SCADA Systems

Name: Jeremiah Price

CYSE 200T - 9:30 T/T

Prof. Charlie Kirkpatrick

10/31/2021

Critical infrastructure systems play an enormous role in the world's economy and the lives of humans. Critical infrastructures may include factories, plants, farming technology, and more. With such importance in society, it is a stand out target for cyberhackers to go for. Therefore, these systems require a large cybersecurity team, operations, monitoring, and security at all times of the day. Without it, our critical infrastructure systems would be as good as gone. One of the systems that allows people to continually monitor and control large operations is known as a SCADA system.

SCADA stands for Supervisory Control and Data Acquisition, and that is exactly what it does. It automatically monitors all parts of a system, factory, or operation and reports back to an interface for a human to read, control, and maintain. If something goes wrong, or an anomaly is detected, the SCADA system alarms and it can show exactly which part of the system is failing. Due to this, SCADA systems are not only the most popular, but the most trusted and effective mitigation for these processes.

Although SCADA systems are meant to keep critical infrastructures safe, they may have some security flaws as well. Since the critical infrastructures are such important targets, it would be correct to assume that the systems keeping them safe are targeted as well. There are obvious possibilities of unauthorized access to the SCADA systems causing damage and profit loss. Even worse, if an unauthorized user can access the SCADA system, it is likely that they can get to the main critical infrastructures through it. This would be a direct access point if it is not secured properly. A hacker could possibly shut down the system and modify the infrastructure with no alarms or detection system to stop it. To prevent this, SCADA developers are creating specialized VPNs and whitelisting systems that will stop unauthorized configuration changes.

SCADA Systems are vital to any critical infrastructure. They safeguard all processes and serve as a mitigation tool to lower risks. Without them, chaos may ensue as hackers take down our critical infrastructures one by one.

References

Google. (n.d.). *SCADA systems*. Google Docs. Retrieved October 27, 2021, from https://docs.google.com/document/d/1DvxnWUSLe27H5u8A6yyIS9Qz7BVt_8p2WeNHctGVboY/edit.