Tiano, Kiana Crizel R. BSIT 3A

CIT 218 – Systems Administration and Maintenance

On the course of watching and listening to the video “What Does a System Administrator Do?” by Google IT Support, my knowledge about the servers and the IT infrastructure are refreshed, also, I get to understand in a deeper knowledge as to what the purpose of System administration and Sysadmins are to an organization.

As what I have learned, System Administration refers to the IT people, knows as Sysadmins, that manages maintenance of reliable computer systems for multi-user workplace. For companies to keep operating, computers with internet access are necessary so that they can connect to their clients, these needed requirements are called the IT Infrastructure which includes the software, hardware, network, and services needed by an organization to operate. Maintaining and ensuring the functionalities and reliability of an organization’s IT infrastructure is the duty of the Sysadmins. They are also responsible for their company’s IT services such as Email, File storage, running a website, and many others. These services are stored on Servers in which Sysadmins are tasked to maintain. These servers are software or machines that provide services to other software or machines. These services are used by Clients. Data centers is where the cloud, and servers are stored, and several organizations store their information to these data centers. Managing these servers include the careful considerations for policies, information security, data protection, and to have a strict description of who should have access to any information. There are services needed to be managed in the IT infrastructure, including network access, secure connection to websites and other computers. These services are not just limited for just the setup process, they should be updated routinely, patched for security holes, and compatible with the computer of the organization hence, the role of Sysadmin goes.

Videos about the Data Center of Google and Amazon were also shown to us, in which we were able to see how things work inside those data centers, what sysadmins and techs are working for, how big they are, what can be seen, what devices are present, their security measures, what they do, and how they create an infrastructure and environment that can cope with their services, their equipment, and their clients’ demands.

Data centers for big organizations such as Google and Amazon are plenty in number, as they describe one of their data centers as just a single node in a larger network of data centers all over the world. They are equipped with layers of high-level of security. In Google, they use pre-authorized access list, biometric iris scanner, security cameras, and technologies such as underfloor intrusion detection via laser beams as their highest security option, while in Amazon they have high fences around the vicinity, guards, two-factor authorization, and several layers of intrusion detection systems, and cameras. Google and Amazon are also very particular when it comes to their setups or their IT infrastructure, they design how things and machines are arranged to facilitate their most efficient functionality. Custom-built designed server racks were also used by Google to optimize hyper-efficiency and high-performance computing. They are also specific when it comes to the quality and performance of their drives, thus, if faulty, they are replaced, upgraded, and even crushed. Their cooling technologies are also customized, server racks are butt up against air-conditioning unit using copper coils that allow cool water to flow and regulate the temperature. Amazon’s IT infrastructure layer is also prioritized, they have backup power, fire suppression and most importantly HVAC or air conditioning. Water, power, telecommunications, and internet links are designed with full redundancy in AWS. They use standard-sized racks to hold their servers, and they even have their own private undersea cables. Like Google, Amazon also prioritizes their cooling technologies. Moreover, Amazon did their initiative in developing their own power substations to facilitate faster and a more consistent working performance.

In a nutshell, Sysadmins play a vital role in managing the background process of an organization. They maintain servers that holds services, thus the IT infrastructure. Without the IT infrastructure, no work would be done by the employees and the company will face a stutter, or worse, will fail, which is why System administrators are essential to maintain the company’s IT infrastructure. Moreover, Sysadmins are a big asset and with utter importance not just to the IT industry, but also, to other industries, organizations, and companies in various fields.