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Research Journals on Cloud Computing

1. 12/3/18

Research Results and Findings:

Cloud storage takes place in data centers, and within data centers are many computers which host servers. Virtualization is the process of running multiple OSs, such as Windows, MacOS, and Linux on one computer, basically tricking a computer into operating multiple computers on one piece of hardware. Usually, hundreds of different points are accessed to use the cloud for one application, as it is common for large companies to use many data centers ("Storing Your Data in the Cloud: Your Safety, Security, and Privacy Explained"). This information may be used in my presentation at the start for a general overview. I may present this with diagrams and will explain this through example, emphasizing that virtualization is like running multiple Windows OS at once on one computer.

Thoughts on my Progress:

I believe that I am doing good so far in my research. I feel that I found a good and detailed source to start off with to get myself a better understanding of my topic. However, when researching, whenever I find new information, I come up with new questions based on what I do not understand. I will make sure to try to find answers to questions I have on this topic as well as make sure that I have no confusion on my topic. For instance, I am currently confused on the

connection of virtualization to cloud computing. I understand what each is, but I am unable to currently understand how virtualization is used in cloud computing. I hope to find a source on this to research soon after this source.

2. 12/4/18

Research Results and Findings:

The data centers that hosts the cloud have security. Workers at each data center secure data and put backup information in other data centers through encryption. When using cloud storage it is important to note that cloud storage companies can see private information shared even if not posted or meant to be public. For this reason, sensitive information should not be stored or backed up on the cloud ("Storing Your Data in the Cloud: Your Safety, Security, and Privacy Explained"). This information can be used to discuss the security flaws of cloud computing and cybersecurity. I plan on having a simple explanation as to why the cloud is not completely secure, and I may be able to explain it with diagrams.

Thoughts on my Progress:

I think that I am doing well so far in researching and that based on the information so far, I will be able to make a simple yet detailed presentation. I want to make sure that I am not just giving a large amount of information, and that I am explaining the actual concept in a good way. I will do this by first focusing on the actual overview of cloud computing because this can be a confusing topic if not explained right, and then I may go into more depth. I have to keep in mind that no one will understand the rest of the presentation if they do not understand what the cloud is. I will do more research on more specific things on cloud computing to add onto this broad information.

3. 12/5/18

Research Results and Findings:

Cloud computing companies offer for ways to keep data safe through encryption; however, once the consumer gets that encrypted data, it is their responsibility to keep it safe. Although applications which use the cloud, such as Google Drive offer a secure way to keep data, if the actual account is not secured which holds this data, it is the responsibility of the app user. This makes it important for strong passwords to be used when using the cloud. If a lot of information is stored onto an application that is connected to the cloud, people can access the account, allowing them to access the information ("Storing Your Data in the Cloud: Your Safety, Security, and Privacy Explained"). I can use this information to discuss why there is responsibility for securing data from both the company and the user. A company could provide great security, but if a user makes it easy to access their account, their information is no longer secure.

Thoughts on my Progress:

From this source, I have a lot of good general information to allow my audience to understand the topic, and I also have a lot of specific information for when I get more in depth. So far, I believe that I will start with an overview of the topic, and then I will speak about the types of cloud computing which I still need to do research on, and then I can discuss the security of the cloud. I may also focus on different specific topics, but I have to make sure that I do not get too in depth or try to fit too much information in. I may decide to fit the actual technology and how it works in a bit of depth, but I must research it first, and I would make sure to only give a general overview of it. In my first research project, Artificial Intelligence, I originally planned

to have a large portion of my presentation on artificial neural networks, and then when I had a lot of other research, I had to cut it to about thirty seconds, so I had to give a general overview of a complex topic. I will make sure for this project that I do not get that much in depth so that it is understandable for someone who has no background knowledge on the topic.

4. 12/6/18

Research Results and Findings:

Hosting servers through a cloud computing company is advantageous because the server can be set up very quickly. Normally, hardware must be set up which is time consuming while ordering from a cloud provider can take just minutes. Additionally, cloud computing companies pool their resources for those using it. For example, companies that are accessing the cloud from the provider use the resources that they need, and once they are done using those resources, it is available for others using that cloud provider (Metz). This research can be used in my presentation to discuss why companies use cloud computing and the benefits of it.

Thoughts on my progress:

I feel that this source will help my research. So far, I have a general overview on cloud computing and some information on security, but this will allow me to discuss some of the positives. I am in a good spot for my research because I have a lot of different information, and I can do more research on some topics in order to make my presentation better. I may want to find some negatives besides security issues for cloud computing to get both sides of the argument. However, I may not focus too much on the argument and more on understanding the general idea of cloud computing, helping the audience understand with examples because this is a short presentation.

