SIEMENS

Switching and Routing in Industrial Networks with RUGGEDCOM (IK-SWIROR)

Short Description

Ethernet has found its way into the industrial environment. A high degree of reliability and throughput rates are demanded from industrial networks. At the same time a reliable integration into a corporate network is highly required.

In this course, participants will gain the theoretical and practical knowledge required for real world implementation of Industrial Networks and the methods applied to operate and maintain such networks. You will also gain theoretical and practical knowledge of what IP communications, routing protocols, redundancy, LAN/WAN concepts that helps facilitate communications between multiple network locations. In addition, participants will apply these concepts on RUGGEDCOM devices.

The course includes ample time for practical exercises, diagnostics, and troubleshooting.

Objectives

At the end of the course, participants will be familiar with the special requirements of industrial network solutions and will have the knowledge to plan, implement, and provide support for plain networks in an industrial or industry-related environment.

Target Group

- Decision makers
- Planners
- Sales personnel
- Configuring engineers
- Commissioning engineers
- Engineering personnel
- Project engineers
- Maintenance personnel
- Service personnel
- Industry: COOs
- IT: CIOs, network planners and administrators

Content

Switching:
- Layer 2 Technology Overview
- Switching in Industrial Ethernet Networks
- Commissioning with RUGGEDCOM Operating System (ROS)
- Port Configuration
- Redundancy in Switched Networks (Rapid Spanning Tree Protocol)
- Network segmentation with Virtual Local Area Networks (VLAN)
- Increasing bandwidth availability (Link Aggregation)
- Integrating Serial Protocols
- Monitoring (ROS)
- Diagnostics and Troubleshooting (ROS)

Routing:
- Layer 3 Technology Overview
- Commissioning with ROX Operating System
- LAN and IP interfaces
- WAN interfaces
- Internet Protocol Services
- Router redundancy (VRRP)
- Static Routing
- Dynamic Routing (OSPF)

Practical exercises using the RUGGEDCOM products

Prerequisites

Participants shall have basic knowledge of Ethernet and should be familiar with network topologies, Media Access Control (MAC), Internet Protocol, data transport and associated technical vocabulary. It is also helpful if you are familiar with the principles of operation of switches and the OSI reference model. We also recommend attending the "Ethernet Fundamentals in Industrial Networks" training course.

IK-ETHBAS

To prepare for the training, please work through the WBT Data communication with Industrial Ethernet.

Note

Certification (Siemens CPIN-LEVEL)

This training prepares for the certification "Siemens Certified Professional for Industrial Networks - Switching & Routing". A voluntary certification examination which consists of two sections will take place at the end of the training. As an option, the examination may be taken at a later time.

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

Type

Face-to-face training

Duration

5 days

Language

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