Global Services

GSM RAN R11
Training Programs

Package Description

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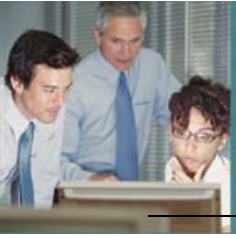

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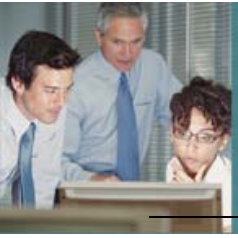


1 Introduction

This revision of the document emphasises training available with the 11th release of the GSM Radio Access Network (RAN).

Ericsson has developed an extensive competence development learning portfolio to satisfy the competence needs of our customers in all situations and at all times – from exploring business opportunities, to expertise required for operating a network. The training has been developed to offer clearly defined, yet flexible training paths to target specific technical and business areas within your organization using blended learning – from traditional classroom teaching, to learning off the web for efficient, cost effective and highly successful results.

The GSM RAN R11 Training Package is a group of training courses, to build up competence when moving into this new technology.

2 Why invest in GSM RAN R11 Training?

At Ericsson, we've worked with hundreds of operators and Service Providers worldwide, and we are in a strong position to help. As a leader in developing industry standards for technology and products, we have structured our training packages around your needs, from basics to more advanced operations. Ericsson can identify your training needs and then select the right training package to provide the competencies required for a successful and profitable future.

Benefits

- **Faster time to revenue**

Task oriented, targeted and blended training to ensure staff is operational in less time

- **Cost efficiency**

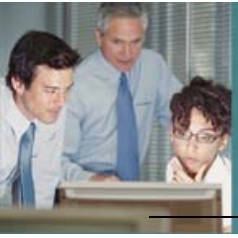
Blended learning for both time and cost efficiency. Lower operational costs provided by task oriented training

- **Increased performance/less churn**

Efficient processes achieved by skilled and competent staff

- **Minimal risk**

Ericsson's vast industry knowledge and experience is available through appropriate training



- **Organizational effectiveness**

Clear and continuous training strategies to motivate staff and provide opportunities for long term business success

3 What's in the GSM RAN R11 Training Package?

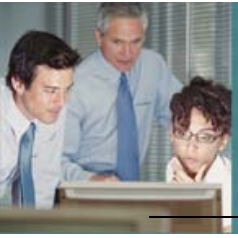
The GSM RAN R11 training offers a number of training courses ranging from how to explore the business opportunities to how to run the network, and focusing on target groups within different work areas of an operator's organization. For each work area we present standard training flows that match the currently defined job tasks. Continuous development of learning products within the GSM area is happening. Therefore the content and length of the learning products can be changed.

The course flows are focusing on following work areas:

- Network Operation
- Field Maintenance
- IS/IT Support
- Network Development

To ease the use of this document, the courses contained in the course flows are abbreviated, reflecting the type of course and/or methodology. The meaning of each abbreviation is given below:

- Instructor-Led Training (ILT)
- Virtual Classroom Training (VCT)
- Web Based Learning (WBL)
- Multimedia Based Learing (MBL)
- Streaming Video (SV)
- Workshops (WS)



4 GSM RAN – Delta Training

4.1 AXE 810 Delta Training (FAB 102 1310)

There are three courses covering the changes when going from the existing AXE platform to the new AXE 810 platform. The first course, AXE 810 Delta, is a course that covers all changes coming along with the new platform, while the other two courses deal specifically and more in detail with the new APZ versions of the AXE: APZ 212 30/33.

The 2 courses are available as Instructor-led Training (ILT) in a classroom environment.

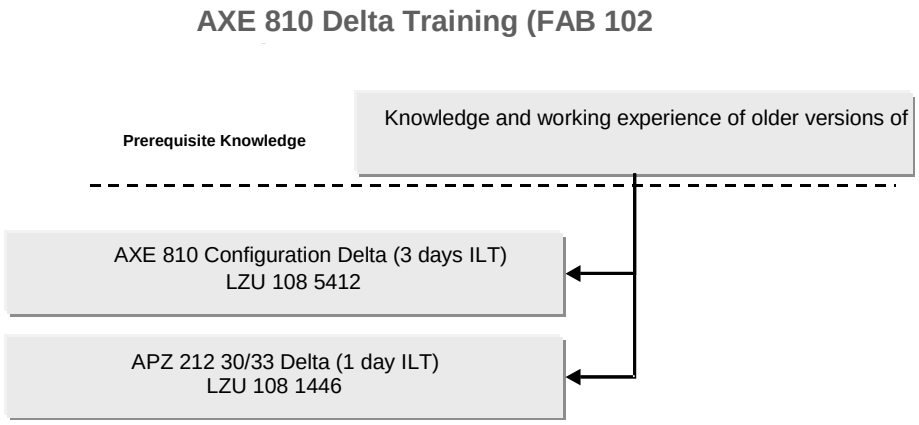
4.1.1 Main Learning Objectives

1. Describe the new AXE 810 on a basic level
2. Describe changes and improvements on APZ level
3. Describe changes and improvements on APT level
4. Describe new functionalities introduced with AXE 810
5. Be able to configure AXE 810 hardware
6. Describe the differences in the hardware structure between APZ 212 20 and 212 30/33
7. Describe the hardware structure of APZ 212 33C
8. Describe the new store structure of APZ 212 30/33 CP's
9. List the new commands introduced with the APZ 212 30/33 CP's
10. Perform Operation & Maintenance activities on APZ 212 30/33 CP's

4.1.2 Prerequisites

Participants attending this course flow should have very good working experience in operating and maintaining AXE exchanges, both the APZ and the APT part.

4.1.3 Training Flow



4.2 GSM RAN Delta Training (FAB 102 1481)

This sub-package covers the changes in the transition from GSM Radio Access Network (RAN) R10 to GSM RAN R11, both on a network and on a node level. New features and changed funtionality as well as changes in hardware and network management systems are described in the courses.

