

## Motivation

Nowadays successful network operations are inseparable from the world of TCP/IP protocols. A detailed knowledge of the principles of TCP/IP and of the essential elements of TCP/IP operations are indispensable for network operations. As a result of the highly pragmatic manner in which TCP/IP has developed over the last 10 years, this world also presents us with a number of inherent weaknesses and disadvantages of which the operator must be aware. This seminar explores the background of TCP/IP from a practical viewpoint, illustrates its advantages and disadvantages, and makes important recommendations for successful implementation. Also included is an in-depth examination of the SNMP management functionality, which is closely associated with TCP/IP and is of elementary importance both to direct operations and to such other functional areas as network and server management.

## Target audience

This seminar is intended for entry-level students with basic knowledge in the networks field, as well as for advanced students who wish to expand their knowledge in specific areas.

## Ziele

An emphasis on the the necessary theoretical foundations provides solid preparation in subsequent subject areas of practical importance to the installation and operation of heterogeneous networks. A selection of sample projects and their accompanying practical demonstrations enable the participants to take what they have learned and put it to immediate use in real-life applications. The seminar reflects the state of the art in current technology and presents a preview of further foreseeable developments.

## Sie lernen auf diesem Seminar

- ▶ how to efficiently implement TCP/IP networks
- ▶ what mistakes absolutely must be avoided in the process
- ▶ how to protect your network from unauthorized access
- ▶ how to use SNMP sensibly in spite of all its weaknesses
- ▶ what you should consider when selecting management systems

## Topics

### TCP/IP as the basis of open systems

- Overview and definition
- fundamental principles of the internet model
- architecture and configuration of an IP network
- standardization

### Implementing an appropriate IP address structure

- Suggestions for address allocation
- registered and illegal addresses
- using Network Address Translation (NAT)
- possibilities for automatization with DHCP
- supernetting
- subnetting

### The protocol family in bits and bytes

- IP, UDP and TCP protocols
- ICMP and error correction
- tuning of protocol parameters

### Routing protocols

- Local and worldwide routing
- EGP
- BGP
- RIP
- OSPF
- static v. dynamic routing
- operational recommendations

### Directory services

Use and coexistence of:

- DNS
- LDAP
- X.500

### Selected applications

- Telnet
- FTP
- e-mail
- NetNews
- 'Berkeley services'
- WWW

### Operational aspects

- Organization
- error detection in IP networks
- improving performance
- deployment of active network components
- special considerations in integrating Windows desktops

### Upgrading to IPv6

- Design
- routing and addressing
- security
- migration from v4 to v6
- current state of the art

### Network management with SNMP

- The basic model: architecture, informational structure
- SMI • MIB and MIB extensions
- security with SNMP
- upgrading to SNMPv3
- deployment of SNMP
- products and trends
- demonstration of leading management systems

### LAN analyzing with RMON

- Demonstration of the standard and of its practical implementation
- suggestions for implementing RMON solutions
- upgrading to RMON2

### Security in IP networks

- Detection of security problems
- protection of all network gateways
- problems with imported data
- monitoring and verification of all measures

### Sample projects

Demonstration of the most important topics with case studies

- implementation and operation of TCP/IP
- troubleshooting
- connecting to the internet
- worldwide routing
- management solutions with SNMP and RMON

### Special feature

In addition to the seminar materials, participants will receive a CD-ROM containing:

- test software for the topics discussed
- a selection of interesting RFCs (Request for Comment)
- supplementary technical documents (German and English)

**Fax: 0031/11337-2088**



**TCP/IP and SNMP**

I'm interested in this course, let's make a date.

\_\_\_\_\_  
First Name

\_\_\_\_\_  
Last Name

\_\_\_\_\_  
Organization

\_\_\_\_\_  
Position

\_\_\_\_\_  
Address

\_\_\_\_\_  
State/Province

\_\_\_\_\_  
Zip, Postal Code

\_\_\_\_\_  
Country/Region

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Fax

\_\_\_\_\_  
E-Mail

\_\_\_\_\_  
Signature



**Dr. Suppan International Institute b.v.**  
**Ahornenlaan 12**  
**4493 DG Kamperland**  
**The Netherlands**  
**Phone 0031/11337-3178**  
**Fax 0031/11337-2088**

# TCP/IP and SNMP

## 5-day-course



### The instructor

**Mathias Hein** has been working for more than 15 years as a consultant and freelance journalist in the networks field. He is responsible as coauthor for books dealing with TCP/IP, SNMP, Network Switching and Ethernet. Because of his exceptional ability to communicate the essentials of information theory, he has been in demand for many years as an instructor and moderator at conferences and seminars.

### Dr. Suppan International Institute

Dr. Suppan International Institute b.v. is an international training and educational organization located in the Netherlands.

In Germany the company is represented through ComConsult Akademie, one of the market leaders in network training and education in Germany, and ComConsult Technologie Information GmbH, a leading testing and information company in the field of network technologies.

Dr. Suppan International Institute b.v. offers courses and in-house training about in network technologies in Western Europe, mainly in the Netherlands, Belgium and Luxembourg. These courses are conducted in English, and the complete course materials is written in English.

The company was founded in 1999 by Dr. Jürgen Suppan, an internationally well-known specialist in networking technologies. The courses offered by Dr. Suppan International Institute are based on the latest state of technology, closely oriented towards the practical needs of practise and strictly vendor independent. All trainers have had several years of networking experience in different types of environments, covering the complete range of networking technologies as applied in companies from the small to the very large.

In Germany, where the company has been active since 1989, more than 80% of the top 500 German companies are regular and long-term customers of Dr. Suppan International Institute b.v., with more than 3000 course and congress participants in 2001 alone.

If you are interested in these courses, please use the following contact form or send an email to [drsuppan@comconsult-akademie.de](mailto:drsuppan@comconsult-akademie.de)

