



Ethernet DSL Access 2500 (EDA) 4.11 Training Programs

Catalog of Course Descriptions















Catalog of Course Descriptions

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Introduction

Ericsson has developed a comprehensive Training Programs service to satisfy the competence needs of our customers, from exploring new business opportunities to expertise required for operating a network. The Training Programs service is delineated into packages that have been developed to offer clearly defined, yet flexible training to target system and technology areas. Each package is divided into flows, to target specific functional areas within your organization for optimal benefits.

Service delivery is supported using various delivery methods including:

Icon	Delivery Method
	Instructor Led Training (ILT)
	Seminar (SEM)
	Workshop (WS)
	Virtual Classroom Training (VCT)
	Web Based Learning (WBL)
	Short Article (SA)
	Streaming Video (SV)
	CD-ROM (CD)
	Structured Knowledge Transfer (SKT)
Delivery Enablers	
	Remote Training Lab (RTL)
	Web Portal (WP)
Ericsson Education E-Learning	
	EEOnline @ http://learning.ericsson.net/eeonline/

Access Networks, An Overview



LZU 108 5944 R2A

Description

When you complete this course you will be able to describe the basic concepts and technologies in both fixed and mobile access networks. These concepts are all presented in such a way to give you a solid foundation to build upon.

Learning objectives

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

- 1 Describe fixed network connections in access networks as described in Customer Product Information documents.
 - 1.1 Outline basic concepts such as bandwidth and technologies in access networks
 - 1.2 Describe access based on telephone networks (analogue and digital).
 - 1.3 Outline other access network technologies, such as fiber optics and microwave.
- 2 Describe the basic concepts of mobile access for GSM, GPRS and UMTS.
 - 2.1 Explain GSM architecture and outline how traffic flows in GSM.
 - 2.2 Explain GPRS architecture and outline traffic flow in a GPRS network.
 - 2.3 Explain UMTS architecture and outline traffic flow in a UMTS network.
 - 2.4 Describe Mobile IP

Target audience

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

Prerequisites

The participants should be familiar with IP Network Applications WBL, LZU 108 5943.

Duration and class size

The length of the course is 2 hours 30 minutes.



Learning situation

This is a web-based interactive training course with multimedia content.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Fixed Network Connection: Access Networks• Connecting While Traveling: Mobile Access	1 hour 1 hour 30 mins

Core Networks, An Overview



LZU 108 5945 R2A

Description

Upon completion of this course, you will have acquired the knowledge to describe the technologies in the core networks, core network architecture and network operation and maintenance.

Learning objectives

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

- 1 Describe the technologies in the core network as found in the system release documentation
 - 1.1 Explain how a physical network is built
 - 1.2 Outline different types of multiplexing (TDM and WDM)
 - 1.3 Describe transmission technologies such as SDH and SONET
 - 1.4 Describe optical ring architecture and the basics of ATM and MPLS
- 2 Define core network architectures
 - 2.1 Understand traffic trends and outline multi service backbone requirements
 - 2.2 Explain resource allocation and quality of service
 - 2.3 Outline performance optimization
 - 2.4 Define IPSec and VPN technology
- 3 Outline the main principles of network operation and maintenance
 - 3.1 Outline the steps involved in network operation
 - 3.2 Explain network traffic and outline some network traffic situations
 - 3.3 Explain monitoring using SNMP and PING
 - 3.4 Define steps and routines for error handling

Target audience

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

Prerequisites

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The participants should be familiar with IP Network Applications WBL, LZU 108 5943.

Duration and class size

The length of the course is 3 hours.

Learning situation

This is a web-based interactive training course with multimedia content.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Technologies in the Core Network• Core Network Architecture• Network Operation and Maintenance	<p>1 hour</p> <p>1 hour</p> <p>1 hour</p>

EDA 2530 Operation and Maintenance



LZU 108 7014 R1A

Description

Do you have the EDA 2530 network element and you do not know how to configure it and operate maintenance on it? The EDA 2530 is the new IP-DSLAM equipment making part of the new generation network and performing pure Ethernet/IP-based features. Even those engineers who used to work in the access network for a long time surely need to update to the specific features of such as the new generation network.

