OSS-RC 11.2 System Administration for Core and WCDMA/LTE

LZU1088372 R1A

Description
This course will give the student thorough knowledge about administration of the OSS-RC system. After the course the students will be able to handle network element connections to Core & WCDMA/LTE network elements, administration of the Core Network and & WCDMA/LTE Network related applications and both standard and corrective maintenance of the system. The student will gain knowledge about how to manage processes, errors and authority issues in the OSS-RC system.

The course consists of chapters with both theoretical and practical sessions. The theoretical parts explain the structure of the OSS-RC system and the network environment. In the practical sessions the students will be presented with the tasks required to administer and maintain an OSS-RC system. The students solve the tasks on a training system, using the on-line documentation.

It should be noted that this is not an OSS-RC operations course where the applications are operated, and neither does it give any information on how to operate or administer different network elements.

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

1. Analyze OSS-RC on overview level
   1.1 Discuss the different possible hardware architectures of OSS-RC
   1.2 Describe the role that OSS-RC plays in supporting a telecommunications network
   1.3 Locate key documents in the ALEX documentation for OSS-RC

2. Manage User accounts in OSS-RC
   2.1 Discuss the use of LDAP DS versus NIS
   2.2 Add and Delete OSS-RC User Accounts
   2.3 Modify a User's Authority in TSS
   2.4 Use TSS Authority Administration GUI
   2.5 Implement TSS Password Administration CLI

3. Discuss the Unified Storage solution
   3.1 Navigate the OSS-RC file system structure
3.2 Explain the disk configurations used in OSS-RC
3.3 Differentiate between the uses of Solaris and Veritas Volume Managers
3.4 Investigate DMR, the standard backup solution for backup and restore.
3.5 Determine and describe the functions of DMR
3.6 Handle DMR to take file system backups and restores
3.7 Describe the Storage Checkpoint feature and use its interfaces

4 Explain the structure of Common Integration Framework (CIF) Platform
4.1 Identify the components of the CIF Software Architecture and explain the function each provides
4.2 Recognize the role of the Solaris Operating System
4.3 Use the Service Management Facility to control the Solaris process
4.4 Investigate the different Database solutions provided by CIF and use tools to administer their operation
4.5 Determine the role CORBA based services play in the operation of the CIF platform

5 Explain the services provided by the Common Integration Framework (CIF) Platform
5.1 Investigate the role of CIF Self Management
5.2 Explain the Managed Component (MC) Concept
5.3 Use the CIF Management Console to manage MCs
5.4 Determine the role of the Configuration Service
5.5 Use Object Explorer to access information held in Configuration Services
5.6 Identify the use of the LDAP directory service and employ tools to browse its structure
5.7 Investigate the services used for navigation, parameter and event distribution within the platform

6 Identify the ONRM, it's topology and connection to other OSS-RC Subsystems
6.1 Determine the purpose of the ARNE tool and how data is managed within the ONRM
6.2 Explain the ONE Application's purpose
6.3 Use tools to check on ONRM's sanity and consistency
6.4 Identify the functionality of the Base Station Integration Manager
6.5 Perform Administration of the ENIQ Mediation (ENIQ-M) feature

7 Investigate the Fault Management Subsystem
7.1 Inspect the Fault Management Subsystem architecture
7.2 Determine the Managed Components and Processes used in FM
7.3 Investigate the basic features of GUI Alarm Viewers and FM NMS interfaces
7.4 Navigate the flow of alarms
7.5 List and use troubleshooting tools at different FM internal interfaces

8 Explain and configure the Alarm Interface to CPP network elements
8.1 Discuss the 3GPP Alarm and Notification IRP Interface
8.2 Describe the CIRP Manager in OSS-RC
8.3 Follow the flow of alarms from network element to FM Kernel

9 Handle AXE common applications and troubleshoot
9.1 Describe the overall architecture of External Access Manager
9.2 Explain the main applications from EMT package (SRM, CLS & TGw)
9.3 Configure and Troubleshoot Telnet Gateway (TGw)
9.4 Use SRM and CLS
9.5 Explain the CNA architecture, the different Planned Area's and Jobs
9.6 Verify CNA operation and perform maintenance
9.7 Outline the concept of BCM/BSM Software
9.8 Troubleshoot BSM adjusts
9.9 Explain the concept and architecture of SMIA
9.10 Perform basic troubleshooting on SMIA

10 Handle APG & IOG type AXE network elements in OSS-RC
10.1 Explain the basic network interface to AXE APG & IOG equipment
10.2 Use tools to troubleshoot problems with access to AXE APG & IOG nodes
10.3 Explain the FM interface to AXE APG & IOG nodes
10.4 Use troubleshooting tools to verify alarm flow
10.5 Integrate a new AXE APG network element to OSS
10.6 Verify the setup of SMIA and other recordings on AXE APG & IOG nodes
10.7 Verify the flow of statistical recordings from AXE APG & IOG through OSS SGW
10.8 Explain the commissioning of MSC Blade Cluster

11 Handle M-MGw nodes in OSS-RC
11.1 Clarify the CM interface on M-MGw to OSS-RC
11.2 Explain the Mobile Media Gateway and MSC CM
11.3 Explain the Core Network Configuration Manager
11.4 Explain the overall concept of M-MGw statistical interface to OSS-RC
11.5 Explain the MIA/SGw solution and the data reception in OSS-RC
11.6 Setup new recordings and verify the recording file transfer
11.7 Integrate a new Mobile Media Gateway to OSS-RC

