Secure Transfer of SCADA Information

To transmit critical information, e.g. from a SCADA system to an administrative office network means potential security risks. But there are solutions that take care of security problems and at the same time enables an exchange of information.

Challenge

Securely Transmit Sensitive SCADA Information

SCADA (Supervisory Control and Data Acquisition) is a term used for systems for monitoring and controlling processes in industry and in critical infrastructure. The processes that these systems control, and monitor are often of very sensitive nature and must therefore be handled securely in order to avoid that someone without permission affects or alters its function. If that happens, critical functions can be turned off or manipulated, which can lead to major disruptions which affects many people.

For many years, companies using SCADA systems have been gradually automated. At the same time, the systems become increasingly complex and control more and more socially critical functions. This makes them more vulnerable and the challenge will be to continue digitising in a secure way. At the same time, the need to transfer the information to other networks is growing to be able to work efficiently, such as in the following situations:

•   Process monitoring from a location outside the SCADA system's perimeter.
•   Optimisation of a production process - requires that you extract information from the process and then analyse/optimise it (number crunching) with mathematical tools.
•   When repairing electricity grids, information must be distributed about the grid, e.g. which conductors that are live.

The goal of a Cross Domain Solution (CDS) is to allow an isolated critical network to exchange information with others, without introducing the security threat that normally comes from network connectivity, meaning to securely integrate unconnectable networks into the existing infrastructure.

Advenica SecuriCDS Datadiode

Datadiode

· Guaranteed unidirectional dataflow based on a high assurance optical network separation

· Increased network security providing protection of unauthorized access

· Secure connection of "unconnectable" systems/networks (air-gap)

Is used for:

· Isolation of high security networks and systems

· To secure connections of SCADA/ICS networks (critical infrastructure)

· To secure logging - protection of syslog server from unauthorized access

ZoneGuard

· Secure bidirectional information exchange between separated networks

· Enables digitalisation without compromising security

· Enforces organisational IT policy on system integration

Is used for:

· Filtering of information in existing data streams (e.g. ICCP or IEC 60870-6/TASE.2)

· RDP (Remote Desktop Protocol)

· File transfer

· To secure legacy systems

Solution

Filter and Validate the Information

The transmission of sensitive information can be done by using a solution which offers secure and filtered bidirectional communication. Such a solution is SecuriCDS ZoneGuard. ZoneGuard validates the exchange of information that occurs between different networks and security domains and ensures that the organisational information policies are followed at each transfer. The solution thus enables digitalisation without compromising security while being flexible and easy to adjust depending on your organisation's different needs.

Advantages

Security is Guaranteed

By separating communication and transport protocols, all threats at transport level are eliminated before being sent to the filter. The filter can be used at maximum level, which enables a completely secure communication between different systems. Only the information content that is necessary and allowed can pass through. This prevents information that is not approved by existing policies from being passed through the filter. After filtering, the relevant information is repackaged to a suitable protocol (either the same as for incoming transmission or another). This way it is possible for you to securely exchange only approved information between transmitter and receiver.

Read more about ZoneGuard at advenica.com

Advenica ZoneGuard

Advenica provides expertise and world-class high assurance cybersecurity solutions for critical data in motion up to Top Secret classification. We enable countries, authorities and companies to raise information security and digitalise responsibly. Founded in 1993, we are EU approved to the highest level of security. Our unique products are designed, developed and manufactured in Sweden.

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CERTIFIED