



Mobile OSS-RC 18 and ENIQ 18 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.

The delivery of the Learning Products is realized by various Services:

Icon	Service
	Instructor Led Training (ILT)
	Virtual Classroom Training (VCT)
	eLearning (WBL)
	Workshop (WS)
	Short Article (SA)
	Structured Knowledge Transfer (SKT)
	mLearning
	Job duty analysis (JDA)
	Competence GAP Analysis (CGA)

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ENIQ 17 Events Administration



LZU1082403 R1A

Description

This course is for anyone responsible for the administration of an Ericsson Network IQ System. It will focus on the daily, weekly and monthly task to be performed by an ENIQ Events System Administrator.

It will also give a larger perspective by experiencing the reporting aspect of ENIQ, and by looking at what happens behind the scene to make ENIQ a future-proof performance management solution.

Note: This course will detail the administration of ENIQ; it does not deal with specific counter values, KPI's interpretation or Event handling, this is covered in the corresponding PM courses.

It is not a substitute for OSS-RC System Administration, Solaris, Business Objects or Sybase training if involved in developing reports, advanced system administration, or platform troubleshooting.

Learning objectives

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

- 1 View events and KPI's in Events UI
 - 1.1 Explore other ENIQ PM tools
 - 1.2 Mention of the delta changes from ENIQ Events 16 to 17
 - 1.3 Introduce the optional module Network Analytics Server.
- 2 Discuss the system specifications
 - 2.1 Identify the possible hardware configurations
 - 2.2 Identify the installation requirements
 - 2.3 List the main steps involved in installing ENIQ systems
 - 2.4 Recognize the mediation gateway workflows (Events)
- 3 Perform system maintenance tasks
 - 3.1 Remember the shutdown/start-up sequence for the different systems
 - 3.2 Perform the required system user maintenance tasks
 - 3.3 Monitor the ENIQ systems and manage ENIQ "sets"
 - 3.4 Configure logging details
 - 3.5 Maintain a healthy and consistent file system
 - 3.6 Adjust data retention
 - 3.7 Outline the principles of backup management
- 4 Analyze the data workflow





- 4.1 Browse the directory structure
- 4.2 Manually upload data
- 4.3 Monitor the data loading
- 4.4 Monitor the data aggregations and initiate data re-aggregation
- 4.5 Configure monitoring thresholds
- 4.6 Verify the data
- 4.7 Manage unknown cells (Events)
- 5 Examine the structure of the Sybase IQ database
 - 5.1 Access the partitioned tables and the views
 - 5.2 Correlate the data and database users
 - 5.3 Query the database using SQL GUI's or CLI
- 6 Practice the administration tasks and experience the tools
 - 6.1 Recall the data workflow and the administration tools
 - 6.2 Execute day to day administration tasks related to: system status, dataflow monitoring, daily aggregations, system memory, backup
 - 6.3 Perform some of the weekly administration tasks related to: backup, disk space, weekly BH aggregations
 - 6.4 Plan the monthly administration tasks, including the follow-up of monthly BH aggregations
 - 6.5 Consider non-ENIQ tasks
- 7 Diagnose reporting issues and perform basic troubleshooting
 - 7.1 Determine roles and responsibilities
 - 7.2 Recall the known issues and troubleshoot them.

Target audience

The target audience for this course is:

System Administrator, Network Deployment Engineer, Service Deployment Engineer, Application Developer

Prerequisites

Successful completion of the following courses:

ENIQ 17 Events Overview and Operation, LZU1082404 R1A

The participants should be familiar with the Voice and Data nodes and events' workflow, in particular the SGSN or MME nodes, eNode B's, MSS and GGSN nodes.

And for both:

IP Fundamentals

Intermediate System Administration for the Solaris 10 operating System 3PP Sun

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Duration and class size

The length of the course is 3 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, 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 (hours)
1	Introduction and pre-test	0.5
	Statistics reporting and Events monitoring	3.0
	System specifications	2.5
2	System maintenance	3.0
	Data workflow	3.0
3	Database structure	2.0
	Administrator's tasks and tools	1.0
	Troubleshooting	2.5
	Conclusion and post-test	0.5

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ENIQ 17 Events Overview and Operation



LZU1082404 R1A

Description

The packet switched network mainly produces a number of very useful events describing in details the various steps and phases and outcomes of a data connection. But these events collected in a binary format are not always easy to exploit.

ENIQ Events will be to the event reporting what ENIQ Statistics has been to the reporting on counters: it will make it easier, faster, and more user-friendly.

This course will introduce you to the ENIQ Events technology, and will allow you to use the web interface functionalities to monitor and troubleshoots on various aspects of the packet switched connection. The various views like subscriber, network element, and terminal oriented views will be used to allow you to monitor the service quality from a number of different vantage points:

You will also learn what end-user needs to know about the system administration.

