

EXFO Astellia Training Courses



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Training Program

| | | | |
|---|---|---|----|
| Learning Solutions..... | 4 | User Training..... | 24 |
| Telecom Training..... | 6 | Big Data EXFO Architecture | |
| Introduction to Mobile Networks | | Nova Analytics Access Performance Management | |
| GSM Signaling & Protocols | | Nova Analytics Core Performance Management | |
| GPRS Signaling & Protocols | | Nova Analytics Customer Experience Management | |
| UMTS Overview | | Nova Analytics Service Quality Management | |
| UMTS Radio Optimization | | Nova Analytics Roaming and Interco | |
| UMTS Signaling & Protocols | | Nova Analytics (RAN) | |
| CoreCS Signaling & Protocols | | Dashboards Creator | |
| LTE Radio Interface | | Nova RAN | |
| LTE Radio Optimization | | Nova GEO | |
| LTE/EPC Overview | | Nova Care | |
| LTE/EPC Signaling & Protocols | | Nova EPC (CP and UP) | |
| IMS Overview | | Nova Core CS-IMS | |
| Voice Over WiFi Overview | | Nova Explorer | |
| Voice Over LTE Overview | | Nova Explorer (RAN) | |
| 5G Network Introduction | | Nova Explorer (Advanced) | |
| IoT Overview | | Nova Alerter | |
| Vendor Management | | NQMSfiber | |
| | | Fiber Test Insight Training | |
| | | NQMSfiber Training OSPM-TRA | |
| | | Xtract Training Operations | |
| | | Administration Training..... | 47 |
| | | Nova RAN System Administration | |
| | | Nova Solution Administration | |
| | | Neptune EPC Administration | |
| | | Flex Administration | |
| | | Worx Operations and System Administration | |
| | | Xtract Training Operations & Administration | |
| | | Contact us | 53 |

Learning Solutions

At Astellia, now part of EXFO, Learning Solutions provides year-round training courses, which can be given either on-site at your premises or at our offices. This allows to gain the knowledge and skills required for each particular area of expertise.

This document provides the list of our Service Assurance trainings to provide you multiple learning resources of our most popular products and telecom knowledge. They can choose from a wide range of training courses and formats:

Telecom training

In the fast-paced telecom industry, good knowledge of the specificities of wireless network technologies is an important competitive advantage. Our telecom training provides trainees with a clear understanding of the latest developments in mobile technologies. Our instructors spend much of their time consulting, so their classes are supported by real-life customer case studies from all over the world.

Our telecom training covers the following topics:

- 2G, 3G, 4G and 5G technologies
- Radio, access and core networks
- Signaling, user plane and protocols
- Vendor management

User and System Administration training

We provide tailor-made methods so that administrators and users can get the most out of the entire Nova suite and fiber monitoring products. Courses combine lectures, customer case studies and practical exercises that provide trainees with the knowledge they need to accelerate adoption, lower administration costs and impact business results. Thanks to our product training, operators can maximize their investment.

User trainings focus on:

- Product description: user interface, features, menu navigation, etc.
- Product usage: optimization methodology, tricks and tips, dashboard and metric creation, etc.

Administration System trainings focus on:

- Architecture, configuration, supervision, maintenance, etc.

Get certified and stand out from the crowd

Trainings with professional certification is key to demonstrate that you are fully qualified to carry out complex tasks in the ever-evolving telecom landscape.

Be EXFO certified.
Build your credibility.
Stay on top of your game.



This is to certify that

is authorized to provide the following course:

given by EXFO Inc.
January, 2019

A stylized, handwritten signature in black ink, appearing to read "IDOA".

Idoia Osuna Mallebrera
Learning Solutions Manager

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Telecom training

Introduction to Mobile Networks

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of GSM and GPRS

Who should attend?

Telecom engineers, consultants and managers who need a basic understanding of 2G to 4G mobile network architecture, procedures and services

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Mobile networks have been deployed worldwide for several decades now. Services like data and multimedia have evolved, especially thanks to 3G and 4G technologies, which played a major role in the unification of mobile networks.

This course provides a solid overview of mobile networks (GSM, GPRS, UMTS and LTE/EPC) and services, as well as their evolution.

It also examines mobile network architecture by focusing on the network and associated services.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand the general aspects of the GSM, GPRS, UMTS and LTE/EPC specifications
- Describe the GSM, GPRS, UMTS and LTE/EPC architectures
- Understand the main protocols related to these technologies
- Understand and explain the interchanges over the networks involving GSM, GPRS, UMTS and LTE/EPC technologies
- Understand the evolution from 2G to 3G and 4G
- Understand the radio interface principles for the different technologies
- Understand and explain the performance of these technologies

Course outline

- Definition and main specifications
- Cellular coverage principles
- GSM overview (network architecture, radio interface principles, main procedures)
- GPRS overview (main specifications, main concepts, GPRS procedures)
- UMTS overview (evolution to 3G, radio interface description, UMTS evolution HSDPA and HSUPA)
- LTE/EPC overview (main specifications, network architecture, radio interface description, EPC procedures, VoLTE introduction)

GSM Signaling & Protocols

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of GSM network architecture

Who should attend?

Telecom engineers or consultants who need in-depth knowledge of GSM signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course covers all the protocols used on the different interfaces of a GSM network, from radio access to core network.

All main procedures carried out between the mobile station and network are described from end to end and step by step.

Each procedure is presented alongside a series of case studies showing several examples of failures.

This training will be delivered by one of our experts, all of whom have extensive experience performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the architecture of a GSM network and the main functions of each network element
- List the different protocols and locate them in a GSM network
- Describe the characteristics and functions of each protocol
- Explain the different steps of the main procedures
- Investigate typical failure cases

Course outline

- GSM network overview
- GSM network protocols
- Signaling procedures
- Case studies

GPRS Signaling & Protocols

Duration

1 day

Number of participants

12

Prerequisites

Basic knowledge of GPRS network architecture

Who should attend?

Telecom engineers or consultants who need in-depth knowledge of GPRS signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course provides participants with a detailed description of all the protocols used on the different interfaces of a GPRS network, from radio access to core network.

All the main procedures carried out between the mobile station and network are described from end to end and step by step.

