

## Diagnostics and Optimization of Industrial Networks with SCALANCE (IK-DIAOPTS)

### Short Description

A reliable, robust network is the backbone of any modern industrial enterprise. Since the network requirements can change over the life cycle of a plant, or other application, the diagnostics and optimization of the network are extremely important tasks. Even during planning stages, various aspects regarding the functionality and diagnostic capability have to be taken into account. For instance, clear network documentation, knowledge of enhanced functionalities of modern switches and routers, as well as up-to-date tools for the operation of networks are imperative for diagnostics and optimization.

Using practical examples, participants of this course will learn how to diagnose typical error causes in industrial networks, and determine how to prevent them or minimize their impact with the aid of enhanced device functions. You will be trained to secure administrative access to the components, and to restrict access to the network itself.

You can deepen your theoretical knowledge with numerous practical exercises on products from the SCALANCE product line.

### Objectives

After attending this course, participants are able to diagnose and optimize industrial networks. Participants will also be familiar with the available tools and functions which can be used to ensure the required performance, availability and security of the network.

### Target Group

Technical Sales Personnel  
Plant Engineers  
Control Engineers  
System Engineers  
Commission Engineers  
Application Engineers  
Service and Maintenance Personnel  
Operations or IT Network Engineers  
Facility Managers

### Content

Introduction to basic tools such as terminal access and network analysis tools, as well as applications for time synchronization and logging of event messages  
Basics of a professional network layout  
Network analysis for troubleshooting  
Detection and prevention of physical errors  
Detection and prevention of Ethernet errors  
Identification and fulfillment of security requirements  
Detection and prevention of overload situations  
Optimization of convergence times  
Comprehensive exercises  
Practical exercises

### Prerequisites

Knowledge in accordance with the course "Switching and Routing in Industrial Networks":

Participants must be very familiar with topologies, transmission methods, addressing and transport of data in industrial networks, and ideally possess practical experience in the field of industrial networks.

### Note

Certification (Siemens CEIN-LEVEL):

Following the training, there is an option of taking a certification test. This test is part of the certification to become a "Siemens Certified Expert for Industrial Networks", which consists of several individual tests.

Please note that before the examination you have to identify yourself by showing a valid photo identification.

### Type

Face-to-face training

### Duration

3 days

### Language

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