Project Draft

IT- 489 – Capstone Project
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Honor Pledge

I acknowledge that the Capstone Project is an independent study project to be completed individually. On my honor, I have not received aid on my Capstone Project other than what was provided by my faculty mentor and any persons explicitly cited in my work. I further acknowledge that if I have given any aid to another student in this course, the instructor of this course was made aware of my contributions.

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Objective

Today I am going to present the proposal of my project, a manual of the migration of data from local servers to a cloud system. In the computer technology world, a cloud is actually a virtual space that is allocated for services and applications to run. Cloud technology is a fairly new technology, but it is booming very fast in the business world. Below is a definition of the cloud:

> *Definition of Cloud: "A communications network. The word "cloud" often refers to the Internet, and more precisely to some datacenter full of servers that is connected to the Internet" (PC Magazine).*

The purpose for cloud based systems is to ensure that all the data is available and accessible from everywhere around the globe. The cloud not only gives an availability of data and services, but promises cutting the cost of storage and use of applications. The cloud works principally with group of servers that are interchangeably connected to each other and are accessible from any access point. To have the many servers needed, you need to have a large place to accommodate all the servers and related hardware. For this reason companies such as Amazon and Google have their own cloud systems, which other companies can then utilize.

Servers are the main source to build the cloud system. Servers provide access to the applications and resources at a centralized location. Without servers, the internet would not be accessible the way it is today. Connecting all of these servers in one logical place and giving them access to the internet, creates a cloud.

The cloud gives companies a way to choose what services that are needed for their business. For example if a small dollar store or private deli, wants to run some application, they do not need many copies of it, and probably don't need access to it 24/7. In this case it may make more sense for the business to simply run the application on a local computer. However, an enterprise business may need more services, applications, constant uptime and additional security measures for their applications.

Such a business then will have the option of both hiring all the people and buying all of the hardware needed, or simply renting cloud storage from another company. The second option may prove to be both cheaper and less of a hassle, making the cloud a much better option.

History

Before the advent of cloud-based systems applications and data would have to be stored locally on every machine. In fact, this is still true in many instances. It is clear why this can become troublesome very quickly. Say for example a large company wants its employees to have access to a computer application that saves when they punch in and out of work. This company could buy a couple instances of this application and have all of their employees use the same computer whenever they come to work, causing massive delays. Or they would have to buy the application to store on every employees' computer, making the application very expensive. This is where cloud based systems come in, if the application can simply exist on the cloud, all employees could log in from their desks to the application! This idea has proven to be very powerful as we product more and more data. In fact a report found that "consumer digital storage will grow to 4.1 zettabytes in 2016, with 36 percent of this storage in the cloud" (Gartner).

Software architecture has departed from basic to modern technology which involves various breakthrough in tech world. Software architecture has gone from Mainframe to Client-Server, to Browser-Server, to Distributed System, and finally to Cloud Computing (Haishi, 2014). The idea of the cloud has been around since the sixties, when the idea of an "intergalactic computer network" was introduced by J.C.R. Licklider. However, due to the lack of technologies available, the idea was not truly implemented. In 1999, the world saw the first "cloud-computing" company develop, Salesforce.com, which developed a simply website to deliver applications via the web. Since then the technology required quickly has become very advanced and the demand for cloud based storage has

grown. Today many companies provide cloud storage, including Amazon, Google, Dropbox, and more and even more companies and individuals use it.

Thesis:

For my project I am going to create a manual describing the migration of data from a local server to the cloud. This process will inevitably lead me to encounter many technical issues, such as connectivity, speed, and so on. The reason I am doing this is to argue that having your data on the cloud is much more reliable and secure than having it on personal servers. Furthermore, I believe in the coming future the ease of use for a cloud will far outweigh the costs, causing even small businesses to use it. For this reason I believe we will soon see an explosion in the amount of people wanting to configure their own "cloud". My manual will help these people and will make the migration to the cloud a simple process.

Faculty Advisor

Dr. Diane Murphy

Project Plan:

As population is keep growing computers and hardware are running out of space and capacity since there is so much demand for hardware usage to store their data and applications to run the programs. A Gartner report predicts that consumer digital storage will grow to 4.1 zettabytes in 2016, with 36 percent of this storage in the cloud. (Gartner) Furthermore, an idc forecast suggests that big data storage is growing at a compound annual growth rate of 53 percent from 2011 to 2016. (Business Wire) As it is clear from the Gartner report and the IDC forecast the need and demand for cloud storage is only going to grow in the future. This is why my data migration manual is needed for people to understand how to utilize the cloud. My manual will detail all the steps required for someone or a small company to set up their own cloud storage. This will include setting up the basic cloud server, migrating data and creating a syncing process. The timeline to complete this manual is below:

September 19-30	Find the study material
October	Research and starting the rough manual
November	Prepare the final project
December	Present the report

Timeline

Currently I am still gathering much of the information from the scholarly pdfs and papers. Hopefully, by the end of this month I will have full report to have my manual up and ready.

Knowledge

For this project I am using the things I have learned in my studies in Information Technology from Marymount University. A couple classes that I am directly applying my knowledge from are Cisco class, Computer security, and software engineering class. In my cisco class I leaned about the basic of networking that are needed to operate the cloud. At the end of the day the cloud needs servers, routers and switches to operate. My security class taught me some of the security idea required setting up the cloud. The cloud storage private and personal data for many people it is important that this data stays safe. Finally my software engineering course it was an intensive writing course that gave me experience how to write well formatted papers. This will be important for writing the actual manual for itself.

Risk Factors

There are not many risk factors that might directly impact the writing of my manual. However, using cloud base system itself can have some risk. For example, if one stores all of their data on the cloud they are at risk of not having access to it. It's possible that the network goes down or someone hacks it or due to natural reasons the servers might not be reachable. As you can see for a company this can be very bad because it could mean losing all business for a day or maybe more.

Migration of Server to Cloud

Now a days there are many companies that offer cloud services such as Amazon, Microsoft. In this project we will take a look at Microsoft Azure that is software provided by Microsoft Company.

Hardware and Software

Steps for the migration

Conclusion

References

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