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ANVIL Systems Group, Inc.

Reflection #3

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Internship Reflection Paper

150 Hours

Working as a network/field engineer for 150 hours has given me knowledge into the process of upgrading existing EOL hardware. Our VMware ESXi host has been EOL (End of Life) for a bit now, and we needed to replace it with something more current in order to pass our upcoming CMMC Level 2 audit. We decided on a ProxMox cluster using some new HPE ProLiant DL325 Gen11 servers as our new hypervisor solution. I am not at all familiar with ProxMox, but through setting this cluster up with my team and pulling a few all-nighters to move everything over, I just might host my own single-server ProxMox instance for my own needs! Maybe not on a ten thousand dollar server, but y'know, just something for me to host some apps on our local network. We also swapped out a lot of old Fortinet hardware with shiny new Cisco hardware, and spent some time exploring old configurations and applying those VLANs and controls to our new stuff. It was a frustrating, but fun experience to kind of re-build our entire local infrastructure from the ground up.

The value of having a targeted, in-depth knowledge base is the most

important thing I've learned. Since our company mainly uses Cisco and Juniper branded networking hardware, inside and out knowledge of JunOS (Juniper's operating system) and FXOS (Cisco's Next-Generation Firewall operating system) are critical. I spent a lot of time during these past 50-60 hours just reading documentation and studying up for my CCNA and Juniper certifications. I also had to read up on how ProxMox worked, specifically its clustering function, in order to work with my team on that. Having even that baseline level of prep for all this recap work made setup and troubleshooting go so much easier, and I genuinely can't wait until I've had proper experience using and troubleshooting issues with this tech. I've really only had past experience with Fortinet appliances, Vmware, and Nutanix so expanding my repertoire of hardware and software solutions while also honing my skills through working with them only serves to allow me to do my job better.

In addition to work... I still kept up with the 4 other courses I'm doing this semester, with my ePortfolio condensed course usurping my software engineering course for taking up the bulk of my time. It's just writing and research, but man the workload is intense. My software engineering course is still tough to keep up with, but the amount of hours coding pales in comparison to the weekly work of that class. My boyfriend and I also move into our new place tomorrow! It'll be my first time doing an actual, full move, so going through almost 25 years of stuff that I've accumulated in my parents house is a rather time-consuming experience. Despite the days of sifting through all my junk, I'm excited to properly begin my life with him!

Overall, the 150 hours have been chock full of valuable experience. I went from feeling initially overwhelmed by replacing so much of our network infrastructure to being excited at the prospect of exploring these technologies further! It also underscored the importance of building a deep, targeted knowledge base for your company. The hours spent

studying JunOS, ProxMox, and FXOS, although being a little bit of a slog, were directly applicable to troubleshooting and meaningfully contributing to the team. Expanding beyond my previous experience with Fortinet, Vmware, and Nutanix has broadened my skillset and reinforced the value of agility/adaptability in cybersecurity.