

Basic Networking+



More and more applications use one common infrastructure: the network. A converged network is the future, and knowledge of this infrastructure is necessary to be able to guarantee the availability of business critical applications. Problems with IP Telephony conferences, a slow response of the database and a submerged mail server might be the result of not knowing how to optimize the network. The network is for most companies a critical component in the daily business operations. Think of applications like IP Telephony, e-commerce and something simple like e-mail, all standards that we are using daily. The right knowledge within your organization ensures that the network functions properly and that business goals are supported with it.

Course Contents

Day 1:

- Introduction to Networks
- The OSI Model
- Local Area Networks
- Ethernet, Hubs and Switches

Day 2

- Connecting Networks using TCP/IP
- Routing

Day 3

- Voice Over IP

Day 4

- Quality of Service
- Security

Target Group

The course is developed for administrators who work daily direct or indirect with the network, like the telephony administrator who needs to manage an IP Telephony network-environment.

Course Objectives

After completing this 4-days course the student should have:

- a solid foundation in basic network technologies
- a good understanding of the basics of IP Telephony
- a good understanding of the need for Security and Quality of Service in IP networks.

Although this course is mainly covering the theory of the following subjects, students can also expect several hours hands-on exercises.



Reservation and Registration

We will be glad to make a free and non-binding course reservation for you for the duration of two weeks. On www.experteach-benelux.com under *Registration*, you can conveniently make course reservations, registrations, and hotel reservations. Alternatively, call us under +31 (0)76 52 32 950.

For closed groups of participants, we can modify the course contents according to your requirements. Do not hesitate to contact us!



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4 days Pricing information on request

Course date (dd.mm.yy)/Location

Course dates available on request

Up-to-date information: www.experteach-benelux.com ONE1



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Day 1:

Introduction to Networks

- What is a network
- Why need a network
- What components make up a network

The OSI Model

- What is the need for the OSI Model
- What are the different layers of the OSI model, and what is their function

Local Area Networks

- What is a LAN
- What components make up a LAN

Ethernet, Hubs and Switches

- Ethernet
- MAC addressing
- How does Ethernet Work
- Connecting multiple Devices using a Hub
- Collision Domains
- What are Switches
- Why use Switches
- Spanning Tree, redundancy at Layer 2 of the OSI model

Day 2

Connecting Networks using TCP/IP

- The TCP/IP Stack
- IP Addresses and Subnets
- TCP and UDP
- Broadcast Domains
- ARP
- DNS

Routing

- Routers
- The Routing Process
- The Routed Protocols
- The Routing Protocols
- NAT and PAT
- IP Multicasting

Day 3

Voice Over IP

- Converting Analog to digital and back
- Codecs, Voice Quality and Bandwidth
- Transporting Voice over IP networks
- RTP
- Call Control
- H323, SIP and MGCP
- End Points and Media Gateways

Day 4

Quality of Service

- The need for QoS
- Delay, jitter and packet loss
- Diffserv and Intserv Models
- Avoiding Congestion
- Managing Congestion

Security

- Security threats
- Securing the network
- Ipvsec VPNs
- SSH and HTTPS
- Firewalls
- NAC
- 802.1x
- Intrusion Detection and Prevention
- Session Border Controllers



ExperTeach Benelux

Emmastraat 6d • 4th floor

4811 AG Breda

Phone +31 (0)76 52 32 950 • Fax +31 (0)76 52 32 959

info@exper-teach-benelux.com • www.exper-teach-benelux.com

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