With the help of this training the attendees will understand the features of the EDA 2530 and its applications as multiservice platform in the IP-based network. Furthermore, the training documentation provided in this course will give the trainee an essential guidance for performing configuration and operation steps in the most efficient way.

Learning objectives

On completion of this course the participants will be able to

- 1 Describe the basics of the EDA 2530 equipment
 - 1.1 Explain the benefits and the characteristics of the xDSL access
 - 1.2 Describe the basics of the Ethernet network
 - 1.3 Describe the functions of the EDA 2530 equipment
 - 1.4 Outline the features of the IP DSLAM

- 2 Describe the EDA 2530 network applications
 - 2.1 Illustrate the network scheme for Video and Data connections
 - 2.2 Illustrate the network scheme for VoIP applications

- 3 Illustrate the EDA 2530 equipment composition
 - 3.1 Describe the characteristics of the subracks
 - 3.2 Discuss the supported tributary units and the relevant features
 - 3.3 Discuss the line interfaces and the relevant features
 - 3.4 Outline the main cabling characteristics
 - 3.5 Correlate the composition to the provided services

- 4 Illustrate the equipment communication parameters
 - 4.1 Describe the In-Band and Out Of Band communication connections

- 5 Start the EDA 2530 Local Terminal interface
 - 5.1 Navigate the interface
 - 5.2 Demonstrate the main configuration steps
 - 5.3 Configure IP address for the equipment management
 - 5.4 Configure the traffic interfaces

- 5.5 Configure the xDSL Ports
- 5.6 Provision and configure the Ethernet interfaces
- 5.7 Configure a VLAN
- 5.8 Configure In-Band management

- 6 Configure the Video Multicast and Data service. Perform the DHCP Relay Agent configuration
 - 6.1 Define the different video service solutions
 - 6.2 Define the parameters for Data services
 - 6.3 Configure the client interfaces for video/data service
 - 6.4 Configure the IGMP channels and the segregators
 - 6.5 Configure the VLANs for Video and Data
 - 6.6 Understand the importance of the DHCP Relay Agent feature
 - 6.7 Configure the VLAN for DHCP
 - 6.8 Configure the DHCP servers

- 7 Configure the VoIP service
 - 7.1 Understand the parameters of the VoIP configuration
 - 7.2 Configure the client interfaces

- 8 Operate main maintenance procedures
 - 8.1 Perform the backup and restore of the equipment database
 - 8.2 Perform the equipment software upgrade
 - 8.3 Monitor alarms
 - 8.4 Operate basic troubleshooting procedures

Target audience

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

Prerequisites

The participants should be familiar with the xDSL, Ethernet and IP.

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 a classroom environment using equipment and tools. This course can be conducted at the Customer premises.



Time schedule

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

Day	Topics in the course	Estimated time
1	Description of the basics of the EDA 2530 equipment	1.0 hour
	Description of the EDA 2530 network applications	2.0 hours
	Equipment composition	2.0 hours
	Equipment communication parameters	1.0 hour
2	Basic configurations using the Local Terminal interface	4.0 hours
	Configuration of the video service/the Data connection and the DHCP service parameters	2.0 hours
3	Configuration of video service/the Data connection and the DHCP service parameters	2.0 hours
	VoIP service configuration	2.0 hours
	Main maintenance procedures	2.0 hours

IP Advanced



LZU 108 6748 R1A

Description

This course will give the students an insight and understanding of QoS, security issues and management of IP networks. The students will learn the operation of QoS supporting IP Protocols, VoIP protocols, Security topics such as authentication, confidentiality, and integrity and Simple Network Management Protocol. The hands-on exercises are used to facilitate the understanding of theory sessions.

