Lab (1) Report

CSE451, Computer and Networks Security

Name: Ahmed Khaled Saad Ali Mekheimer

ID:1809799

Questions & Discussion:

1) Which of the following characteristics should you consider when deciding whether to deploy an application or service to a virtual machine?
a. Hardware requirements
b. Software support and compatibility
c. Licensing
d. Performance and resource requirements
e. Historical performance data
f. All of the above

- *All the above factors are essential for the deployment of an application to a VM. Studying these factors considerably, leads to better decision making in distributing the workload of virtualization.*

2) Which of the following terms describes a situation in which many virtual machines are deployed without proper IT oversight?
a. Server sprawl
b. Server consolidation
c. Network virtualization
d. Virtual machine sprawl
e. Storage virtualization
f. None of the above

- *VM sprawl is when failure of virtual machines management happens from IT staff's unawareness.*

3) Which of the following virtualization management approaches can help organizations maintain optimal hardware resource utilization over time?
a. Automatically reconfiguring virtual machines based on performance statistics
b. Deploying multiple copies of virtual machines to different host servers
c. Automatically moving virtual machines based on changes to resource requirements
d. Placing virtual machines on isolated virtual network switches
e. Storing virtual machines on a Storage Area Network (SAN)
f. Both a and c

- *To preserve the changes to the hardware resources' performance and workload distribution, we need to automatically reconfigure virtual machines and have other host servers to migrate VMs to them. Systems administrators will help solve possible performance issues with the server's utilization in consideration.*

4) You are a systems administrator that manages a lab environment for your organization's software developers and testers. How can you reduce the amount of time and effort you spend on managing the lab environment while providing quicker deployments of new virtual machines?
a. Create a library of virtual machine templates and copy them to create new VMs
b. Invest in self-service virtualization provisioning systems
c. Give developers and testers permissions to create and deploy new VMs
d. Define standardized configurations for test environment virtual machines
e. All of the above

- Need of IT oversight won't be as much due to these solutions which will allow the users to handle their own requests and needs, however we should put some restrictions to make sure resources are not being irresponsibly used.

5) You are a software tester that is testing a complex application that is running within a single virtual machine. You have recently encountered a rare and intermittent software defect that developers have been unable to reproduce or troubleshoot in the past. Which of the following steps should you take to allow developers to recreate the issue?

a. Power off the virtual machine and discard any saved state information

b. Save the state of the virtual machine and provide a copy of it to your developers to troubleshoot the problem

c. Roll back the state of the virtual machine to a point in time prior to when the defect was discovered

d. Move the virtual machine to another host server to which developers have access

- *This solution is a good use of virtualization's service to report, reproduce or detect rare troubleshoots.*

6) You are a systems administrator that is responsible for supporting a team of software testers in your organization. The test department frequently requires new VMs running a wide variety of different operating systems to thoroughly test a new application your company is developing. VMs must be able to communicate with each other over the network. You are concerned about the potential security impact of these new VMs. Which of the following steps can you take to reduce security risks?

a. Disable network and Internet access for all virtual machines

b. Place all test-related virtual machines on a private virtual network

c. Power on virtual machines only when they are being actively used in the environment

d. Configure virtual machines to run under an account with limited permissions

- *VMs will need network and Internet access in order to communicate with each other. We consider the security impact by placing the used VMs in a created private virtual network apart from the local environment of the organization.*

7) In which of the following types of virtualization are applications stored and executed on the server?
a. Application Virtualization
b. Storage Virtualization
c. Presentation Virtualization
d. Network Virtualization
e. Server Virtualization

- *A shared server is used to install and run applications on, and a network is established so that users can access the VMs.*