

Course : Network audit and analysis

Synthesis course - 2d - 14h00 - Ref. AUR

Price : 2020 CHF E.T.

★★★★☆ 3,8 / 5

Traffic on data networks is made up of numerous applications whose volumes are generally inversely proportional to their importance to the company. This course aims to provide the technical and practical keys to network analysis.

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Understanding the art of network flow analysis
- ✓ Active and passive metrology impacts
- ✓ Identify useful traffic management tools
- ✓ Understand auditing methods applied to security
- ✓ Identify useful tools for monitoring Qos

Intended audience

This course is aimed at network architects, project managers, information systems managers and network engineers.

Prerequisites

Basic knowledge of networks.

Course schedule

1 Network architectures

- A reminder of protocol architectures.
- Enterprise networks, virtual networks, VPN techniques. Long-distance networks, ISP services.
- Access networks: xDSL, fiber, WiFi, WiMax, 4G/5G.
- Key network parameters. Notion of sampling, measurement issues.
- Data rates, average values, bursts. Packets per second (PPS).
- Bottleneck analysis.

PARTICIPANTS

This course is aimed at network architects, project managers, information systems managers and network engineers.

PREREQUISITES

Basic knowledge of networks.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more. Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Metrology

- Active vs. passive metrology.
- Metrology: the impact of the layers of the layered model.
- Purely network approaches (levels 2-3-4).
- Application approaches (level 7).
- Application impact on the network.
- IETF groups: IPSAMP, IPPM, IPFIX. Why so many different efforts?
- SNMP approaches.
- Statistical correlations.

3 Traffic management

- The tools. Admission control methods.
- The impact of technology on behavior.
- Capacity planning. Forecast changes. Guarantee performance.
- Tools for IT asset management. Operating system analysis.
- Application analysis. Discover topologies.

4 Safety

- Traffic security principles: firewalls.
- The different types of filtering: Stateful, Stateless and application (proxy or application proxying).
- The limits of current systems.
- Intrusion detection: a real-time audit.
- Traffic compliance with firewall rules.

5 The methodology

- Milestones.
- Why a methodology?
- Ongoing audit.

6 Service quality

- SLA concepts. QoS vs CoS.
- The end-to-end model.

7 Audit and Qos tools

- Spot audits. What for? Here's an example.
- Performance and financial impact.
- Analyzers, management systems, traffic shaping, a market overview.
- Tools: PRTG, Wireshark/TCPdump...
- Qosmos. Qosmetrix. NetFlow, Ntop...
- Summary and comparison.

TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

Dates and locations

REMOTE CLASS

2026 : 19 Mar., 28 May, 8 Sep., 10 Dec.