

Bryant Watkins

Reflection Paper 6

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Internship Reflection Paper: Sixth 50 Hours

Virginia Dept of State Police

My final 50 hours of this internship entailed more alarm software and hardware troubleshooting as well as the installation of a firewall device. My team conducted an installation of a 48V DC battery string at an RF site. Upon completion of the installation, we encountered an unforeseen alarm that presented me with an opportunity to further enhance my alarm troubleshooting capabilities. We also conducted some restructuring of the Virginia State Police Headquarters master site. During the restructuring, I was provided with the opportunity to install a firewall device and receive an extensive overview of its services for State Police networking functions.

Part of the 48V DC battery plant installation involves the installation of 2 symmetry cables. One cable statistically monitors the output rating of the batteries, while the other cable monitors the temperature of the batteries. Upon completing the installation, we observed an unexpected alarm indicated by a red light on the Unipower Guardian device. To investigate further, I had to connect my laptop to the Guardian with a universal serial bus cable to access the device's software. The device's software is accessed using the Pow Com software application, and upon entry I was able to access the alarm logs. The logs displayed a temperature alarm, so upon close inspection of the temperature symmetry cable it was discovered that it was

improperly installed. There was no true high temperature, and the improperly installed cable was done so by my manager. This provided me with more alarm experience and showed me that no matter how many decades of experience one may have – mistakes can still happen.

The second experience during this time was my opportunity to install and learn about a Fortinet Fortigate 101e firewall device. The firewall device was racked and installed at the State Police headquarters master site. After installation, I was given an extensive overview of its many functions and importance to the Virginia State Police communication capabilities. The Fortinet firewall provides more than just firewall services.

Fortinet Fortigate 101e has the ability to provide routing and switching services for communications. The main function of the device, however, is to provide protection against some of the most well-known threats facing telecommunications. Some of these threats may include – malware, vulnerability exploits, and malicious sites. The protection stems from continuous threat intelligence supplied through FortiGuard Labs security services. All data traffic undergoes intense scrutiny, and the firewall utilizes automated mitigation as well as dynamic analysis to immediately cease attempted attacks.

These provided capabilities are critical to the communications operations of the Virginia State Police. It is important to be able to transmit and receive critical data and communications with fortified security services. Safeguarding against malicious actors is necessary for any business, company, or employer to be successful. Potential exploitation or contamination of network systems for the State Police could prove catastrophic. Much of the data and communications amongst the State Police is confidential information used in a plethora of legal actions statewide, this sensitive information cannot be compromised. Such an event would cause

many judicial and legal ramifications. These factors stress the immense important role played by the Fortinet firewall device.