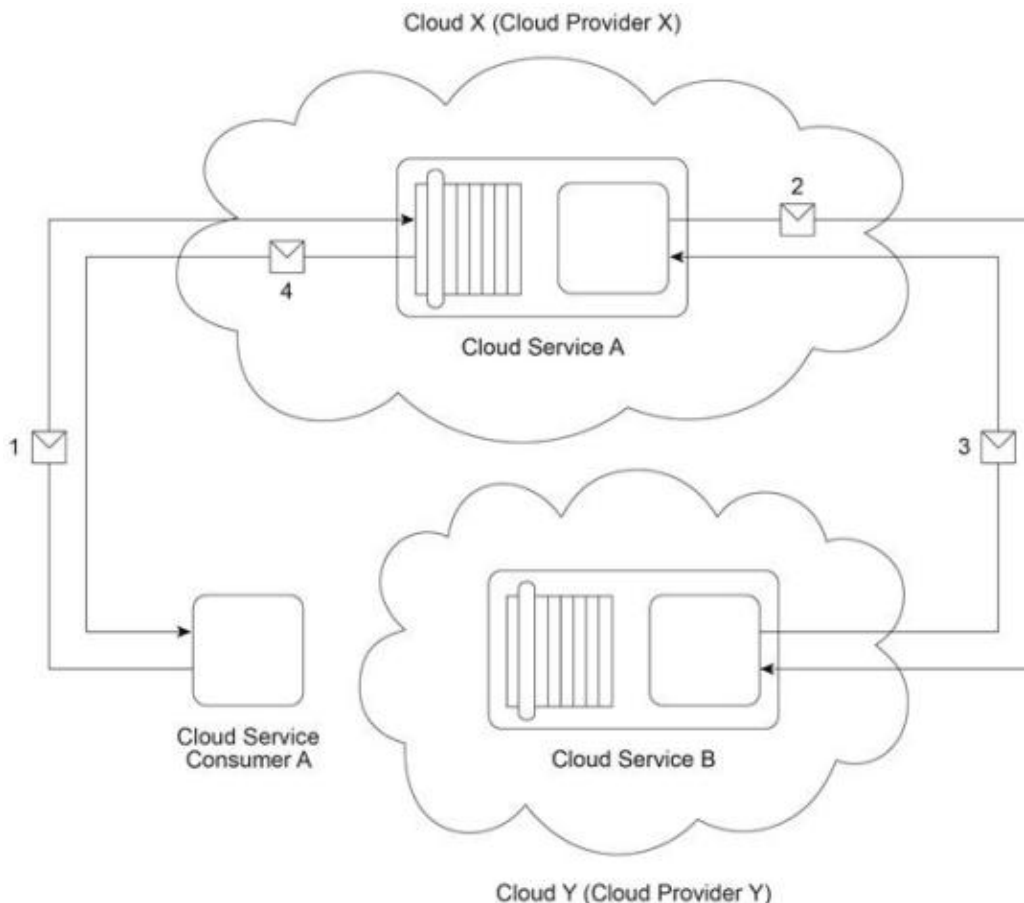


SOA C90-03A

Cloud Technology Lab
Version: 4.0

QUESTION NO: 1

Cloud Service Consumer A invokes Cloud Service A from Cloud X (owned by Cloud Provider X) (1). To fulfill the request from Cloud Service Consumer A, Cloud Service A needs to invoke Cloud Service B that resides on Cloud Y (owned by Cloud Provider Y) (2). After completing its processing, Cloud Service B sends a response to Cloud Service A (3). Cloud Service A verifies the response and then finally sends its response to Cloud Service Consumer A (4).



The guaranteed availability of the Cloud Service A implementation is 95% and the guaranteed availability of the Cloud Service B implementation is 95%. Which of the following statements accurately describes the actual availability that Cloud Service Consumer A can receive based on the described scenario?

A. Because Cloud Service Consumer A's response message is processed by two separate cloud services, the combined availability increases as follows:

$$1 - (1 - 0.95) \times (1 - 0.95) = 0.9975 \text{ or } 99.75\%$$

B. Because Cloud Service A acts as both a cloud service and cloud service consumer in order to process Cloud Service Consumer B's request message, Cloud Service A forms a dependency on Cloud Service B. As a result, the combined availability decreases, as follows:

$$0.95 \times 0.95 = 0.9025 \text{ or } 90.25\%$$

C. Cloud Service Consumer A benefits from redundant cloud service implementations, thereby increasing the guaranteed availability as follows:

$$1 - (1 - (0.95 - 0.1)) \times (1 - (0.95 - 0.1)) = 0.9775 \text{ or } 97.75\%$$

