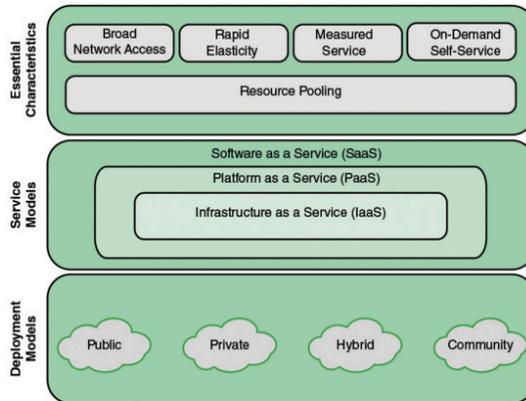


Foundation of Modern Networking: SDN, NFV, QoE, IoT, and Cloud

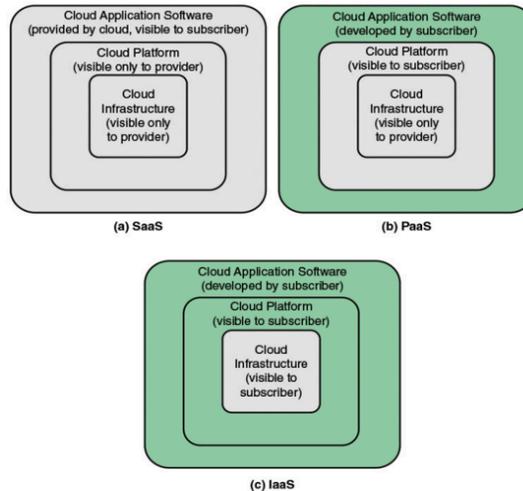
I pick chapter 13 (Cloud Computing) for my deliverables. I learned how important and useful is Cloud Computing concept for the future trend of Information



Technology. Cloud computing can provide economies of scale , professional network management and professional security management for ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources like servers and storage. It is on demand IT computing services, accommodating to the needs of all sizes of companies. This cloud model promotes availability and is composed of the following:

Three services models:

- A- Software as a service (SaaS): Follows the familiar model of web services, which provides services to customer in the form of application software. This service is commonly used by organizations that want to provide their employees with access to specific office software like Billing or Document management. Basically subscriber use specific application on demand.
- B- Platform as a Service (PaaS): This enables the customer to deploy onto the cloud infrastructure customer created or acquired applications, whereby the customer's application can run. PaaS is an operating system in the cloud. It is useful for a organization that wants to develop new or tailored applications while paying for the services on when needed basis. Examples of PaaS are AppEngine and Microsoft Azure.
- C- Infrastructure as a Service (IaaS) : offers the customers processing, storage, networks and other fundamental computing resources so that the can deploy and run arbitrary software like operating systems. Typically customers are able to self-provision this infrastructure. Examples are Microsoft windows Azure, Rackspace.



Four deployment models:

- A- Public Cloud: This may be owned, managed and operated by a business, academic, or government organization or some combination of them. All major components are outside the enterprise firewall located in multitenant infrastructure. The cloud provider is responsible for both for the cloud infrastructure and for the control of data and operations within the cloud.
- B- Private Cloud: This is implemented within the internal IT environment of the organization. A key motivation for opting for a private cloud is security. Private clouds can deliver IaaS internally to employees or business through (VPN) as well as software (applications).
- C- Community Cloud: This shares characteristics of private and public clouds. Like a private cloud, a community cloud has restricted access. Like a public cloud, the cloud resources are shared among a number of independent organizations. The cloud functions can be managed by the participating organizations or a third party. The only advantage is cost saving potential of cloud computing.
- D- Hybrid Cloud: This is a composition of two or more clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability. This cloud solution can be attractive to smaller businesses.

	Private	Community	Public	Hybrid
Scalability	Limited	Limited	Very high	Very high
Security	Most secure option	Very secure	Moderately secure	Very secure
Performance	Very good	Very good	Low to medium	Good
Reliability	Very high	Very high	Medium	Medium to high
Cost	High	Medium	Low	Medium

This chapter is very significant to me because of the future of the IT industry. Cloud computing can provide a platform for small and large businesses to work without investing a lot of resources upfront and can avail of all the technological benefits on demand basis with greater security. This will expand the reach of technology to many more users and help in the shared pool of resources. In my opinion this will help develop more resources based on the availability of multiple software applications, which would have been expensive to users before.