++ or Java) or Successful completion of the following modules:

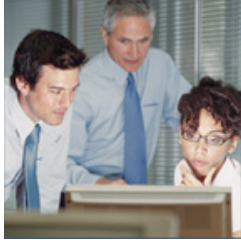
EMA 5.0 Overview	LZU 108 7276 R2A
EMA 5.0 Interfaces	LZU 108 7364 R2A
EMA 5.0 Configuration and Operation	LZU 108 7366 R2A
EMA 5.0 User Provisioning	LZU 108 7365 R2A

**Duration and class size**

The length of the course is 5 days and the maximum number of participants is 8.

**Learning situation**

This course is based on theoretical and practical 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.

<b>Day</b>	<b>Topics in the course</b>	<b>Estimated time</b>
1	<ul style="list-style-type: none"><li>• DUP Programming Language</li></ul>	2 hours
1	<ul style="list-style-type: none"><li>• EMA 5.0 SDK Composer</li></ul>	2 hours
1,2,3	<ul style="list-style-type: none"><li>• EMA 5.0 SDK for Multi Vendor</li></ul>	12 hours
3,4,5	<ul style="list-style-type: none"><li>• EMA 5.0 SDK for Subscriber View</li></ul>	11 hours
5	<ul style="list-style-type: none"><li>• Java Downstream</li></ul>	3 hours