Each procedure is presented alongside a series of case studies showing several examples of failures.

This training will be delivered by one of our experts, all of whom have extensive experience performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the architecture of a GPRS network and the main function of each network element
- List the different protocols and locate them in a GPRS network.
- Describe the characteristics and function of each protocol
- Explain the different steps of the main procedures
- Investigate typical failure cases

Course outline

- GPRS network overview
- GPRS network protocols
- Signaling procedures
- Case studies

UMTS Overview

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of GSM and GPRS

Who should attend?

Telecom engineers, consultants and managers who need a basic understanding of 3G network architecture, procedures and services

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

3G systems and services have a significant impact on the mobile telecom industry. This course covers 3G technologies and provides an excellent basis for those who need to understand the scope, implementation options, business drivers and rollout strategies for 3G systems.

This course also examines the evolving role of 3G (including its capabilities, strengths and limitations) and provides a strong 3G background with an overview of the UMTS network and evolutions.

This course provides an advanced technical overview of current and future 3G technologies.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the 2G network architecture
- Understand the evolution from 2G to 3G
- Describe the basics of UMTS network architecture
- Describe the core network and Iu interface procedures
- Describe the UTRAN and Iub interface procedures
- Describe the radio interface
- Understand the R5/R6 evolution of the UMTS network (HSDPA/HSUPA)

Course outline

- Mobile networks from 2G to 3G
- UMTS network architecture
- UMTS radio interface description
- UMTS core network description
- UTRAN description
- UMTS network evolutions

UMTS Radio Optimization

Duration

2 days

Number of participants

12

Prerequisites

UMTS air interface basics and RF optimization principles

Who should attend?

UMTS RF design, performance and optimization engineers

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This UMTS Radio Optimization course provides the knowledge and skills needed to successfully optimize UMTS networks.

The course is divided into five sections and provides a thorough understanding of UMTS radio optimization by examining topics ranging from identifying performance degradations to enhancing network quality with the appropriate optimization strategies.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe UMTS radio interface
- Understand RF optimization principles and procedures
- List different tools used for UMTS radio optimization
- List KPI and counters impacting UMTS radio network quality
- Identify RF performance degradation issues
- Tune UMTS radio parameters to enhance network performances
- Discuss optimization issues and solutions using practical cases

Course outline

- UMTS RF basics
- UMTS optimization cycle
- Radio performance analysis
- UMTS radio network parameter tuning
- Optimization issues and solutions

UMTS Signaling & Protocols

Duration

3 days

Number of participants

12

Prerequisites

Basic knowledge of UMTS architecture

Who should attend?

Telecom engineers, consultants and managers who need in-depth knowledge of UMTS signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course provides participants with a detailed description of all the protocols used on the different UMTS network interfaces for both circuit and packet parts.

All main procedures carried out between the mobile station and network are described from end to end and step by step.

Each procedure is presented alongside a series of case studies showing several examples of failures.

This training will be delivered by one of our experts, all of whom have extensive experience performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the UMTS network architecture and the main function of each network element
- List the different protocols and locate them in a UMTS network
- Describe the characteristics and functions of each protocol
- Explain the different steps of the main procedures
- Investigate typical failure cases

Course outline

- UMTS network overview
- UMTS network protocols
- Signaling procedures
- Case studies

CoreCS Signaling & Protocols

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of CoreCS network architecture

Who should attend?

Telecom engineers, consultants and managers who need in-depth knowledge of Core CS signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course provides solid knowledge to understand and pinpoint issues that originate in the Core CS.

All the protocols are described from end to end and step by step. Each procedure is illustrated by a series of case studies showing several examples of failures.

This training will be delivered by one of our experts, all of whom have extensive experience performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the architecture of a CORE CS network and the main functions of each network element
- List the different protocols and locate them in a Core CS network
- Describe the characteristics and functions of each protocol
- Explain the different steps of the main procedures
- Investigate typical failure cases

Course outline

- Core CS architecture
- Protocols description: ISUP, BICC, MAP, CAP, INAP, SIP
- Main procedures
- Case studies

LTE Radio Interface

Duration

3 days

Number of participants

12

Prerequisites

Good knowledge of radio basics and EPS system architecture

Who should attend?

LTE RF design, performance and optimization engineers

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This is a detailed two-day course that gives telecommunication professionals all the information they need on the LTE radio interface. It also provides detailed information on the evolved radio access interface, E-UTRAN.

The course covers seven areas of the LTE air interface, from a radio interface overview to an in-depth explanation of both uplink and downlink operations.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the E-UTRAN architecture and explain the roles of different nodes in detail
- Understand the different LTE air interface protocols (RRC, PDCP, RLC, MAC and physical layer)
- Master different E-UTRAN procedures (acquisition, random access, DL/UL transmission)
- Identify LTE mechanisms to enhance performances such as MIMO, CQI and HARQ
- Identify different mobility and power control procedures
- Describe the different features associated with LTE advanced

Course outline

- LTE architecture overview
- Air interface protocols
- LTE air interface essentials
- System acquisition and access
- Downlink operations
- Uplink operations
- Mobility and power control
- LTE Advanced

LTE Radio Optimization

Duration

2 days

Number of participants

12

Prerequisites

LTE air interface basics and RF optimization principles

Who should attend?

LTE RF design, performance and optimization engineers

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course provides the knowledge and skills needed for successful LTE network optimization activities.

The course is divided into five sections and covers LTE radio optimization topics ranging from identifying performance degradations to enhancing network quality through step-by-step optimization.

Objectives

After having successfully completed the course, attendees will be able to:

- List LTE RF optimization objectives
- Understand the RF optimization process
- Define LTE RF KPIs and map them to RAN counters
- Tune LTE radio parameters
- Master how radio optimization in LTE helps to troubleshoot and improve defined KPIs
- Analyze KPIs, investigate degradations and enhance network quality
- Thoroughly understand SON features and their impact on network KPIs

Course outline

- RF optimization process
- LTE RAN KPIs
- LTE RAN parameter tuning
- LTE troubleshooting use cases
- LTE SON optimization

LTE/EPC Overview

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of UMTS

Who should attend?