4.2.1 Main Learning Objectives

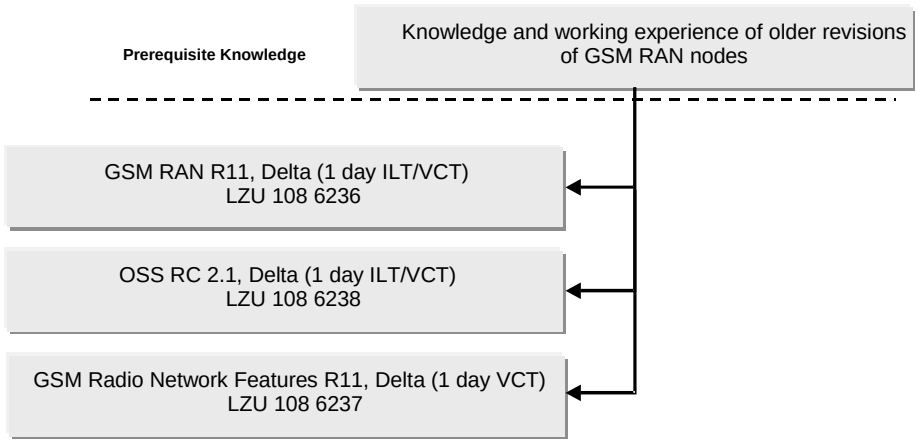
1. TBD

4.2.2 Prerequisites

Participants attending this course flow should have very good working experience in operating and maintaining GSM Radio networks on earlier releases.

4.2.3 Training Flow

GSM RAN Delta Training (FAB 102 1481)



5 GSM Network – Fundamentals

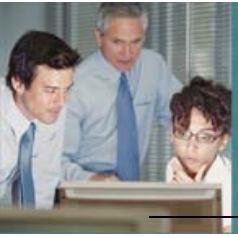
5.1 GSM Network Fundamentals (FAB 102 1465)

This flow introduces personnel starting to work with GSM networks into the fundamentals of GSM, the different parts of the network in detail and outlines the most important traffic cases that occur in the GSM network. Participants for this flow could have worked in a GSM or 2G network before, or could be starting in a new GSM network.

There are two tracks, one ILT covering GSM and GPRS and a corresponding Web-based flow splitted into the different areas (Core, Radio, Transport, GPRS, OSS, GPRS and Traffic cases).

Topics like the new layered architecture of the Core Network as well as the complete structure of the Radio Access Network are discussed among other topics.

The Web Based Learning (WBL) courses are made up in a modular way that allows the participants to take smaller steps in learning and control their learning progress. Furthermore these WBLs could be interworking with a Learning Management System to track the students progress.



5.1.1 Main Learning Objectives

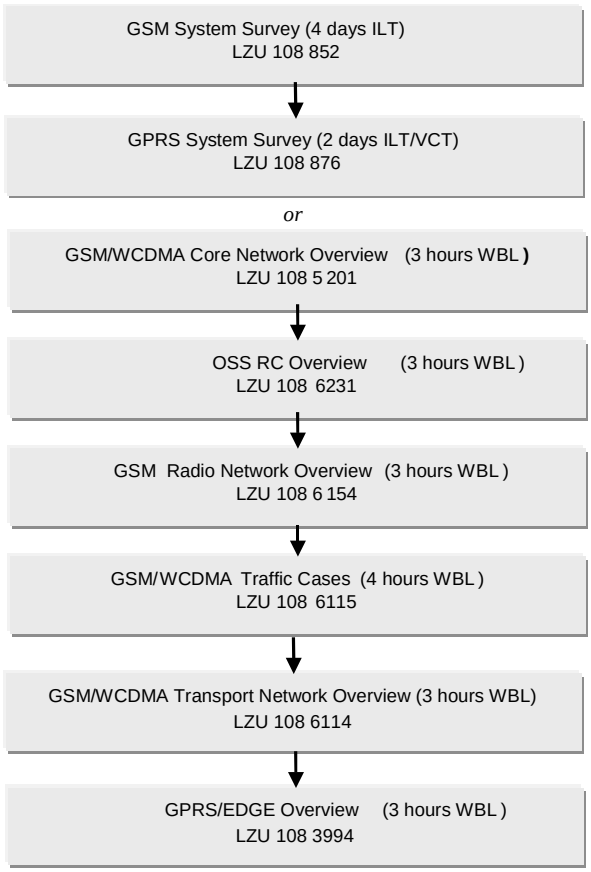
1. Explain the purpose and end-user benefit of the GSM System
2. List the different network parts included in GSM, e.g. core network, radio network and service network
3. List and explain the nodes of GSM
4. State the main functions of the GSM Core Network
5. Explain the difference between a second generation (2G) Core Network and a third generation (3G) Core Network
6. Explain the migration path from a 2G Core Network to a 3G Core Network
8. State the main functions of the nodes which comprise the GSM Core Network
9. Explain the principles of O&M in GSM Networks
10. List the applications used in OSS RC for Supervision, Configuration and Performance of the GSM Network.
11. Outline the difference between FDMA, TDMA and GSM technologies
12. Explain the purpose and principles of GSM technology
13. Outline the GSM Radio Access Network (GSM RAN) nodes and network structure.
14. Understand the purpose of implementing packet switching in the existing GSM/WCDMA system
15. Understand how a terminal (Laptop or Smart Phone) uses the GPRS system to access other networks such as corporate LAN or the internet
16. List and explain GPRS system architecture
17. Explain on overview level the air interface in GPRS covering the GSM, including EDGE and/or GSM System

5.1.2 Prerequisites

There are no prerequisites to this flow, but general telecommunication knowledge is an advantage.

5.1.3 Training Flow

GSM Network Fundamentals (FAB 102 1465)



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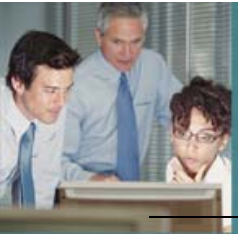


6 GSM Radio Access Network – Field Maintenance

6.1 GSM RBS Field Maintenance (FAB 102 1326)

6.1.1 Main Learning Objectives

Typical tasks at this level are:

1. Responsible for guided corrective maintenance, by replacement of HW, at RBS by following defined procedures. All tasks to be performed are ordered via Work order from NMC.

2. Continue preventive maintenance at RBS by following defined procedures. All tasks to be performed are ordered via Work order from NMC.