Learning objectives

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

- 1 Introduce ENIQ
 - 1.1 Differentiate statistics and events reporting
 - 1.2 Outline the Sybase IQ database
 - 1.3 Review the documentation
 - 1.4 Mention of the delta changes from ENIQ Events 16 to 17
 - 1.5 Introduce the optional module Network Analytics Server.
- 2 Explain ENIQ Events concepts
 - 2.1 List the ENIQ Events products and components
 - 2.2 Understand the impact of gathering and mediating the event files
 - 2.3 Understand the storage and access of the raw event data
 - 2.4 Present the data aggregation and retention strategy
 - 2.5 Refer to the backup strategy
- 3 Analyze and visualize data using the graphical user interface features
 - 3.1 Launch and navigate the GUI
 - 3.2 Recognize the main window tabs
 - 3.3 Present a list of all available business objects reports
 - 3.4 Perform subscriber analysis by using the Session Browser
 - 3.5 Explain the network control plane and User Plane KPIs
- 4 Seek support for ENIQ Events

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- 4.1 Recall the tasks performed by the system administrators
- 4.2 Gather troubleshooting information and report issues
- 4.3 Monitor the data loading
- 4.4 Monitor the data aggregations and initiate data re-aggregation
- 4.5 Configure monitoring thresholds
- 4.6 Verify the data
- 4.7 Manage unknown cells (Events)

Target audience

The target audience for this course is:

Network Design Engineer, Network Deployment Engineer, Service Deployment Engineer, System Technician, Service Technician, Service Engineer, System Engineer, System Administrator, Customer Care Administrator

Prerequisites

Successful completion of the following courses:

The participants should be familiar with the SGSN , MME , RNC and ENodeB nodes, or successful completion of the following courses:

SGSN-MME 15 Overview - Live Virtual, LZU1089868
WCDMA RAN EVO-C 8200 Configuration, LZU1088931
LTE L16 eNode B Commissioning, LZU1082165

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 both classroom and in a technical environment using equipment and tools, which are accessed remotely

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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 (hours)
1	Introduction and pre test	0.5
	ENIQ 16 introduction	1.0
	ENIQ 16 Events concepts	1.0
	Graphical user interface	2.5
	Support and troubleshooting	0.5
	Conclusion and post-test	0.5

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LTE and EPC Network Management with OSS-RC 17



LZU1082410 R1A

Description

Do you find network management a high-pressure and challenging activity? On a daily basis must you respond to demands for information on the status of the network, network trends and optimization? This LTE/EPC Network Management with OSS-RC 17 course will give you an introduction to the applications available in OSS-RC 17A for the management of LTE and EPC/SAE networks.

This course gives an introduction to the various LTE and EPC applications for management of Ericsson nodes. Along with identifying the OSS-RC and tools for management of specific nodes there are also a number of common applications that will be described in this training, such as those used for fault and performance management.

After the course, the participants should have a basic understanding of how to operate all the common OSS-RC applications and of how to proceed using the application themselves.

Learning objectives

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

- 1 Explain on overview level the OSS-RC Network Management system.
 - 1.1 Explain why network management is necessary, and outline the role of OSS-RC as a network management system
 - 1.2 Describe the overall functionality offered by OSS-RC
 - 1.3 Identify the OSS-RC components
 - 1.4 Describe the OSS Network Explorer and the Active Library Explorer (ALEX)
 - 1.5 Determine how to add NE's to be managed by OSS through the use of ARNE
 - 1.6 Explore the purpose and functionality of the Common Integration Framework (CIF)
 - 1.7 Analyze in brief the client server architecture
 - 1.8 Explain the x86 migration and the high-availability solutions for OSS-RC.
- 2 Use the Fault Management applications in OSS-RC
 - 2.1 Explain the purpose of Fault Management (FM) and outline its benefits
 - 2.2 Explore the architecture of the FM System
 - 2.3 Discuss the alarm flow
 - 2.4 Use the various FM applications available
- 3 Explain the Software Management Organizer application
 - 3.1 Explain the importance of Software Management Organizer (SMO) in OSS RC for



- regular maintenance of Network Elements.
- 3.2 Describe the functionality of SMO.
- 4 Explore the functionality of the Job Manager applications
- 4.1 Discuss the Job Structure and differentiate between the various components of a job such as tasks and activities.
- 4.2 Explore the options available from the Job Editor, Task Editor and Job Supervisor GUIs
- 5 Explain the Performance Management setup within OSS-RC
- 5.1 Explain the Performance Measurement Initiation (PMI) solution
- 5.2 Handle Statistical Measurement Initiation & Administration (SMIA)
- 5.3 Analyze Measurement Initiation & Administration job list (MIA)
- 5.4 Analyze Performance Data Mediation application (PDM)
- 5.5 Analyze Performance Management Subsystem (PMS)
- 5.6 Analyze Statistical Gateway (SGw) data mediation tool
- 5.7 Analyze the Ericsson Network IQ (ENIQ) performance management solution
- 6 Discuss the various tools within the OSS for management of the LTE network
- 6.1 Identify and describe the various configuration applications in the Common Explorer
- 6.2 Describe the functionality of all the diagnostic tools in the Common Explorer
- 7 Explain the various tools the OSS for Packet Core Network Management
- 7.1 Describe the key functions of the Packet Core Network management applications
- 7.2 Discuss the Core Network Status Monitor
- 8 Discuss the various tools within the OSS for Common Transport Network
- 8.1 Use of Common Explorer and BSIM to manage SIU Devices
- 8.2 Explore the ABIS over IP Configuration Management (AIPCM) tool

