Clouds, Servers and Services

From your hand held mobile phone to your office PC, servers and services are constantly being accessed, used and applied and for the most part without being acutely aware of it. What is a server or a service, and what do either of those have to do with the cloud?

A server is defined as a computer, either virtual or physical, that provides functionality and services to other PCs, often referred to as Client machines. If you have ever played an online video game then you have most likely connected to a server with other Client machines where all involved have access to the same services (The Video Game). A service then, is defined by the functionality and applications that a user has access to and can use. A service doesn’t need a server to be used as your own local machine has plenty of services that you have access to, however, a server allows users to access those services without needing to directly access it from your local machine.

With the ever increasing and improving technology that’s where clouds come into play, clouds are the next step in evolution of a server, accessible to users via an internet connection, allowing for shared data stored on virtualised machine to act as a server. Virtualisation can be conceptualised as a partition of a physical computer to create one or in most instances multiple other instances of a computer that accesses the physical computer’s hardware and resources.

Several companies such as Microsoft and Google have already started to implement this technology in our day to day lives, if for example you’ve ever used Google Docs, then those documents you are creating are being saved to Google Drive, a Cloud storage where your documents are stored and backed up. There are plenty more examples of cloud servers and services being used in the background of daily activities, like phone contacts being saved to a cloud storage so it will be accessible to your next device via the same login to the streaming services such as Netflix allowing you access to their cloud storage to be viewed at your own convenience.

With ever improving hardware capabilities and improvements in internet speed worldwide, the cloud is becoming ever more prevalent, which has brought about the phrase “X as a Service”. The phrase is used to describe the cloud's impact on various applications that users now have access to via the cloud. Instead of either purchasing a physical copy of a movie or downloading it via the provider directly, there are now many shows as a service applications that can allow the streaming of the movie without needing to purchase it, and instead pay for the service.

In the future, Cloud computing, services and servers will replace traditional servers or direct client access to services as a means to centralise that information, completely in the control of the hosting company to determine what a client has or hasn’t got access to. Not too far in the future, Infrastructure as a service will become ever more prevalent, allowing companies and businesses to rent or lease a cloud server without the additional costs associated with continual maintenance and upkeep of the servers. The benefit this can bring businesses is immense, with the data stored to the cloud, recovery of lost information from a local machine connected to the infrastructure as a service can be restored and still allow the client machines access to their various applications and services hosted on the cloud server.

The impact that Cloud computing is having on modern services is already being felt, from the data saved on your PC being backed up and stored automatically to a service like OneDrive, to the various subscriptions users have to access various services such as movies or video games. It may not be immediately apparent, but with those changes comes a change in how our data is being used or the ownership of said data. The movie you watched on Netflix, do you own it? Did you ever own the movie if you originally purchased it as a physical disc copy? Companies are beginning to understand the power and control that cloud computing lets them have over their intellectual property, no longer will clients own their data, instead they will be renting the service to have access to the application that holds that data. Fortunately, services such as OneDrive and Google Drive are free, so your data is always accessible and is still your intellectual property.

The biggest impact will be felt within Governments and Business that need to store their data securely while following strict guidelines as to the proper handling and disposal of said data in accordance with the law of that country. Currently, most Government organisations and businesses store their data on physical in house servers, where their Database and System Administrators constantly monitor and upkeep the servers to ensure no loss of data or services occur. With Cloud servers, those roles and responsibilities fall to the cloud server provider, making the jobs of those database Administrators and System Administrators more limiting and in time may even become redundant as the technology improves to complete their tasks.

Our day to day lives have already begun to be impacted, from our files being stored to cloud services either for our phones or our computers, to companies moving their services to the cloud for users to access easily with just an internet connection. From 10 years ago, hosting LAN parties where video games were connected over a local connection to now having access to servers online that we can connect to, the improvement to cloud and server technology has evolved many of the tasks we used to do.

Accessibility to these services via the cloud will greatly improve and impact the way I complete my day to day tasks, from writing this assignment in a Google Doc so that it’s synced to my Google Drive and easily accessible from any PC I may be working on as long as I sign into my Google account, to all my phone contacts being saved to my Google account as well so that changing my phone will be as easy as just signing back into my account. The quality of life improvements that come from information being stored in cloud storage, or services we want to access being available on the cloud has improved the efficiency of our day to day tasks.

With those improvements always comes a risk, with the data stored in a situation that isn’t directly in our control, data breaches are possible and have happened in the past, but just as the cloud services improves, so does that security and technology behind it. My parents who are hesitant towards technology have even begun to trust these cloud storage and services, with my mum completing saving most of her work to her OneDrive account and dad learning how to sync his phone contacts across new phones. The technology is becoming ever more accessible with more and more users picking up the technology and adding it to their day to day lives, we can only start to the imagine where the technology will continue to go from here.