3. Send faulty parts to store following defined procedures.

4. Report all new discovered problems to NMC.

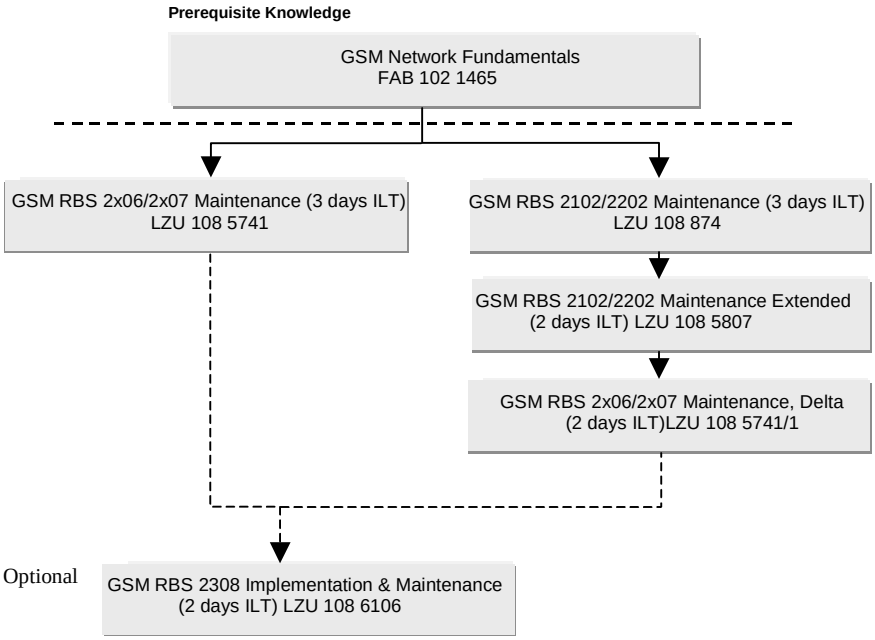
5. Assist NMC to define problems in supervised equipment.

6.1.2 Prerequisites

GSM Network Fundamentals (FAB 102 1465)

6.1.3 Training Flow

GSM RBS Field Maintenance (FAB 102 1326)

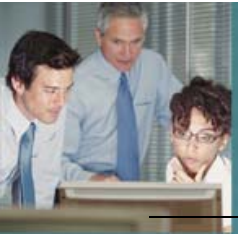


6.2 GSM BSC Maintenance (FAB 102 1423)

This flow is aimed at Field Technicians maintaining the switching part of the Radio Access Network. In the course GSM BSC Maintenance the participants learn to maintain all the Base Station Controller (BSC). This includes hardware replacement as well as preventive maintenance routines.

In the course GSM Maintenance MSC/BSC Extended the participants learn to maintain the most essential parts of the BSC node in depth: The Central Processor, the APG40 (input output group) and the Group Switch. Maintenance activities on advanced ability level and for emergency situations are treated in the course.

The course AXE 10 Emergency Handling Periodic Refresh Training covers advanced fault situations in the Central Processor and gives further in depth knowledge in handling szstem outage situations. This course also could be taken by participants with good knowledge in this area in order to refresh their competencies.



The complete flow is instructed following the methodology of task-oriented training: The students learn by solving problems in real working situations on the nodes. In this way the students not only solve work orders given in the courses, but also learn the methodology to approach new problems coming up in the network. Following this methodology the students can take over work assignments in the maintenance area directly after returning from the course.

Between the first and the second course of the flow it is recommended that the student gain further working experience in the network.

6.2.1 Main Learning Objectives

1. Replace plug-in units for various subordinate hardware elements (RPs, EMs, SPMs), and execute the repair procedures using local O&M tools.

2. Replace plug-in units for various central hardware elements (APZ, SPM, TSM, IOG, APG), and execute the repair procedures using O&M tools.

3. Execute routine maintenance procedures using the online documentation

4. Replace plug-in units for various elements of packet-switching hardware, and execute the repair procedures using O&M tools.

5. Identify the hardware components and interconnections of the Group Switch (GS), using O&M tools and online documentation.

6. Detect and solve intermediate level faults in GS hardware and GS exchange data, using O&M tools and online documentation.

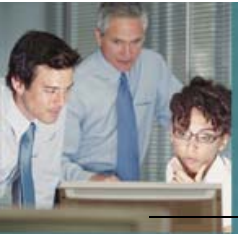
7. Identify the hardware components and interconnections of the Input / Output (IO) configuration, using O&M tools and online documentation.

8. Detect and solve intermediate level faults in IO hardware, using O&M tools and online documentation.

9. Access and use IO logging functions in the detection and analysis of system faults, using O&M tools and online documentation.

10. Access and use IO file processing functions to gather and distribute essential exchange data, using O&M tools and online documentation.

11. Determine the actions of the Maintenance Subsystem (MAS) in supervising CP hardware and handling CP faults,



using O&M tools, exchange printouts, and online documentation.

12. Determine the MAS actions in CP software supervision and recovery, using O&M tools, online documentation, and direct observation.

13. Handle CP software recovery alarms, using O&M tools and online documentation.

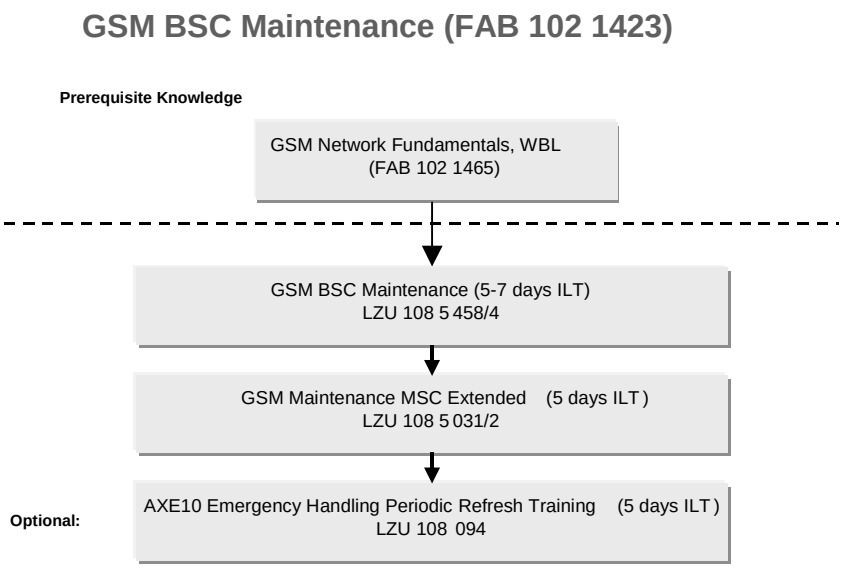
14. Handle an intermediate level CP stoppage, using O&M tools, online documentation, and the CP Test (CPT) system.

15. Understand the hardware structure of the APZ 212 30/33
Describe the functionality of the APZ 212 30/33
Interpret restart data and error related printouts

6.2.2 Prerequisites

Participants of this course flow should have attended either the courses of the training flow GSM Network Fundamentals, WBL (FAB 102 1465).

6.2.3 Training Flow



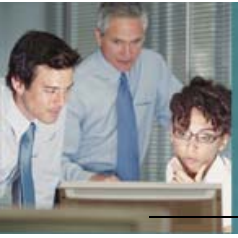
7 GSM Radio Access Network – Operation and Configuration

7.1 GSM Network Surveillance (FAB 102 1467)

The flow covers activities that are to be performed in network surveillance, from alarm handling to fault management.

