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#1

You have been hired as an IT summer intern for a small, but quickly expanding, restaurant chain. The restaurant chain owner wants to expand her online presence by creating a website that will add more online features such as downloadable menus, real-time reservations, online ordering, web-based email, and a possible interactive chat during restaurant hours. The website will have high access demands from the 4:00 pm to 11:00 pm peak hours, and slower access demands during off-peak hours. The owner does not have any IT experience, and does not want to become involved in the extra work of maintaining IT equipment. What do you recommend she do?

✗
Implement a hybrid cloud-computing environment.

✗
Implement a private cloud-computing environment.

✓
Implement a public cloud-computing environment.

✗
Implement a matrixed cloud-computing environment.

Explanation

Public clouds utilize cloud resources (like servers and storage) that are owned and operated by a third-party cloud service provider and delivered over the Internet. With a public cloud, all hardware, software, and other supporting infrastructure are owned and managed by the cloud provider. The public cloud model provides several advantages for the restaurant chain owner. First, there are lower costs because there is no need to purchase hardware or software, and you pay only for the service you use.

Second, there are no maintenance issues as your service provider provides the maintenance. Third, there is near-unlimited scalability because on-demand resources are available to meet the business's needs. Fourth, there is high reliability because a vast network of servers ensures against failure.

/course/what-is-cloud-computing-introductory/cloud-service-models/

#2

Which service model allows you to configure and customize your environment from the base up?

✗
Software as a Service (SaaS)

✓
Infrastructure as a Service (IaaS)

✗
Platform as a Service (PaaS)

✗
'Anything' as a Service (XaaS)

Explanation

IaaS provides the greatest level of customization as you can configure the environment from the ground up, starting from which operating system to install and up. Other service models have fixed components which you are unable to change or manage.

/cloud-computing/what-is-cloud-computing-introductory-course/cloud-service-models.html

#3

The _____ cloud service model offers the greatest amount of user customization and control, but requires the greatest amount of user administration including the operating system, but not physical hardware.

✓
Infrastructure-as-a-Service (IaaS)

✗
Platform-as-a-Service (PaaS)

✗
Software-as-a-Service (SaaS)

✗
Traditional on-premise

Explanation

The IaaS cloud service model allows the highest level of customization and management, where users can architect their own portion of the cloud within a virtual network, and then deploy virtual machines which they configure from the operating sytem layer and above.

/course/what-is-cloud-computing-introductory/cloud-service-models/

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Cloud Service Models
Course:What Is Cloud Computing?

3m

#4

Moving to the cloud will present many new issues for businesses to consider and anticipate as they migrate from an on-premises environment. Which of the following below is not an issue specific to cloud computing?

Potential increased dependency on the public internet

Limitations and constraints in platform service level agreements

Potential increased risk of cyberattack

Restoring service in the event of a server failure

Explanation

Maintaining service in the event of server failure is not specific to cloud computing, although the cloud does offer quick remedies for this eventuality.

Rather than accessing services and applications through a local network, many cloud services must be accessed through the public internet or a private network provided by the public cloud platform. This raises additional questions about how to maintain access best for customers and employees.

Cloud providers also have their own service level agreements, which should be reviewed closely because they impact not only the availability and quality of service, but also how quickly you can respond when and if you need customer support.

And yes, as your infrastructure is all accessible via the internet this opens up the possibility for an increased attack rate by anyone out there wanting to cause harm and damage. Therefore it's crucial that you have a Cloud security expert when architecting your infrastructure. Failure to apply the correct level of security at all levels of your deployments could open holes that malicious users out on the internet will be keen to exploit. As your infrastructure is all accessible via the internet this opens up the possibility for an increased attack rate by anyone out there wanting to cause harm and damage. Therefore it's crucial that you have a Cloud security expert when architecting your infrastructure. Failure to apply the correct level of security at all levels of your deployments could open holes that malicious users out on the internet will be keen to exploit.

/course/should-your-business-move-to-the-cloud/cloud-constraints/

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16m

#5

Migration to the cloud presents numerous potential benefits, but it will not solve all of a business's challenges. Which of the following is not an immediate benefit provided by the cloud?

✓ Improved application performance

✗ Utility-based metering

✗ On-demand resourcing

✗ Economy of scale

Explanation

Economy of scale, on-demand resourcing, and utility-based metering are each available in the public cloud, but improved application performance is not guaranteed by hosting one's services in the cloud. Optimization, experimentation, and innovation may be easier to implement, depending on your application's requirements, but this still requires a dedicated team to review and redesign an application to gain the true benefits of the cloud.

