* **IT Technologies**
  + Omar - Clouds

Clouds, services , servers

**What does it do? (“738“ 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 an ever-growing field in the Information Technology(I.T.) department that enables Users to access shared information resources and higher-level services that are easily provisioned with minimal management effort. Cloud Computing or “the cloud” is also identified as a ‘service’ using a network of remote servers hosted on the Internet to store, manage and process data in the replacement of the User using a local server or a personal computer. Currently, the field of Cloud Computing consists of 6 services including Software as a Service(SaaS), Platform as a Service(PaaS), Infrastructure as a Service(IaaS), Public Cloud, Private Cloud and Hybrid Cloud.

**Software as a Service**

Software as a Service(SaaS) is simply defined as cloud based applications accessed through the web. Main benefits of SaaS include being able to sign up and almost immediately be able to use innovative business apps, apps and data are easily accessible from any connected computer, there is no data lost if the User’s computer breaks down as data is stored in the cloud and the service is able to dynamically scale to usage needs.

**Platform as a Service**

Platform as a service(PaaS) provides a cloud-based environment with everything required to support the complete lifecycle of building and delivering web-based (cloud) applications — without the cost and complexity of buying and managing the underlying hardware, software, provisioning, and hosting. Main benefits of PaaS include being able to develop applications and getting them in the market faster, being able to deploy new web application to the cloud in a matter of minutes and to reduce the complexity with middleware as a service.

**Infrastructure as a Service**

Infrastructure as a service(IaaS) provides organisations with computing resources including servers, networking, storage and data center space on a pay-per-view basis. Advantages of IaaS include no need of investment in one’s own hardware, infrastructure scales on demand to to support dynamic workloads and having flexible and innovative services available on demand.

**Public Cloud**

Public clouds are owned and operated by businesses that offer almost immediate access to Users over a public network to affordable computing resources. With public cloud services, users have no need to purchase hardware, software, or supporting infrastructure that is owned and managed by providers. Main aspects of public cloud include innovative SaaS business apps for applications ranging from customer resource management(CRM) to transaction management and data analytics, having flexible and scalable IaaS for storage and compute services on a moment’s notice and powerful PaaS for cloud-based application development and deployment environments.

**Private Cloud**

A private cloud is infrastructure operated solely for a single organization, whether managed by the organisation itself or by a third party and hosted either internally or externally. Private clouds can take advantage of cloud’s efficiencies, while providing more control of resources and steering clear of multi-tenancy. Key aspects of a private cloud include a self-service interface controls services, allowing IT staff to quickly deliver, allocate and supply on demand IT resources. Another key aspect is that of highly automated management of resource pools for everything from computing capability to storage, middleware and analytics. The private cloud also addresses the sophisticated security and governance designed for a company’s specific requirements.

**Hybrid Cloud**

A hybrid cloud uses a private cloud foundation combined with the strategic integration and use of public cloud services. The reality is a private cloud can’t exist in isolation from the rest of a company’s IT resources and the public cloud. Most companies with private clouds will evolve to manage workloads across data centers, private clouds, and public clouds - thereby creating hybrid clouds. Main features of a hybrid cloud allow companies to keep the critical applications and sensitive data in a traditional data center environment or in a private cloud. A hybrid cloud also enables taking advantage of public cloud resources including SaaS, latest applications and IaaS mainly for virtual resources. Finally, the hybrid cloud facilitates portability of data.

The latest and most innovative idea that has become a trend among the large companies is that of Building “Digital-First Infrastructure”. This new trend will provide the digital infrastructure for the cities of tomorrow where an estimated 6 Billion of the World’s population will be living by 2045. Therefore, this trend will be the idea that companies will focus on as an expansion for the future and will utilise every aspect of Cloud computing including all the services to get this done and out in the market as soon as possible.

**What is the likely impact?(“316” words)**

The potential impact of Cloud Computing can be situated in both a negative or a positive conclusion. Cloud computing can be taken to advantage as it will give companies scale and cost, choice and agility, next generation architectures and encapsulated change management. However, the User’s of cloud computing can be face issues with the security of the cloud, reliability of the cloud and the user’s lack of control over personal information and data that is being stored in the cloud. The expansion of Cloud Computing will bring a change in a variety of aspects including that of creation of a new generation of products and services, a new lightweight form of real-time partnerships and outsourcing with IT suppliers, a new awareness and leverage of the Internet, the rise of new industry leaders, more self service and more tolerance and innovation. For many organizations in the short term, the apparent potential of the individual changes following the expansion of cloud computing will often not be sufficient to them to make the transition to cloud computing, particularly as the cloud market is very modern and major players such as IBM and HP have yet to arrive in full force. But gaining competency in cloud computing today by conducting pilots and building skills will allow companies to gain an upper hand on their fellow rivals and will begin to position them for the future of IT. In the long term, cloud computing is increasingly appearing to be a transformative change in the business landscape. Redundancy in cloud computing will be defined as the supplying of duplicate copies of various data and other resources. Therefore, for technologies that involved a chance of failure for duplicating data and required maintenance, the cloud will provide a very reliable storage where the User will be able to freely store data with no chance of having failure and therefore will overshadow the other technologies.