The course GSM Network Surveillance covers the methodology of network surveillance. Participants are introduced into the process of handling alarms and simple fault situation, learning the methodology of approaching new alarm situations using online tools. The course is task-oriented and uses a problem-oriented pedagogical method involving real-life situations, where the students have to work very actively. The focus is on learning standard procedures rather than covering every possible alarm situation, enabling the students to react on new situations in a well-defined way.

The course GSM Network Surveillance can be delivered as both Instructor-led Training (ILT) in a classroom environment or as Virtual Classroom Training (VCT) where students can attend the training from their own workplace over the web at a pre-designated day and time. The VCT version as well as the ILT version of the course would access a network simulator remotely to perform the practical exercises.



The Fault Management On-site Workshop focuses on identifying the Operator's daily tasks in the Fault Management area and set up procedures for how to solve these tasks utilising the OSS in the most time saving as well as cost saving way. This workshop is intended to follow on basic training in handling the FM applications and after the participants have gained some experience from working with the applications in the Operator specific environment. The workshop will be performed at the customer's premises and all the covered procedures for working with the FM applications are adapted to the customer's environment.

The course Using the Fault Management eXpert Tool discusses the use of FMX as a tool to develop and maintain an expert system for intelligent alarm handling, that is, to embody and apply expertise knowledge in rules, which are put into FMX modules. The main focus is on how to create, develop and administrate FMX modules and rules.In a safe training environment the participants are guided through structured exercises, where mistakes are turned into a learning situation instead of network problems. The course can also be delivered On-Site.

7.1.1 Main Learning Objectives

1. Use the applications of the management systems involved in network surveillance tasks.
2. Use the system documentation efficiently for network surveillance tasks.
3. Perform basic alarm supervision
4. Handle the most common alarm situations
5. Describe the management system for GSM
6. Describe the main windows of OSS and explain how to launch and use OSS applications
7. Handle core network specific alarms with OSS-RC or Winfiol
8. Perform basic configuration of nodes, for AXE with OSS-RC or Winfiol
9. Execute a script on a node
10. Explain the different applications in the sub-network management system, OSS RC, that are used for Network Surveillance
11. Initiate a system back up on node level
12. Monitor the status of performance measurement programs
13. On work order retrieve statistics by using the correct application in OSS RC
14. On receiving a work-order, run a script on a node and report the result
15. Handle some of the most common alarm situations in the GSM Systems Radio Access Network
16. On receiving a work order perform File Transfer of software for the GSM RAN nodes upgrade.
17. Utilizing the Fault Management part of the existing OSS (mobile or fixed) to a higher extent in order to gain a higher return on investment.

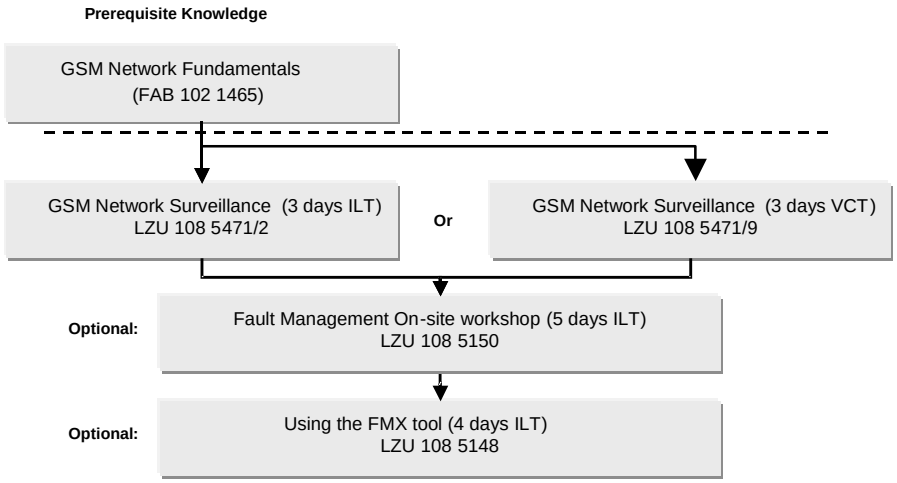
18. Describe what FMX is
19. Describe where and how FMX is used in the management system and understand the purpose of FMX
20.Describe the general flow of an alarm record when FMX is used
21. Describe the concepts of module, event discriminator and rule
22. Use the FMX user interfaces and tasks
23. Create and maintain FMX modules
24. Create rules in the FMX Rule editor
25. Test FMX modules and their contents
26. Work according to a workflow
27. Use tools for rule design
28. Use and configure the different building blocks in the Rule Editor
29. Design and create own FMX alarms
30. Describe the concept of object and attributes used in FMX
31. Use more advanced features and rule implementation
32. Create more advanced FMX rules and modules
33. Use advanced scripts to execute actions and retrieve results between FMX and a network element
34. Use FMX for interaction with the UNIX environment

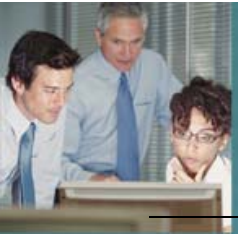
7.1.2 Prerequisites

Participants of this course flow should have attended either the courses of the training flow GSM Network Fundamentals (FAB 102 1465)

7.1.3 Training Flow

GSM Network Surveillance (FAB 102 1467)





7.2 GSM RBS Configuration (FAB 102 1329)

7.2.1 Main Learning Objectives

Typical tasks at this level are:

1. Perform the most common integration tasks

2. Configure an RBS 2000 using the on-line documentation

3. Identify individual components in the GSM RAN sub-system, both in the BSC and RBS.

4. Appreciate the ways in which the different components interwork

5. Handle practical fault-finding using the on-line documentation

6. Describe the main difference between CDU-G and CDU-F and the impact on possible radio configurations

7. Perform expansion and configuration of RBS 2x06 systems according to given specifications

8. Explain basic RBS antenna configurations on a block diagram level

9. Explain which connections to establish when changing the RBS configuration

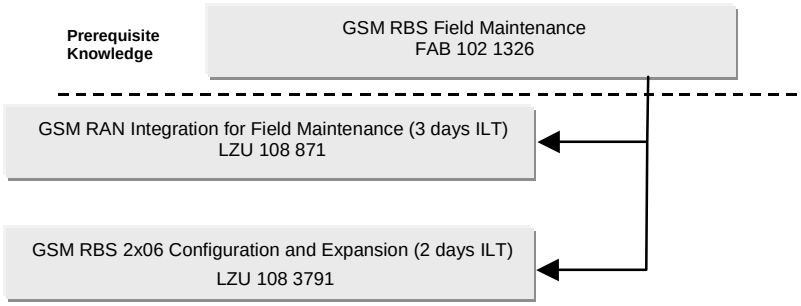
10. Describe the various co-siting solutions, their use and specific criteria