D. As a result of the dependency formed by Cloud Service A on Cloud Service B, the combined availability decreases significantly as follows:

$$(0.95 \times 0.95) - 0.1 = 0.8025 \text{ or } 80.25\%$$

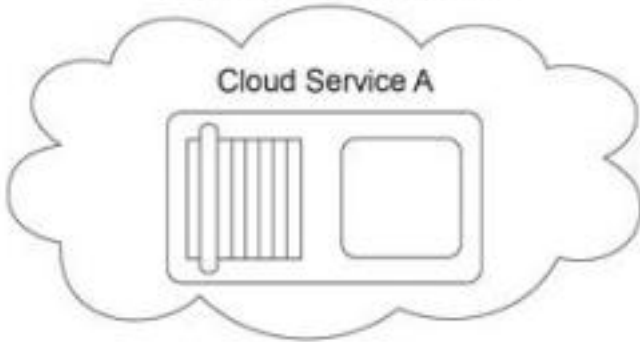
Answer: B

Explanation:

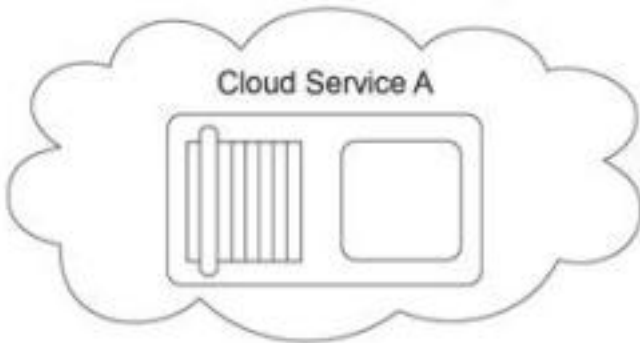
QUESTION NO: 2

The cloud service owner of Cloud Service A is evaluating Clouds X, Y and Z to determine which cloud environment can offer the greatest level of reliability. All three clouds are geographically dispersed across three separate time zones. As a result, each cloud experiences usage peaks at different times. Based on the metrics provided, the greater the usage of a cloud, the lower its reliability. When the cloud service owner complains to Cloud Provider A (the owner of all three clouds) that none of the clouds provide an adequate level of reliability, Cloud Provider A suggests a solution that increases resiliency.

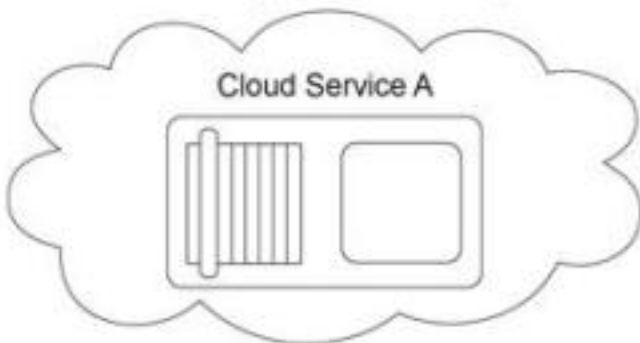
Cloud X (Cloud Provider A)



Cloud Y (Cloud Provider A)



Cloud Z (Cloud Provider A)



Which of the following statements accurately describes a solution that can be used to fulfill the resiliency requirements of Cloud Service A?

- A.** Redundant implementations of Cloud Service A are deployed in all three clouds. The failover system mechanism and a special type of automated scaling listener mechanism are implemented to establish a system whereby one redundant Cloud Service A implementation will automatically take over from another.
- B.** A cloud balancing solution is established, whereby an automated scaling listener mechanism is implemented on each cloud in such a way that every cloud can automatically scale out to another cloud. As a result, if reliability problems occur on any one cloud, the subsequent requests will be scaled out to another cloud in a manner that is transparent to cloud service consumers.
- C.** A failover system mechanism is implemented on Cloud X, which acts as the primary point of contact for cloud service consumers. Upon failure conditions occurring, the Cloud Service A implementation on Cloud X automatically hands over control of current and future message

requests from cloud service consumers to Cloud Y. Cloud Y retains control of cloud serviceconsumer communication until the next failure condition occurs, at which point it hands over control to Cloud Z. Finally, if a failure condition occurs in Cloud Z. control is handed back to Cloud X.

D. A cloud balancing solution is established, whereby a resource replication mechanism is implemented on each cloud. This allows Cloud Service A to be automatically replicated across cloud environments, thereby enabling each implementation of Cloud Service A to take the place of another, whenever failure conditions occur.

