

SCADAS PURPOSE

SCADA (Supervisory Control and Data Acquisition) Is a system used within many infrastructures to simplify data in order for humans to grasp. While reading you will learn about SCADA, the risks involved and how the risks are handled.

What is SCADA?

SCADA is a system made up of hardware and software that function to provide information for humans to work with to improve machines. A piece of hardware that is commonly used within SCADA is a Remote Terminal Unit (RTU) RTUS are often used in remote locations due to their ability to endure harsh environments. The main purpose of an RTU is to monitor and control field devices, such as valves, actuators, sensors, and more ("Armenta 2021"). RTUS function real time and work through complicated scenarios providing multiple undetermined outcomes.

RTUS & PLCS

An RTU as stated above is a hardware device that provides data through numerous ways, and is often used in remote areas. A PLC (Program Logic Controller) Is another component of SCADA (also hardware) that's often compared to an RTU, but here's how they differ. A Program Logic Controller's purpose is to control and automate machines then quickly determine one of the many outputs based on the information received.

PLCs are usually

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Utilized inside of controlled areas unlike RTUS since they are not equipped to withstand the conditions that an RTU would.

RISK

With SCADA being composed of hardware and software, risks are involved. Some include unauthorized access, viruses etc... The SCADA system is also vulnerable to attacks unrelated to the internet due to packet access. In numerous cases, there remains less or no security on actual packet control protocol; therefore, any person sending packets to a SCADA device is in a position to control it ("SCADA Systems")

RISK PROTOCOLS

A practice put into place to reduce the risks involved with SCADA systems is the use of specialized VPNS, and firewalls based on TCP and IP. TCP/IP ensures a reliable delivery of packets, and a way for Specific users to transfer information. Another protocol put into place according to ("SCADA Systems") is whitelisting solutions. Whitelisting solutions as stated in the article has had a positive impact due to its ability to prevent unauthorized application changes, so it has become a common practice within SCADA security.

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Upon completion of this text you should have a general idea on what SCADA is, and how its components function. You should also be able to understand the risk involved as well as the protocols practiced to manage them.

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01/25/2024

Work Cited

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