Telecom engineers, consultants and managers who need basic knowledge of LTE/EPC network architecture, procedures and services

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course covers LTE technologies and provides a solid base for those who need to understand the overall system behavior, including network architecture evolution, functionalities of each network elements and LTE procedures.

This course also examines the evolving role of LTE (including its capabilities, strengths and limitations) and provides a strong LTE background with an overall description of the LTE network and evolutions (VoLTE, LTE Advanced).

Objectives

After having successfully completed the course, attendees will be able to:

- Understand the main evolutions from 3G to LTE
- Describe the LTE network architecture
- Describe and understand the principles of QoS and bearer management
- Describe and understand the LTE air interface
- List the main services offered by the LTE network
- List the different channels and understand the associated mapping
- Describe and understand the main procedures
- Describe the mobility features supported by LTE

Course outline

- LTE description
- LTE/EPC network architecture
- QoS and bearer management
- Radio interface description
- LTE services
- Voice over LTE description
- Channel description and mapping
- Basic procedures
- LTE advanced description

LTE/EPC Signaling & Protocols

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of LTE/EPC network architecture

Who should attend?

Telecom engineers, consultants and managers who need in-depth knowledge of LTE/ EPC signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course covers all the protocols used on the different interfaces of an LTE/EPC network.

All the main procedures between the mobile station and network are described from end to end and step by step. Each procedure is illustrated by a series of case studies showing several examples of failures.

This training will be delivered by one of our experts, all of whom have extensive experience performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the architecture of an LTE/EPC network and the main functions of each network element
- List the different protocols and locate them in an LTE/EPC network
- Describe the characteristics and functions of each protocol
- Explain the different steps of the main procedures
- Investigate typical failure cases

Course outline

- LTE/ EPC network architecture overview
- LTE/EPC network protocols
- Signaling procedures
- Case studies

IMS Overview

Duration

2 days

Number of participants

12

Prerequisites

Good telecommunications knowledge on mobile networks and associated protocols.

Who should attend?

Telecom engineers, consultants and managers who need in-depth knowledge of IMS signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course provides to the participants a detailed description of all the protocols used on the different interfaces of IMS network.

This training will be delivered by one of the EXFO experts who have accumulated a large experience thanks to the different audits they have performed on many mobile networks all over the world..

Objectives

After having successfully completed the course, the attendees will be able to:

- Describe the architecture of a IMS network and the main function of each network element
- List the different IMS protocols.
- Describe the characteristics and function of each protocol.
- Explain the different steps of the main IMS procedures

Course outline

- IMS Introduction
- IMS Protocols
 - SIP Protocol :
 - SIP Overview
 - SIP Protocol
 - SIP Message Structure
 - SIP Header Field
 - DIAMETER
 - RTP/RTCP
 - DNS Enum
- IMS Procedures
- Registration and Related Procedures

Voice Over WiFi Overview

Duration

2 days

Number of participants

12

Prerequisites

EPC and IMS knowledge

Who should attend?

Telecom engineers, consultants and managers who need in-depth knowledge of VoWiFi signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course gives participants a detailed description of all the protocols and procedures for voice over WiFi (VoWiFi).

It provides general knowledge of the EPC architecture and functions and the IP multimedia subsystem (IMS) as defined for VoWiFi.

All the main procedures performed between the mobile station and network are described from end to end and step by step.

This training will be delivered by one of our experts, all of whom have extensive experience performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the EPC architecture and the main function of each network element
- Describe the characteristics and functions of each IMS node
- List the different procedures for trusted/untrusted non-3GPP WiFi access
- Explain the different steps for making a VoWiFi call
- Understand the different VoWiFi procedures

Course outline

- EPC overview
- IMS overview
- WiFi overview
- VoWiFi definition
- VoWiFi architecture
- VoWiFi procedures
- VoWiFi QoS

Voice Over LTE Overview

Duration

2 days

Number of participants

12

Prerequisites

EPC/LTE knowledge

Who should attend?

Telecom engineers, consultants and managers who need in-depth knowledge of VoLTE signaling procedures and associated protocols

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course covers all voice over LTE (VoLTE) protocols and procedures.

It provides general knowledge of the architecture, functions and protocols in the IP multimedia subsystem (IMS) as defined for VoLTE.

All the main procedures performed between the mobile station and network are described from end to end and step by step. This training will be delivered by one of our experts, all of whom have extensive experience from performing audits on mobile networks around the world.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the architecture of a LTE/EPC network and the main function of each network element
- Describe the characteristics and functions of each node in VoLTE calls
- List the different protocols used in the VoLTE procedure
- Explain the different steps for making a VoLTE call
- Understand the SRVCC/ roaming and ICS scenarios

Course outline

- EPC overview
- QoS and bearer management
- Bearer setup procedure
- IMS: architecture, nodes and functionalities
- Public and private user identities
- IMS protocols
- VoLTE introduction
- VoLTE procedure
- VoLTE policy and charging control
- VoLTE SRVCC
- VoLTE roaming
- VoLTE ICS

5G Network Introduction

Duration

2 days

Number of participants

12

Prerequisites

Basic knowledge of GSM, UMTS and LTE

Who should attend?

Telecom engineers, consultants and managers who need to understand the basics of 5G networks

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

5G, also known as the fifth-generation mobile network, refers to the next generation of mobile telecommunication standards, still under development. Not conceived simply as an incremental advance on 4G, this new generation aims to push the boundaries in every respect—data speed, latency, capacity (spectrum), coverage—by means of groundbreaking technologies.

The first commercial 5G network deployments are expected to begin by 2020, but before that, the telecom industry needs to prepare as it gears up to face a number of challenges.

This course explores 5G, how it works and its impact on future telecom systems. It provides a solid base for those who need to understand the overall system behavior, including design and architecture evolution, the functionalities of each network element and the technologies involved.

This course provides an advanced technical overview of current and future 5G technologies.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand and explain the fundamental aspects of 5G
- Describe the basics of 5G network architecture
- Understand the evolution from 2G to 5G
- Describe the basics of 5G network architecture
- Understand and describe the 5G air interface and the technologies involved (Cloud RAN, small cells, HetNets)
- Understand and describe the basic principles of IoT

Course outline

- 5G standardization
- 5G design and architecture
- 5G network slicing
- NFV
- 5G air interface
- IoT (Internet of Things)

IoT Overview

Duration

1 day

Number of participants

12

Prerequisites

Basic knowledge of LTE

Who should attend?

