

CYSE 368
Cybersecurity Internship - Fall 2022
Reflection Paper 3
October 29 through December 6, 2022

This was a challenging period of time due to my academic load this semester. This period of time included final projects in three courses, which was balanced between attempting a learning project and working on other coursework in between processing tickets.

During this time period, I learned from a coworker how to handle a task that had previously seemed "above my paygrade." Periodically, we would see tickets requesting that such-and-such server be decommissioned. I wasn't sure what all that entailed initially - do I have to spin down some VM? Are there credentials? What effects will this have on downstream devices? - but I learned that these tickets are typically automatically generated after the Server Team handles the actual decommissioning of a given server on the network. Our job is simply to release the DHCP record associated with that server.

I also spent some time learning about Rapid Per-Vlan Spanning Tree (PVST) implementation, which was learning objective 4 from the Memorandum of Agreement. I found a couple resources online that helped explain: one from Cisco and the other from a walkthrough of somewhat dubious credibility.

From what I can understand, Rapid PVST is a way to route packets through switches using something akin to Dijkstra's algorithm. For a given tree of switches, or nodes, there is a designated root node, and subsequent path costs to the root node are implemented within each node along a given path. These costs can be updated to account for combinations of different factors. This information comes from the Cisco documentation.

The other resource I found was how to implement Rapid PVST in Cisco's Packet Tracer program. I managed to reproduce the results in this document, but I wasn't sure whether I achieved the desired implementation. I've had some experience with Packet Tracer, but not enough to know for certain.

Overall, my impression of this job is that it is a desirable one. There is a niche body of knowledge that attracts a certain type of nerd (which I obviously consider myself), and I don't envision a future of humanity that doesn't require network technicians. Ever the terminal jockey, I have become somewhat comfortable with Cisco IOS, the proprietary command-line interface on Cisco switches and routers.

I've frequently found myself amazed at the scale of things in this job, both in terms of how large the operation is here at ODU, and the amount of knowledge someone would need to possess about this field to be considered an expert. I will attempt to get the Cisco Certified Network Associate certification in the future, which I believe could only deepen my understanding of IT infrastructure and, most importantly, expand the possibilities for employment.