

## SCADA Systems

*In this write-up I will talk about the SCADA systems and their vulnerabilities with critical infrastructure systems and the role they play in mitigating these risks. I also will be discussing the 2017 ransomware attack that happened due to a vulnerability in “Legacy Systems.”*

### What are SCADA systems?

SCADA stands for “supervisory control and data acquisition. It refers to ICS, which stands for “industrial control systems.” The ICS is used to control infrastructure, facility-based processes, and industrial processes. There are some systems that are often present in the SCADA systems. For example, you have the Remote Terminal Units that are connected to the sensors of the process, which helps to convert sensor signals to data that is digital. After that, the data is sent to the supervisory stream.

### Vulnerabilities associated with critical infrastructure systems

Based on my research, one of the most important vulnerabilities associated with critical infrastructure systems is legacy systems. These are systems that were designed without security in mind. They can be difficult to patch or update. With it being difficult to patch or update, it’s become an easy target for hackers/ cyber criminals. Businesses must address this if they want to prevent their systems from being messed with. One of the biggest examples of legacy systems vulnerability is the WannaCry ransomware attack of 2017. The WannaCry ransomware affected over 200,000 computers across 150 countries.

## What role do SCADA applications play in mitigating these risks?

SCADA vendors are addressing the risks by developing specialized industrial VPN and firewall solutions for SCADA networks based on TCP/IP. Another role SCADA applications play in these risks is by using whitelisting solutions. The whitelisting solutions have been carried out due to their ability to prevent unauthorized application changes. SCADA systems are also being used to monitor and control physical processes. For example, traffic lights, gas transportation, oil pipelines, etc.

## Conclusion

In conclusion, there are a lot of vulnerabilities associated with critical infrastructure systems. However, the role that SCADA applications play is to help with those vulnerabilities that are associated with critical infrastructure systems.