NPTEL Cloud Computing – Week 3

1. Which of the following statement(s) regarding OpenStack storage is/are right?

A) Object storage is managed by Cinder

B) Both ephemeral storage and block storage are accessible from within VM

C) Block storage persists until VM is terminated

D) Ephemeral storage is used to run operating system and/or scratch space

Explanation: Object storage is managed by Swift. Block storage persists until specifically deleted by the user. Thus, statements A and C are false

2. A task takes time T in a uniprocessor system. In a parallel implementation, the task runs on P processors parallelly. The parallel efficiency is Eff, where 0<Eff<1. What is the time taken by each processor (M) in this implementation?

A) M = T

B) M = T/(Eff × P)

C) M = T/P

D) M = (T × Eff)/P

Explanation: According to the question, parallel efficiency (Eff) is less than 1. Therefore, the time taken by each processor will be greater than the ideal T/P, and M = T/(EffP).

3. What does the term "biasness towards vendors" imply in the context of SLA monitoring?

A) Vendor-driven selection of monitoring parameters

B) Customer-driven selection of monitoring parameters

C) Balanced approach in monitoring parameters

D) Lack of active monitoring on the customer's side

Explanation: Biasness towards vendors means measurement of parameters is mostly established according to vendor advantage or in other words vendor-driven selection of monitoring parameters

4. How does the master node in the Google File System maintain communication with chunk servers?

A) Command messages

B) Update messages

C) Query messages

D) Heartbeat messages

Explanation: In GFS, master maintains regular communication with chunk servers by

Heartbeat messages

5. In a cloud, total service uptime is 175 minutes and availability of the service is 0.85. What is the service downtime?

A) 55 minutes

B) 148.75 minutes

C) 26.25 minutes

D) 45 minutes

Explanation: Availability = 1 - (downtime / uptime).

Downtime = Uptime × (1 - Availability) = 175 × (1 - 0.85) = 26.25 minutes.

6. Statement 1: In ephemeral storage, the stored objects persist until the VM is terminated.

Statement 2: The ephemeral storage is managed by Cinder in OpenStack.

A) Statement 1 is TRUE, Statement 2 is FALSE

B) Statement 2 is TRUE, Statement 1 is FALSE

C) Both statements are TRUE

D) Both statements are FALSE

Explanation: Ephemeral storage: - It persists only until the VM is terminated. It is accessible from within the VM as a local file system and is used to run the operating system and/or as scratch space. It is managed by Nova.

7. "Midsize providers can achieve similar statistical economies to an infinitely large provider" Does this fall under?

A) Correlated demand

B) Dependent demand

C) Independent demand

D) Mixed demand

Explanation: Independent demands are midsize providers can achieve Similar statistical economies to an infinitely large provider

8. Let D(t) and R(t) be the instantaneous demand and resources at time t respectively. If demand is exponential (D(t)=et), any fixed provisioning interval (tp) according to the current demands will fall linearly behind.

A) TRUE

B) FALSE

Explanation: If demand is exponential (D(t)=et), any fixed provisioning interval (tp) according to the current demands will fall exponentially behind.

9. Which of the following is/are expected common SLA parameter(s) for both Software-as-a-Service and Storage-as-a-Service models?

A) Usability

B) Scalability

C) Recovery

D) None of these

Explanation: *Software-as-a-Service (SaaS):* Reliability, usability, **scalability**, availability, customizability, Response time

Storage-as-a-Service: Geographic location, **scalability**, storage space, storage billing, security, privacy, backup, fault tolerance/resilience, recovery, system throughput, transferring bandwidth, data life cycle management

10. Data retention and deletion by cloud providers do not fall under one of the SLA requirements.

A) True

B) False

Explanation: Data Retention and Deletion: Some cloud providers have legal requirements of retaining data even of it has been deleted by the consumer. Hence, they must be able to prove their Compliance with these policies.