Telecom engineers, consultants and managers who need to understand the basics of IoT networks

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

This course provides an overview about how/why cellular networks (LTE) can address the IoT use cases and covers IoT technologies and provides a base for those who need to understand the overall system behavior, including network architecture evolution, functionalities of each network elements.

Objectives

After having successfully completed the course, attendees will be able to:

- To understand why cellular networks are suitable for IoT
- To get to know what each technology can provide
- To get familiar with main new concepts
- To show there is a potential business for Services and Product

Course outline

- IoT Overview
- IoT Hardware and Software
- IoT Technology and protocols
- Non 3GPP and 3GPP IoT
- IoT in 5G
- IoT Use Cases

Vendor Management

Duration

2 days

Number of participants

12

Prerequisites

No prerequisites

Who should attend?

Team leaders, managers, and people who usually manage vendors should attend standard course.

Top management level should attend executive session

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Vendor Management is a discipline that enables organizations to control costs, drive service excellence and mitigate risks to gain increased value from their vendors throughout the deal life cycle. This enables organizations to optimally develop, manage and control vendor contracts, relationships and performance for the efficient delivery of contracted products and services.

With effective vendor management processes in place, you can properly establish service, quality, cost, and satisfaction goals and choose and manage third-party suppliers that help you achieve those business goals.

Objectives

After having successfully completed the course, attendees will be able to:

- Introduce best practices in performance-based service contract administration
- Develop vendor management skills
- Evaluate, select and monitor suppliers
- Effectively monitor and control vendor performance
- Improve partnership relationships with vendors
- Reduce and effectively manage conflicts

Course outline

- Project Management
- Vendor Management
 - Establishment of the business goals
 - Selection of best vendors
 - KPIs&SLAs, Scorecard, Reports and meetings
 - Monitoring&Benchmarking
 - Escalation
 - Incentives&Penalties
 - Closing the activities



Usertraining

Big Data EXFO Architecture

Duration

1 day

Number of participants

8

Prerequisites

Good knowledge of IT

Who should attend?

IT department engineers, EXFO solution administrators

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Mobile networks are a real goldmine of information. This rich data can be analyzed through different angle for Network Performance improvement, Service Quality Management, Customer Experience Management, Usage Analysis, Device Management...

To manipulate such an amount of data, having a scalable platform with distributed processing and storage capability is a real asset and this is called BIG DATA!

Objectives

After having successfully completed the course, attendees will be able to:

- Understand the principle of a big data architecture
- Understand the differences between Broker, Master and Worker nodes
- Understand the EXFO Big Data Framework capabilities as well as its different components (Consumer, Oozie, Yarn, Kerberos, Hive...)
- Apprehend the two main distributions of Hadoop (HortonWorks and Cloudera)
- Assess the benefit of hosting the big data appliance on a public cloud platform

Course outline

- Big Data market and technologies
- EXFO Big Data Framework presentation
- EXFO solution architecture on Big Data
 - Slow path
 - Fast path
- Public Cloud characteristics (optional)

Nova Analytics Access Performance Management

Duration

0.5 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Staff from technical departments (optimization, O&M, quality, etc.) who need to use Nova Analytics Access Performance Management to optimize their network

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Analytics is a powerful, easy-to-use, flexible and multidimensional analysis solution. Nova Analytics Access Performance Management, based on big data technology, allows users to easily monitor the 2G, 3G and 4G access network from a multi-technology point of view. In parallel, Nova Analytics features Dashboard Creator that empowers the user to build autonomously its own reports.

This training will provide participants with advanced knowledge and methodology to use Nova Analytics Access Performance Management in order to monitor and optimize Access Network performance.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand the Access Performance Management environment
- Use and manipulate Access Overview and Access Details
- Create reports and dashboards based on Access data application cubes

Course outline

- Access Performance Management introduction
 - Access overview
 - Access detail
- Dashboard Creator for Access Performance Management
- Use cases

Nova Analytics Core Performance Management

Duration

0.5 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Staff from technical departments (optimization, O&M, quality, etc.) who need to use Nova Analytics Core Performance Management to optimize their network

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Analytics is a powerful, easy-to-use, flexible and multidimensional analysis solution. Nova Analytics Core (Voice & Data) Performance Management, based on big data technology, allows users to easily monitor the EPC, CoreCS and IMS networks from a multi-technology point of view. In parallel, Nova Analytics features Dashboard Creator that empowers the user to build autonomously its own reports.

This training will provide participants with advanced knowledge and methodology to use Nova Analytics Access Performance Management in order to monitor and optimize Access Network performance.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand the Core Performance Management environment
- Use and manipulate Core Overview and Details dashboards
- Create reports and dashboards based on Core data application cubes

Course outline

- Core Performance Management introduction
 - Voice Core overview
 - Voice Core Detail
 - Voice Procedure Detail
 - Data Core overview detail
- Dashboard Creator for Core Performance Management
- Use cases

Nova Analytics Customer Experience Management

Duration

0.5 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks

Who should attend?

B2B customer care team

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Analytics is a powerful, easy-to-use, flexible and multidimensional analysis solution. Nova Analytics Customer Management, based on big data technology, allows users to monitor the service quality offered to groups of customers.

In parallel, Nova Analytics features Dashboard Creator that empowers the user to build autonomously its own reports.

Objectives

After having successfully completed the course, attendees will be able to:

- Monitor service quality delivered to customer groups
- Quickly resolve network problems that affect your high-value and corporate subscribers
- Evaluate QoE from a group of subscribers down to individual subscribers
- Focus resources on delivering coverage and capacity to cells with a high concentration of high-value customers to drive new revenues
- Generate automatic SLA reporting dashboards to easily check how well you are meeting your SLA policies and facilitate new corporate contract negotiation

Course outline

- Customer Management introduction
- Dashboard Creator for Customer Management
 - Overview
 - Group detail (Data, Voice, Messaging, USSD)
 - Customer detail (Data, Voice, Messaging, USSD)
- Configuration
- Use cases

Nova Analytics Service Quality Management

Duration

0.5 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Anyone who wants to use SQM & Dashboard Creator for advanced customized analysis

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Analytics is a powerful, easy-to-use, flexible and multidimensional analysis solution. The Nova Analytics Service Quality Management tool, based on big data technology, allows users to easily monitor services from an E2E perspective through pre-defined dashboard. In parallel, Nova Analytics features Dashboard Creator that empowers the user to build autonomously its own reports.

