

Old Dominion University

Internship Final Paper

Division Of Digital Learning - Integrated Solutions and Support

Network Operation Center Technician

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Introduction

Starting this reflection I will talk about the onboarding and beginning of my internship with Old Dominion University. During the summer I was approached by a roommate stating that The university was hiring for various jobs on campus that were tailored to majors. During this time I really wasn't looking for a job or anything and just wanted to focus on my studies while at Old Dominion. My mother caught a glimpse of this conversation and briefly talked about it with my dad while I was still considering applying for the job. While I was thinking about the position my parents called me downstairs to chat about the position I was talking about. They spoke on why I should just apply to see how far I could go if I landed an interview. They had fully convinced me to apply for the position. Shortly after the conversation I drafted up my application and had my parents look over it to be sure everything was correct. After their review of my application I sent it in hoping for the best. A few hours later I was sent an email requesting a time for an interview with me.

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As the time came to interview I was briefed by my parents on how to ace the questions that were going to be asked. Soon after that it was time for my interview. I was interviewed by my future supervisor and former manager. They took notice of my major being cybersecurity and explained how that would make a great fit within their system. They asked me many technical questions to prove that I was the right fit for the job. Many questions about how to troubleshoot computers and asking if I would be able to offer proper customer service. They gave me a series of situation based questions in order to prove that I was able to be a great face to the many clients that they service. Right after these questions I was told goodbye and to await further updates from their team.

An hour later I received calls from the department asking for another interview from me for the following day. During this interview I was told that I was the right candidate for the position. I was immediately offered the position and I accepted it during the interview. It was my first ever paid position that I had ever landed. I was told that I passed their questions with flying colors. I was told that I was able to start on the first day of the next pay period. Soon after the second meeting with the team concluded and I celebrated with my family.

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The first day of my position I sat down with my Supervisor and Vice President of the department. They had me fill out forms that describe my goals in order to progress in my career so that I would have valuable experience once I graduated from the University. I came up with five major goals that I would like to accomplish during my time with the department. During this session I had marked down that I would like to gain experience in customer service. I wanted help with this in order to learn how to properly interact with clients and knowing when to escalate problems to higher ups. My second goal was to learn how to properly use and configure virtual machines for productivity. Almost all organizations that are online based have virtual machines in order to run their services for customers and clients. The market now essentially requires you to have experience with virtual machines because of how essential they are to the infrastructure. Learning proper network skills was my third goal. Gaining the role of network technician made this goal a basic necessity of the job. My main goal after college is to become a network security engineer which made this goal perfect. My fourth goal was to gain knowledge on the many certifications that the industry has to offer. In the state of Virginia we have many jobs from the government that require these credentials. These prove that you are fit for certain positions that require technical expertise. My fifth goal was to learn about compliance and security protocols. Being that my major is cybersecurity I wanted to gain experience on how regulations

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and rules are made in order to keep up with compliance. Risk management is a great emphasis within the world of cybersecurity and compliance keeps everything in order.

Description of The Department

During my time at this internship I was given the role of Network Operations Center Technician at the Division of Digital Learning - Integrated Solutions and Support Group at Old Dominion University. This department mainly specialized the support of in person and remote class sessions supported under the Division of Digital Learning. Hundreds of classes and thousands of students are given technical assistance daily from this organization. The department also specializes in developing proper education centers for active duty personnel on various military bases in the state of Virginia. We offered the option of staying at home to watch classes or coming in to be in person with the professor and other peers.

We also supported many video production teams across campus that mainly create education videos for classes and advertisements for the school. . We were responsible for ordering new technology and giving solutions and recommendations on what equipment is needed for the job. This included giving new employees the correct

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technology for their tasks and knowing how and when to upgrade current employees to give them the best experience while working in the department. We also did technology for the entire Gornito hall building. We had to do support within the classrooms that were in the building. Testing microphones, cameras, and other major equipment was a regular occurrence. The classrooms were ours to test new technology in to give the students a better experience whether in person or working from home. Gornito hall is used as a failsafe if the main datacenter in the Engineering and Computational Sciences Building were to go down. We also had many classrooms within the campus that we supported that held all of our in person classes. Regular testing and upgrades were on our regular schedule when it came to those classes.