Target audience

The target audience for this course is:

Network Design Engineer, Network Deployment Engineer, Service Deployment Engineer, System Engineer, Service Engineer

Prerequisites

Successful completion of the following courses:

OSS-RC Overview, LZU1089803
LTE/SAE System Overview, LZU1087020
EPC System Survey, LZU1087977
or

The participants should be familiar with the WCDMA network or the LTE / EPC network



Duration and class size

The length of the course is 3 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, 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 (hours)
1	OSS-RC Introduction	2.0
	Fault Management	2.0
	Software/Hardware Management	1.0
	Network Element Scripting	1.0
2	Network Statistics & ENIQ	2.0
	WCDMA/LTE Applications	4.0
3	WCDMA/LTE Applications continued	1.0
	Packet Core Network Applications	3.0
	Common Transport Network Applications	2.0





OSS-RC 16 to OSS-RC 17, Delta



LZU1082412 R2A

Description

How has OSS-RC been improved with 17B release? What new features have been introduced? How have the existing features been enhanced?

This OSS-RC 16 to OSS-RC 17, Delta training covers delta information from Release 16 to Release 17B and explains the new features along with enhancements performed for the existing features. It also covers the Solaris updates done on OSS-RC product.

Learning objectives

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

- 1 Introduction
 - 1.1 Describe the overall functionality offered by OSS-RC
 - 1.2 Demonstrate the High Level Product Structure
 - 1.3 Determine an overall image about the OSS-RC Overview
 - 1.4 Verify the changes between OSS-RC 16 to OSS-RC 17
 - 1.5 Describe the OSS-RC 17 Features
- 2 General Impact
 - 2.1 Support on SPARC Architecture and Oracle HW (x86) Discontinued
 - 2.2 Clear up Secure CORBA Communication with CPP Based Nodes
 - 2.3 Resolve the Large Import in ARNE
 - 2.4 Resolve the Node Type Change and OSS-RC Upgrade Guideline for Baseband Node
 - 2.5 Demonstrate the OSS-RC Support for MSME (Multi-Standard Managed Element) Baseband Radio Nodes
 - 2.6 Describe the Limitation for Baseband Radio Node Support in OSS-RC 17
 - 2.7 Examine the Baseband Radio Node and Baseband T Node Port Configuration
 - 2.8 Describe the limitation of NTP Alarms from Baseband Radio Node & Baseband T Node
 - 2.9 Analyze the OSS-RC Radio Network Size Supported
 - 2.10 Describe the lub Redundancy in RNC in Pool
 - 2.11 Clarify the Fault Management Support for SNMP V2C Based Nodes
 - 2.12 Describe the NM Toolbox Element Manager support for TSP Based Nodes
 - 2.13 Describe the OSS-RC support for Narrowband IoT Cells
 - 2.14 Describe the Ericsson Software Licensing Model



- 2.15 Clarify Windows 2008 Licensing
- 2.16 Analyze OMSAS
- 2.17 Examine the Network Evolution Impacts
- 2.18 Analyze Feature Impacts
- 2.19 Examine Product Impacts
- 3 Supported Upgrade Paths
 - 3.1 Describe the Upgrade Paths
 - 3.2 Verify the Upgrade Improvements
- 4 Usability Impacts
 - 4.1 Examine Summary of Usability Impacts
- 5 Hardware Impacts
 - 5.1 Analyze OSS Server Impacts
 - 5.2 Verify Common Infrastructure Impacts
- 6 3PP Updates
 - 6.1 Examine 3PP Updates
- 7 Solaris Updates
 - 7.1 Verify Solaris Updates in OSS-RC

Target audience

The target audience for this course is:

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

Prerequisites

Successful completion of the following courses:

OSS-RC Overview, LZU 1089803 or have equivalent working experience.
Any OSS-RC Operations course (several flavors) or have equivalent knowledge

Duration and class size

The length of the course is 1 day and 4 hours 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 (hours)
1	Introduction	1.5
	General Impact	2.5
	Supported Upgrade Paths	1.0
	Usability Impacts	1.0
2	Hardware Impacts	1.0
	3PP Updates	1.0
	Solaris Updates	2.0





OSS-RC 17 System Administration



LZU1082413 R1A

Description

This course will give the student thorough knowledge required to administrate the OSS-RC system.

This course prepares OSS-RC System Administrators to provision network elements in the OSS-RC, handle maintenance activities and backup key OSS-RC components, manage OSS-RC user accounts, monitor the status of OSS-RC services and log files, and perform troubleshooting of issues in preparation for opening Customer Service Requests with Ericsson support.

It should be noted that this course expects that participants to have the prerequisite knowledge of the OSS-RC applications from a user's perspective.