7.2.2 Prerequisites

GSM Network Fundamentals (FAB 102 1465)

7.2.3 Training Flow

GSM RBS Configuration (FAB 102 1329)



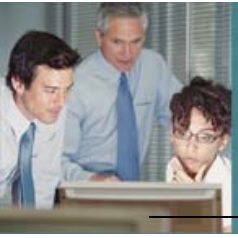
7.3 APG 40 Network Operation & Configuration (FAB 102 1345)

This training flow introduces participants to the APG 40 node and its functionality. The flow is meant for participants that have been working with the prior IO platform IOG in GSM, but can also be taken by partcipants that start working for the first time with an GSM Core Network. It has to be noted, though, that APG 40 is also treated in the training flows GSM Core Network Maintenance (FAB 102 1466) and GSM MSC/VLR Operation & Configuration (FAB 102 1468) on a basic level. In this flow here the participants will carry out operational, configuration and maintenance tasks on the Platform and the APIO application.

The following topics are included in the course APG 40 Operation & Maintenance: Introduction to APG 40, APG 40 Hardware and Software, ACS Functions, Services and Facilities, APIO including FMS and MCS, and STS operation.

The Installation and Configuration course is targeted towards System administrators and will also contain some installation activities.
The following main parts are included: Start up of APG 40, Installation of APIO, Description of the APG 40 Domain, Domain Handling on APG 40 and Migration from IOG 20 to APG 40.

This a instructor-supported training flow with focus on practical exercises.



7.3.1 Main Learning Objectives

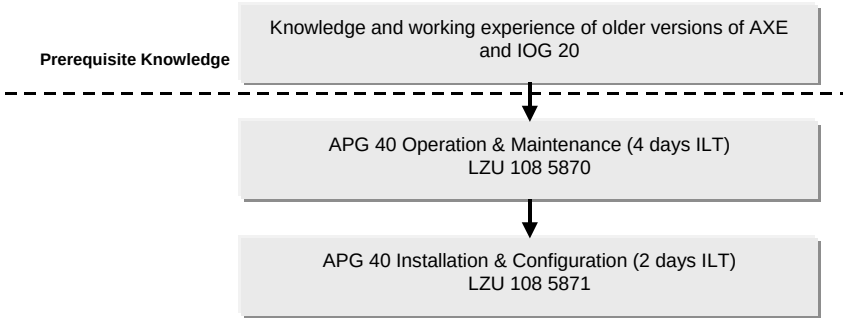
1. Describe the APG40 Hardware and Software on an overview level
2. Be able to use different interfaces to connect to the APG40 platform
3. Describe the Alarm System on an overview level
4. Use the GOH to send data
5. Collect statistics using STS
6. Have a basic understanding of the concept AD-devices
7. Load the CP from the APG40
8. Perform backup and restore of the APG40 platform
9. Upgrade the APG40 system
10. Start up and Test the APG40
11. Understand the domain concept and know how a MUD can be set up and used
12. Add user accounts to the system
13. Know about the different restore procedures
14. Migrate to APG40 from IOG20

7.3.2 Prerequisites

It is recommended that participants have prior working experience with IOG 20 and AXE 10.

7.3.3 Training Flow

APG 40 Network Operation & Configuration (FAB 102 1345)



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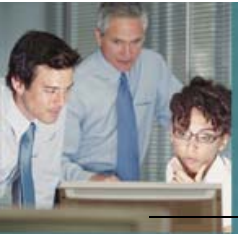


7.4 GSM BSC Operation and Configuration (FAB 102 1320)

This flow is meant for personnel working with the BSC in network operation and configuration.

The first part covers the AXE specific tasks (generic for all AXE base nodes) and the second the BSC/RAN related tasks.

As add on there is a two day course that covers the GPRS related parts in the BSC (PCU).

7.4.1 Main Learning Objectives

Typical tasks at this level are:

1. Implement all routine network configuration changes and configuration of new network elements in the Support Systems.

2. Change network parameters in accordance to change-request specification.

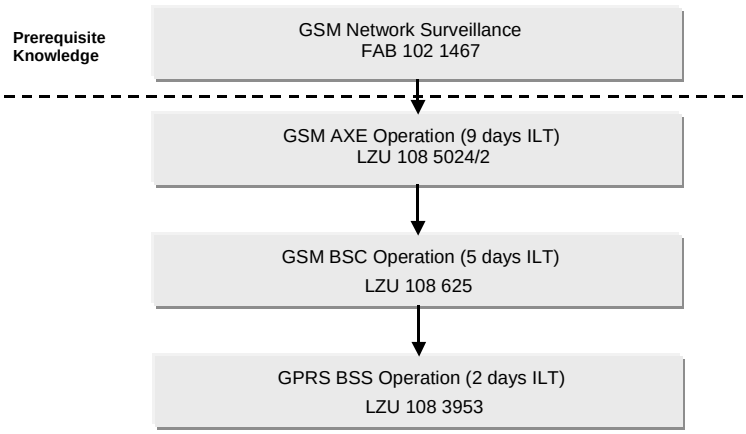
Responsible for on-line correction activities if possible related to any statistical service/quality degradation. All these activities shall be logged in the logbook and coordinated with network surveyors.

7.4.2 Prerequisites

GSM Network Surveillance (FAB 102 1467)

7.4.3 Training Flow

GSM BSC Operation and Configuration (FAB 102 1320)



7.5 GSM BSC Operation and Configuration Optional courses (FAB 102 1480)

These courses are optional and are meant for deeper knowledge in specific parts of the GSM RAN area.

7.5.1 Main Learning Objectives

Typical tasks at this level are:

1. Deeper knowledge of the signaling on RAN interfaces.

2. Create scripts for automatic operation and maintenance tasks.

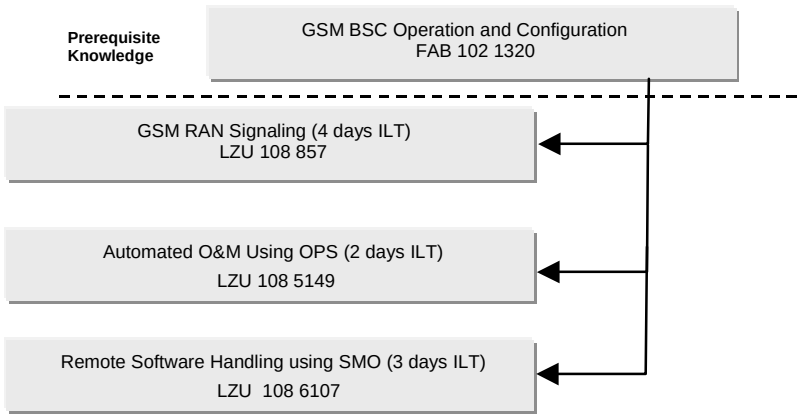
3. Software upgrade of AXE Switch and RBS node.