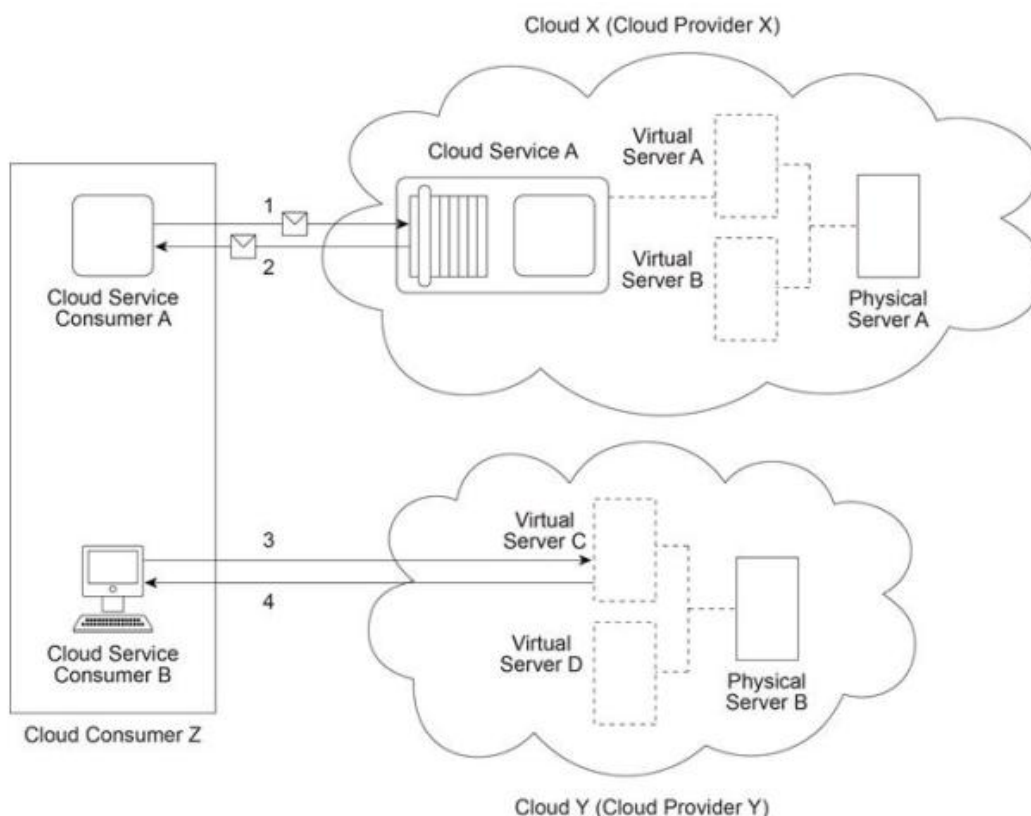
Answer: A

Explanation:

QUESTION NO: 3

Cloud Provider X has deployed a virtualization environment in Cloud X comprised of Physical Server A hosting Virtual Servers A and B. Cloud Provider X implements Cloud Service A on Virtual Server A and makes it available to Cloud Service Consumer A, which interacts with Cloud Service A by sending and receiving messages (1, 2).

Cloud Provider Y has deployed a virtualization environment comprised of Physical Server B hosting Virtual Servers C and D. Virtual Server C is made available to Cloud Service Consumer B, which interacts with Virtual Server C (3,4) in order to prepare for the deployment of a new cloud service that will be used internally by Cloud Provider Y to process data obtained from Cloud Service A



Cloud Consumer Z and Cloud Provider X belong to the same organization. Cloud Provider Y is a third-party organization. Which of the following statements provides a valid scenario that accurately describes the involvement of cloud deployment models, cloud delivery models, roles and/or boundaries? (Note that the correct answer represents one of multiple valid scenarios that can exist.)

- A.** Cloud X is based on the private cloud deployment model. Cloud Service A is based on the SaaS delivery model. Cloud Y is based on the private cloud deployment model. Virtual Server C is being offered as part of the IaaS delivery model. A cloud resource administrator working for Cloud Consumer Z uses Cloud Service Consumer B to access Virtual Server C. Cloud Consumer Z is the cloud service owner of Cloud Service A. Cloud Consumer T's organizational boundary encompasses Cloud Service Consumers A and B. Cloud Consumer T's trust boundary encompasses Cloud Service Consumers A and B, Cloud Service A and Virtual Server C.
- B.** Cloud X is based on the private cloud deployment model. Cloud Service A is based on the SaaS delivery model. Cloud Y is based on the community cloud deployment model. Virtual Server C is being offered as part of the IaaS delivery model. A cloud resource administrator working for Cloud Consumer Z uses Cloud Service Consumer A to access Cloud Service A. Cloud Consumer T's organizational and trust boundaries encompass Cloud Service Consumers A and B, Cloud Service A and Virtual Server C.
- C.** Cloud X is based on the private cloud deployment model. Cloud Service A is based on the SaaS delivery model. Cloud Y is based on the public cloud deployment model. Virtual Server C is being offered as part of the IaaS delivery model. A cloud resource administrator working for Cloud Consumer Z uses Cloud Service Consumer B to access Virtual Server C. Cloud Consumer Z is the cloud service owner of Cloud Service A. Cloud Consumer Z's organizational boundary encompasses Cloud Service Consumers A and B. Cloud Consumer T's trust boundary encompasses Cloud Service Consumers A and B, Cloud Service A and Virtual Server C.
- D.** Cloud X is based on the private cloud deployment model. Cloud Service A is based on the SaaS delivery model. Cloud Y is based on the public cloud deployment model. Virtual Server C is being offered as part of the IaaS delivery model. A cloud resource administrator working for Cloud Consumer Z uses Cloud Service Consumer B to access Virtual Server C. Cloud Consumer Z's trust boundary encompasses Cloud Service Consumers A and B, Cloud Service A and Virtual Server C. The organization that owns Cloud Consumer Z is the cloud service owner of Cloud Service A.

Answer: D

Explanation:

QUESTION NO: 4

A company is planning to build and launch a new SaaS product that will be available for use by the general public. It intends to build the service on-premise and then deploy it in a public cloud. The company has the following set of four requirements for the implementation of the new service: