IP Security

*T*he "IP Security" course covers the security methods and techniques used for the Internet. Threats, hazards and attacks relevant to security are also discussed, together with their classification.

In particular, the services used for security are explained; specifically authentication, access control, confidentiality, integrity, and send and receive verification for IP based networks. The methods for "Internet protocol Security (IPSec)" are covered in detail in this context.

The focus on the security topics covered by the course is sharpened by means of practical examples and Wireshark protocol recordings.

Contents

▶ Background and introduction

— Topic overview, course aims
— Standardization

▶ Security services

— Authentication, access control,
— confidentiality, data integrity,
— non-repudiation

▶ Encryption methods

— Keys, algorithms, key distribution
— Certificate
— Practical example: Creating a certificate

▶ Internet Protocol Security (IPSec)

—Protocol layers
— Methods and protocols: IKEv1, IKEv2
— IPSec application examples

▶ Tunnel methods

— Tunnel principles: VPN methods for layer 2 and layer 3
— L2TP, PPTP, PPP, GRE,
— Windows VPN Server and VPN Client configuration
— Application example: OpenVPN

▶ Summary and outlook

Trainer

▶ Leonhard Stiegler

Course objectives

Participants in the "IP Security" course will obtain detailed, practical knowledge of the current methods and techniques used for securing IP-based networks. They will be able to take part in the planning and execution of security measures.

Target group

Users with network access, network planners, commissioning testers, device acceptance test personnel.

Prerequisites

Knowledge of the principles of Ethernet and TCP/IP technology and of digital telecommunications is required.

Seminar info

▶ Duration
2 days, from 9.00 to 16.30 h

▶ Date, location and price on request or see under www.viavisolutions.com

▶ On-site or customized seminars on request

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