12 Handle the SNMP Supervision Manager Toolkit
12.1 Explain the function of an Alarm Adaptation Unit (AAU)
12.2 Follow the flow of alarms from network element to FM Kernel
12.3 Troubleshoot SNMP alarm transport

13 Handle Telecom Server Platform based nodes in OSS-RC
13.1 Explain functions located on Telecom Server Platform
13.2 Explicate the Configuration Management support
13.3 Determine the Software Management support
13.4 Investigate the Fault Management Interface of TSP
13.5 Determine the Performance Management interface to OSS RC
13.6 Setup new recordings and verify the recording file transfer
13.7 Integrate a new TSP based network element into OSS

14 Handle Integrated Site based nodes in OSS-RC
14.1 Explain functions located on Integrated Site
14.2 Explicate the Configuration Management support
14.3 Determine the Software Management support
14.4 Investigate the Fault Management Interface of IS
14.5 Determine the Performance Management interface to OSS RC
14.6 Setup new recordings and verify the recording file transfer
14.7 Integrate a new Integrated Site based network element into OSS
15 Handle Redback Site Edge based nodes in OSS-RC
  15.1 Handle Redback Site Edge based nodes in OSS-RC
  15.2 Explain functions located on Redback Site Edge
  15.3 Explicate Configuration Management support
  15.4 Investigate the Fault Management Interface of Redback SE
  15.5 Determine the Performance Management interface to OSS RC
  15.6 Setup new recordings and verify the recording file transfer
  15.7 Integrate a new IMS network element into OSS
16 Handle WPP based nodes in OSS-RC
  16.1 Explain the functions located on WPP Platform
  16.2 Explicate the Configuration Management WPP support
  16.3 Determine the Software Management support
  16.4 Investigate the Fault Management Interface of WPP
  16.5 Determine the Performance Management interface to OSS RC
  16.6 Setup new recordings and verify the recording file transfer
  16.7 Integrate a new WPP network element into OSS
17 Briefly describe the WCDMA & LTE Radio Access Network
  17.1 Outline the Configuration Management solution for WCDMA & LTE
  17.2 Demonstrate the use of the Common Explorer
  17.3 Use tools to verify the CM consistency
  17.4 Integrate a new WCDMA network element into OSS
  17.5 Explore the use of BSIM to integrate a new LTE network element into OSS
  17.6 Explain the PM interface to CPP Based WCDMA & LTE nodes
  17.7 Evaluate the PM concepts of Performance Monitoring & Subscription Profiles
  17.8 Explore the use of PMS to verify statistical recordings
18 Use and maintain the O&M Backup Solution (OMBS)
  18.1 Describe the OMBS Hardware & Software Architecture
  18.2 Investigate the use of the GUI/Command line interfaces to configure Backup Profiles
  18.3 Employ the tools perform and verify the backup execution
  18.4 Identify the functionality of Bare Metal Restore as part of OMBS
19 Discuss the High Availability Solutions
  19.1 Describe the High Availability Cluster Server Solution
  19.2 Analyze the HA Cluster Communications
  19.3 Perform Administration on HA Cluster systems
  19.4 Describe the High Availability Replication Solution
  19.5 Compare the different HA-RS Scenarios
Target audience
The target audience for this course is:
System Administrators

Prerequisites
Successful completion of the following courses:
The participants should be familiar with OSS-RC operations applications related to the Core and WCDMA/LTE Network. Suitable courses include:
• OSS-RC Overview Lzu108 8363 R1A
• OSS-RC 11.2 Operations Lzu108 8369 R1A
• OSS-RC 11.2 Operations for Core and WCDMA Lzu108 8366 R1A
Successful completion of the following external courses or 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 7 days and 3 hours and the maximum number of participants is 8.

Learning situation
The course is based on instructor-led lessons and case-oriented exercises in a classroom equipped with an LCD-projector and a training environment where students use an OSS-RC server with connections to either real or simulated network elements.
### Time schedule

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

<table>
<thead>
<tr>
<th>Day</th>
<th>Topics in the course</th>
<th>Estimated Time (hours)</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>2 hours</td>
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<td>1</td>
<td>User management</td>
<td>4 hours</td>
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<tr>
<td>2</td>
<td>Disk &amp; Volume Management</td>
<td>3 hours</td>
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<td>2</td>
<td>CIF Platform Overview</td>
<td>3 hours</td>
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<tr>
<td>3</td>
<td>CIF Platform Services</td>
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<td>3</td>
<td>Node Integration General and Data Handling</td>
<td>2 hours</td>
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<td>4</td>
<td>WCDMA &amp; Core Network Node OSS-RC Integration</td>
<td>1 hours</td>
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<tr>
<td>4</td>
<td>FM Architecture &amp; Administration</td>
<td>4 hours</td>
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<td>4</td>
<td>CPP FM Interface</td>
<td>1 hours</td>
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<td>5</td>
<td>AXE Common Components</td>
<td>2 hours</td>
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<tr>
<td>5</td>
<td>AXE APG &amp; IOG Specific</td>
<td>3 hours</td>
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<td>5</td>
<td>CORE M-Mgw Specific</td>
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<td>6</td>
<td>SNMP SMT FM Interface</td>
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<td>CORE TSP Specific</td>
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<td>CORE Redback SE Specific</td>
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<td>7</td>
<td>CORE WPP Specific</td>
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<tr>
<td>7</td>
<td>WCDMA/LTE Specific</td>
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<tr>
<td>7</td>
<td>OMBS</td>
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<tr>
<td>8</td>
<td>High Availability</td>
<td>3 hours</td>
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