This training will provide participants with advanced knowledge and methodology to use Nova Analytics SQM in order to adopt a service-focused approach.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand the SQM environment
- Display service overview and service detail views
- Create reports and dashboards based on SQM data application cubes

Course outline

- SQM introduction
- SQM application environment
 - Service overview
 - Service detail
- Dashboard Creator for SQM
- Use cases

Nova Analytics Roaming and Interco

Duration

0.5 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Technical and marketing department engineers who use the Nova Analytics application

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Analytics is a powerful, easy-to-use, flexible and multidimensional analysis solution. Nova Analytics Roaming and Interconnect, based on big data technology, allows users to measure the inbound roaming service quality, ensure service continuity to outbound roamers, and monitor international carriers.

In parallel, Nova Analytics features Dashboard Creator that empowers the user to build autonomously its own reports.

Objectives

After having successfully completed the course, attendees will be able to:

- Ensure service continuity to outbound roamers
- Identify inbound roamers unable to connect
- Identify new roaming partners
- Measure roaming agreement efficiency
- Compare international platform performance
- Ensure your roamers benefit from a seamless roaming experience

Course outline

- Nova Analytics Roaming Management introduction
 - Roaming Overview (Inbound & Outbound)
 - Roaming detail (Inbound & Outbound)
- Dashboard Creator for Roaming Management
- Nova Explorer introduction and GUI description
- Use cases

Nova Analytics (RAN)

Duration

1 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and protocols

This training catalogue includes several trainings on 2G, 3G and LTE radio interface and optimization

Who should attend?

Technical and marketing department engineers who use the Nova Analytics application

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Performance Analytics is a web-based application designed for network analytics and KPI trend analysis.

Nova Performance Analytics lets users manipulate multidimensional data (network elements, QCI, groups of subscribers and devices) so that marketing and optimization teams can access business-oriented dashboards and reports that facilitate decision-making.

The solution provides KPI trend analysis, allowing operators to identify unusual performance behavior, understand subscriber usage patterns and carefully maintain subscriber quality of experience delivered to reduce churn.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand dashboards basics and concepts
- Describe the report dimensions and their associated KPIs
- Use the online web help and xDR dictionary
- Use Nova Analytics main features
- Link to Nova Explorer for in-depth troubleshooting
- Customize reports

Course outline

- Nova Performance Analytics overview
- Nova Performance Analytics basics
- Our GERAN, UTRAN and eUTRAN dashboards and maps
- Links to Nova Explorer
- Report customization and creation

Dashboards Creator

Duration

2 days

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Anyone who wants to use Dashboard Creator for advanced customized analysis

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Analytics is a powerful, easy-to-use, flexible and multidimensional analysis solution. Analytics Dashboard Creator, based on Microstrategy technology, offers an open and flexible BI platform for customized reporting. It allows users to create their own interactive dashboards based on existing dimensions and indicators.

This training will provide participants with advanced knowledge and methodology to browse/visualize/share the rich insight provided by the Nova Analytics solution.

Objectives

After having successfully completed the course, attendees will be able to:

- Create reports and interactive dashboards
- Trigger events and automatically share reports
- Create metrics
- Configure export options

Course outline

- Dashboard Creator presentation:
 - Explore data
 - Explore data interface
 - Explore data example
- Visualize data:
 - Visualize data interface
 - Visualization type
- Dashboard creation
- Share insight:
 - Publish dashboard
 - Subscription menu/event triggering
- Use cases

Duration

5 days

Number of participants

8

Prerequisites

GSM, UMTS and LTE RF
Optimization principles

This training catalogue includes different trainings dealing with 2G, 3G and LTE radio interface and optimization

Who should attend?

RF design, performance,
and optimization engineers

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova RAN is a multitechnology and multivendor radio optimization solution that uses network equipment call trace files to measure RF coverage and network quality. It facilitates daily radio optimization tasks by automating recurrent analysis and drastically reduces the number of drive tests.

This solution, which includes Nova Geo, Nova Explorer and Nova Performance Analytics dashboards of radio KPIs, is the perfect solution for radio optimization engineers who need to maintain and optimize radio network QoS.

This course provides a strong knowledge on Nova RAN and describes the methodology to lead the user from radio KPIs radio measurements and detailed troubleshooting.

Objectives

After having successfully completed the course, attendees will be able to:

- Explain the Nova RAN optimization architecture
- Configure settings for the different Nova Geo algorithms
- Understand and review Nova Geo results
- Follow up after implementation of changes
- Use Nova RAN viewers to perform high-level and/or detailed analysis.

Course outline

- ANR (neighbours)
- Overshooting
- PSC/PCI clashes
- Maps (geolocation, topology, parameters)
- Nova Explorer introduction and GUI description
- Nova Explorer features (call trace, filtering, data export)
- Nova Performance Analytics (radio dashboard, reporting, etc.)
- Nova Manager (cluster creation, KPI creation, etc.)

Duration

3 days

Number of participants

8

Prerequisites

Knowledge of GSM, UMTS and LTE RF optimization principles

This training catalogue includes several trainings on 3G and LTE radio interface and optimization

Who should attend?

RF design, performance and optimization engineers

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Geo is a multitechnology and multivendor radio optimization tool that uses network equipment call trace files to measure RF coverage and network quality. It facilitates daily radio optimization tasks by automating recurrent analysis and drastically reduces the number of drive tests.

Coupled with Nova Performance Analytics dashboards of radio KPIs, Nova Geo is the perfect tool for radio optimization engineers who need to achieve and maintain a high level of QoS across the radio network.

This course provides a thorough understanding of Nova Geo and covers how to pinpoint coverage holes and traffic hotspots and detect bad RF conditions, missing neighbors, etc.

