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Homework Assignment

Question 1. (Cloud Models) Consider the three Cloud delivery models SaaS, PaaS and IaaS. For each of the scenarios below match the scenario to the best model of delivery for the scenario along with a brief explanation.

a) "An Electronic Health Record systems for clinics and doctors"
    a. Saas

b) "A web hosting solution for PHP web applications"
    a. PaaS

c) "A fast lighting storage solutions for gigantic amount of data"
    a. IaaS

Question 2: (Cloudonomics) Which approach (private cloud, public cloud or hybrid cloud) is more economical for each of the following scenarios? Explain with the help of a brief description.

a) An organization that has been in business for a very long time serves about 15,000 users in the day and less than 50 users in the night.
    a. hybrid cloud

b) An organization that has been in business for a very long serves 2,000 users daily but 1,000,000 during the holiday session."
    a. public cloud

c) "A long-running business needs 20,000 computers for a one-time data processing."
    a. private cloud

Question 3: (Virtualization) What type of virtualization (full hardware assisted, para-virtualization, containerization, no virtualization) is feasible for the following scenarios:-

a) A user wants to run a service that requires an unmodified Operating System on an advanced processor.
    a. no virtualization

b) A user wants to run multiple independent applications sharing the same operating system kernel as well as some operating system libraries.
    a. containerization

c) A user plans to run just a single application on a single physical server in a way that he gets maximum performance for that application.

a. full hardware assisted, para-virtualization

Question 4. (Cloud Adoption and Cloud Security) Research the Cloud Security Hype cycle and rank the following three Cloud Security technologies in the order of maturity. In addition, research the technologies mentioned and briefly discuss what they are.

- 1. Container Security
  - Container Security is the act of securing a container making it an authenticated and encrypted to protect client and company data from malware, intruders, system resources and other software/applications.
- 2. Disaster recovery as a service (DRaaS)
  - DRaaS is recovery of physical or virtual servers by replication by a third party in the event of a natural or man-made catastrophe.
- 3. Identity Proofing services
  - Identity Proofing also known as Identity Verification is a service that verifies and authenticates the identity of legitimate clients in order to prevent fraudulent users from accessing a legitimate clients data.