Learning objectives

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

- 1 Provide a high-level description of OSS-RC
 - 1.1 Distinguish the role that the OSS-RC plays in supporting the network
 - 1.2 Identify the two OSS-RC hardware platform architectures
 - 1.3 List the administrative areas
- 2 Manage User accounts in OSS-RC
 - 2.1 Discuss the function of the COMInf LDAP DS
 - 2.2 Apply Add, Remove, Lock & Unlock OSS-RC User Accounts
 - 2.3 Indicate the role of the TSS Services in OSS-RC security
 - 2.4 Modify a User's Authority in TSS Authority Service
 - 2.5 Make use of the TSS Authority Administration CLI
 - 2.6 Perform basic Citrix administration tasks
 - 2.7 Monitor user related Managed Component status and logs
 - 2.8 Run backup of the user LDAP database
- 3 Describe the OSS-RC Common Integration Framework (CIF) components and services
 - 3.1 Use the CIF Self-Management command line interfaces to work with Managed Components
 - 3.2 Show objects managed by the CIF Configuration Service
 - 3.3 Recognize the function of the CIF Notification Service



- 3.4 Diagnose and view the contents of the CIF Directory Service
- 3.5 Documents objects registered with the CIF Name Services
- 3.6 Identify settings maintained by the CIF Parameter Service
- 4 Demonstrate Node Integration General and Data Handling
 - 4.1 Discriminate the ONRM, its topology and connection to other OSS-C Subsystems
 - 4.2 Resolve the ARNE tool and how data is managed within the ONRM
 - 4.3 Use tools to check on ONRM's integrity and consistency
 - 4.4 Evaluate the functionality of the Base Station Integration Manager
 - 4.5 Perform Administration of the ENIQ Mediation (ENIQ-M) feature
- 5 Examine the Fault Management Subsystem Architecture
 - 5.1 Determine the Managed Components and Processes used in FM
 - 5.2 Investigate the basic features of GUI Alarm Viewers and FM NMS interfaces
 - 5.3 Navigate the flow of alarms through the FM Subsystem
 - 5.4 Apply and use troubleshooting tools at different FM internal interfaces
- 6 Handle AXE network elements in OSS-RC
 - 6.1 Open and troubleshoot AXE common applications
 - 6.2 Resolve and troubleshoot EAM and the basic network interface to AXE APG equipment
 - 6.3 List and troubleshoot the FM interface to AXE APG nodes
 - 6.4 Provide the main applications from EMT package (SRM, CLS & TGw)
 - 6.5 Diagnose and troubleshoot Telnet Gateway (TGw)
 - 6.6 Verify operation of and administrate CNA and BCM/BSM
 - 6.7 Integrate a new AXE network element to OSS-RC
 - 6.8 Perform the setup of SMIA and other recordings on AXE nodes
 - 6.9 Establish the flow of statistical recordings from AXE APG through OSS-RC SGW
- 7 Demonstrate the Unified Storage solution
 - 7.1 Navigate the OSS-RC file system structure
 - 7.2 Resolve the disk configurations used in OSS-RC
 - 7.3 Differentiate between the uses of Solaris Volume Manager and Veritas Storage Foundation
 - 7.4 Investigate DMR, the standard backup solution for backup and restore.
 - 7.5 Determine and distinguish the functions of DMR
 - 7.6 Handle DMR to take file system backups and restores
- 8 Examine Platform and connections between OSS-RC and NE
 - 8.1 Analyze connections between Nodes and OSS-RC
 - 8.2 Examine Nodes platform interface
- 9 Identify regular system administration tasks
 - 9.1 Evaluate Regular System Administration Tasks
 - 9.2 Identify Regular Application Administration Tasks
 - 9.3 List the status of the processes, provided by CIF Self-Management
- 10 Analyze the High Availability Solutions
 - 10.1 Distinguish the High Availability Cluster Server Solution
 - 10.2 Determine the HA Cluster Communications



- 10.3 Distinguish the Administration tools for HA Cluster Systems
- 10.4 Clarify the High Availability Replication Solution
- 10.5 Compare the different HA-RS Scenarios

Target audience

The target audience for this course is:

System Administrators

Prerequisites

Successful completion of the following internal courses or have equivalent knowledge:

- OSS-RC Overview, LZU1089803
- WCDMA Network Management with OSS-RC 16, LZU1082181
- LTE/EPC Network Management with OSS-RC 16, LZU1082335
- IMS Network Management with OSS-RC 16, LZU1082183
- GSM Network Management with OSS-RC 16, LZU1082180

Successful completion of the following external courses or have equivalent knowledge:

- Sybase: Fast track to Adaptive Server Enterprise
- Sun: Solaris 10 System Administration I and II
- The participants should also be familiar with Veritas Volume Management and have general knowledge of TCP/IP.