7.5.2 Prerequisites

GSM Network Surveillance (FAB 102 1467)

7.5.3 Training Flow

GSM BSC Operation and Configuration
Optional courses (FAB 102 1480)



8 GSM Radio Access Network – Network Development

8.1 GSM Radio Network Design (FAB 102 1425)

This flow is meant for personnel working with designing the radio access network (cell planning).

The GSM cell planning workshop includes tasks done by TEMS Cell Planner. For customers not using TEMS Cell Planner, a theory only course can be delivered in 3 days.

8.1.1 Main Learning Objectives

Typical tasks at this level are:

1. Plan radio coverage and traffic capacity
2. Define radio network parameters
3. Check parameter consistency
4. Configure the radio network

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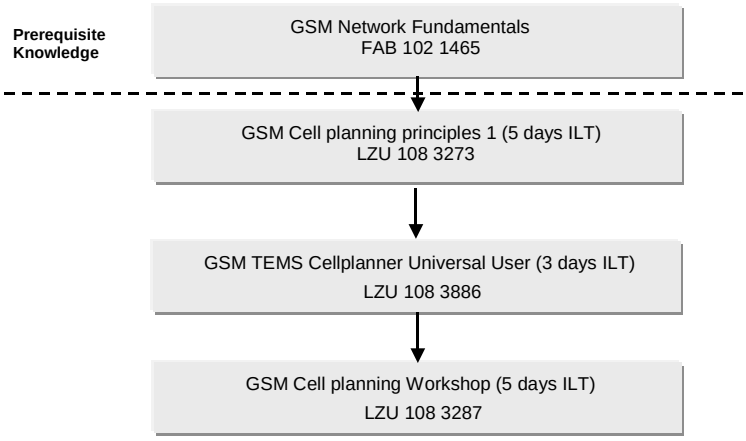
8.1.2 Prerequisites

GSM Network Fundamentals (FAB 102 1465)

8.1.3 Training Flow

GSM Radio Network Design (FAB 102 1425)



8.2 GSM Radio Network Statistics (FAB 102 1426)

This flow is meant for personnel working with statistics in Radio Network domain.

The course covers how statistical measurements are initiated in the network elements and how statistics are collected (counters).

The second part is related to OSS. In OSS Network statistics you will use OSS and its applications to retrieve and view statistical data (using predefined reports). Reports are created in Business objects.

The second one is a NWS workshop where the focus is on how do make own customer specific reports and universes. This is to be delivered at customer site.

8.2.1 Main Learning Objectives

Typical tasks at this level are:

1. Statistics and Measurement planning.

2. Mobile Subscriber Data handling.

3. Setup statistical measurements with correct OMS and STS object types and counters in BSC/MSC to produce the different predefined reports in Network Statistics Analyzer (NWS-A).

4. Use the 3pp Business Objects is used to manipulate the presentations of these reports.

5. Set up thresholds for statistical alarms in Performance Statistical Alarms (PSA).

6. Initiate radio network recordings to produce and modify reports for the Performance Management, Traffic Recording (PMR) applications.

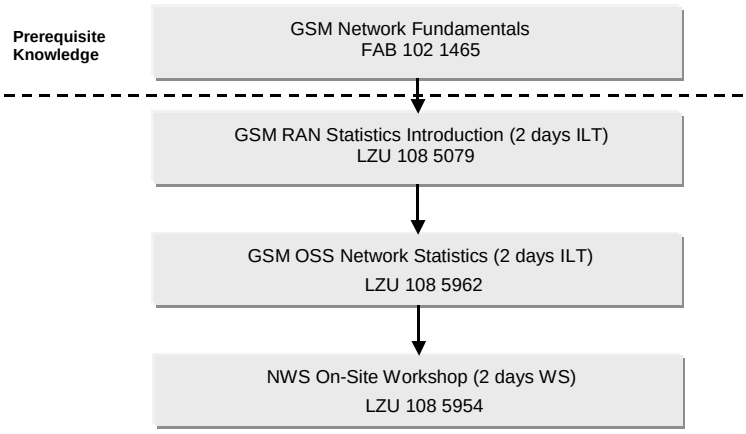
7. Create own customer specific reports and Universes.

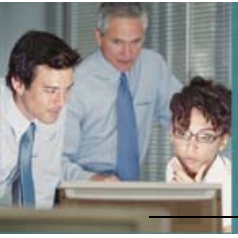
8.2.2 Prerequisites

GSM Network Fundamentals (FAB 102 1465)

8.2.3 Training Flow

GSM Radio Network Statistics (FAB 102 1425)





8.3 GSM Radio Network Optimization (FAB 102 1427)

This flow is meant for personnel working with improving and optimizing the radio network.

The first part of the flow covers a broad explanation of the GSM Radio network features and their impact on the network performance. This is followed by a tuning course where we will get familiar with the tuning process by doing some tuning cases and analyze statistical/TEMS data.

The second part is related to OSS. In OSS there are applications that can be used to improve the radio network quality (RNO, R-PMO and PMR). You will use OSS and its applications to initiate recordings and view recording data.

The OSS Network Optimizers are made for classroom deliveries and due to the lack of real network it has some limitations compared to the workshop.

For customer site deliveries and customer specific needs choose the RNO On-site workshop.