Learning objectives

On completion of each module the participants will be able to:

1 Quality of Service (QoS)

- 1.1 Analyze the enhancement of the IP networks to support transmission of Real Time data
- 1.2 Describe QoS Basic Concepts
- 1.3 Describe QoS Architectures
- 1.4 Describe QoS Mechanisms
- 1.5 Explain Resource Reservation Protocol (RSVP) – RFC 2205
- 1.6 Explain Multi Protocol Label Switching (MPLS) – RFC 3031
- 1.7 Explain Label Distribution Systems (LDP, RSVP-TE, BGP)
- 1.8 Perform practical exercises covering Class Based Marking (CBM) using IP Precedence, DSCP and MPLS

2 Voice over IP (VoIP)

- 2.1 Comment some VoIP Protocols: H.323, Media Gateway Control Protocol (MGCP) – RFC 2705
- 2.2 Explain H.248 (MEGACO)
- 2.3 Explain Session Initiation Protocol (SIP) – RFC 3261
- 2.4 Explain Real-Time Transport Protocol (RTP) and RTP Control Protocol (RTCP) – RFC 3550 and RFC 3611
- 2.5 Perform practical exercises covering SIP messages

3 IP Security (IP Sec)

- 3.1 Analyze the existing security threats types
- 3.2 Explain Access control lists (ACL)
- 3.3 Explain the purpose and use of Firewalls
- 3.4 Explain Data Integrity, Authenticity and Confidentiality
- 3.5 Identify different Security Services (SSL, TLS, SSH, etc) – RFC 4366
- 3.6 Explain how virtual Private Networks (VPN) operate
- 3.7 Explain IP Security (IPSec) – RFC 4301

- 3.8 Explain Authentication Header (AH) – RFC 4302
- 3.9 Explain Encapsulating Security Payload (ESP) – RFC 4303
- 3.10 Explain Internet Key Exchange (IKE) – RFC 2409 v1/RFC 4306 v2
- 3.11 Perform practical exercises covering the configuration of an IPsec VPN tunnel (Phase I and Phase II negotiation)

4 IP Network Management

- 4.1 Explain ISO management areas (FM, CM, AM, PM and SM)
- 4.2 Describe the architecture of the SNMP
- 4.3 Describe functionalities available on SNMPv1, SNMPv2 and SNMPv3
- 4.4 Explain Manager-Agent communication
- 4.5 Explain SNMP operations (Get Request, GetNextRequest, GetResponse, SetRequest, Trap)
- 4.6 Perform practical exercises covering analysis of SNMP messages exchanged between Manager and Agent

Target audience

The target audience for this course is the staff involved in IP networking and require more knowledge on IP networks to guarantee quality of service, security, and management of real-time traffic.

Prerequisites

IP Networking or equivalent knowledge.

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 or simulation tools.

Time schedule

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

Day	Short description of the topics in the course	Estimated time
1	• Analyze the enhance of the internet to support transmission of real time data	0.5
	• Describe QoS Basic Concepts	0.5
	• Describe QoS Architectures	0.5
	• Describe QoS Mechanisms	0.5
	• Explain Resource Reservation Protocol (RSVP)	1.5
	• Explain Multi Protocol Label Switching (MPLS)	1.0
	• Explain Label Distribution Systems (LDP, RSVP-TE, BGP)	0.5
	• Perform practical exercises covering Class Based Marking (CBM) using IP Precedence, DSCP and MPLS	1.0
2	• Comment some VoIP Protocols: H.323 and Media Gateway Control Protocol (MGCP)	1.0
	• Explain H.248 (MEGACO)	1.5
	• Explain Session Initiation Protocol (SIP)	1.5
	• Explain Real-Time Transport Protocol (RTP) and RTP Control Protocol (RTCP) – RFC 3550	1.0
	• Perform practical exercises covering SIP messages	1.0
3	• Analyze existing security threats types	1.5
	• Explain Access control lists (ACL)	0.5
	• Explain the purpose and use of Firewalls	1.0
	• Explain Data Integrity, Authenticity and Confidentiality	2.0
	• Identify different Security Services (SSL, TLS, SSH, etc)	1.0
4	• Explain how virtual Private Networks (VPN) operate	1.0
	• Explain IP Security (IPSec)	1.0
	• Explain Authentication Header (AH)	1.0



- Explain Encapsulating Security Payload (ESP) 1.0
- Explain Internet Key Exchange (IKE) 1.0
- Perform practical exercises covering the configuration of an IPsec VPN tunnel (Phase I and Phase II negotiation) 1.0
- 5 • Explain ISO management areas (FM, CM, AM, PM and SM) 0.5
- Describe the architecture of the SNMP 1.0
- Describe functionalities available on SNMPv1, SNMPv2 and SNMPv3 1.5
- Explain Manager-Agent communication 1.0
- Explain SNMP operations (Get Request, GetNextRequest, GetResponse, SetRequest, Trap) 1.0
- Perform practical exercises covering analysis of SNMP messages exchanged between Manager and Agent 1.0

IP Network Applications



LZU 108 5943 R2A

Description

This course is recommended for anyone who needs a basic introduction to IP network applications and TCP/IP data communications.