Objectives

After having successfully completed the course, attendees will be able to:

- Configure settings for the different algorithms
- Understand and review results
- Export commands, maps, and result files
- Follow up after implementation of changes

Course outline

- ANR (neighbors)
- Overshooting
- PSC/PCI clashes
- Maps (geolocation, topology, parameters)

Duration

1 day

Number of participants

8

Prerequisites

Basic knowledge of mobile telecom networks

Who should attend?

Customer care agents or technical support teams in charge of customer complaints

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Designed for Customer Service and Technical Support teams, Nova Care provides subscriber experience overview assessments and fast customer complaint analysis.

Nova Care enables agents to get a better understanding of the problems experienced by subscribers with complaints and make customers feel they are valued, thereby reducing customer frustration when problems are experienced.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand Nova Care solution's objectives, key benefits and added value
- Describe Nova Care's basic concepts and principles of operation
- Characterize mobile telecommunications services quality
- Use the Nova Care solution
- Respond to customer complaints using Nova Care

Course outline

- Nova Care introduction
- Nova Care architecture and principles
- Nova Care statistics
- Nova Care GUI
- Nova Care investigation methodology

Nova EPC (CP and UP)

Duration

4 days
3 days (CP only)

Number of participants

8

Prerequisites

Good knowledge of 4G telecom networks (in particular EPC interface protocols)

Who should attend?

Staff from technical departments (optimization, O&M, quality, etc.) who need to use Nova EPC to troubleshoot and optimize their 4G network

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The EXFO Nova solution helps operators overcome the technical challenges they face when deploying their LTE services.

Nova EPC lets mobile operators work with big data and share real-time business insights across the organization by providing them with the power to detect, analyze, troubleshoot and report issues related to network performances, handset behaviour and subscriber usage.

This course provides a solid foundation in Nova EPC and covers the investigation methodology users need to navigate from high level KPIs to protocol decoding.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe and understand the EPC architecture and the main basic procedures
- Describe the architecture of Nova EPC (control plan and user plan) solution
- Perform high-level analysis by using the Nova EPC viewers (Analytics, Explorer, Alerter)
- Manage the KPIs available in the Nova EPC viewers

Course outline

- EPC architecture & basic procedures
- Nova EPC architecture
- Introduction to CDR and statistics
- Nova Manager
- Nova Explorer
- Nova Analytics
- Nova Alerter

Nova Core CS-IMS

Duration

3 days

Number of participants

8

Prerequisites

Basic knowledge of telecom networks and circuit switching core network interface protocols (ISUP, MAP, SMS, BICC, SIP)

Who should attend?

Staff from technical departments who use Nova Core CS for troubleshooting

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The Nova Core CS-IMS solution helps mobile operators detect, correlate, analyze and troubleshoot issues related to network performance and enhance subscriber satisfaction.

When trying to pinpoint issues that originate in the Core CS, Nova Core CS-IMS completes the investigation by monitoring core network links (MAP, ISUP, SIP etc.). It can also be used to provide marketing and management teams with insight into network KPIs, adding value to business analysis.

This course provides solid knowledge of Core CS-IMS and teaches ways to:

- Troubleshoot more efficiently and quickly
- Share more valuable KPIs with your teams

Objectives

After having successfully completed the course, attendees will be able to:

- Describe and understand Core CS-IMS architecture and basic procedures
- Describe the architecture of the Nova Core CS-IMS solution
- Use Nova Core CS-IMS viewers to perform high-level and/or detailed analysis

Course outline

- Core CS protocols and basic procedures
- IMS protocols and basic procedures
- Nova Core CS solution architecture
- Nova Manager
- Nova Explorer
- Nova Analytics

Nova Explorer

Duration

1 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Anyone who needs to use Nova Explorer for advanced troubleshooting or customer complaints

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The Nova Explorer web-based application is designed for customer support and optimization teams. Nova Explorer enables fast investigation of customer complaints and advanced troubleshooting of QoS deteriorations over multitechnology networks (RAN and EPC).

Objectives

After having successfully completed the course, attendees will be able to:

- View all activity on chosen interfaces for network troubleshooting
- Use advanced features like distribution and filters
- Track specific user activity
- Get an end-to-end call trace
- Export data

Course outline

- Nova Explorer Overview
- Nova Explorer GUI description
- EPC Specifics
- RAN Specifics
- Exercises

Nova Explorer (RAN)

Duration

1 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and protocols

This training catalogue includes several trainings on 2G, 3G and LTE radio interface and optimization

Who should attend?

Anyone who needs to use Nova Explorer for advanced troubleshooting or customer complaints

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The Nova Explorer web-based application is designed for customer support and optimization teams. Nova Explorer lets users quickly investigate customer complaints and perform advanced troubleshooting of QoS deteriorations over multitechnology networks (LTE, UMTs, GPRS and GSM).

Objectives

After having successfully completed the course, attendees will be able to:

- View all network activity on chosen interfaces for network troubleshooting
- Use advanced features like distribution and filters
- Identify the network's "top offenders" and main causes of unsuccessful calls
- Study performance via statistics and histograms
- Track specific user activity
- Geolocate calls on a map with useful information such as radio conditions
- Get end-to-end call traces
- Export data (CSV or PCAP) to partners

Course outline

- Nova Explorer introduction
- Nova Explorer GUI description
- User activity tracking feature
- Call trace and decoding features
- Geolocation features
- Data export feature

Nova Explorer (Advanced)

Duration

1 day per technology
(GSM, UMTS, LTE)

Number of participants

8

Prerequisites

GSM, UMTS and LTE signaling basics

NEX standard training and/or some experience working with NEX tool

Who should attend?

Anyone who needs to use Nova Explorer's advanced features for advanced troubleshooting

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The Nova Explorer web-based application is designed for customer support and optimization teams. Nova Explorer lets users investigate customer complaints fast and perform advanced troubleshooting of QoS deteriorations over multitechnology networks (LTE, UMTS, GPRS and GSM).

This course provides a strong grounding in the advanced features available in the NEX solution and describes how to detect degradations and troubleshoot root causes end-to-end.

