**IT Technologies – Cloud Computing**

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**What does it do? (600 words) What is the state of the art of this new technology? What can be done now? What is likely to be able to do be done soon (say in the next 3 years)? What technological or other developments make this possible?**

Cloud computing is a way of accessing remote computer resources via the internet. This means that it has a whole range of functionality as computers can perform many different tasks. This is done through servers both on site and/or off site from the user, in which users can access through the internet and accomplish their set out tasks. Currently, with cloud computing we can perform such functions as store, calculate, manage, host and edit. There are many different uses for this technology such as storing data. This has been widely adopted as it’s an easy way of backing up and accessing your files wherever you are for as long as you have an internet connection. This particular use can be helpful once the selected service offers multiple platform support. This means users can finish their work on their phone without needing their computer in hand. An example of this is a service called “Google Drive” which supports all major platforms and syncs files instantaneously from device to device. This has resulted in many business’ using such services to backup and share company files with employees. Even if users are unable to connect to the internet, there are often “offline modes” built into these services. This feature downloads all the data to their device which then allows them to edit these files and then just upload them later once they’re back online.

The potential of cloud computing is currently limited in one area due to latency. This is since the device that the user is on must send a request to the receiving servers, and then the device has wait to receive the data back. This effects the latest implementation of cloud computing which is playing games from remote servers. These servers often have the computer hardware that’s capable of running any game or app that a user’s own personal computer may not be able to run due to its own hardware limitations. However, due to latency, it makes this difficult to properly achieve as users will observe a noticeable delay from performing an action, to that action responding on their screen. However, if there is a push in the near future for better speeds and if more servers set up in all major cities, we will then be able to play any AAA games on any device that’s powerful enough to run a web browser. This will be made possible once fibre to the home is implemented to Australian homes as that technology offers vastly superior speeds to current methods of using copper wire. Having more servers set up in more cities allows us to lower our latency as the distance the data must travel is lowered. These two technologies put together has proven that it’s possible to get decent results, that can only be improved upon from here.

These services are referred to “software as a service” (SaaS) and “platform as a service” (PaaS). Both with the intention of allowing users to be able to either pay or use a limited free version of their services. PaaS allows developers to deploy hardware and software tools that will be hosted by the provider themselves. This is helpful for those who don’t have powerful enough hardware to test their own programs, and it also gives its users the ability to work together simultaneously on the same project. SaaS and PaaS’ popularity derives from its ability to save business’ money, time and resources as they can offload their work and let other business’ worry about it. This has resulted in business’ no longer needing to set up their own backup servers, which would’ve cost them money as they need to hire employers to maintain the system. Overall, it allows them to focus their resources on succeeding in their tasks. Overtime, we will continue to see these services expand into more areas, allowing us to run anything from a remote computer.

**What is the likely impact? (300 words) What is the potential impact of this development? What is likely to change? Which people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?**

Cloud computing has affected many different areas in the market and industries and has the potential to continue to expand. Theoretically, overtime, these types of services can expand to other areas such as personal computing. This would result in our personal computer’s no longer needing a hard drive as it would be able to run its operating system and all its files from a remote server. This could affect the personal/home computer market as users with a good internet connection would no longer need to spend extra money on a powerful computer. This can decline the sales of any laptop that’s over a certain price point as there would only be a need to pay for a screen, keyboard, mouse and a Wi-Fi antenna. This allows schools and business to save money as they don’t need to gather expensive equipment for their students and employees to use. Once we’ve globally established a proper internet infrastructure then overtime this will become a reality. In this area of cloud computing, it is likely that we will observe both the creation and loss of jobs. It creates a higher demand for software developers to develop these systems. On the flip side, business’ no longer need to hire skilled management teams to maintain their systems.

Cloud computing also impacts students as it’s a good incentive to make the switch to using computers to help aid in their studies. Slowly more and more people have been making the switch from doing work on pen and paper to other technologies such as a computer. Being able to access all your files wherever you are, knowing that they are safe and secured can detour their decision making when it comes time to spend money on a new set of textbooks. This may have an effect on industries that rely on sales of these types of products and will then possibly make these industries redundant.

**How will this affect you? (300 words) In your daily life, how will this affect you? What will be different for you? How might this affect members of your family or your friends?**

Cloud computing has helped me in both my studies and organising my personal life for years now. For the past five years, backup services such as “Google Drive” has been storing all of my schoolwork and personal photos. This has improved my quality of life as I know that if I ever forget to add something to one of my assignments, I can do it last minute, thus lowering any potential stress. Since hard drives all eventually fail, I knew that I needed another way to backup my photos of family and friends. With this same service I’ve been able to backup all of these types of files and can access them whenever needed. This has changed the way I take notes as I no longer need to write them down, but instead store it in the cloud.

Services like these effect students as a whole as my peers at school are able to share their work with me and each other. This makes group assignments less strenuous as we can all edit the same documents at the same time. It also allows us to see which members of the group edited which sections, confirming that we are all equally contributing our efforts to the project.

As for the future implementations of cloud computing people will no longer need to worry about many of the concern’s we face today. An example of this is losing your computer as that currently means for most students, they have now lost all of their files. However, if the entire operating system is run and stored remotely, all that student needs to do is purchase a cheap computer that can restore the entire backup of their OS which includes their files. This use can also extend to devices such as mobile phones. This technology is packed with helpful abilities and will continue to grow with its business’ and users in order to bring us a service that saves us time and resources.

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