Learning objectives

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

- 1 Describe network fundamentals and describe IP network applications
 - 1.1 Explain how Internet applications are addressed in a data packet
 - 1.2 Understand application models (Client/Server and Peer-to-Peer)
 - 1.3 Describe how a Web browser works
 - 1.4 Explain Web architecture and connecting to a Web server
 - 1.5 Explain how to send and receive Internet E-mail and outline the protocols used
 - 1.6 Outline IP telephony architecture
- 2 Explain the TCP/IP data communications architecture
 - 2.1 Describe TCP/IP layered approach to networking
 - 2.2 List the layers in the TCP/IP protocol stack
 - 2.3 List the Internet organizations (ISOC, IETF and ICANN)
 - 2.4 Explain IP addressing and routing and some important fields in an IP packet
 - 2.5 Outline how the Transmission Control Protocol (TCP) works
- 3 Explain the TCP/IP data communications architecture
 - 3.1 Describe TCP/IP layered approach to networking
 - 3.2 List the layers in the TCP/IP protocol stack
 - 3.3 List the Internet organizations (ISOC, IETF and ICANN)
 - 3.4 Explain IP addressing and routing and some important fields in an IP packet
 - 3.5 Outline how the Transmission Control Protocol (TCP) works



Target audience

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

Prerequisites

The participants should be familiar with IP Networking and Internetworking WBL, LZU 108 5942.

Duration and class size

The length of the course is 2.5 hours.

Learning situation

This is a web-based interactive training course with multimedia content.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">Using the Network: IP Network Applications	1 hour 30 mins
	<ul style="list-style-type: none">TCP/IP Data Communications Architecture	1 hour 30 mins

IP Networking and Internetworking



LZU 108 5942 R2A

Description

If you need to have an understanding of the principles of IP networking and internetworking, then this three hour course will provide you with the information you need. This course covers the basics of IP addresses, internet domains, how IP packets are sent using routers to details on routing protocols and utilities used to get information on the network.

Learning objectives

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

- 1 Describe the basic concepts of IP networking
 - 1.1 Define virtual address and explain communication between networks
 - 1.2 Outline the difference between IPv4 and IPv6 addressing
 - 1.3 Outline how to configure the hosts in LAN (IP address, subnet mask, default gateway)
 - 1.4 Understand Internet domains and how the Domain Name System works
 - 1.5 Describe how to leave the local network using a Router
- 2 Describe the basic concepts of IP internetworking
 - 2.1 Describe the Internet (transit, regional and ISP networks)
 - 2.2 Understand routing domains and usage of two routing protocols (RIP and OSPF)
 - 2.3 Discover networks using two useful utilities PING and Traceroute

Target audience

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

Prerequisites

The participants should be familiar with Networking and Ethernet Standards, LZU 108 5941.



Duration and class size

The length of the course is 2.5 hours.

Learning situation

This is a web-based interactive training course with multimedia content.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• IP Networking	1 hour 30 mins
	<ul style="list-style-type: none">• IP Internetworking	1 hour 30 mins

IP Networking



LZU 102 397 R4A

Description

This course will give the students an insight and understanding of the TCP / IP protocol stack from the physical layer to the application layer. The students will learn the operation of different protocols and applications within the TCP / IP suite such as DHCP, DNS, NFS, NIS, NTP, HTTP, SMNP, SMTP, Telnet, FTP, TFTP and RTP. Students will learn about IP addresses, both classful and classless (CIDR) and how subnetting / aggregation and VLSM operates. Students will learn about different network devices and will get a detailed understanding of LAN Switching, Routing and Routing protocols. The hands-on exercises and analysers are used to facilitate the understanding of theory sessions.

