

Ethernet in Local and Carrier Networks

Initially mainly deployed in LANs (Local Area Network) Ethernet is more and more deployed in Metro / Carrier Networks and also plays an important role in Transmission Networks (SDH/WDM).

Therefore Ethernet knowledge is an essential asset for an increasing number of employees. This training provides besides the basics of Ethernet also extended features.

Based on a profound introduction to the Ethernet protocol and switching, including access methods and frame structure, the usage of Virtual LANs (VLAN) and several Queuing mechanisms will be covered. The Spanning Tree Protocol (STP) for recognizing Loopbacks and the usage of Multi Protocol Label Switching (MPLS) for Quality of Service (QoS) will also be presented.

Target Group / Requirements

The course is addressed to employees who need a basic understanding of Ethernet and the related protocols for their daily work.

The theoretical knowledge is applied in practical exercises in order to reinforce and strengthen the important parts of the training with personal experience.

Course Content

Ethernet and L2 Switching

- Ethernet Standards (IEEE 802.3, Ethernet II)
- L2 Switching
- Ethernet Prioritization (802.1p)
- Queuing Mechanisms (Strict Priority Queuing (SPQ), Weighted Fair Queuing (WFQ))
- Traffic Parameter (Committed Access Rate (CAR), Peak Information Rate (PIR), Policing, Shaping)
- Virtual LAN (VLAN) (802.1Q, Q-in-Q)
- Spanning Tree (802.1d (STP), 802.1w (Rapid STP), 802.1s (Multiple STP))
- Provider Backbone Bridges (802.1ah (MAC-in-MAC))
- Resilient Packet Ring (RPR)
- Multicast (IGMP, IGMP Snooping)
- Multi Protocol Label Switching (MPLS)
- EPL (VPWS)
- EPLAN (VPLS)

Practical Exercises

- Setup of an Ethernet Infrastructure
- Analysis of network traffic and Routing information using Wireshark and Ethernet Test Equipment

Course Duration:

2 days

Course Number:

ND1362

Requirements:

Basic knowledge of telecommunication and networks

Certification

Certificates are given to all participants at the end of the course about the successful completion.

Course Registration:

Please contact us via

- phone: +49 89 1894354-405
- email: training@tfk.de or
- via our website www.tfk.de/training

You will receive a confirmation of your registration. We can also advise you concerning the best combination of course contents.

For clients with special requirements the optimal training concept can be customized. Modules from our training portfolio can be combined to meet your company-specific needs.