5. 12/7/18

Research Results and Findings:

When a company chooses to host servers through their own hardware, as time goes on, they must upgrade their technology. However, if a company uses a cloud provider, the cloud provider will upgrade their hardware and always have the needed resources for its users, making it cost effective to use cloud providing services. It is also advantageous for a company to use cloud services because they are charged based on the amount of resources they use rather than having to scale up or down their data center whenever they do not have enough or have too much traffic, which can be very pricey (Metz). I can use this information in my presentation to continue showing advantages to cloud computing for large companies. However, cloud computing is used at different levels besides the company level such as the consumer level, so I also must research and present those advantages.

Thoughts on my Progress:

I will be able to use this information to present the advantages for companies to use cloud computing. In addition to advantages for companies, I may want to discuss why a company may want to rely on their own data centers and hardware. I will need to do more research on why some companies use their own sometimes despite the advantages of cloud computing, but I believe that it is common for larger companies to not use cloud services. They may be able to afford to scale up and down when needed and may see security threats in using cloud services. However, I still need to research to fully understand why companies do this, and I am interested to see if my prediction is correct.

6. 12/8/18

Research Results and Findings:

One type of cloud computing is where a company provides an application for consumers using the cloud, different from where a company hosts servers using cloud providers. This is advantageous over using downloaded software because it can be accessed anywhere by any device. For example, Microsoft word must be downloaded on every individual device, but Google Docs can be accessed from the internet and the documents can be saved by account rather than by which system it is downloaded under (Metz). I can use this information to present how not only companies use cloud computing services, but consumers use them too. In addition, I will be able to connect commonly used applications, such as Google Docs to cloud computing.

Thoughts on my Progress:

My research previously was mostly just on cloud computing used by companies, but now I am starting to include research that includes the consumer level. I will need to do more research on the different types of cloud computing. In my presentation, I plan to start off by showing how cloud computing is used in everyday applications, and then I plan to transition into its used by companies. After, I plan to briefly discuss the more uncommon use, where people make applications using cloud services. I still need to research all of these, especially the type where applications can be made using cloud services as I have not made any research logs that include research on this yet.

7. 12/9/18

Research Results and Findings:

There are three service models that use the cloud which are SaaS, PaaS, and IaaS. SaaS stands for software as a service, and it means that the cloud is being used by consumers to use

applications. This type was discussed in the previous research log, with Google Docs being an example. PaaS is platform as a service, and it is used for the making of applications using cloud services. An example is Google App Engine which gives the person using it tools to make and host an application using Java and Python. IaaS, or Infrastructure as a Service is used by companies to host servers without needing their own data center. They can simply pay for the amount of resources they used from their data centers, and in using cloud services, they do not need to pay for wires, cooling systems, hardware, and space needed to run a data center. An example is Amazon Web Services, which allows companies to run their servers for websites from the hardware in Amazon data centers (Metz). I can use this information to give an overview of the types of cloud computing, and I can use the examples in order to better explain this.

Thoughts on my Progress:

This research gives me useful information on the types of cloud computing. This is useful because I will be able to explain the three types in my overview of cloud computing. My progress is good so far because I have most of the information that I need, and I mostly just need more specific information that I can include after the overview. When presenting this, I plan to use a picture when comparing the types, using a pyramid because the types can be seen as going from a smaller to larger level or going from the application user to application developers to network architects. The examples that this article also provided will be useful in explaining this. I may need to do more research on the types of cloud computing if I decide to get more specific.

8. 12/10/18

Research Results and Findings:

The four deployment models for cloud computing are public clouds, community clouds, private clouds, and hybrid clouds. Public clouds are clouds meant for public use, where users can simply sign up and start using the cloud service. Amazon Web Services would be an example. A community cloud is a cloud made between a group, such as if a number of schools decided to make their own cloud just for that group of schools. A private cloud is a cloud that can only be accessed by one company. A private cloud may be owned by the company that uses it, or it may be owned by a cloud providing company, allowing a separate company to use the resources of a whole or multiple data centers. Hybrid clouds combine multiple other deployment models. For instance, if a company uses a private cloud and does not have enough resources, they may decide to use a public cloud for any extra resources they need. This specific example is called cloud bursting (Metz). I can use this research to compare the different types of deployment models. I will likely present this after I present the three types of cloud computing, as these deployment models are for just for IaaS. I can use examples and scenarios to explain each deployment model.