Objectives

After having successfully completed the course, attendees will be able to:

- Manage customer complaints efficiently
- Identify degradations in different technologies
- Troubleshoot degradations and identify their root causes
- Fix degradations
- Use advanced features like call tracing (multi-interfaces), decoding or PCAP export

Course outline

- Nova Explorer overview
- Nova Explorer main features
- GSM troubleshooting
- UMTS troubleshooting
- LTE troubleshooting

Nova Alerter

Duration

1 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and associated protocols

Who should attend?

Anyone who needs to use Nova Alerter for real-time alarm supervision

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Nova Alerter uses probes to monitor subscriber activity across the whole network and helps operation centre staff uncover issues that are undetectable with network-equipment-focused supervision systems.

Nova Alerter detects efficiency issues in real time, including the following:

- Inefficiencies impacting roamers
- SMS degradation
- International link inefficiencies and cuts
- Data session setup success rate

Objectives

After having successfully completed the course, attendees will be able to:

- Understand how to generate alarms
- Supervise alarms and understand what they mean
- Perform a top-down analysis from alarm to detailed CDR
- Manage the KPIs available in Nova Alerter

Course outline

- Nova Alerter introduction
- Nova Alerter GUI description
- From Nova Alerter to Nova Explorer
- Alarms and KPI configuration

Duration

2 days

Number of participants

6

Prerequisites

Fundamental theory of optical time domain reflectometry.

Who should attend?

System Administrators and Operator Managers

Location

On-site or at our laboratory

Contact

LS.training@EXFO.com

Course description

EXFO's fiber monitoring equipment, such as NQMSfiber system and Fiber Guardian, is the ideal monitoring solution for managing your cable and fiber network, in addition to helping you reduce the time dedicated to troubleshooting and link restoration.

Intended for system administrators and operator managers. It covers the functionalities of NQMSfiber components and explains the system's features and functions.

Objectives

After having successfully completed the course, attendees will be able to:

- View system components and functionalities
- Understand OTDR and RTU user interface
- Know how locate, analyze and solve any fault on the fiber
- Create test and manage alarms
- Customize reports and views

Course outline

- Introduction to NQMSfiber
- OTDR overview
- Introduction to RTU user interface
- System operation
- Other NQMS functionalities
- Hands-on session

Fiber Test Insight Training

NQMS-INST-FIB-FTI

Duration

1 day

Number of participants

6

Prerequisites

Fundamental theory of optical time domain reflectometry.

Who should attend?

System Administrators and Operator Managers

Location

On-site or at our laboratory

Contact

LS.training@EXFO.com

Course description

EXFO's fiber monitoring equipment, such as NQMS fiber system and Fiber Guardian, is the ideal monitoring solution for managing your cable and fiber network, in addition to helping you reduce the time dedicated to troubleshooting and link restoration.

Fiber Test InSight (FTI) can be connected to one or multiple EXFO Fiber Guardian remote test units to pinpoint fiber degradations or cuts on a web map as they are detected. This course covers the software application configuration and use.. It covers the functionalities of the Fiber Test Insight software components and explains the system's features and operation.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand what the product offers and capable of
- Enable the admin/manager to configure the tool such as email notifications
- Explain the configuration of ports and associated optical routes, including route drawing on map, distance override and slack loops
- Understand where are the different settings and their effect on the UI
- Give users enough understanding of the tool so that they can operate the tool autonomously

Course outline

- Introduction
- Product tour
- Configuration – RTU unit, system (email), optical route
- Edit a route for various attributes
- Edit splices and slack loops – override distance based on an OTDR length
- Choose a map from the available on-line maps
- Back-up the database
- General maintenance and best practices via hands-on

Duration

1 day

Number of participants

6

Prerequisites

Fundamental theory of optical time domain reflectometry.

Who should attend?

System Administrators and Operator Managers

Location

On-site or at our laboratory

Contact

LS.training@EXFO.com

Course description

EXFO's fiber monitoring equipment, such as NQMSfiber system and Fiber Guardian, is the ideal monitoring solution for managing your cable and fiber network, in addition to helping you reduce the time dedicated to troubleshooting and link restoration.

OSPInsight is an optical fiber and cable documentation tool which can optionally be integrated to EXFO NQMSfiber. It offers the capability to digitize on a map all the cables and fibers and related infrastructure – when connected to a fiber monitoring system such as EXFO NQMSfiber it provides the fault-on-map function in an automated manner, as well as offering the necessary features and functions to maintain an optical fiber network up-to-date from a documentation stand-point.

Objectives

After having successfully completed the course, attendees will be able to:

- Provide users with an overview of OSPInsight and underlying GIS (MapInfo)
- Enable the manager to create a "network", create & draw the necessary objects for a fiber route such as buildings, termination points, cable spans
- Explain how to create a "saved route" and to tune the optical distance(s) of the various spans so that it is matching OTDR lengths
- Show where fiber alarms can be viewed and mapped
- How to attach and view a route in NQMSfiber

Course outline

- MapInfo overview
- OSPInsight overview, menu tour
- Manage network(s)
- Cable related object creation and management
- Cable termination, port assignments and splicing
- Creation of an end-to-end route / saved route
- Hands-on allowing manager to use and manage OSPInsight when used and integrated with NQMSfiber

Xtract Training Operations (EXP-Train-OPS)

Duration

2 days

Number of participants

5

Prerequisites

Knowledge in TCP/IP, Layer 2 – Ethernet, Operating Systems, Oracle, VoIP, Video-over-IP

Who should attend?

Training course targeted toward NOC and CSR level 1-3 users who will be utilizing Xtract to visualize data from network sources.

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Quality of the customer experience is paramount nowadays. Service providers need metrics to measure performance as well as real-time analytics and visibility at the network, service and subscriber levels.

This course provides an overview and covers the architecture of EXFO Xtract. It offers hands-on exercises and lectures regarding the configuration of EXFO Xtract. Creating reports and user pages.

Objectives

After having successfully completed the course, attendees will be able to:

- Understand Xtract architecture
- Create reports and user pages

Course outline

- Overview
- Architecture
- Displaying Data with Xtract
- First Login to a Page
- Xtract Widget Specifics
- Final Exam/Lab



Administration training

Nova RAN System Administration

Duration

5 days

Number of participants

8

Prerequisites

Basic knowledge of mobile telecom network technologies

Who should attend?

