



Education Services 42-1: Prof. Technology Training ICT Network Fundamentals



Security solutions for computer networks are becoming more and more complex and challenging. Often security organisations lack the fundamental knowledge and therefore require external consulting, or need a long period of time to acquire the necessary expertise.

Crypto AG offers a compact professional training course in network fundamentals for decision-makers and security or system managers. The tailor-made course will take into account prior knowledge and skills of the participants and will help them expand their expertise in ICT network fundamentals. The focus of the course will be on how to efficiently and effectively integrate security solutions from Crypto AG (e.g. Ethernet or IP VPN encryption solutions) in your organisation.

This course will be held at our very own Crypto Academy in Zug, which has been awarded a "Premium Class" rating from the International Training Center Rating Organisation! The comfortable and pleasant atmosphere and the highly qualified instructors will ensure that you will have a successful learning experience.

The content of the "ICT Network Fundamentals" course is specifically and exclusively tailored to your requirements and the participants' prior knowledge.

Your own network scenario will be the basis for the training – this means that the participants are learning exactly what they will need in practice. Thanks to the "train the trainer" principle participants will be able to train additional staff in your own organisation, and thus minimise subsequent costs.

By attending the course, you will acquire the following skills and expertise:

Basics in computer networks, Ethernet & TCP/IP and typical security applications.

The well-structured course has proven successful for many years and guarantees that you achieve your learning objectives.

At the end of the course you will be able to integrate an autonomous network environment for Ethernet and IP VPN security solutions from Crypto AG in your own organisation.

You will also receive the official Crypto Course Certificate as proof of your learning success.

Key Benefits

- Tailor-made professional training course in network fundamentals and implementation of Ethernet and IP VPN security solutions from Crypto AG
- Modern and comfortable training facilities at the award-winning Crypto Academy in Zug
- Highly motivated teaching staff and technology experts ensure a comprehensive know-how transfer
- Official Crypto Course Certificate upon successful completion of the course
- Transport, accommodation, catering and leisure activities during the entire stay organised by Crypto AG
- Professional and personal contacts which will last for a lifetime

Description of service

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

- Understand network drawings and design simple computer networks
- Explain what Ethernet and TCP/IP are and how they are implemented
- Identify security threats in common network implementations
- Evaluate Ethernet or IP VPN security solutions from Crypto AG against network threats
- Recognise typical security applications in customer solutions

Deliverables

When you participate in a Professional Product Training course at the Crypto Academy you can expect:

- Tailor-made professional training course in modern and comfortable training facilities
- Highly motivated teaching staff and technology experts to answer all your questions
- Organisation of transport, accommodation, catering and leisure activities during the entire stay
- Course review, practical assessment and final discussion at the end of the course
- Official Crypto Certificate upon successful completion of the course

Details

Network classifications

- Scale
- Connected method
- ISO/OSI Layer
- Network architectures
- Network topologies

Types of networks

- PAN, LAN, CAN, MAN, GAN, VPN, WLAN, etc.
- Internetwork (Intranet, Extranet, Internet)

Basic hardware components

- Firewalls, routers, hubs, switches, gateways, proxies, etc.

Ethernet

- History
- Dealing with multiple clients
- Autonegotiation and duplex mismatch
- Physical layer
- Ethernet frame types and EtherType fields
- Varieties of Ethernet
- Related standards

TCP/IP

- Layers in the Internet Protocol suite
- Segment structure
- Services
- UDP
- TCP & UDP ports
- IP encapsulation
- IP addressing and routing
- IPv4 / IPv6
- Implementations

Network security threats

- History
- Basic threats
- Security governance
- Business continuity
- Sources of standards
- Security components
- Network security
- Security management

Typical network scenarios

- Military (tactical, strategic, etc.)
- Defence (MoD)
- Foreign affairs (MoFA)
- eGovernment
- etc.

Interaction with Crypto AG