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 both classroom and 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 (hours)
1	Introduction	2.0
	User Management	4.0
2	CIF Platform	3.0
	Node Integration General and Data Handling	3.0
3	FM Architecture & Administration	4.0
	AXE Specific	2.0
4	Disk & Volume Management	3.0
	Platform and Connections	3.0
5	Regular System Administration Task	3.0
	High Availability	3.0



OSS-RC 17 to OSS-RC 18, Delta



LZU1082597 R1A

Description

How has OSS-RC been improved with 18 release? What new features have been introduced? How have the existing features been enhanced?

This OSS-RC 17 to 18 Delta course explains the new features along with enhancements performed for the existing features.

Learning objectives

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

- 1 Underline System Introduction
 - 1.1 Describe the OSS-RC product
 - 1.2 Demonstrate the common functionalities
 - 1.3 Determine network specific functionalities
 - 1.4 Verify the common platform
 - 1.5 Describe the general OSS-RC services
- 2 Verify General Impact
 - 2.1 Examine Supported Upgrade Paths
 - 2.2 Verify Browsers SHA-1 Phase Out Impact on OSS-RC
 - 2.3 Determine Core Network Operations Manager
 - 2.4 Examine OMBS
 - 2.5 Describe NM Toolbox Element Manager Support for TSP-Based Nodes (TSP 7100 and Later)
 - 2.6 Describe ISMS and Multi-Mediation Element Manager Launch Support
 - 2.7 Determine Ericsson Software Licensing Model
 - 2.8 Verify OSS-RC Videos
- 3 Identify Hardware Impact
 - 3.1 Examine OSS-RC Server Impact
 - 3.2 Verify Hardware Replacement Procedure
 - 3.3 Determine 3.3 3PP Updates
- 4 Describe Usability Impacts
 - 4.1 Verify the Applications Usability impact
 - 4.2 Examine FMA Impacts
 - 4.3 Examine CMA Impacts
 - 4.4 Examine PMA Impacts





- 5 List Major Changes in Previous OSS-RC Releases
- 5.1 Verify Major Changes in Previous OSS-RC Releases
- 6 Document Solaris Updates
- 6.1 Verify Solaris Updates in OSS-RC

Target audience

The target audience for this course is:

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

Prerequisites

Successful completion of the following courses:

OSS-RC Overview, LZU 1089803 or have equivalent working experience.

Any OSS-RC Operations course (several flavors) or have equivalent knowledge

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 (hours)
1	Underline System Introduction	0.5
	Verify General Impact	1.0
	Identify Hardware Impact	0.5
	Describe Usability Impacts	1.5
	List Major Changes in Previous OSS-RC Releases	1.5
	Document Solaris Updates	1.0





IMS Network Management with OSS-RC 18



LZU1082595 R1A

Description

Do you find network management a high-pressure and challenging activity? On a daily basis, must you respond to demands for information on the status of the network, network trends and optimization? This IMS Network Management with OSS-RC 18 course will give you an introduction to the applications available in OSS-RC 18 for the management of IMS networks.

This course gives an introduction to the various IMS applications for management of Ericsson nodes. Along with identifying the OSS applications and tools for management of specific IMS nodes there are also a number of common applications that will be described in this training, such as those used for fault and performance management.

The course approaches network management proactively, introducing the OSS-RC applications that are used for the following key aspects of network management:

- Finding the current status of the network, and troubleshooting the network in the event of errors.
- Identifying trends in the network, predicting problems and optimizing the network as a result.
- Regular maintenance tasks to keep the network running smoothly at all times.

After the course, the participants should have a basic understanding of how to operate all the common OSS-RC applications and how to proceed using the application themselves.

Learning objectives

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

- 1 Analyze on overview level the OSS-RC Network Management system
 - 1.1 Analyze why network management is necessary, and outline the role of OSS-RC as a network management system
 - 1.2 Explore the overall functionality offered by OSS-RC
 - 1.3 Identify the OSS-RC components
 - 1.4 Explore the OSS Network Explorer and the Active Library Explorer (ALEX)
 - 1.5 Explore how to add NE's to be managed by OSS through the use of ARNE
 - 1.6 Analyze the purpose and functionality of the Common Integration Framework (CIF)
 - 1.7 Explore in brief the client server architecture
 - 1.8 Analyze the x86 migration and the high-availability solutions for OSS-RC
- 2 Explore and use the Fault Management applications in OSS-RC
 - 2.1 Analyze the purpose of Fault Management (FM) and outline its benefits
 - 2.2 Explore the architecture of the FM System



- 2.3 Examine the alarm flow
- 2.4 Identify the various FM applications available
- 3 Explore the functionality of the Job Manager applications
- 3.1 Examine the Job Structure and differentiate between the various components of a job such as tasks and activities
- 3.2 Explore the options available from the Job Editor, Task Editor and Job Supervisor GUIs
- 4 Analyze the Performance Management setup within OSS-RC
- 4.1 Analyze the Performance Measurement Initiation (PMI) solution
- 4.2 Explore Statistical Measurement Initiation & Administration (SMIA)
- 4.3 Explore Measurement Initiation & Administration job list (MIA)
- 4.4 Explore Performance Data Mediation application (PDM)
- 4.5 Explore Performance Management Subsystem (PMS)
- 4.6 Explore Statistical Gateway (SGw) data mediation tool
- 4.7 Explore the Ericsson Network IQ (ENIQ) performance management solution
- 5 Examine the various tools within the OSS for management of the IMS network
- 5.1 Identify and Explore the various configuration applications in the Common Explorer
- 5.2 Explore the functionality of all the diagnostic tools in the Common Explorer
- 5.3 Analyze the use of IMS Configuration Manager to manage IMS nodes

