Started on	Wednesday, 23 October 2024, 4:39 PM
State	Finished
Completed on	Wednesday, 23 October 2024, 4:54 PM
Time taken	14 mins 30 secs
Marks	23.00/25.00
Grade	**4.60** out of 5.00 (**92**%)

Question **1**

Correct

Mark 1.00 out of 1.00

During the VM provisioning process, an organization identifies that provisioning times are significantly delayed. Which of the following processes should be analyzed first to improve this issue?

- A. The networking layer configuration
- B. The hypervisor setup
- C. The virtual machine monitoring tools
- D. The VM image creation process ✓

The correct answer is:
The VM image creation process

Question **2**

Correct

Mark 1.00 out of 1.00

Which of the following migration strategies would you recommend for minimizing downtime when migrating VMs from one data center to another while keeping the services running?

- A. Hybrid migration
- B. Live migration ✓
- C. Cold migration
- D. None of the above

The correct answer is:
Live migration

Question **3**

Correct

Mark 1.00 out of 1.00

What is the most critical factor to analyze before performing live VM migration between two geographically distant data centers?

- A. Storage availability
- B. Network bandwidth and latency ✓
- C. IP address reconfiguration
- D. CPU compatibility

The correct answer is:
Network bandwidth and latency

Question **4**

Incorrect

Mark 0.00 out of 1.00

In a cloud environment where on-demand virtual machines are heavily utilized, how would you evaluate the need for capacity management to avoid resource contention?

- A. By relying on autoscaling to manage workloads
- B. By checking if current SLAs are being met
- C. By conducting periodic load tests under high-demand scenarios
- D. By monitoring CPU and memory utilization regularly ✗

The correct answer is:
By conducting periodic load tests under high-demand scenarios

Question **5**

Correct

Mark 1.00 out of 1.00

To manage resources effectively in a cloud environment, how would you design a hybrid approach combining reservation-based provisioning and on-demand provisioning to maximize efficiency?

A. By keeping separate pools of resources for each approach

B. By allowing only high-priority workloads to use reservation-based provisioning

C. By automating the shift between reserved and on-demand VMs based on utilization thresholds ✓

D. By limiting the number of on-demand instances during peak hours

The correct answer is:
By automating the shift between reserved and on-demand VMs based on utilization thresholds

Question **6**

Correct

Mark 1.00 out of 1.00

Your organization is launching a new service and needs to provision virtual machines (VMs) that are easily manageable. What is the most critical factor to consider for VM manageability?

A. Choosing the fastest provisioning process

B. Ensuring proper tagging for resource management ✓

C. Using cold migration for resource balancing

D. Selecting VMs with the most processing power

The correct answer is:
Ensuring proper tagging for resource management

Question **7**

Correct

Mark 1.00 out of 1.00

When utilizing a reservation-based provisioning system, which factor would you analyze first to ensure that reserved resources are optimally utilized during off-peak times?

A. The cost of over-provisioning

B. Historical usage data ✓

C. Reserved resource expiration periods

D. Load balancing policies

The correct answer is:
Historical usage data

Question **8**

Correct

Mark 1.00 out of 1.00

During the VM provisioning process for a resource-intensive application, you notice high latency issues. What step is crucial for improving the performance of the VMs being provisioned?

A. Decreasing the network bandwidth

B. Allocating more virtual CPUs ✓

C. Scaling down the number of VMs

D. Changing the cloud provider

The correct answer is:
Allocating more virtual CPUs

Question **9**

Correct

Mark 1.00 out of 1.00

Which migration technique is most effective in minimizing performance degradation when migrating high-transactional databases in VMs?

- A. Bulk data transfer
- B. Live migration with memory pre-copy ✓
- C. Snapshot migration
- D. Cold migration

The correct answer is:
Live migration with memory pre-copy

Question **10**

Incorrect

Mark 0.00 out of 1.00

A cloud provider wants to offer reservation-based VM provisioning to high-priority customers. How would you create a resource allocation model that ensures these customers always receive guaranteed resources?

- A. By automating the provisioning process based on customer-defined rules
- B. By reserving resources based on projected demand
- C. By dedicating a portion of total available capacity for reservations ✗
- D. By implementing a pre-emptive scheduling algorithm for reserved resources

The correct answer is:
By implementing a pre-emptive scheduling algorithm for reserved resources

Question **11**

Correct

Mark 1.00 out of 1.00

To optimize the scheduling of VMs in a cloud data center, how would you design a predictive capacity management model that anticipates workload changes in advance?

- A. By relying solely on current resource utilization metrics
- B. By integrating historical data trends with machine learning algorithms ✓
- C. By forecasting usage patterns through basic statistical analysis
- D. By manually adjusting VM allocations based on user demands

The correct answer is:
By integrating historical data trends with machine learning algorithms

Question **12**

Correct

Mark 1.00 out of 1.00

While provisioning VMs in action for an AI-based application, the cloud team experiences performance degradation due to resource over-commitment. What would be the best solution to evaluate in this case?

- A. Adjust CPU and memory over-commitment ratios ✓
- B. Migrate VMs to another cloud region
- C. Upgrade the hypervisor version
- D. Scale down the application to reduce load

The correct answer is:
Adjust CPU and memory over-commitment ratios

Question **13**

Correct

Mark 1.00 out of 1.00

A cloud service provider aims to reduce the overhead caused by VM migrations. How would you evaluate the performance of a migration optimization algorithm?

