**Cloud Computing**

**Module 1 Class Design Project**

**Topic : Cloud Architecture**

**Date Given: Week of September 7, 2017 Due: October 4,2017 @ class time**

**Instruction: This is a group project in teams of five(5) or six(6). There are weekly expectations, as a part of a continuous assessment to ensure that the deliverable is met. Each group member has to show demonstrated contribution by way of presentation on the outcomes within the project in order to benefit from the grading.**

**Scenario**

You have been charged with the responsibility of modelling a private cloud infrastructure for an institution of your choice e.g. a school , a small business , a church etc, in short the cloud choice of the business that you as the cloud service provider(CSP) will host is to be decided within your team as a creative and realistic requirement of the project. Your consultancy company is responsible for the design of the IAAS,PAAS and SaAs layers within this cloud stack. As a part of modelling this cloud stack architecture here are a set of baseline functional outcomes that must be met :

1. Provide your own set of co-located physical disk that can run as your IaAs layer to support the installation of either Vmware essxi 4 or 5.5 or 6 as open source trial editions.
2. Install and run the Vmware essxi 5.5 or higher to provide the layered IaAs and PaAs services that will map your raw physical disk to provide platform virtual server operating system services to host SaAs provisions for your cloud users and the intended business you plan to support
3. Ensure that you check carefully the disk quota required to house your co-located Storage Area Network(SAN) repository for your Vmware essxi installation

\*\*\* N.B. There Continuous assessment on a weekly basis until the project deliverable

is met is required. I have included as attachment the Vmware essxi

installation guides.

You must take the necessary precaution that your work environment does

not crash with these installations by using the required terminal emulation

modes. Each group will be required to complete the full installation as a

self paced exercise by use of the system manuals to guide the outcome

Project Outcomes

* A clear and detailed usage case scenario of the Software as a Service that supports what type of cloud data center architectural strategy that you as a CSP will provide your end user /customer. You will need to state clearly any relevant disclaimers on service level agreements and security constraints that your cloud service will offer or not offer as a part of that strategy
* You will need to assess the business model of cost in terms of OPEX and CAPEX for your architectural components such that your business cost justify the projected return on investment(ROI) for the usage scenario that will be hosted as apart of your private cloud
* Your essxi installation should demonstrate that you can provide persistent VM images, with suitable fail-over /high availability options, and basic security for your customers
* I suggest weekly incremental presentation updates to the class to show where we are with the progress deliverable

Marking Scheme

* Schematics and relevant discussions of the cloud user scenario and the justified costing estimates including relevant-factual explanation – 50%
* Demonstrated individual and team knowledge of the cloud installation and customer usage scenarios and costing estimates based on requirement – 50%