Evolution 1

Assessing Networking and Cybersecurity

By: Trevor Hofmann

What do you know?

My competencies, skills, and knowledge in terms of Networking and Cybersecurity are the highest of the four curriculum areas. This is due to two things, my work experience and the classes I took during my graduate program. Of the two, Networking and Cybersecurity, I am more proficient in Networking.

I have been working full time in IT for right at 7 years now, since 2017 when I graduated with my bachelors in Business Administration Computer Information Systems for West Texas A&M. Before my career, while in college, I had internships and a part-time job running miles network cabling. I've always been interested in computers and technology, so it was an easy pick when coming out of high school. My undergraduate seemed to have a more general degree with a strong emphasis on system development, like coding and web design, and overall business processes. I say that to explain that it was not a high source of Networking and Cybersecurity.

On the other hand, through my career, I've had many chances to grow my competencies, skills, and knowledge in Networking and Cybersecurity. My first real jobs were for Managed IT Service Providers (MSP). They do not restrict what you can learn, so if there was ever a service request that came in and you had the time to learn what is wrong then you should probably do it. I've always had the rule in my career if it scares or intimidates me then I need to do it, and an MSP is a great place to do this. I then spent time as a System Administrator for Happy State Bank in Amarillo Texas. I now work for an MSP here in Amarillo called Runbiz Solutions, as a Technical Alignment Engineer.

Over my career, I've been able to develop these competencies, skills, and knowledge by being able to actually work on and troubleshooting networking/security equipment. I've been able to work on large enterprise environments to the smallest of environments. I've been able to work on level 2/3 switches, wireless access points, firewalls, DHCP servers, DNS servers to varying degrees, spanning tree protocol, vLAN, and VPNs.

I've always had Cyber Security in the back of my mind. I've never been specifically dedicated to it, but every environment I touch security influences my decisions. Some examples of this included having multiple backups formats and an offsite backup, installing firewalls with licensed security settings, setting strict passwords policies, and implementing MFA, or setting up DKIM and DMARC for email. Security is constantly on my mind but since I've never dedicated myself to it specifically it is weaker

than Networking. I have obtained the Texas CIJS certification, but it is very low level and just goes over high-level idea/concepts.

When it comes to school-related experience I have completed CIDM-6340-70 (Network Management & Information Security) with Dr. Jennex. I am in the process of taking CIDM-6356-70 (Digital Forensics) with Dr. Humpherys. I can't really speak to what I've gained out of the second course since it is in progress. For the first course we focused on making four reports Nmap scans, Ransomware, Shields Up and Nessus, and Wireshake.

Where are you are weak?

The competencies, skills, and knowledge where I feel less confident and proficient would probably be on Cyber Security as I previously stated. It just something I've never focused directly on. There are several concepts I've learned that I've never been able to apply. An example of this is something like scanning with Wireshark. Before my class with Dr. Jennex I had never used it to scan a network for threats. I knew what it was, what it did, and how it even worked. I had just never applied some of the concepts.

For networking, I would say there are some higher-level concepts I've not dealt with or troubleshot but the concepts are there. Some examples of this would be dealing with a network broadcast storm or setting up a BGP. I understand the underlying concepts, but I've just not worked with them specifically.

The Future?

There are things I do not know about when it comes to Cyber Security and Networking. Not to mention the rate that things are changing. Of the four curriculum areas Cyber Security and Networking I have the deepest knowledge about. For the future after I am through, I want to obtain some certifications that mostly affirm what I know but potentially add to it. I also regularly attend webinars about the changes in the industries so I can keep up with where things are heading. I also plan to attend conferences for similar reasons.

The role I have currently has at my employer has me thinking about Cyber Security and Regulations more than ever. So, I will be pursuing more knowledge in this area. This is an area I'm always open to recommendations on. I do it know by essentially researching regulations and best practices for cyber security.