Target audience

The target audience for this course is:

The target audience for this course is:

Network Design Engineer, Network Deployment Engineer, Service Deployment Engineer, System Engineer, Service Engineer

Prerequisites

Successful completion of the following courses:

OSS-RC Overview, LZU1089803

or

OSS-RC 17 to 18 Delta, LZU1082597

IMS 17 Overview, LZU1082426

or

The participants should be familiar with the OSS system and IMS network.

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, 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 (hours)
1	OSS-RC Introduction	2.0
	Fault Management	3.0
	Network Element Scripting	1.0
2	Network Statistics & ENIQ	1.5
	IMS Applications	4.5





GSM Network Management with OSS-RC 18



LZU1082594 R1A

Description

Do you find network management a high-pressure and challenging activity? On a daily basis, must you respond to demands for information on the status of the network, network trends and optimization? This GSM Network Management with OSS-RC 18 course will give you an introduction to the applications available in OSS-RC 18 for the management of GSM networks.

This course gives an introduction to the various GSM applications for management of Ericsson BSS. Along with identifying the OSS-RC and tools for management of specific GSM nodes there are also a number of common applications that will be described in this training, such as those used for fault and performance management.

The course approaches network management proactively, introducing the OSS-RC applications that are used for the following key aspects of network management:

- Finding the current status of the network, and troubleshooting the network in the event of errors
- Identifying trends in the network, predicting problems and optimizing the network as a result
- Regular maintenance tasks to keep the network running smoothly at all times

After the course, the participants should have a basic understanding of how to operate all the GSM OSS-RC applications and how to proceed using the application themselves.

Learning objectives

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

- 1 Explore on overview level the OSS-RC Network Management system
 - 1.1 Explore why network management is necessary, and outline the role of OSS-RC as a network management system
 - 1.2 Analyze the overall functionality offered by OSS-RC
 - 1.3 Identify the OSS-RC components
 - 1.4 Analyze the OSS Network Explorer and the Active Library Explorer (ALEX)
 - 1.5 Analyze how to add NE's to be managed by OSS through the use of ARNE
 - 1.6 Explore the purpose and functionality of the Common Integration Framework (CIF)
 - 1.7 Analyze in brief the client server architecture
 - 1.8 Explore the x86 migration and the high-availability solutions for OSS-RC
- 2 Analyze and use the Fault Management applications in OSS-RC
 - 2.1 Explore the purpose of Fault Management (FM) and outline its benefits
 - 2.2 Analyze the architecture of the FM System



- 2.3 Examine the alarm flow
- 2.4 Identify the various FM applications available
- 3 Analyze the AXE management tools within OSS-RC
 - 3.1 Analyze the MML command structure
 - 3.2 Explore the CHA and WinFIOL tools available in OSS-RC for MML communication with AXE network elements
 - 3.3 Explore the functionality of the AXE Element Management tools (EMT)
 - 3.4 Analyze the Operations Support Procedure (OPS) tool and explore the OPS Scripting language for script development for AXE network elements
- 4 Examine the various tools within the OSS for management of the GSM network
 - 4.1 Analyze the following GSM RAN configuration applications; Cellular Network Administration (CNA), Cellular Network Administration Interface (CNAI), Base Station Management (BSM)
 - 4.2 Describe the new Baseband radio node support in GSM RAN
 - 4.3 Analyze the IP support applications for the GSM RAN
- 5 Explore the Software Management Organizer application
 - 5.1 Explore the importance of Software Management Organizer (SMO) in OSS RC for regular maintenance of Network Elements
 - 5.2 Analyze the functionality of SMO
- 6 Explore the functionality of the Job Manager applications
 - 6.1 Examine the Job Structure and differentiate between the various components of a job such as tasks and activities.
 - 6.2 Explore the options available from the Job Editor, Task Editor, Job Supervisor GUIs
- 7 Explore the Performance Management setup within OSS-RC
 - 7.1 Explore the Performance Measurement Initiation (PMI) solution
 - 7.2 Analyze Statistical Measurement Initiation & Administration (SMIA)
 - 7.3 Analyze Measurement Initiation & Administration job list (MIA)
 - 7.4 Analyze Performance Data Mediation application (PDM)
 - 7.5 Performance Management Traffic Recording (PMR)
 - 7.6 Analyze Statistical Gateway (SGw) data mediation tool
 - 7.7 Analyze the Ericsson Network IQ (ENIQ) performance management solution
- 8 Explore the Event Based Applications setup within OSS-RC
 - 8.1 Analyze the optional features of the Event Based Applications for GSM
 - 8.2 Analyze Real Time Performance monitoring (RPMO)
 - 8.3 Explore the need for and concepts of EBS-S, EBS-G
 - 8.4 Explore the need for and concepts of FFAX (and BLR)
 - 8.5 Explore the need for and concepts of RTTM
- 9 Explore the Radio Network Optimization Application and its recordings
 - 9.1 Analyze the various optimization applications within RNO, FAS, FOX, SYROX, NCS, NOX, GWNCS, TET, CCE, MRR and RNDBI
 - 9.2 Identify how to record results and generate reports using the RNO application
- 10 Examine the various tools within the OSS for Common Transport Network