/course/should-your-business-move-to-the-cloud/is-the-cloud-right-for-you/

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#6

As an example of an important cloud characteristic, let's say you deploy a small website today. Next week, you add complex artificial intelligence services to it that are provided by a public cloud vendor. The following week, you deploy your website to multiple regions around the globe. What concept or characteristic of cloud computing does this represent?

✗ High availability

✗ Security

✓ Growth

✗ Utility-based metering

Explanation

The hypothetical scenario above is an example of growth which the cloud makes possible. You start with something simple, then innovate with advanced, easy to provision services hosted by the cloud vendor, and expand to a global market.

/course/what-is-cloud-computing-introductory/key-cloud-concepts/

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Course:What Is Cloud Computing?

5m

#7

What cloud resource type stores structured data used by cloud applications?

✕ Storage

✕ Compute

✕ Network

✓ Database

Explanation

Cloud database resources store structured data used by applications, and in the classic resource model, it is comparable to MySQL, Oracle and database servers.

/course/what-is-cloud-computing-introductory/what-is-cloud-computing-1/

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What is Cloud Computing?

Course:What Is Cloud Computing?

6m

#8

The _____ model requires no software installation and focuses on design simplicity and ease of use. It offers a minimal level of service customization.

✕ Infrastructure-as-a-Service

✕ Platform-as-a-Service

✓
Software-as-a-Service

✗
Traditional on-premise

Explanation

The SaaS cloud service model focuses on the delivery of an application to a large audience and requires the smallest amount of user administration. As a trade-off, it offers very few customization options.

/course/what-is-cloud-computing-introductory/cloud-service-models/
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#9

A _____ cloud deployment model is where a vendor makes available the use of shared infrastructure, including compute, storage and network resources, that can be provisioned on demand and typically accessed over the internet.

✗
private

✓
public

✗
hybrid

✗
community

Explanation

Public clouds allow for users to access remote resources on-demand, which is accessed over the internet. Anyone can gain access to the vendors' resources as long as they sign up to the service. Private, hybrid and community clouds are restricted on access.

/cloud-computing/what-is-cloud-computing-introductory-course/cloud-deployment-models.html
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Cloud Deployment Models
Course:What Is Cloud Computing?

3m

#10

What benefit of cloud computing allows you to increase or decrease the power or quantity of resources at any time, without extensive installation or physical processes of provisioning?

✓ Scalability

✗ Economy of Scale

✗ High availability

✗ Utility-based metering

Explanation

Scalability means you can increase or decrease the power of provisioned resource, such as adding or removing more CPU or memory to a virtual machine. This is an example of scaling vertically. Scalability also means you can increase the sheer number of resources in your environment, such as adding more virtual machines or terminating some that you have deployed. This is an example of scaling horizontally.

/course/what-is-cloud-computing-introductory/key-cloud-concepts/
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Key Cloud Concepts
Course:What Is Cloud Computing?

5m

#11

What is the most accurate definition of cloud computing?

Cloud computing is a pool of servers offering compute resources that are designed to be issued exclusively to individual tenants (users and organizations).

Cloud computing is a remote virtual pool of on-demand shared resources offering compute, storage, and network services that can be rapidly deployed at scale.

Cloud computing is a term used to describe virtualized technology.

Cloud computing is a physical pool of compute, storage, and network resources that cannot be accessed over the internet.

Explanation

Cloud Computing is based on Virtualization technology and therefore provides virtual pools of compute, storage and network resources that can be accessed over the internet to shared tenants which can be quickly deployed into new and existing environments. The incorrect answers here either refer to physical pools or resources, or individual tenants, which isn't accurate when describing Cloud Computing.

 /cloud-computing/what-is-cloud-computing-introductory-course/what-is-cloud-computing.html

#12

Public cloud vendors have a common definition of what aspects of security are the vendor's responsibility and what aspects of security are the end user's responsibility. This is referred to as the Shared Responsibility Model. Under the Shared Responsibility Model, which of the following would be the end user's responsibility?

Access to the physical datacenter

Operation and administration of the hardware hosting virtual resources

Availability of a cloud storage service

✓

Creating authentication and authorization mechanisms for a cloud storage service

Explanation

The vendor will operate to an exceptionally high standard of security for the underlying infrastructure of the cloud, but it's up to you as the end-user to then architect security in the cloud by using the tools, services, and applications available.

/course/what-is-cloud-computing-introductory/key-cloud-concepts/
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5m

#13

Which resources provide the connectivity allowing all other resources to communicate with each other?

✗

Storage

✗

Compute

✗

Servers

✓

Network

Explanation

As a classic environment comparison, in a typical environment you would find hardware such as Routers to route traffic between networks, switches which provide the backbone of network connectivity allowing hosts to talk to one another, and firewalls to ‘allow’ or ‘deny’ traffic into the environment.

