Security in Industrial Networks with RUGGEDCOM

Industrial Networks Education

Description

It is difficult to imagine day-to-day industrial operations without Ethernet connections. From large-scale environment to the smallest Industrial Ethernet communication network, nearly everything has come to dependency on the overall systems reliability and security. The opportunities on the one hand are countered by risks on the other hand. Access by outsiders or manipulations in the network always has catastrophic consequences on application or on in-house expertise. Therefore, functioning security systems are an absolute must.With the training course "Security in Industrial Networks" of the Industrial Networks Education – Certification program, you will learn the potential dangers in industrial networks and how to safe guard against them.

General Information

Course Code: IEN-RCMSECROX
Length: 3 Days

Audience

This course is for users who are involved with developing or sustaining networks in rugged environments – such as Electric Power, Transportation, Rail, and Defense markets, where RUGGEDCOM equipment is required. This includes, but is not limited to the following:

- Application Engineers
- Automation Engineers
- Communication Engineers
- Control Engineers
- Operations or IT Network Engineers
- Project Engineers
- Substation Engineers
- System Engineers

Prerequisites

- Basic knowledge of the topic "Ethernet".
- Familiar with network topologies, Media Access Control (MAC), Internet Protocol, data transport and associated technical vocabulary
- Familiar with the principles of switching operations, hubs and the OSI reference model.
- Recommended: Participants are encouraged to attend the Industrial Ethernet Fundamentals training course or pass a written examination.

Profile

This course is one of three certification courses offered under the Siemens Certified Professional for Industrial Networks (CPIN) program, which incorporate RUGGEDCOM products into the curriculum, ensuring students learn and test using products they use on a regular basis. The curriculum covers network solutions and how they connect to real-time systems in theory and in practice.

Throughout the course, students will have ample time for practical exercises, diagnostics, and troubleshooting. The course uses a hands-on model for realistic demonstrations.

At the end of the course, students are equipped with the knowledge to plan, configure, operate and provide support for networks in their specific market.

Objectives

Upon completion of this course, the student will learn:

- Security in Industrial Ethernet Networks
- Understanding threats to the Industrial Ethernet Networks
- Security Defense-in depth approach
- Security measures and guidelines (best practices, industry driven)
- Protecting Control Networks (firewall, address translation (NAT))
- Site to Site and Remote access via VPN (IPSec)
- Hardening the RUGGEDCOM ROX Security
- Practical exercises using the RUGGEDCOM ROX product line

Topics

1. Protecting Industrial Networks
2. Hardening the Switch
3. Control Networks Protection
4. Concealing Internal IP network Identity
5. Building Virtual Private Networks
6. Appendix – Commissioning (ROXII Platform)

Certification (Siemens CPIN-LEVEL)

After the training course, you have the opportunity to become certified as "Siemens Certified Professional for Industrial Networks - Security". A voluntary certification examination takes place at the end of this training.

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