**Cloud, Services and Servers**

**What does it do?**

The Cloud, Services associated with the Cloud and the Servers that provide the infrastructure hardware needs to keep it all going can be a confronting topic to understand, therefore it needs to be defined. The Cloud or Cloud Computing is often defined as an on-demand computing system that is made available over the internet *(En.wikipedia.org, 2019)*

. Services associated with the cloud include Software As A Service (SaaS), Platform As A Service (PaaS) and Infrastructure As A Service (IaaS), these will be defined and discussed in further detail. A Server is a type of computer which manages access to centralised resources or services in a network, a server can be virtual or physical *(En.wikipedia.org, 2019)*.

One of the latest pieces of technology that is being developed around Cloud Computing has been created by Unity, who are better known for developing engines for video games. They are currently developing a cloud-based simulation software that allows customers to run simulations on hardware that is connected via the cloud. This will revolutionise the workflows required for robotics and self-driving car companies who need a platform to test and train their programs *(TechCrunch, 2019)*.

Traditionally there are three services that make up Cloud Computing, SaaS is a service that offers software delivery and licensing that is hosted on the cloud, which is accessible via subscription, for example Office 365 (Azure.microsoft.com, 2019). PaaS offers hardware and software tools over the internet, usually for application development, for example Microsoft Azure (Azure.microsoft.com, 2019). IaaS offers cloud-base services, storage, networking and virtualization, companies like Rackspace offer hosting and support for these services (Azure.microsoft.com, 2019).

The future of Cloud Computing, it’s services and the servers that keep everything running is limitless. Recently, Oracle released their “Cloud Predictions” which provides information for where the technology will be heading in the next 5 years. One of the most ambitious predictions that was made was that “second-generation cloud providers will offer 100% data centre replacement”. This sort of change means that hardware and software reliability will be on par with dedicated hardware and on-premise software which is used in a lot of businesses today. Second-generation cloud offers the ability to handle complex workloads and mission-critical systems (Oracle.com, 2019).

With Cloud Computing will come the increased demand for Engineers, IT Professionals, Developers, Security Experts and many others to fill the skilled void. Businesses that have already made the switch to the Cloud are looking for skilled professionals of every calibre. Most people looking for work in the future will needs to be able to demonstrate mastery of important cloud concepts and technologies, this is not just limited to IT, but to all industries that have a digital footprint (Cloud Academy, 2019).

The hardware that makes Cloud Computing what it is, and the technology handled by SaaS, PaaS and IaaS needs to be reliable, powerful and fast. HPE is a global authority on Cloud Computing hardware, they offer some of the fastest, most powerful and reliable servers on the market. Their latest offering of Hyper-converged servers has been built to handle the complex workloads that Cloud Computing presents (Hpe.com, 2019). Recently in North America, Google has introduced some of the fastest internet offerings in the world with the introduction of Google fibre (Fiber.google.com, 2019), meanwhile in Australia, Telstra and Optus have begun rolling out the latest and greatest offering of mobile internet with the introduction of the 5G network (Telstra.com.au, 2019). Having this sort of internet connectivity in place allows not just for businesses to have access to Cloud Computing, but also people who want to immerse themselves into the Cloud.

**What is the likely Impact?**

The impact of this technology for business is huge, every year the Cloud Computing adoption stats continue to rise. This is due to a number of technological benefits, but the biggest contributing factor is how affordable the Cloud is and how much money businesses that move to the Cloud are saving (Hosting Tribunal, 2019).

With this much adoption and change, educational institutions need to prepare students for the workforce of the near future. RMIT has begun offering Cloud Computing courses that has a focus on educating those who want to prepare for the future of technology by offering AWS training and pathways to becoming certified (Brookes, 2019).

The demands for workers to have a solid understanding of Cloud Computing is growing as rapidly as it’s adaptation. Workers in IT customer support need to be knowledgeable in SaaS, PaaS and IaaS, as well as support any in-house software that their employee may use. As the knowledge base continues to grow, already skilled IT workers need to remain educated and up to date with the developing technology (Pmc.gov.au, 2019).

As Cloud Computing continues to grow, businesses of all sizes are needing to move into the Cloud and off their own hardware and in-house software. Businesses that are utilizing the Cloud and incorporating it into their business model are growing rapidly, whereas those who aren’t using it are plateauing or losing business (Inspired Techs, 2019).

With the above in mind as long as businesses are utilizing Cloud Computing and its associated services, there will be a lot of jobs for those workers who have stayed up to date with technology. Unfortunately, if a business doesn’t adapt and adopt Cloud Computing into their business or if an IT worker doesn’t learn or understand Cloud Computing then they will eventually run into trouble. The same applies for software companies who don’t modify their software to work with SaaS, PaaS and IaaS.

**How will this affect you?**

Cloud computing has already started to affect how I access various services and how I work day-to-day. I already use products that utilize SaaS, I work on products that utilize PaaS and the company I work for is a managed hosting company that utilizes and provides IaaS. When I first started my career in IT, a lot of these services didn’t exist or were not as well-known as they are today.

Professionally, I work at the front line of this particular technology. For now, my current knowledge is up to date enough with the technology that is used at Rackspace, however, with the adoption of virtual network devices this will need to change. I will have to undertake courses, training and become certified in order to maintain my knowledge and relevance in Cloud Computing.

Most of my friends work in a variety of disciplines within IT, for them, a lot of the companies they work for all use Cloud Computing in some variety. I feel that a lot of IT professionals that are my in my age range are keeping up to date with technology and are actively pursuing knowledge in Cloud Computing. For my family, using this technology makes their lives easier. They can use the cloud to store their photos and videos, they use streaming services to watch movies and TV shows, and my family members that aren’t working in IT are needing to learn this new technology to stay relevant.

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