**Overview of Cloud Computing Assignment**

**1. Cloud Services**

* **SaaS – Office 365 -** group of software and services subscriptions
* **PaaS – Google App Engine -** for developing and hosting web applications in Google-managed data centers.
* **DaaS – Amazon DynamoDB -** fully managed cloud database and supports both document and key-value store models
* **IaaS – Amazon Web Services -** hardware (CPU(s) & GPU(s) for processing, local/RAM memory, hard-disk/SSD storage); a choice of operating systems; networking; and pre-loaded application software

**2. Characteristics of Cloud Computing**

* **On-demand self-service** A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction
* **Broad network access** Capabilities are available over the network and accessed by heterogeneous thin or thick client platforms
* **Resource pooling** The provider’s computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand.
* **Rapid elasticity** Capabilities can be elastically provisioned and released, in some cases automatically, to scale rapidly outward and inward commensurate with demand.
* **Measured service** Cloud systems automatically control and optimize resource use by leveraging a metering capability. Resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service.

**3. Cloud Security**

* **Insider attacks** – monitoring
* **Data Security** – CIA
* **Privacy** – encryption
* **Physical security**
* **Data isolation and logical storage segregation.**
* **Virtualization**- that itself must be properly configured, managed and secured.

**4. Challenges**

* **Lack of Skills, Knowledge and Expertise**: It’s different in the cloud, and many IT organizations may not have the necessary tools or resources to implement, monitor and manage cloud solutions.
* **Vendor Transparency**: a service provider should be open about it processes and methods for delivering
* **Security and Compliance**: there may be some data or applications that your organization will never feel comfortable letting out of sight.
* **Vendor Lock-in**: to have control over your data and be able to switch service providers freely.
* **Integration**: Many applications have complex integration needs to connect to other cloud applications as well as other on-premise applications.

**5. Grid vs Cloud Computing**

|  |  |  |
| --- | --- | --- |
|  | **Grid computing** | **Cloud computing** |
| **Definition** | Grid computing is also a kind of network system that is used to share computer power and data storage capacity across the network. | Cloud computing is used to define a new class of computing that is based on network technology. Cloud computing takes place over the internet. It comprises of a collection of integrated and networked hardware, software and internet infrastructures. |
| **What?** | Grids enable access to shared computing power and storage capacity from your desktop | Clouds enable access to leased computing power and storage capacity from your desktop |
| **What are they useful for?** | Grids were designed to handle large sets of limited duration jobs that produce or use large quantities of data | Clouds best support long term services and longer running jobs |
| **On demand self service** | No | Yes |
| **Rapid Elasticity** | No | Yes |
| **Network access** | within a corporate network. | Through internet |

**6. Evolution**

* **The Idea Phase** – this started in the 1960s and stretched to the pre internet bubble era. The core idea of computing as a utility computing and grid computing developed.
* **The Pre Cloud Phase** – this started around 1999 and lasted till 2006. In this phase internet as the mechanism to provide Application as Service got developed.
* **The Cloud Phase** – this phase started in 2007 when the term cloud computing term became popular and the sub classification of IaaS, PaaS & SaaS got formalized.

**7. Business (CRM for Hair and beauty Salon)**

* **Why switch to the cloud?**

**Management of all the branches**

* **Associated benefits**

**All styles and customer management will be centralized**

* **Associated risks**

**Actual styling and physical presence.**

* **Which cloud platform would you recommend? Why?**

**Salesforce transaction based!**

* **What other options (cloud platforms) does the business have? Why?**

**AWS simple cheaper!**

* **Which Salesforce licenses would you recommend for that business? How many should the business purchase initially?**

**Salesforce standard user license.**

* **Which business processes would you implement on the cloud for them?**

**CRM**

* **How much time would you foresee it would take for this business to adopt the cloud?**

**3-6 months**

**8. A. implementation of cloud computing relates to an organisation's strategy & How it could affect a company’s value chain**

* **Reduce costs** - you only pay for what you need.
* **Agility -** more flexible infrastructure.
* **Big Data** - The cloud can allow large companies not only store your data in the cloud, but also provides the necessary computing power to sift through tons of unstructured data.
* **Better upgradeability -** organization no longer has to spend time updating servers and can concentrate on moving the business forward.
* **More Business -** cloud allows companies to increase redundancy infrastructure in all parts of the business. Decentralization allows applications and data, and this increases business flexibility and streamlines disaster recovery and network
* **Value Chain** - use this framework when considering how their cloud services strategies and partnerships will evolve to deliver growth and profitability.