Many of our products came from the company Cisco. Our department has a great relationship with the organization and utilizes their products daily. We invested in their servers for our virtual machines that host many of our services for students. Some of these services include making lecture archives for students to watch back their classes if they missed some information. They provide our video conferencing equipment that we use for our lecture halls and class rooms. They are able to broadcast through Cisco Webex and Zoom for our students to view from home. This is all brought together through the Cisco Control Hub. Every single piece of technology that sends live video can be accessed through this product making everything easier to manage.

Management Overview

During my time at the Division of Digital Learning I witnessed a lot of change in the management roles. When I first started we were originally part of main campus handling online versions of classes that would be streamed from our building and satellite classrooms. We were grouped under the vice president of the academic affairs group. During this time our team was managed by an associate vice president, director and manager. The associate vice president mainly reported to the vice president of our former division about our progress, growth and changes that went on during his tenure. The director was in charge of our engineering team and technical support team that I was part of. The manager supervised the technical support group and made sure that projects were done properly while service requests had decent turn around time.

After working at the division for a while we experienced a lot of change in our management. We had started to expand into our own product of the school. We gained the title of the Division of Digital Learning. We had then left the Division of Academic

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Affairs and started our own journey into becoming our own division. Becoming our own division gave us a new manager position in our group. We gained a vice president position within the school's leadership staff. She had direct access to the president of the university which gave us more of a voice to push new ideas and knowledge across the schools higher ups. With this came the transferring of our associate vice president into the information technology services group. Our director had been given more power with project management and our managers were able to have their own projects as well.

We were also given a new associate vice president of administration. This position oversaw the entire technical support, fiscal and student engagement teams within the division. This position reported directly to our newly appointed vice president of digital learning. With this big shift in power came a more personal experience of talking to higher ups within the school. Our vice president made it her challenge to get as personal with the employees to the best of her ability. This included talks and group meetings with her, company retreats on campus and meals paid for by the school. The leadership had taken a great leap of progress as everyone had given the new leadership its praise. Since this change we have received many grants in order to pursue new endeavors that have proven to benefit our students' way of learning.

Duties and Tasks

As a network operations center technician I am tasked with monitoring the network as well as taking care and troubleshooting of the systems that are connected to the network. In our datacenter we host all of the servers that run out Cisco Telepresence devices around campus. These are the devices that allow us to properly stream class sessions on to either Zoom or Cisco Webex. Monitoring these devices can be quite easy as they're all accessible from a control panel on the internet. Being able to hop into class sessions to monitor video and audio problems are simple with the implementation of this technology. I am the main point of contact when it comes to in person troubleshooting in classrooms. Our main problems that occur during these class sessions would be that a professor may not know how to use a certain feature of the interface which could cause a class to stop its progress. I arrive to the class and give a brief explanation to the professor on how to use the certain feature in a timely manner and travel back to the office.

I am responsible for making sure that video archives of class sessions make it to their canvas pages and archive pages. I am given a list of which videos have and haven't made it to their respective pages. The Kaltura Management Console holds all of these videos. Finding some of these videos can be quite tedious at times. Most of the time the

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process that uploads the videos may get stuck causing an error in the categorization of the video which causes it not to be uploaded to the page. When this occurs you have to manually dig through hundreds of videos trying to find the correct one. Once it is found you must give it the correct categories and check if it has properly uploaded.

Maintaining an inventory and being responsible for issuing products to employees is another task that I am given. I have access to all of our machines that we give out to new and current employees within the division. Many of these devices have been shipped across the country or just given to people locally within Norfolk. No matter how close or far they are we are tasked with keeping a proper inventory. This helps with device accountability and knowing who and where the device was last with.

Application of Cybersecurity Skills

The role of being a technician comes with some security knowledge that is needed. Knowing how to properly install new systems on the network while maintaining proper security protocol within the school is necessary. Being the backup datacenter for the school means that we can't have any loose ends within our network. Firewall and other security measures are monitored by our network engineers and director to ensure that we are running a safe online environment. User control and

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monitoring are used by us as well in order to regulate who is able to do certain procedures and to be able to see what could be accessed by certain individuals.