Learning objectives

On completion of each module the participants will be able to:

1 List and describe the IP networking including the involved Bodies.

- 2.4 List the functions of the different bodies involved in IP standards / RFCs.
- 2.5 Analyze the OSI reference model and how it relates to the TCP / IP stack.
- 2.6 Explain Ethernet as Physical and Data Link Layer: MAC Address, CSMA/CD principles, Fast Ethernet, Gigabit Ethernet and speed negotiation.
- 2.7 Explain the operation of Hubs, Switches and Routers.
- 2.8 Explain Wireless LANs.
- 2.9 Explain IP Protocol.
- 2.10 Explain IPv4 packet structure, protocol header and features.
- 2.11 Explain VLSM, CIDR, Subnetting, aggregation, NAT and NAPT.
- 2.12 Explain ICMP protocol, ping and traceroute.
- 2.13 Explain IGMP protocol.
- 2.14 Perform exercises configuring IPv4 addresses, and check connectivity.
- 2.15 Demonstrate IPv6 packet structure, protocol header, features.

2 Explain and compare the transport protocols.

Explain TCP, UDP and SCTP protocol structures, headers and functionality.

3 List the applications protocols.

List and explain the operation of different protocols / applications such as DHCP, DNS, NFS, NIS, NTP, HTTP, SMNP, SMTP, Telnet, FTP, TFTP and RTP.

4 Describe IP Switching and Routing Protocols and perform exercises using Netsim Simulator.



- Explain and perform exercises about ARP.
- Explain and perform exercises of VLANs.
- Explain the purpose of Spanning Tree Protocol (STP).
- Explain the operation of Static and Dynamic routing protocols.
- Perform Static routing exercises.
- List the differences between Vector Distance and Link State protocols.
- Explain RIP routing protocol.
- Explain OSPF routing protocol.
- Explain BGP routing protocol.
- Explain IS-IS routing protocol.
- Perform routing Protocol exercises.

Target audience

The target audience for this course are personnel who are involved in IP networking or those who require more knowledge on IP addressing, application and routing protocols.

Prerequisites

There are no pre-requisites

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 or simulation tools.

**Time schedule**

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

Day	Short description of the topics in the course	Estimated time
1	<ul style="list-style-type: none"> List the functions of the different Standard Bodies involved in IP Standards / RFCs 	0,5
	<ul style="list-style-type: none"> Analyze the OSI Reference Model and how it relates to the TCP / IP stack 	1
	<ul style="list-style-type: none"> Explain Ethernet as Physical and Data Link Layer: MAC Address, CSMA/CD principles, Fast Ethernet, Gigabit Ethernet and speed negotiation 	1,5
	<ul style="list-style-type: none"> Explain the operation of Hubs, Switches and Routers 	2,5
	<ul style="list-style-type: none"> Explain Wireless LANs 	0,5
2	<ul style="list-style-type: none"> Explain IP Protocol 	0,5
	<ul style="list-style-type: none"> Explain IPv4 packet structure, protocol header and features 	1
	<ul style="list-style-type: none"> Explain VLSM, CIDR, Subnetting, aggregation, NAT and NAPT 	1
	<ul style="list-style-type: none"> Explain ICMP protocol, ping and traceroute 	1
	<ul style="list-style-type: none"> Explain IGMP protocol 	3
3	<ul style="list-style-type: none"> Perform exercises configuring IPv4 addresses, and check connectivity 	3
	<ul style="list-style-type: none"> Demonstrate IPv6 packet structure, protocol header, features 	0,5
	<ul style="list-style-type: none"> Explain TCP, UDP and SCTP protocol structures, headers and functionality 	2
	<ul style="list-style-type: none"> List and explain the operation of different protocols / applications such as DHCP, DNS, NFS, NIS, NTP, HTTP, SNMP, SMTP, Telnet, FTP, TFTP and RTP 	2,5
	<ul style="list-style-type: none"> Explain and perform exercises about ARP 	2
4	<ul style="list-style-type: none"> Explain and perform exercises of VLANs 	3
	<ul style="list-style-type: none"> Explain the purpose of Spanning Tree Protocol (STP) 	0,5
	<ul style="list-style-type: none"> Explain the operation of Static and Dynamic routing protocols 	0,5
	<ul style="list-style-type: none"> Perform Static routing exercises 	1
	<ul style="list-style-type: none"> List the differences between Vector Distance and Link State protocols 	0,5
5	<ul style="list-style-type: none"> Explain RIP routing protocol 	1
	<ul style="list-style-type: none"> Explain OSPF routing protocol 	1,5
	<ul style="list-style-type: none"> Explain BGP routing protocol 	0,5
	<ul style="list-style-type: none"> Explain IS-IS routing protocol 	0,5
	<ul style="list-style-type: none"> Perform routing protocol exercises 	4

Networking and Ethernet Standards



LZU 108 5941 R2A

Description

Upon completion of this course, you will be able to explain the main principles of modern LAN and WAN technologies and concepts, from Ethernet to Wireless LAN.

