Student Thesis Project: SCADA protection

In 2010, The Swedish Armed Forces (SwAF) Defence Staff, Policy, and Plans Department (HKV LEDS INRI) initiated and established a collaboration agreement with the Swedish University community, to enable and augment traditional research and development in the defence sector. The benefits are mutual whereas both universities and students have the opportunity to interact with a dynamic and influential partner in defence and societal security. The collaboration covers effective, efficient, and secure information management and is interdisciplinary. SwAF also provides lectures and seminars for graduate and under-graduate students. SwAF assigns a subject matter expert (SME) as an associate supervisor.

Proposal description
Supervisory control and data acquisition (SCADA) systems are used for a number of industrial and critical-infrastructure control applications. SCADA systems can involve remote monitoring and control of large-scale processes over considerable distances. The security of SCADA systems is of particular concern because of the nature and importance of the processes they control. SCADA systems must integrate security systems with “proper segmentation, monitoring and redundancies” needed for cyber-threat protection.

Objectives
The objective of the thesis project is to identify ways to confront cyber threats in SCADA systems and to propose effective solutions.

Mission statement
Identify SCADA vulnerabilities and current security measures through literature studies
Study of traditional methods for handling requirements and design of SCADA protection
Suggest other/new methods
Classify the various methods
Validate methods
Conclude

Thesis level
Candidate (C uppsats) or Master (D uppsats)

Expectations on the student/s
Ability to work independently or in group
Interest in societal security
Curious on innovative solutions

Time frame
The thesis project can start any time, however it must adhere to university regulations concerning duration.

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