8.3.1 Main Learning Objectives

Typical tasks at this level are:

1. Define correct parameter settings for high quality radio network performance.

2. Analyze TEMS field measurements using some post processing tools

Interpret statistics collected in different network elements

3. Interpret results from specific measurement functions for radio network planning and performance analysis

4. Use the RNO applications (FAS/NOX, NCS/NOX, MRR, TET) to set up statistical measurements in the radio network.

5. Use the R-PMO and PMR applications (CTR, MTR and CER) to set up statistical measurements in the radio network.

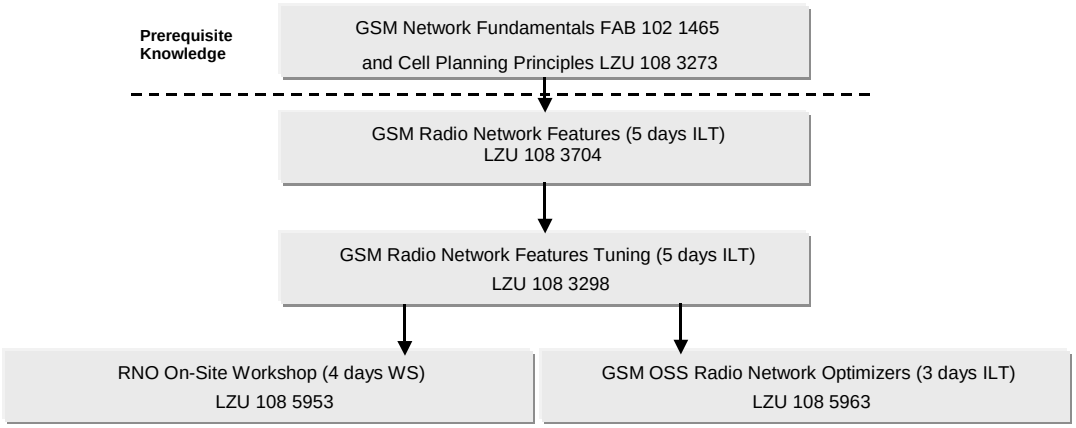
6. Create measurements reports as a base for performance analysis.

8.3.2 Prerequisites

GSM Network Fundamentals (FAB 102 1465)

8.3.3 Training Flow

GSM Radio Network Optimization (FAB 102 1427)



8.4 GPRS/EDGE Network Statistics (FAB 102 1355)

This flow is meant for personnel working with dimensioning and statistics in GPRS/EDGE Radio Network domain.

The course flows covers how statistical measurements are initiated in the network elements and how statistics are collected (counters).

The second part is related to GPRS and EDGE. How to dimension the Radio network for GPRS/EDGE traffic and how to check and analyze the performance.

8.4.1 Main Learning Objectives

Typical tasks at this level are:

1. Statistics and Measurement planning.

2. Mobile Subscriber Data handling.

3. Setup statistical measurements with correct OMS and STS object types and counters in BSC/MSC to produce the different predefined reports in Network Statistics Analyzer (NWS-A).

4. Dimension the GRPS/EDGE radio network.

5 Measure the GPRS/EDGE radio network performance and analyze the results to improve the performance.

6. Analyze TEMS printouts.

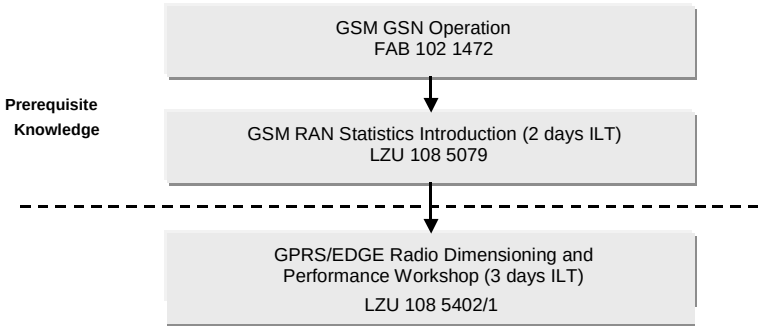
7. Dimension PCU for Ericsson BSCs.

8.4.2 Prerequisites

GSM GSN Operation FAB 102 1472 and GSM RAN Statistics Introduction LZU 108 5079.

8.4.3 Training Flow

GPRS/EDGE Network Statistics (FAB 102 1355)



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8.5 GPRS/EDGE Signaling (FAB 102 xxxx)

This flow is meant for personnel needing a deeper understanding of the RAN related GPRS/EDGE signaling.

8.5.1 Main Learning Objectives

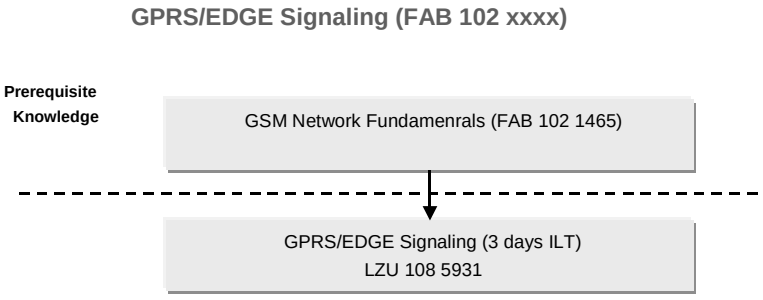
Typical objectives at this level are:

1 Describe the architecture of the GPRS Network
2 Explain the signaling between the nodes and the protocols.
3 Describe the logical channels and the messages sent on these channels
4 Give an overview of the air interface (features and protocols)
5 Give an overview of the Gb interface
6 Describe the different types of interface in the core network
7. Describe how different traffic cases are handled by the system.

8.5.2 Prerequisites

GSM Network Fundamentals FAB 102 1465

8.5.3 Training Flow



9 GSM Network Management - Operation

9.1 OSS RC Introduction (FAB 102 1379)

This flow is meant for personnel working with OSS RC in network operation, fault management, configuration management or performance management.

The workshop OSS RC On-Site Introduction covers the OSS features installed at the customer site. The course is a mixture of theoretical and practical sessions, and focuses on how to practically handle the OSS applications in an efficient way.

9.1.1 Main Learning Objectives

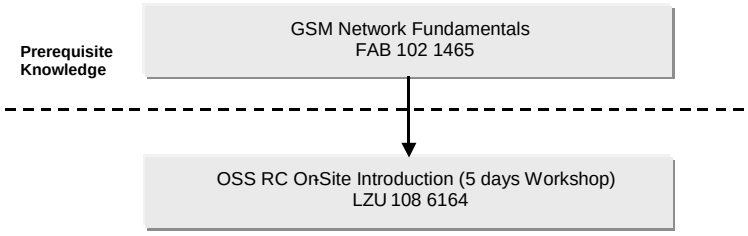
1. Describe how to use the OSS applications.
2. Better utilize OSS in the operation of the network, based upon pre-defined cases and the on-line documentation.

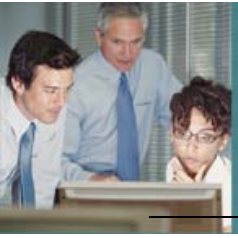
9.1.2 Prerequisites

It is recommended that participants of this course flow have attended either the courses of the training flow GSM Network Fundamentals (FAB 102 1465).