Learning objectives

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

- 1 Describe Local Area Networks (LAN) and the Ethernet Standard
 - 1.1 Define the building blocks in a LAN
 - 1.2 Outline the different types of Ethernet standard
 - 1.3 Explain data transmission in an Ethernet LAN - Ethernet frame
 - 1.4 Understand Ethernet basics (CSMA/CD)
 - 1.5 Outline the difference between a Hub and a Switch
 - 1.6 Describe how to connect communication devices and design a LAN
- 2 Describe Wireless Local Area Networks (WLAN)
 - 2.1 Describe two basic types of Wireless LAN (Ad Hoc and Infrastructure mode)
 - 2.2 Outline the IEEE 802.11 standard and its applications
 - 2.3 Outline the properties of Home RF
 - 2.4 Understand Bluetooth drivers and communication models

Target audience

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



Prerequisites

The participants should be familiar with Networking Basics, An Overview, LZU 108 5940.

Duration and class size

The length of the course is 2.5 hours.

Learning situation

This is a web-based interactive training course with multimedia content.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">Local Area Networks and the Ethernet Standard	1 hour 10 mins
	<ul style="list-style-type: none">Wireless Local Area Networks, WLANs	1 hour 20 mins



Networking Basics, An Overview



LZU 108 5940 R1B

Description

When you finish this course, you will have acquired knowledge of the basic networking principles and be able to describe how a PC communicates with other devices and networks.

Learning objectives

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

- 1 Explain the basics of networking
 - 1.1 Outline the input and output devices of a PC and how they are connected
 - 1.2 Describe the communication parameters necessary to understand connections
 - 1.3 Describe physical and logical network topologies
- 2 Describe how to connect a PC to a datacom network
 - 2.1 Identify and describe communication devices in a LAN (Hub, Switch and Router)
 - 2.2 Understand the different types of cables (UTP,STP and Fiber Optical)
 - 2.3 Explain how to connect computers to a LAN
 - 2.4 Explain the difference between Internet and Intranet
 - 2.5 Outline how to implement a Structured Cabling System (independent cabling system)

Target audience

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

Prerequisites

There are no prerequisites for this course. The course is open to anyone wishing to gain a basic understanding of modern datacom networking technologies.



Duration and class size

The length of the course is 2.5 hours.

Learning situation

This is a web-based interactive training course with multimedia content.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Network Basics	1 hour
	<ul style="list-style-type: none">• Your PC and the Datacom Network	1 hour



Service On Access

LZU 108 6690 R2A

Description

Is ServiceOn Access your network management system? Do you have a lot of network elements in your sphere of responsibility, but you are not able to operate or monitor them reliably within the network? Each network management system has specific procedures and special features and functions.

With the help of the training documentation provided in this course and the guidance of the instructors, the attendees will learn the most efficient ways of network operation, maintenance, monitoring and configuration, hence saving time and money.

Learning objectives

On completion of this course, the participants will be able to manage and operate a network using ServiceOn Access. Moreover, they will learn all system functions, views as well as the topology and fault management.

- 1 Describe the basic concepts of Service On Access
 - 1.1 Explain the management levels and illustrate the function of the levels
 - 1.2 Describe the system structure
 - 1.3 Illustrate the DCN architecture
- 2 Describe the element management
 - 2.1 Explain the operator concepts and functionalities
 - 2.2 Illustrate the topology view and management
 - 2.3 Configure a QD2 network
 - 2.4 Describe macros, templates
- 3 Describe the network management
 - 3.1 Illustrate the network configuration
 - 3.2 Explain the tools and function of the network management
- 4 Explain the process management
 - 4.1 Describe the configuration of processes
 - 4.2 Illustrate the process administration
- 4.3 Practise basic functions like data backup and software download
- 5 Describe the Alarm Management
 - 5.1 Explain the basic concept of the alarm display
 - 5.2 Describe the tools and functions of the alarm management
- 6 Introduction to Service On Integrator



Target audience

The target audience for this course includes System Technicians and System Engineers. Personnel responsible for network operation, maintenance, management, configuration and troubleshooting

Prerequisites

The participants should be familiar with digital transmission technology and the subjects/contents of the SDH Basic Course. Moreover, they must be experienced in working with a PC. Basic knowledge of SISA and IP technology would be advantageous.