Target audience

The target audience for this course is:

The target audience for this course is:

Network Design Engineer, Network Deployment Engineer, Service Deployment Engineer, System Engineer, Service Engineer

Prerequisites

Successful completion of the following courses:

OSS-RC Overview, LZU1089803

or

OSS-RC 17 to 18 Delta, LZU1082597

GSM System Survey, LZU108852

or

The participants should be familiar with the GSM network.

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 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 (hours)
1	OSS-RC Introduction	3.0
	Fault Management	3.0
2	AXE handling in OSS-RC	3.0
	GSM RAN Applications	3.0
3	GSM RAN Applications continued	2.0
	Software/Hardware Management	2.0
	Network Element Scripting	2.0
4	Network Statistics & ENIQ	2.0
	Event Based Applications	1.0
	Radio Network Optimization	2.0
	Radio Network Optimization	1.0



ENIQ 18 Statistics Overview and Operation



LZU1082593 R1A

Description

ENIQ, KPI, BIS, WAS, IQ! Too many abbreviations? Not enough time? With the increasing volume of statistical data generated by your network (2G/3G/4G, IMS, LTE, IP convergence), you will need to understand the new Ericsson performance management solution, ENIQ. You will also want to know how it can support statistics for Ericsson and other vendor's technologies.

This course is intended for users who are new to ENIQ, but are familiar with Performance Management (PM). It describes the functionalities of the latest ENIQ and how it brings value to your business. It also provides a practical understanding on how to use the Product Reports and how to customize your own reports.

Learning objectives

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

- 1 Relate to the ENIQ reporting solution
 - 1.1 Illustrate the ENIQ and Network Evolution
 - 1.2 Identify the ENIQ Statistics Highlights
 - 1.3 Perform launching ENIQ from OSS/ENM
 - 1.4 Analyze the Evolution of ENIQ Statistics
 - 1.5 Demonstrate the ALEX documents for ENIQ
- 2 Discuss the basic concepts involved in ENIQ
 - 2.1 Identify reasons why ENIQ was introduced
 - 2.2 Recognize the relationship between the ENIQ components
 - 2.3 Name the benefits of Sybase IQ over alternative types of databases
 - 2.4 Underline the degree of integration of ENIQ with OSS-RC/ENM
- 3 Describe the Ericsson Network IQ performance management solution
 - 3.1 Clarify the network configuration
 - 3.2 Identify the ENIQ related application
 - 3.3 State in one's own words how the data reaches the reports
 - 3.4 Explore the ENIQ Universes
 - 3.5 Clarify the data aggregation principles
- 4 Illustrate ENIQ Counters and Aggregations
 - 4.1 Demonstrate ENIQ performance counters



- 4.2 Clarify ENIQ data aggregation
- 5 Perform the reporting operations using templates
 - 5.1 Recognize the Web Intelligent Rich Client
 - 5.2 Identify the Reports Templates
- 6 Practice the reporting operations
 - 6.1 Explore the Web Intelligence Rich Client
 - 6.2 Run a product sub-report
- 7 Manage sub-reports
 - 7.1 Schedule a sub-report using CMC
 - 7.2 Manage sub-report instances
 - 7.3 Administer Business Objects access
- 8 Define an ad-hoc report
 - 8.1 Create a sub-report (Raw, Day, Day BH)
 - 8.2 Use a customized busy hour criterion
 - 8.3 Select query objects
 - 8.4 Filter a query
 - 8.5 Create once-off operational KPI's at report level
 - 8.6 Publish a customer report set
- 9 Study a BO universe's structure
 - 9.1 Connect the universe objects to the SQL query
 - 9.2 Navigate the Business Objects Designer interface
 - 9.3 Verify linked universes
 - 9.4 Create re-usable variables
- 10 Customize reports design
 - 10.1 Explore tables and charts
 - 10.2 Use formats and format templates
 - 10.3 Modify a product sub-report
- 11 Explain the Statistical Alarms module
 - 11.1 Clarify the workflow relating to performance alarm generation
 - 11.2 Recognize the different types of templates, and when to use them
 - 11.3 Examine a defined alarm type, using the Web Intelligence Rich Client
 - 11.4 Analyze a defined alarm type, using the alarm configuration interface
- 12 Describe the optional Network Analytics Server
 - 12.1 Introduce the optional module Network Analytics Server
 - 12.2 Show the data driven decisions
 - 12.3 Explore User Cases and Analytics Guidance
 - 12.4 Shows the availability for Statistics and Events



Target audience

The target audience for this course is:

Service Planning Engineer, Service Design Engineer, Network Design Engineer, Network Deployment Engineer, Service Deployment Engineer, System Technician, Service Technician, Service Engineer, System Engineer, Field Technician, System Administrator, Application Developer, Business Developer, Customer Care Administrator

Prerequisites

Successful completion of the following courses:

Core or Radio Access Network Fundamentals

Be familiar with Performance Management for a given managed technology (Core, GSM, WCDMA, LTE, etc.)