Thoughts on my Progress:

My research is doing great so far. I have a good amount of information that can be explained in a simple way and still be covered more in depth, and I understand most of the research. However, I am a bit confused on whether owned data centers and hardware would be considered a private cloud. Private clouds can refer to a data center owned by a company for their own use, so I am wondering if that is the same thing as a company owning their own hardware. Companies usually decide to either use a cloud or their own hardware, so I do not think a private cloud would be the same in some situations, so I hope to find a good source to clarify this for me.

9. 12/11/18

Research Results and Findings

Cloud computing simply means accessing data and using programs from the internet rather than from the computer's hardware. Some devices, such as Chromebooks rely mostly on the cloud rather than its hardware. The hardware is just powerful enough to run the operating system, Chrome OS, and almost everything done with this device is online. The downside to devices with Chrome OS is that they can do almost nothing without WiFi. A problem with large companies hosting the cloud for many other companies is that if the provider company crashes, so will all of the services that use it. For example, Netflix and Pinterest both use Amazon cloud hosting and one summer, Amazon's cloud crashed, crashing the services of Netflix and Pinterest along with other smaller companies (Griffith). This research can be used in my presentation to first help create a good definition of cloud computing, and then I can use it to discuss some of the issues and negatives of cloud computing. I could even discuss Chrome OS as a positive and a negative because it is cheaper to purchase without all of the hardware, but it can do almost nothing without internet.

Thoughts on my Progress:

The progress for my research is good so far. I have plenty of information, and by the time I finish my research, I will be deciding what information to use in my presentation. Some things I must keep, such as a good definition, the types of cloud computing, and the deployment models since all of these are important to the topic, but some things such as the Chrome OS example could be left out if I have too much information to include. Once I am done researching, I plan on creating my presentation as very simple at first, mainly focusing on understanding the most

important topics, and then I may get more specific. With this topic, I will be able to give many modern examples of things in order to get my audience to understand the topic. For instance, I feel that it would be difficult for someone to understand SaaS without knowing that Google Drive is an example.

10. 12/12/18

Research Results and Findings:

Virtualization allows cloud computing to be cost effective. Using virtualization, hardware can run multiple virtual machines. Although cloud computing can be done without virtualization, it is much more expensive. Having multiple virtual machines allows the physical resources to be shared between different companies with the same cloud provider. One downside to virtualization is that if a virtual machine is attacked, the attacker can attack other virtual machines on the same physical hardware (Lukan). This information can be used to connect virtualization to cloud computing. It can also be used to discuss the benefits and negatives of using virtualization while using cloud computing.

Thoughts on my Progress:

This information is interesting and will help me research. I have a lot of good explanations to many topics within cloud computing, and this source gave me information on virtualization, something that was slightly touched on by a previous article but I was unable to see how it connected to cloud computing. Through this article, I have a better understanding of the connection. However, I feel that I might research a bit more on the flaws of virtualization. Although this article gave a lot of insightful information on the flaws, I found it difficult to understand some of the information because it connected a lot of complex topics that are

connected to virtualization, something that I do not plan to spend a lot of time on for my presentation on cloud computing. I will likely only have a small portion of my presentation on virtualization because it gets very complex after a general overview for a five minute presentation.

11. 12/13/18

Research Results and Findings:

The Virtual Machine Monitor is used in cloud computing to separate hardware from virtual machines. Virtual hardware does not run as well as physical hardware, but it only needs to run the OS and some applications, so it usually still runs fine. A hypervisor is the software that runs the virtual machines. Type 1 hypervisors are hypervisors that do not need an operating system to run virtual machines and run them directly from the hardware. Type 2 is where an operating system is needed to run the hypervisor. Type 1 is more commonly used ("Virtualization in Cloud Computing: Types and Techniques"). I can use this information to explain virtualization and virtual machines in a more simplified way. Virtualization is very important to this topic, and at the same time, I need to make sure that I do not spend too much time on it, so I will present this through diagrams, briefly explaining how virtualization and virtual machines work.

Thoughts on my Progress:

This information on virtualization will be useful for my research. The previous article connected cloud computing to virtualization, and this article gave information as to how virtualization works. Although I have a good amount of research on virtualization, I will not spend a large amount of time on it for my presentation because it is only one of the important

parts of cloud computing. For my future research logs, I plan to either do more research on the actual technology of cloud computing, or I may even get more research on PaaS since that is the type of cloud computing that I have the least research on. It will likely depend on how detailed the technology is or if I cannot find a lot of information on PaaS since it is the least used type of cloud computing.