Anyone in charge of Nova RAN solution administration

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The Nova RAN solution facilitates daily radio optimization tasks by automating recurrent analysis and helps mobile operators maintain and optimize their radio network QoS.

The solution has a modular architecture, is based on mobile network size and can be centrally administrated and monitored.

With a focus on monitoring & troubleshooting, this course covers the methodology and principles users need to properly administrate and monitor the Nova RAN solution.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the Nova RAN solution architecture
- Perform basic administration of Nova RAN solution
- Perform basic Nova RAN solution monitoring
- Investigate and troubleshoot problems with the Nova RAN solution

Course outline

- Nova RAN architecture overview
- Nova RAN connection to applications and servers
- Management tools (Nova Cockpit and others)
- Basic troubleshooting
- Basic administration

Nova Solution Administration

Duration

2 days

Number of participants

8

Prerequisites

Basic knowledge of mobile telecom network technologies

Who should attend?

Anyone in charge of Nova Solution administration

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

The Nova solution gives mobile operators the power to detect, correlate, analyze and troubleshoot issues related to network performance to enhance subscriber satisfaction.

The solution can be centrally administrated to ensure it performs correctly and to monitor and optimize the QoS of any mobile network.

With a focus on practical exercises, this course describes the methods and principles users need to administrate and supervise the overall Nova solution.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the Nova solution architecture
- Perform basic administration of the Nova solution
- Perform basic Nova solution monitoring
- Analyze services generated by Cockpit tools

Course outline

- Nova architecture and administration overview
- Nova connection to applications and servers
- Nova system administration
- Nova telecom administration
- Nova monitoring with cockpit
- Nova solution suggested component checks

Neptune EPC Administration

Duration

1 day

Number of participants

8

Prerequisites

Basic knowledge of mobile telecom network architecture and protocols

Who should attend?

Anyone in charge of the configuration and administration of Neptune probes

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Neptune is the new generation of our intelligent high-capacity passive IP probing system designed to help operators monitor and optimize their mobile broadband networks while traffic surges.

Neptune's powerful and scalable platform is designed to support high IP traffic on Ethernet links and network evolution. It captures and processes the control plane and user plane over Giga Ethernet links.

This course provides thorough knowledge of Neptune probes and describes the method and procedures users need to configure and administrate this platform.

Objectives

After having successfully completed the course, attendees will be able to:

- Describe the main principles of the Neptune probe
- Configure the Neptune probe
- Describe the HW and SW technical specifications of the Neptune probe
- Administrate and supervise the Neptune probe
- Manage file configuration of the Neptune probe

Course outline

- Neptune overview
- Neptune technical characteristics
- Neptune configuration
- Neptune administration and supervision

Flex Administration

Duration

1 day

Number of participants

8

Prerequisites

Good knowledge of mobile telecom networks and protocols

Who should attend?

Anyone who wants to use Flex equipment for efficient UP monitoring

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

As an addition to any probe, Flex is a tool designed to reduce the operator's UP monitoring strategy budget by:

- Targeting or sampling different telecom criteria while keeping full visibility of all traffic throughput
- Following up on traffic booming allowing to stack probes with intelligent load balancing
- Feeding real-time data to customer-centric applications or big data systems without new probes

Objectives

After having successfully completed the course, attendees will be able to:

- Describe and understand the Flex architecture in the Nova solution
- Perform basic Flex monitoring (targeting, sampling, BDR generation)
- Manage Flex file configuration
- Administer and supervise Flex (basic checks, deep investigation)

Course outline

- Flex introduction
- Flex overview
- Usage
- Administration and configuration
- Basic checks
- Deep investigation

Worx Operations and System Administration

Duration

2 day

Number of participants

5

Prerequisites

Knowledge in TCP/IP, Layer 2 – Ethernet, Operating Systems, Oracle, VoIP, Video-over-IP

Who should attend?

System administrators who will be responsible for maintenance and monitoring of the EXFO Worx software

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Quality of the customer experience is paramount nowadays. Service providers need metrics to measure performance as well as real-time analytics and visibility at the network, service and subscriber levels. This is where EXFO Worx comes in.

This course is designed to give students working knowledge of the Configuration and Use of EXFO Worx to generate tests and monitor networks as well as the activities required to maintain and upgrade the EXFO Worx Server.

Objectives

After having successfully completed the course, attendees will be able to:

- Meet predefined service quality levels
- Provide tangible metrics of network performance
- Optimize network operations
- Provide management guidance
- Offer the best subscriber experience
- Know the configuration and maintenance

Course outline

- EXFO Worx Operations material
- Server Configuration
- Installation
- Maintenance Activities
- Patches and Upgrades
- UNIX Command Line Environment
- SNMP Configuration/User Authentication
- Administration
- Final Exam/Lab

Xtract Training Operations & Administration

Duration

2 days

Number of participants

5

Prerequisites

Knowledge in TCP/IP, Layer 2 – Ethernet, Operating Systems, Oracle, VoIP, Video-over-IP

Who should attend?

Training course targeted toward NOC and CSR level 1-3 users who will be utilizing Xtract to visualize data from network sources.

Location

On-site or at our offices

Contact

LS.training@EXFO.com

Course description

Quality of the customer experience is paramount nowadays. Service providers need metrics to measure performance as well as real-time analytics and visibility at the network, service and subscriber levels.

This course provides an overview and covers the architecture of EXFO Xtract. It offers hands-on exercises and lectures regarding the configuration of EXFO Xtract. Creating reports and user pages. The System Administration portion of training covers the Linux operating environment of EXFO Xtract

Objectives

After having successfully completed the course, attendees will be able to:

- Understand Xtract architecture
- Create reports and user pages
- Configure Widgets and Models

Course outline

- Overview
- Architecture
- User Administration
- Displaying Data with Xtract
- First Login to a Page
- Adding Widgets to a Page
- Widget Specifics
- Configuring Xtract Model
- Polling SNMP devices
- Final Exam/Lab

Contact us

To book your training or for more information:

Email: LS.training@EXFO.com

www.exfo.com/training