Adhering to certain frameworks that the school follows are necessary in order to not raise any red flags with the schools security team. Having meetings with them as well to make sure that certain products can be used on the network is also a necessary process to go through. Without proper permission from this team, projects can be shut down without warning as they can be deemed security risks on the schools network infrastructure.

Utilizing Old Dominion Curriculum

While in my studies at Old Dominion I have taken many classes that relate to this job. Basic information technology classes gave me the confidence to know how to properly set up basic networks within a testing workshop. Some of my more advanced networking classes gave me insight on how to properly configure servers and use virtual machines. As we get more into the future I can see that Old Dominion's emphasis on pushing the knowledge of virtual machines makes total sense. Virtual machines using VMware have run our entire network since I started. Almost every month we are setting

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up new ones in order to make processes easier. It also makes inventory easier as we do not have to keep up with physical machines as much as the past.

Outcome of Goals

Looking back on my time at the company I achieved many of my goals that I made when I first started working there. The first goal that was achieved was to learn proper customer service skills for my job. This was easily attained as our department is the first line of defense when it comes to troubleshooting issues around campus. Setting up and using virtual machines was the second goal that I had. Being at Old Dominion University I was given knowledge about these products and how to properly use them. Gaining actual experience with them in a job setting made me more confident with my studies from school. Learning proper networking skills was the third goal that I had in mind. During my time at the organization I was in charge of monitoring the network that supported our live conference system for our classroom sessions. I learned how to properly set things up in networking and how to configure products safely. My fourth goal was to gain knowledge on certification paths for when I leave college. My supervisors and peers gave me great insight on how to properly plan my studies for my career. My fifth and final goal was to learn about compliance and protocol when it comes to networking. Working alongside my peers we had to contact

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our security team many times to get new processes over the network approved. This helped me gain knowledge on proper safety and compliance to help keep the schools network safe from attacks and unauthorized usage.

Motivation During Work

Motivation was rarely needed during my time at this division. Everyday was filled with new challenges waiting to be conquered. The space of networking is vast, making the creation of new subjects almost daily. Solving hard problems on a daily basis has given me the drive to want to learn and troubleshoot more items within our system everyday. Building new systems and testing them to see if they properly worked was also a great motivator because it showed that I was learning.

Having great leadership also helped greatly. I was never bored at this job as they always gave me challenging tasks to complete. They passed down great knowledge on becoming a professional within this area of work which always made me determined to be the best employee possible. The program also has a great track record of producing great candidates for future jobs which has made me excited for what the future of my career holds for me.

Challenges Working in the Department

One of the main challenges of working in this department would have to be explaining technology to people that may have a hard time grasping the concept. Many of our staff aren't as young as students which creates a disconnect between them and new age technology. This is quickly fixed with being properly trained in customer service. Being able to explain a concept to a person that may not understand the topic can take an extended amount of time. This is where the patience of a customer service professional comes in. Not only does this help get this job done, but it lessens the pressure on the client that isn't understanding the technology. Having proper instructions that can be read along with the client can also help in this challenge.

Recommendations Working In the Department

My biggest takeaway from this experience would have to be that having a great relationship with your supervisors can open many doors for you in your future. They can become great mentors and offer you great training for subjects that aren't related to your job titles. They can also offer great references to new jobs that can help you advance in your future. Another recommendation I can make for this department is to get to know everyone that works in the division as a whole. Working in the technical

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department you are the face of technology problems. Become a great peer to your coworkers and let them know that they can come to you for anything rather than let their problem affect their work. The last recommendation would be to enjoy your time with the benefits that come with the job. Tuition payments and education compensation can truly benefit your future if you are wanting to gain more knowledge without it coming out of your pocket.

Conclusion

In the end I can honestly say that this experience has been nothing but positive for me career wise. I have been given the opportunity to showcase my university learning and given the experience to gain another role at another company. I achieved all of my goals that I had established when I had first started working in the department. The relationships that I had made along the way have been beneficial as well. I have gained knowledge about the professional industry as well which has made me very confident for my future.