12. 12/14/18

Research Results and Findings:

It is becoming more common for businesses to start using public clouds. It is predicted that the use of traditional data centers will lessen and that the use of both public and private clouds will increase. Public clouds can be very beneficial for some companies because the concept of paying what is used in resources is cost effective. However, for a company that already has a data center, moving to the cloud is a bad decision in the short term. This is because the company still has usable resources that would go to waste; a solution could be using a hybrid cloud in that a public cloud is used for anything that the data center does not have the resources for (Meyer). This information can be used in my presentation by discussing why some companies may not want to use the cloud. This source gave statistics that could be presented, possibly with diagrams, and I could have a part of my presentation for which companies should and should not use the cloud.

Thoughts on my Progress:

This information is very useful for my research. Whenever I read about the cloud, I was almost always hearing about mostly positives based on things such as how easy it is to scale up and down with it, and I was always wondering why a company would not use the cloud. This

article cleared a lot of confusion of mine so far, as this is a scenario that I never thought of. If a company had a large data center before the cloud, it would be useless to just stop using it for cloud services. I believe that the article still has more reasons as to why some companies will not switch, so I plan on doing more research logs for this article. I may also do research on the pros and cons of the cloud later on.

13. 12/15/18

Research Results and Findings:

Some companies will not use cloud services due to a lack of security. However, security is actually usually higher in cloud providing services than in traditional data centers. This misunderstanding leads to less people using cloud services. In addition, some data must be stored physically due to legal reasons such as military information. Some information must also be stored within certain countries based on policies, and the information may not be physically in a certain country when using the cloud for classified information (Meyer). This information can be used to continue reasoning for why some companies will not switch to the cloud. Not only may it not make sense if a company already has a traditional data center, but they may believe that it is not secure, or they may even not be able to use the cloud legally based on the information.

Thoughts on my Progress:

My progress for researching cloud computing is doing well. Now I have a lot of different information which includes both general and specific information, and I will be able to choose what is important and what is not. In order to make this presentation more argumentative, I may look for a source that provides some positives and negatives for cloud computing more in depth. I also feel that I do not have a lot of information on the actual security of the cloud. From a

previous research log I know that information on the cloud can be accessed from easy passwords, but I have not seen a source that says the cloud can actually be hacked from the cloud computing services directly yet.

14. 12/16/18

Research Results and Findings:

It is expensive to set up a traditional data center for a company by paying for the space, proper cooling, repairs and upgrades for hardware, and having to hire workers for the data center. This makes it more cost effective for some companies to use cloud services instead of having to pay for all of these costs. Additionally, it is beneficial to use cloud services because if a server goes down, a cloud provider would still have enough resources for it to not make a difference for those using the services. However, if using a traditional data center, the servers will be down until it is fixed. Finally, companies choose to use cloud providers because it is fast and easy to start using public cloud services. I can use this information to make a portion of my presentation about the positives and negatives of cloud computing.

Thoughts on my Progress:

I feel that I have a good amount of information on cloud computing and am making good progress on my research. My next research log will be from this same article, as it also discusses the negatives of using cloud services. If I present the positives and negatives, as well as the reasons as to why some companies do not want to use cloud services, I will be able to make my presentation not only about the actual facts, but more as an argument. After informing my audience of what cloud computing is, I will be able to provide some of the positive and negative

arguments, allowing them to form their own opinion on the topic. Furthermore, at the end, I will be able to give my own stance on the topic.

15. 12/17/18

Research Results and Findings:

Since the cloud involves moving everything to the internet, if data or applications can only be accessed online, losing internet can mean not having access to anything until the internet is back. In addition, business will slow down if the internet is slow. Another problem when using the cloud is that a cloud computing company could be a large target for cyber attacks since they provide for many different companies. If a cloud provider gets breached, all of the client companies have their data stolen. However, since cloud companies are very secure, it is unlikely for a breach to happen, but due to it being a large target, it may not be worth it to use a cloud provider if storing sensitive information. Finally, if a company chooses to switch to another cloud provider, it can be difficult to transfer data and applications with companies using many different pieces of software. For example, an application made on one cloud platform may not work on another ("In a World of Information Technology, It's Good to Know the Pros and Cons of Cloud Computing"). I can use this information to show the negatives of using cloud services. Although mostly the positives are used to describe cloud services, this article presents interesting points that may make a company not want to use cloud services.

Thoughts on my Progress:

I feel that I have enough research for my presentation. I have research on what the cloud is to give an overview at the start, I have explanations as to how it works with some specific information if time permits, and I have information that shows both sides of the argument on

whether companies should use the cloud. Now that I have enough information, I plan to start trying to figure out what information is essential and what is not needed. If I have too much information once I create my presentation, I will further cut information that is too specific. This research in particular is useful and will likely be used in my presentation because cloud computing is generally seen as a good thing, but there are some flaws and reasons for companies not to use cloud computing.

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