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SCADA Systems

Introduction

In this report will be discussing SCADA systems, vulnerabilities in critical infrastructure, and how SCADA systems can help solve the problem.

What is a SCADA System

A combination of hardware and software components called supervisory control and data acquisition, or SCADA, enables industrial companies to:

- Manage industrial operations remotely or locally
- Track, collect, and handle data in real time
- Use human machine interface software to communicate directly with equipment, including sensors, valves, pumps, motors, and more
- Keep track of events in a log file

For industrial businesses, SCADA systems are essential because they provide efficiency maintenance, data processing for informed decision making, and system issue communicating to save downtime

Vulnerabilities

Some vulnerabilities to critical infrastructure systems include weakness in the security of supervisory control and data acquisition (SCADA) and Industrial control systems and supply chain risks.

What role does SCADA play in mitigating these risks?

Strong access restrictions implemented by SCADA systems ensure that only authorized individuals can interact with vital infrastructure components, minimizing the possibility of unauthorized manipulation and lowering cybersecurity risks. The use of encryption and secure communication protocols in SCADA systems ensures data confidentiality, integrity, and protection against unauthorized access while exchanging information. In order to minimize the impact on critical infrastructure, SCADA's capacity to quickly identify and manage possible cyber threats is further enhanced by continuous monitoring, anomaly detection, and proactive incident response strategies.

Conclusion

Strong access controls put in place by SCADA systems guarantee that only authorized people can communicate with essential infrastructure elements, reducing the risk of illegal manipulation and cybersecurity threats.

Works Cited:

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