Date: 11/2/2019 12:37:48 pm
Time Spent: 3:04

Candidate: Garsteck, Matthew
Login: mGarsteck

Overall Performance

Your Score: 40%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

Virtualization is the ability to install and run multiple operating systems concurrently on a single physical machine. Windows virtualization includes several standard components.

Drag the component on the left to the appropriate description on the right. (Each component can be used once, more than once, or not at all.)

A file that resides within the host operating system and serves a storage device for the virtual machine.

✓ Virtual Hard Disk (VHD)

A thin layer of software that resides between the guest operating system and the hardware.

✓ Hypervisor

The guest operating system that is a software implementation of a computer that executes programs.

✓ Virtual Machine

The host operating system that has hardware, such as storage devices, RAM, and a motherboard.

✓ Physical Machine

Appears to be a self-contained and autonomous system.

✓ Virtual Machine

Allows virtual machines to interact with the hardware without going through the host operating system.

✓ Hypervisor

Explanation

Virtualization is the ability to install and run multiple operating systems concurrently on a single physical machine. Virtualization typically includes the following components:

- **Physical Machine**: also known as a host operating system, the physical machine the actual hardware in place on the machine, such as the hard disk drive(s), optical drive, RAM, and motherboard.
- **Virtual Machine**: also known as the guest operating system, the virtual machine is a software implementation of a computer that executes programs like a physical machine. The virtual machine appears to be a self-contained and autonomous system.
- **Virtual Hard Disk (VHD)**: a file that is created within the host operating system and simulates a hard disk for the virtual machine.
- **Hypervisor**: a thin layer of software that resides between the guest operating system(s) and the hardware. A hypervisor allows virtual machines to interact with the hardware without going through the host operating system.

References

LabSim for Server Pro 2016, Section 6.1.
[AllQuestions_ServerPro_2017.exm VPLAN 01]

Question 2: Correct

Virtualization offers several advantages for server administrators. As an administrator, your job can be made easier because of the several tasks you can perform on or with a virtual machine instead of on a physical machine. The advantages of virtualization can be organized into the categories listed on the left.

Drag the advantage category on the left to the task that matches it on the right. (Each category can be used once, more than once, or not at all.)

Move many physical servers onto a few host servers with many virtual machines.

✔ Server Consolidation

Verify updates and patches before rolling them out into the production environment.

✔ Testing Functions

Create a sandboxed environment where malware can be executed with minimal risk to equipment and software.

✔ Isolation

Move virtual machines between hypervisor hosts as needed.

✔ Flexibility

Create a lab environment that mirrors your production network to see how an application runs before putting it into production.

✔ Testing Functions

Migrate an older operating system off of aging hardware and into a virtual machine.

✔ Server Consolidation

Explanation

Advantages of virtualization are:

• Flexibility: virtual machines can be given network access, and other network devices will consider them to be real physical machines.

  • Virtual machines should have the latest service packs and patches, just like physical machines.
  • Virtual machines should be hardened, just like physical machines.
  • Virtual machines can be connected to the production network by creating a bridged (external) virtual switch.
  • Because they are self-contained, virtual machines can be easily moved between hypervisor hosts as needed.

• Testing Functions: virtual machines can be configured in a lab environment that mirrors your production network for testing purposes. This lab environment can be used to:

  • Test applications before installing them on production systems.
  • Test updates and patches before rolling them out into the production environment.
  • Test security controls to verify that they are working as designed.

• Server Consolidation: server consolidation allows you to move multiple physical servers onto just a few physical servers with many virtual machines. Physical-to-virtual migration (P2V) is moving an older operating system off of aging hardware and into a virtual machine. Consolidating servers:

  • Require fewer physical computers.
  • Reduce power consumption.
  • Increase physical server resource utilization.
  • Increase administrative efficiency.
  • Aid resolving incompatibility issues.

• Isolation: a virtual machine can be isolated from the physical network to allow testing to be performed without impacting the production environment. This is called sandboxing.

  • Sandboxed virtual machines offer an environment where malware can be executed with minimal risk to equipment and software.
  • Virtual machines that are isolated in this fashion are isolated from many kinds of security threats.
  • To allow the virtual machines to communicate with each other while isolating them from the production network, perform the following:

    • Create a new virtual switch configured for host-only (internal) networking.
    • Connect the virtual network interfaces in the virtual machines to the virtual switch.

References

LabSim for Server Pro 2016, Section 6.1.
[AllQuestions_ServerPro_2017.exm VPLAN 02]

Question 3: Incorrect

You want to implement Hyper-V so you can create a lab environment that mirrors your production network for testing applications before deploying them into your production environment. You're planning on having four virtual Windows servers in this lab environment.