**How will this affect you? (“115“ words)**

Cloud Computing will have a positive affect on my knowledge in the IT field. With Cloud Computing, there will be a safer storage place for users to store personal data with no chance of having it interfered or tempered. However, to get around the whole idea and to be able to freely put personal information on the Internet will still be a very big step for my personal gain. Cloud Computing will have a similar affect to those around me as they will also have the freedom to freely share information and to have the control and feel secured of not having their information tempered will give them more courage to use the modern system.

**References**

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**IT WORK**

<https://www.youtube.com/watch?v=hFhuMGanjT8>

Simon Ferrari - DATACOM

IT Manager

**What kind of work is done by the IT professional?**

Being an IT Manager, Simon has to deal with any activities with the staff, working with managers, one on one meetings, performance reviews, video reviews with staff or Customers and reviews that come from beyond the region of the organisation’s location.

**What kinds of people does the IT professional interact with?**

Simon mainly deals with the staff as he is at a very high profile position, therefore he has to consistently have conversations with his staff including the managers and at some occasions Simon also has to deal with customers.

**Where does the IT professional spend most of their time?**

Simon spends most of his time working with people that introduce him to new and innovative ideas. He loves that creativity aspect of software development as everything at the company is made completely from scratch. He also loves the flexibility that the company gives him, which therefore means he can do specific tasks when he wants and where he wants, hence he is able to allocate his tasks to certain times and schedule his meetings without any disruptions. Simon also loves to go mountain biking and as the company gives him the freedom to do what he wants, he is able to freely go biking and enjoy his time away from work.

**What aspect of their position is most challenging?**

Having a very significant role in the company, Simon has to be prolific in his approach to his staff and customers. Therefore, Simon has to be very professional in dealing with people that have issues with products and services and has to be open minded in the sense when someone is trying to portray a possible idea that can be used for innovation in a certain field.

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<https://www.youtube.com/watch?v=RYdmWa-i7Gs>

Chris Sheehan - DATACOM

IT Support Technician

**What kind of work is done by the IT professional?**

Being an IT support technician, Chris has to portray a professional role in tasks including responding to technical queries raised by customers, can include having to update a software, application releases, service support and knowledge of networking issues.

**What kinds of people does the IT professional interact with?**

Chris being in such an important position, has to interact with all kinds of people. This includes having to interact with customers and also staff members that are in a similar role. This can also include having interactions with managers as Chris might be given more tasks that are more significant in other fields of IT.

**Where does the IT professional spend most of their time?**

Chris mainly spends his time working on websites, to ensure they are running at all times and that they don't crash in case of heavy traffic. For Chris, it is not necessary from to be working from his office desk at all times, sometimes he’s working from home depending on the work whether if its after hours due to busy websites.

**What aspect of their position is most challenging?**

For such a position, the most challenging aspect will be that of dealing with customers as sometimes it can be difficult to understand a customer’s problem. Chris would also find solving issues with the website challenging as sometimes it can become frustrating but once solved can be a major accomplishment and he can take all credit for it.

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<https://www.youtube.com/watch?v=vt79JcPfZQA>

Victoria Sun - HOMEJOY

Software Engineer

**What kind of work is done by the IT professional?**

Victoria is a software engineer, therefore her work is very practical and hands-on as she mainly deals with the programming and coding things for the computer. However in HOMEJOY, Victoria’s main job is to be that of a website developer. She built the main website for the company and takes full credit for everything that the User can see on their screen.

**What kinds of people does the IT professional interact with?**

Being in a position which is considered ‘behind the scenes”, she doesn’t have many interactions with the customers. However, she is heavily dependent of her staff members and other IT engineers that are in a similar position.

**Where does the IT professional spend most of their time?**

Victoria mainly spends her time working on her projects and developing softwares that can be of benefit. She also has a major interest in game development, therefore she is always looking forward to work in another profession where she could create games or build apps for phones as she has the experience.

**What aspect of their position is most challenging?**

The main issue she has had working in the field is that the technology field is very male-dominated, therefore she hasn’t been able to fully express her “girly” traits. However, after working with female mentors from big companies such as Microsoft and Google, Victoria is now able to portray her true self and be the person she wants to be.

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<https://www.youtube.com/watch?v=WGN4Y-fw2PM>

IT Career Questions

Technology Professional

<https://www.youtube.com/watch?v=X3RgJLD2SrM>

The Bitter IT Guy

Tech Support