Duration and class size

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

Learning situation

This course utilizes Instructor Led Training.

It includes instructor-led lessons using power point presentations, software demonstrations and practical exercises on the hardware and network management software in a classroom.

**Time schedule**

Day	Topics in the course	Estimated time
1	• Introduction to the Network Management System	1 hour
	• DCN Architectures	1 hour
	• UNIX Environment	1 hour
	• Process Manager	1 hour
	• Dialog Manager	2 hours
2	• Kernel System Network	1 hour
	• General Remarks on the SOA Style guide	15 min
	• Configuring QD2 Networks	1 hour
	• Topology View Concept	15 min
	• Simple Network Elements SISA K XQI 7R	1 hour
	• Transport Network Modeling	1 hour
3	• Modeling a Complex Network Element	1 hour 30 min
	• Modeling a Complex Network Element	1 hour
	• Documentation of Cabeling	1 hour 30 min
	• Network View Concept	30 min
	• Working with Lists / Object List	30 min
	• User Classes	1 hour
	• Data Backup	1 hour
4	• Workflow Management	30 min
	• SOA Tools	30 min
	• Alarm Management	5 hours
	• Introduction to Service On Access	30 min

ServiceOn Access Operations EDA2500



LZU 108 7015 R1A

Description

Do you have the EDA2500 network element managed by the ServiceOn Access (SoA) management system and you do not know how to configure it and operate on it? The ServiceOn Access is the network management system for the EDA25xx network elements and the operators need the information to learn the efficient ways of system operation, maintenance, monitoring and configure them.

With the help of this training the attendees will understand how the ServiceOn Access management platform is configured and used in conjunction with the Ericsson Access Hub equipments (EDA2510 and EDA2530). It provides an overview of the functional blocks which make up the SoA and shows how to implement the menus for provisioning the EDA within an access network. Furthermore, the training documentation provided in this course will give the trainee an essential guidance for performing operation tasks in the most efficient way.

Learning objectives

On completion of this course participants will be able to explore the basic functions of the SoA management platform and to operate the Dialogue Manager for general network configuration and maintenance plus explore the function of the Process Manager.

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

- 1 Describe the ServiceOn Access Management System
 - 1.1 Clarify the basic structure making up the ServiceOn Access Management Platform
- 2 Identify the ServiceOn Access Management System architecture
 - 2.1 Analyze the basic functions of the Process Manager and Dialogue Manager
 - 2.2 Discuss the processes requirements and roles
 - 2.3 Monitor the processes which make up the Process Manager
 - 2.4 Examine the processes required for the communication with the relevant Network Elements
- 3 Utilize the Dialogue Manager
 - 3.1 Describe the more detailed functions of the Dialogue Manager
 - 3.2 Create a user account
 - 3.3 Login and identify the system view
 - 3.4 Describe and navigate the network topology views
 - 3.5 View the requirements for creating a QD2 SoA network
 - 3.6 Identify the processes required for creating a network and associated element
 - 3.7 Discuss the requirement of the address relation file for network element creation
- 4 Practice on the network management



- 4.1 Identify and recognize the status LEDs
- 4.2 Navigate the editing screen and menu options
- 4.3 Discuss and demonstrate the creation of system and network topology views
- 4.4 Identify the components for building a network
- 4.5 Observe and identify the icon status

- 5 Operate on the EDA network elements
 - 5.1 Identify the requirements for creating a Network Element
 - 5.2 Create an EDA equipment shelf configuration
 - 5.3 Verify the EDA equipment composition
 - 5.4 Explore the functional blocks associated with the shelf configuration
 - 5.5 Identify the functional blocks required for traffic management