- A. By checking if it maintains resource availability after migrations
- B. By analyzing how well it distributes VM workloads
- C. By testing its impact on migration time and resource consumption ✓
- D. By measuring its effectiveness at reducing the number of live migrations

The correct answer is:
By testing its impact on migration time and resource consumption

Question **14**

Correct

Mark 1.00 out of 1.00

In a distributed VM management scenario, which of the following challenges would most impact the performance of the virtual machines?

- A. Network latency between distributed nodes ✓
- B. Automated backups
- C. Centralized control of VMs
- D. Decentralized storage management

The correct answer is:
Network latency between distributed nodes

Question **15**

Correct

Mark 1.00 out of 1.00

A company plans to automate its virtual machine provisioning process to minimize human intervention. Which of the following would you create to best achieve full automation for VM provisioning?

A. A service-level agreement (SLA) document

B. A manual VM provisioning approval workflow

C. An API-based dynamic provisioning system integrated with autoscaling ✓

D. A static template for VMs

The correct answer is:

An API-based dynamic provisioning system integrated with autoscaling

Question **16**

Correct

Mark 1.00 out of 1.00

To ensure business continuity during a VM migration scenario, what architecture would you create that guarantees zero data loss and minimal service disruption?

A. A disaster recovery solution with manual failover

B. A cold backup-based architecture

C. A single-site backup with regular data synchronization

D. A multi-site failover architecture with live migration ✓

The correct answer is:

A multi-site failover architecture with live migration

Question **17**

Correct

Mark 1.00 out of 1.00

A cloud administrator is tasked with provisioning virtual machines (VMs) for an e-commerce platform that expects seasonal traffic spikes. How should the administrator evaluate which VM size and configuration to provision to ensure both cost efficiency and performance reliability?

A. By analyzing current storage and networking requirements.

B. By estimating the average traffic over the last year.

C. By selecting the highest performance VM to handle any unforeseen spikes

D. By simulating seasonal traffic spikes and stress testing different configurations ✓

The correct answer is:

By simulating seasonal traffic spikes and stress testing different configurations

Question **18**

Correct

Mark 1.00 out of 1.00

When implementing reservation-based provisioning for a cloud-based service, what is the primary factor to ensure both performance and cost-efficiency?

A. Reserving a fixed number of VMs for the entire year

B. Allocating equal resources to all VMs

C. Using dynamic scaling and adjusting reservations based on current load ✓

D. Reserving resources for non-critical applications

The correct answer is:

Using dynamic scaling and adjusting reservations based on current load

Question **19**

Correct

Mark 1.00 out of 1.00

In a scenario where a cloud provider offers both reservation-based and on-demand provisioning, which metric would be most critical to analyze to ensure optimal resource utilization?

A. Customer satisfaction rates

B. The ratio of reserved to utilized resources ✓

C. The number of unfulfilled on-demand requests

D. The cost of over-provisioning

The correct answer is:

The ratio of reserved to utilized resources

Question **20**

Correct

Mark 1.00 out of 1.00

A cloud-based analytics company is experiencing performance bottlenecks due to inefficient scheduling of VMs. What should be the key focus to improve performance?

A. Reducing CPU allocation for all VMs

B. Increasing the number of VMs

C. Implementing a dynamic load-balancing algorithm ✓

D. Decreasing the number of scheduled tasks

The correct answer is:
Implementing a dynamic load-balancing algorithm

Question **21**

Correct

Mark 1.00 out of 1.00

Which of the following scheduling techniques would be most suitable for optimizing the allocation of VM resources in a scenario with varying workloads?

A. Priority-based scheduling

B. Round-robin scheduling

C. Gang scheduling

D. Fair-share scheduling ✓

The correct answer is:
Fair-share scheduling

Question **22**

Correct

Mark 1.00 out of 1.00

You are tasked with creating a migration strategy for a large financial institution that needs to move hundreds of VMs with minimal downtime. Which combination of techniques should you propose?

A. Application-level failover and cold migration

B. Disk snapshotting with batch migrations

C. Live migration with continuous synchronization ✓

D. Cold migration combined with manual configuration

The correct answer is:
Live migration with continuous synchronization

Question **23**

Correct

Mark 1.00 out of 1.00

In a cloud environment that uses distributed VM management, how would you evaluate the impact of VM migration on network bandwidth during peak utilization hours?

- A. By measuring the bandwidth used before, during, and after migrations ✓
- B. By simulating various workload scenarios
- C. By analyzing the effects on VM availability post-migration
- D. By scheduling migrations during off-peak hours

The correct answer is:
By measuring the bandwidth used before, during, and after migrations

Question **24**

Correct

Mark 1.00 out of 1.00

Design a cloud strategy for a healthcare provider that involves both VM provisioning and live migration for sensitive patient data processing. What would be the most critical element to ensure security and performance during migration?

- A. Utilizing edge computing for faster processing
- B. Implementing a real-time monitoring tool
- C. Creating redundant systems for failover
- D. Encrypting data before migration ✓

The correct answer is:
Encrypting data before migration

Question **25**

Correct

Mark 1.00 out of 1.00

A cloud service provider offers both reservation-based provisioning and on-demand provisioning options. Which scenario would benefit most from the reservation-based provisioning model?

A. An established enterprise running batch processing jobs ✓

B. An e-commerce website with fluctuating traffic

C. A startup with unpredictable traffic spikes

D. A social media company during user spikes

The correct answer is:

An established enterprise running batch processing jobs

◄ Quiz 1a

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Assignment 1 ►