9.1.3 Training Flow

OSS RC Introduction (FAB 102 1379)





10 GSM Network Management - System Administration

10.1 OSS RC System Administration (FAB 102 1481)

This flow is meant for system administrators and covers the standard maintenance and system administration tasks of an already running OSS RC system.

The course OSS RC System Administration introduces the participants to handling processes, errors and authority in the OSS system. The course also covers fault management, network element connections, configuration, administration and troubleshooting of OSS applications

The course consists of modules with theoretical as well as practical sessions. The theoretical parts explain about the structure of the OSS platform and the network environment. In the practical sessions the students will be presented with the tasks required to administer and maintain an OSS system.

It should be noted that this is not an OSS operations course, and neither does it give any information on how to operate or administer different telephony exchanges.

10.1.1 Main Learning Objectives

1. Describe the overall structure of an OSS system.
2. Handle Authority Administration in the OSS system
3. Manage processes in the OSS system
4. Use and describe the main components in the fault management system
5. Set up connections to network elements Perform standard maintenance in the OSS system
6. Handle network element connections.
7. Handle backup and restore in the system
8. Perform Application administration
9. Perform Troubleshooting

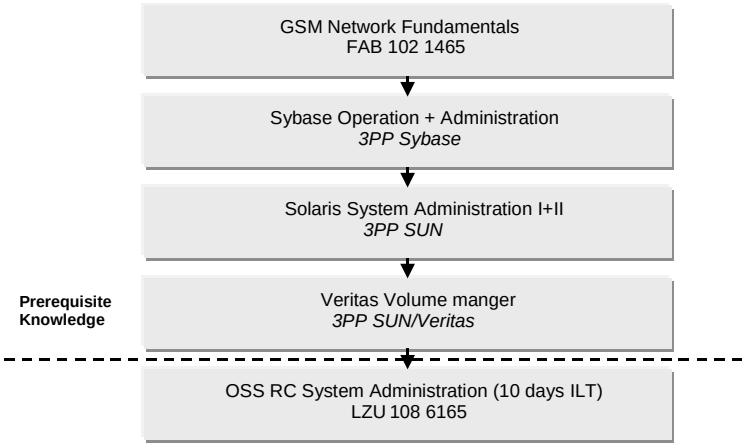
10.1.2 Prerequisites

It is recommended that participants of this course flow have attended either the courses of the training flow GSM Network Fundamentals (FAB 102 1465).

Furthermore participants need to have completed the courses Sybase Operation and Administration, Solaris System Administration I and II and veritas Volume Manager.

10.1.3 Training Flow

OSS RC System Administration (FAB 102 1481)



11 GSM Location Based Services – Operation and Maintenance

11.1 Location Based Services – Operation and Maintenance (FAB 102 1484)

TBD

11.1.1 Main Learning Objectives

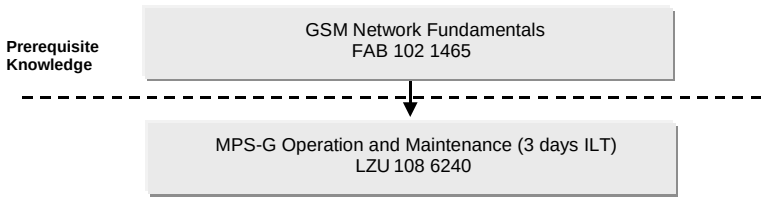
TBD

11.1.2 Prerequisites

GSM Network Fundamentals (FAB 102 1465) and some UNIX Experience

11.1.3 Training Flow

Location Based Services (FAB 102 1484)



12 How Do We Deliver?

12.1 Process

All customer orders are placed with the Ericsson CUSTOMER acount team. The local Ericsson team is in turn supported by a training co-ordinator team and competence consultant at the nearest Regional Training Centre.

The co-ordinator team has close relations with all training units within Ericsson. When an order is signed, the co-ordinators handle all preliminary course bookings and negotiate the cost for the complete offer. Once the training schedule is agreed upon, the co-ordinator does the final bookings and produces a

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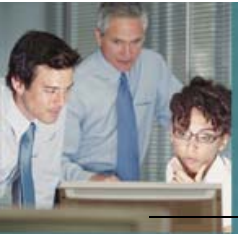


complete scheme for all training. When the courses start, the co-ordinator monitors the implementation and corrects and adapts changes that might be needed.

12.2 Delivery Methods

The content of our training package is delivered via web-based learning product or an instructor-led learning product, or a complete training flow consisting of several learning products, web-based and/or instructor-led.

The instructor-led courses can be delivered at one of Ericsson's local or regional training centers, or at your premises.

Web-based learning products are delivered over the Internet, and can be linked into the customer's extranet. In addition, Ericsson offers connected services like access statistics, short articles and many more.

12.3 Delivery Requirements

The training flows contain courses with practical exercises using Ericsson equipment. When these practical courses are delivered at the customer's premises, the customer must provide suitable training equipment for the course.

Using equipment in an operational network is generally not recommended, as Ericsson can take no liability for courses using live equipment.

12.4 Responsibilities

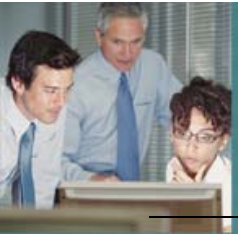
Training at Ericsson Training Centers:

The Ericsson Training Center is responsible for booking of classrooms and training equipment, course invitations, course certificates,etc.

Training at your premises:

The organising Ericsson training center shall explicitely define the requirements of classrooms, equipment, etc. to the customer.

Your training organization is responsible for course invitations, booking of classrooms, equipment, etc. according to the instructor's requirements.



13 Prerequisites

As the requierements on prerequisite knowledge varies from individual courses, please have a look at the course descriptions for more specific information.

14 Related Services

Knowledge Step is a campaign to increase knowledge for a large number of people in an effective way, in a short time period, with high quality. It is a managed customised solution that can be used to increase knowledge in different areas. The service targets entire organizations and is scalable from 500 to 10 000 participants. It is easily tailored to the needs of different customers and target groups. The service obejctive is to increase the knowledge in a specific area for an entire organization or part of an organization in a limited time frame.

Competence Consulting is a service that evaluates the customer's competence and performance improvement needs, linking them to the customer's business goals. Using proven methods, Consultants assist executives, managers, and employees in the customer organization to achieve their full potential.The outcomes of this service include recommendations on complete and efficient solutions for competence development which are in alignment with business goals. The service can also provide the customer with job procedure definitions.The results of the service lead to higher performance levels and a more effective operational network and can also be used in such areas as career planning, recruitment and incentives planning.