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6m

#14

In what way is a private cloud model similar to a public cloud model?

Both private and public cloud models physical hardware are managed by the end users hosting their applications on the hardware.

In both private and public cloud models, the cloud infrastructure is hosted on the premises of a business using it.

Using both private and public cloud will increase a business' capital expenditures to acquire hardware hosting the cloud.

Both private and public cloud models use virtualization to differentiate themselves from traditional on-premise servers.

Explanation

The only correct statement is that both private and public cloud models use virtualization to differentiate themselves from traditional on-premise servers.

/course/what-is-cloud-computing-introductory/cloud-deployment-models/
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Cloud Deployment Models
Course:What Is Cloud Computing?

3m

#15

There are numerous questions a business should consider before it starts planning a migration to the cloud. Which of the following is not a fundamental business question to consider?

✕ How will migration address the current weaknesses in my business?

✕ How will migration to the cloud help me achieve key business objectives?

✓ What technologies will my business utilize in the cloud?

✕ How will migration to the cloud provide benefits to my customers?

Explanation

Before you consider the technical nuts and bolts of migrating a business to the cloud, it is important to have a clear understanding of how the migration as a whole will benefit a business. Will migration strengthen weak areas of a business, will it improve the overall experience for the customer in some tangible ways, and will it help a business reach key objectives. These are much more important, in the big picture, than the technical aspects of the migration - which will be of paramount importance in later stages of migration.

/course/should-your-business-move-to-the-cloud/is-the-cloud-right-for-you/
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16m

#16

What are some of the benefits that the public cloud provides when compared to on-premises data centers? (Choose 3 answers)

✓ Minimizing issues caused by outdated technology

✓

Potential for exponential growth

✓

Simplify experimentation with new technology

✗

Compatibility with any application

Explanation

Moving to the cloud allows users to take advantage of the latest wave of technology, such as serverless designs or container orchestration through Kubernetes services. It also gives customers the ability to scale up almost instantly, without as much set up time as would be required for an on-premises data center. The cloud also helps customers avoid losses related to outdated technology because the public cloud providers are always competing with one another to provide the most up-to-date technology, leaving the customers to innovate on how to use that technology.

However, it is possible that business applications are not compatible with the cloud. This is a constraint that leads many businesses to adopt a hybrid cloud approach or to redesign applications for the cloud.

/course/should-your-business-move-to-the-cloud/cloud-business-benefits/

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Cloud Business Benefits
Course:Should Your Business Move to the Cloud?

9m

#17

Which of the following cloud computing concepts refers to increasing or decreasing compute resources based on demand?

✓

Elasticity

✗

Fault tolerance

✗

Load balancing

✗
High availability

Explanation

Elasticity is the degree to which a system is able to adapt to workload changes by provisioning and de-provisioning resources in an automated manner, such that at each point in time the available resources match the current demand as closely as possible.

Fault tolerance refers to the ability of an application to keep running even if some of its components fail.

Load balancing is a core networking solution used to distribute traffic across multiple servers in a server farm. Load balancers improve application availability and responsiveness and prevent server overload.

High availability is similar to fault tolerance. It refers to the ability of an application to keep running for an agreed-upon percentage of time, such as 99.99% of the time.

https://cloud.google.com/architecture/scalable-and-resilient-apps

#18

The public cloud allows you to pay only for the time that you use cloud resources, not for the cost of ownership. This concept is known as _____.

✓
consumption-based metering

✗
shared infrastructure

✗
economy of scale

✗
scalability

Explanation

Consumption-based metering simply means you pay for what you use. Public cloud vendors offer different services at different units of time, some reserved for multiple years, and others charged based on milliseconds.

/course/cloud-fundamentals-1845/cloud-concepts/

#19

Which cloud resource saves and retains data, and is available at a near-unlimited amount within the cloud?

✓ Storage

✗ Compute

✗ Network

✗ Database

Explanation

Cloud storage, as the name implies, stores and saves data, and is comparable to hard disks on a personal computer, or network-attached storage (NAS) or storage area networks (SAN).

/course/what-is-cloud-computing-introductory/what-is-cloud-computing-1/

#20

What is a key benefit of Virtualization?

✗ Increased operational cost

✗ Quicker remote connectivity

✗ Reduced network latency

✓ Reduced capital expenditure

Explanation

As Virtualization allows for multiple VMs to be installed on the same physical host, it maximizes the optimization potential and reduces the requirement to purchase additional servers, resulting in a reduced capital expenditure

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