- 6 Perform traffic configuration on the EDA network elements
 - 6.1 Implement a subscriber traffic connection
 - 6.2 Implement an Ethernet traffic connection
 - 6.3 Save a Network Element database backup
 - 6.4 Evaluate the traffic performance

- 7 Detect and process the equipment alarms
 - 7.1 Explore the alarm list and associated symbols and descriptions
 - 7.2 Identify and diagnose alarms
 - 7.3 Relate alarms associated with a functional block
 - 7.4 Compare the various alarm filter options
 - 7.5 Demonstrate the inhibiting of alarms

Target audience

The target audience for this course is: Network Deployment Engineers, System Engineers, Service Engineers, and System Administrators. This audience is responsible for configuring and monitoring the EDA network elements within a network.

Prerequisites

The participants should be familiar with the EDA Equipment family and have a working knowledge of xDSL, Ethernet and IP. They should have attended the ServiceOn Access Basic course (LZU 108 6690) or have an equivalent knowledge.

**Duration and class size**

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

Learning situation

This course consists of instructor-lead learning using slide presentations and demonstrations. Practical exercises will be carried out by all participants to explore and re-iterate the course work.

Time schedule

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

Day	Topics in the course	Estimated time
1	<ul style="list-style-type: none">• Describe the ServiceOn Access Management System	2 hours
	<ul style="list-style-type: none">• Identify the ServiceOn Access Management System architecture	2 hours
	<ul style="list-style-type: none">• Utilize the Dialogue Manager	2 hours
2	<ul style="list-style-type: none">• Practice on the network management	3 hours
	<ul style="list-style-type: none">• Operate on the EDA network elements	3 hours
3	<ul style="list-style-type: none">• Perform traffic configuration on the EDA network elements	6 hours
4	<ul style="list-style-type: none">• Perform traffic configuration on the EDA network elements	2 hours
	<ul style="list-style-type: none">• Detect and process the equipment alarms	4 hours



ServiceOn Access R7 System Administration

LZU1086691 R2B

Description

A System Administrator typically administers many different systems in a company's server park. This course highlights the important tasks a System Administrator needs to accomplish in order to administrate and maintain the ServiceOn Access (SOA) system.

We start from scratch when the system is installed but not yet commissioned and running. We pedagogically unwrap the system so that the System Administrator has a good understanding of SOA in order to start working with the system instead of having to spend hours trying to plough through the thousand pages of manuals. We put emphasis on the backing up of the complete system and on the so called kernels, the SOA databases.

Fulfill all undertakings of a SOA System Administrator. Among other things the System Administrator will be able to start and stop SOA and SOA processes, administrate the users, set up connections between SOA and the network elements, make data backups and system backups, expand the system, and integrate it with ServiceOn Integrator.

Learning objectives

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

1. Understand System Architecture and Concept of ServiceOn Access
2. Administrate ServiceOn Access
 - Stop/Start Processes
 - Add/Delete Users
3. Configure ServiceOn Access
 - Add Device Drivers
 - Set up NE Connectivity
4. Maintain ServiceOn Access
 - Back up SOA Kernels
 - Back up SOA System
 - Handle Log Files
5. Integrate with ServiceOn Integrator

Target audience

The target audience for this course is: System Administrator



Prerequisites

The participants should be familiar with System Administration of UNIX/Linux systems and Operation and Support Systems (OSS) in general.

Successful completion of the following course: ServiceOn Access Operation, LZU 108 6690

Duration and class size

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

Learning situation

This course utilizes Instructor Led Training.

It includes instructor-led lessons using power point presentations, software demonstrations and practical exercises on the hardware and network management software in a classroom.

Time schedule

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

Day	Topics in the course	Estimated time
1	• SOA Introduction	2 hours
	• Linux Introduction	2 hours
	• Multicast Introduction	2 hours
2	• Ethereal Introduction	2 hours
	• Process Management	2 hours
	• User Administration	1 hour
	• Kernel System Compound	1 hour
3	• Connectivity Management	2 hours
	• Device Drivers	2 hours
	• SOA Kernel Backups	2 hours
4	• SOA System Backups	3 hours
	• Administration of Fault Management	3 hours
5	• SOI Introduction	6 hours