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 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 (hours)
1	Relate to the ENIQ reporting solution	1.0
	Discuss the basic concepts involved in ENIQ	1.0
	Describe the Ericsson Network IQ performance management solution	2.0
	Illustrate ENIQ Counters and Aggregations	2.0
2	Perform the reporting operations using templates	3.0
	Practice the reporting operations	3.0
3	Manage sub-reports	3.0
	Define an ad-hoc report	2.0
	Study a BO universe's structure	1.0
4	Customize reports design	3.0
	Explain the Statistical Alarms module	2.0
	Describe the optional Network Analytics Server	1.0



ENIQ 18 Statistics Administration



LZU1082592 R1A

Description

This course is for anyone responsible for the administration of an Ericsson Network IQ (ENIQ) Statistics System. It will focus on the basic daily, weekly and monthly tasks to be performed by an ENIQ System Administrator.

It gives one perspective by experiencing the reporting aspect of ENIQ, and by looking at what happens behind the scene to make ENIQ a future-proof performance management solution.

Note: This course will detail the administration of ENIQ; it does not deal with specific counter values, KPI's interpretation, OSS-RC/ENM/Solaris or Sybase administration; this is covered in the corresponding courses.

Learning objectives

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

- 1 Examine the ENIQ System
 - 1.1 Identify the reference architecture for ENIQ
 - 1.2 Examine the ENIQ statistics deployments
 - 1.3 Explore the Dataflow in ENIQ
 - 1.4 Identify the ENIQ BI Launch Pad
 - 1.5 Analyze other ENIQ PM tools
- 2 Discuss the system specifications
 - 2.1 Identify the ENIQ System
 - 2.2 Analyze ENIQ Statistics Components
 - 2.3 List the main Hardware on HP blades
 - 2.4 Identify Sybase IQ architecture
 - 2.5 Verify ENIQ/OSS/ENM configurations
- 3 Perform system maintenance tasks
 - 3.1 Perform Unix commands for system maintenance
 - 3.2 Explore users using Central Management Console (CMC)
 - 3.3 Verify BO applications and Reports using CMC
 - 3.4 Monitor the ENIQ systems using adminUI
 - 3.5 Configure ENIQ using adminUI
 - 3.6 Verify the healthy and consistent file system using adminUI
 - 3.7 Adjust data retention using adminUI



- 3.8 Manage busy hours with adminUI
- 3.9 Outline the principles of backup management
- 3.10 Investigate the alarm management module
- 4 Analyze the data workflow
 - 4.1 Browse the directory structure
 - 4.2 Manually upload data
 - 4.3 Monitor the data loading
 - 4.4 Monitor the data aggregations and initiate data re-aggregation
 - 4.5 Configure monitoring thresholds
 - 4.6 Verify the data
- 5 Examine the structure of the Sybase IQ database
 - 5.1 Analyze the partitioned tables and the views
 - 5.2 Correlate the data and database users
 - 5.3 Investigate partitions types, views and plans
 - 5.4 Query the database using SQL GUI's or CLI
- 6 Practice the administration tasks and experience the tools
 - 6.1 Recall the data workflow and the administration tools
 - 6.2 Examine daily system administration tasks
 - 6.3 Perform some weekly administration tasks
 - 6.4 Plan the monthly administration tasks
 - 6.5 Consider non-ENIQ tasks
 - 6.6 Determine roles and responsibilities
 - 6.7 Identify known issues and troubleshoot them
- 7 Identify the optional Network Analytics Server
 - 7.1 Verify the optional Network Analytics Server
 - 7.2 Analyze basic Network Analytics Server maintenance

Target audience

The target audience for this course is:

System Administrator, Network Deployment Engineer, Service Deployment Engineer, Application Developer

Prerequisites

Successful completion of the following courses:

ENIQ 18 Statistics Overview and Operation, LZU1082593

Core or Radio Access Network Fundamentals

Be familiar with Performance Management for a given managed technology (Core, GSM, WCDMA, LTE, etc.)

Intermediate System Administration for the Solaris operating System



Duration and class size

The length of the course is 3 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, 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 (hours)
1	Examine the ENIQ System	1.0
	Discuss the system specifications	2.0
	Perform system maintenance tasks	3.0
2	Analyze the data workflow	3.0
	Examine the structure of the Sybase IQ database	2.0
	Practice the administration tasks and experience the tools	1.0
3	Practice the administration tasks and experience the tools	4.0
	Identify the optional Network Analytics Server	2.0