You plan to use hardware that you already have on hand to create your first Hyper-V host system. You have an unused system with the following specifications and OS installed:

- A 64-bit processor with second-level address translation (SLAT) and monitor mode extensions.
- UEFI that supports virtualization with the following features:
  - Hardware-assisted virtualization with Intel VT.
  - Data Execution Prevention (DEP) enabled with Intel Execute Disable Bit (XD).
- 4 GB RAM.
- Windows Server 2016 Standard Edition with the Desktop Experience deployment.

Will this system allow you to create your lab environment?

- ○ No. You need Windows Server 2016 Datacenter Edition to support Hyper-V.
- ◉ ~~Yes. This system meets the minimum requirements for a Hyper-V host.~~
- ○ No. You need to use a Windows Server 2016 Standard or Datacenter Edition with the Server Core deployment.
- ➡ ○ No. You need more RAM to support four virtual machines.

Explanation

This system does not meet the needs you have in creating a lab environment; you need more RAM to support four virtual machines. The system does meet the minimum requirements for creating a Hyper-V host system, but you also need enough physical RAM to support multiple virtual machines on top of the RAM needed by the host machine and Windows Server 2016 Standard Edition only allows for 2 guest machines. Each virtual machine you create will need memory to be allocated from the physical machine's RAM for use by the virtual machine.

References

LabSim for Server Pro 2016, Section 6.1.
[AllQuestions_ServerPro_2017.exm VPLAN 03||/]

Question 4: Incorrect

You want to implement Hyper-V so you can create a lab environment that mirrors your production network for testing applications before deploying them into your production environment. You're planning on having four virtual Windows Servers in this lab environment.

You plan to use a file server already in production to create your first Hyper-V host system. You have a system with the following specifications and OS installed:

- A 64-bit processor with second-level address translation (SLAT) and monitor mode extensions.
- UEFI that supports virtualization with the following features:
  - Hardware-assisted virtualization with Intel VT.
  - Data Execution Prevention (DEP) enabled with Intel Execute Disable Bit (XD).
- 64 GB RAM.
- Windows Server 2016 Standard edition with the Server Core deployment.

Is this system a good choice for hosting your lab environment?

- ➡ ○ No, best practice suggests that the system should be a dedicated hypervisor host with only the Hyper-V role installed.
- ○ No, best practice suggests that the system should be a dedicated hypervisor host using the Windows Server 2016 Datacenter edition.

No, best practice suggests that the system should be a dedicated hypervisor host using the Windows Server 2016 Datacenter edition with the Desktop Experience deployment.

~~Yes, this system meets the best practice suggestions for a dedicated hypervisor host.~~

Explanation

This system is not a good choice for hosting your lab environment. Best practice suggests that the system should be a dedicated hypervisor host with only the Hyper-V role installed; this system is currently running the file server role.

Hyper-V is supported by both the Windows Server 2016 Datacenter and Standard editions.

Running virtual machines (VMs) significantly increases hardware resource utilization on the server. Accordingly, consider implementing the following best practices to maximize the system resources available for virtualization:

- Consider implementing a dedicated hypervisor host by installing only the Hyper-V role on the server. No other roles should be installed.
- Consider implementing Hyper-V on a Server Core installation.

References

LabSim for Server Pro 2016, Section 6.1.
[AllQuestions_ServerPro_2017.exm VPLAN 04]

Question 5: Incorrect

You want to implement Hyper-V so you can create a lab environment that mirrors your production network for testing applications before deploying them into your production environment. You're planning on having four virtual Windows servers in this lab environment.

Your lab environment will need access to the physical network and the Internet.

You plan to use hardware that you already have on hand to create your first Hyper-V host system. You have an unused system with the following specifications and OS installed:

- A 64-bit processor with second-level address translation (SLAT)
- VM monitor mode extensions
- UEFI that supports virtualization with the following features:
  - Hardware-assisted virtualization with Intel VT
  - Data Execution Prevention (DEP) enabled with Intel Execute Disable Bit (XD)
- 64 GB RAM
- Windows Server 2016 Standard edition with the Server Core deployment
- A single 1 Gbps network adapter

Is this system a good choice for hosting the lab environment you plan to build?

No. When guest systems need network access, best practice suggests that the Windows Server 2016 host system should use the Desktop Experience deployment.

~~Yes. This system meets the best practice suggestions for hosting guest systems that need network access.~~

No. When guest systems need network access, best practice suggests that a host should have its own network adapter and an additional network adapter for every four virtual machines.

No. When guest systems need network access, best practice suggests that the host system should use Windows Server 2016 Datacenter edition.

Explanation

No. When guest systems need network access, best practice suggests that a host should have its own network adapter and an additional network adapter for every four virtual machines. This host system only has one network adapter, which is likely to become a bottleneck if the virtual machines generate a lot of network traffic.

Hyper-V is supported by both Windows Server 2016 Datacenter edition and Standard edition. Best practice suggests that a host system should use the Server Core deployment.

References

LabSim for Server Pro 2016, Section 6.1.
[AllQuestions_ServerPro_2017.exm VPLAN 05]