

Sample exam

EXIN Cloud Computing Foundation

Edition 201512



CLOUD
COMPUTING

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Introduction

This is the sample exam EXIN Cloud Computing Foundation. The Rules and Regulations for EXIN's examinations apply to this exam.

This exam consists of 40 multiple-choice questions.

When you do the exam on paper, be careful to read all relevant information and all answers, even if they are printed on the next page.

When you do the exam on a computer, be careful to always scroll down to read the entire question and all answers.

Each multiple-choice question has a number of possible answers, of which only one is the correct answer.

The maximum number of points that can be obtained for this exam is 40. Each correct answer is worth one point. If you obtain 26 points (65%) or more you will pass.

The time allowed for this exam is 60 minutes.

Good luck!

Sample Exam

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What is an important concern for the customer in multi-tenant environments?

- A. Availability
- B. Network bandwidth
- C. Network latency
- D. Security

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Virtualization is a key architectural feature of Cloud computing.

What is another one of these key characteristics of Cloud computing?

- A. the use of secured access
- B. the use of Service Level Agreements
- C. the use of standard protocol
- D. the use of the Internet

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Where did the Internet begin?

- A. a cluster of cooperating universities in the USA
- B. computer hobbyists
- C. the CIA
- D. the Department of Defense of the USA

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What is a benefit of Cloud Computing for IT staff?

- A. higher payment of IT staff involved in Cloud Computing
- B. less interruption of work caused by users asking for support
- C. less knowledge needed: Cloud Computing does not require special skills
- D. lower stress levels: less worry about normal daily activities like making back-ups

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What is a correct description of a Thin Client?

- A. a Client computer without a screen
- B. a mobile phone with access to the Internet
- C. a Personal Computer without a hard drive
- D. a user terminal without a processor

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What is Multi-tenancy?

- A. An architecture in which a single instance of a software application serves multiple customers.
- B. An architecture in which each customer has their own software instance.
- C. A way of thinking in terms of services and service-based development and the outcomes of services.
- D. The act of creating a virtual (rather than actual) version of something, including (but not limited to) a virtual computer hardware platform, operating system (OS), storage device, or computer network resources.

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The ISO/IEC 20000-1:2011 standard requires that ISO/IEC 20000 processes are documented.

Who needs to show that they are familiar with the processes and adhere to the procedures and working instructions?

- A. Only the organization, because they are responsible for the processes.
- B. Only the Cloud service provider, because they take over all responsibility.
- C. Both the organization and the Cloud service provider, because they share responsibility.
- D. Neither the organization, nor the Cloud service provider, because the processes within Cloud computing are outside the scope of ISO/IEC 20000.

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Which service model allows the customer to choose more layers in the computing architecture?

- A. Infrastructure as a Service (IaaS)
- B. Platform as a Service (PaaS)
- C. Software as a Service (SaaS)
- D. There is no difference between the service models.

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What is an example of a single purpose environment?

- A. any application on any server
- B. interface to a large computer
- C. interface to large storage
- D. Mainframe

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What is Federation in Identity management?

- A. cloud-based Identity management enabling single sign-on (SSO) for multiple systems
- B. systems in the Cloud sharing information about the identity of users
- C. the cloud of all systems accessible by a single user
- D. the identity of a group of users sharing the same cloud resources

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What is the benefit of storage availability in the Cloud?

- A. Additional storage does not require budget for new large storage devices.
- B. Storage in the Cloud has a higher availability than storage devices in the Local Area Network (LAN).
- C. Storage in the Cloud has shorter access times than storage in the LAN.
- D. Storage in the Cloud is easier to protect against intrusion.

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Which question do you **not** have to ask when moving your local Cloud network to a hybrid environment?

- A. How do I test if my provider has everything under control?
- B. How well is my data protected against theft?
- C. What happens to my data when I'm not using it?
- D. What will my customers notice from the move?

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What is Abuse of Cloud Services?

- A. An intolerable system slowdown leaves all of the legitimate service users confused and angry as to why the service isn't responding.
- B. Cloud provider may not only host your data and applications, but also malicious software.
- C. Moving into the Cloud may make it more difficult for organizations to prove their compliance to legislation and regulations during external audits.
- D. Some of the cloud providers staff or sub-contractor staff may be untrustworthy.

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Why is a trial period needed when considering to use Software as a Service (SaaS)?

- A. to establish the required bandwidth for using the cloud services
- B. to evaluate whether the cloud services will be useful
- C. to find out whether the vendor will meet the Service level agreement (SLA)
- D. to have time to accommodate the local network to use of the new services

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Why are standards used in Cloud Computing?

- A. Standards provide compliance.
- B. Standards provide location independence.
- C. Standards provide portability.
- D. Standards provide security.

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What is a major limitation in using applications on mobile platforms?

- A. lack of applications available for mobile platforms
- B. limited memory of mobile phones
- C. not all applications are available for all mobile platforms.
- D. there are no enterprise applications available for the mobile platforms

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What is an important limitation of Cloud Computing?

- A. automation
- B. increased costs
- C. privacy
- D. shared resources

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In a cloud environment, consumers become dependent upon providers for products and services.

What is a term used to describe the difficulties in migrating a software application from one provider to another?

- A. Data conversion plan
- B. Loyalty program
- C. Marketing strategy
- D. Vendor lock-in

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What is a staffing benefit of Cloud Computing?

- A. fewer IT-staff
- B. higher recruitment
- C. managed services
- D. self-service

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What is a Virtual Private Network (VPN)?

- A. a secured connection for remote access to a Local Area Network (LAN)
- B. a secured private cloud for a single user
- C. a virtual network device for private purposes
- D. an operating system for private network systems

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What is not a valid reason for the customer asking a Cloud provider where their servers are located?

- A. Geographical location may tell something about network latency.
- B. The geographical location may tell something about legislation.
- C. The number of sites tells you something about disaster recovery possibilities.
- D. When a server breaks down, the customer wants to send a technician to fix the problem as soon as possible.

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Why is it beneficial to businesses that Cloud computing involves managed services?

- A. All services are managed, even when a Cloud provider goes out of business.
- B. Cloud services automatically comply with the national and international legislation.
- C. The business does not have to worry about the performance of Cloud services.
- D. The business' own IT department can shift the focus away from operational issues.

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What is information that can be used to uniquely identify, contact, or locate a single person or can be used with other sources to uniquely identify a single individual?

- A. Enterprise Architecture (EA)
- B. Personal Identifiable Information (PII)
- C. Service Oriented Architecture (SOA)
- D. Single sign-on (SSO)

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What is an important benefit of Cloud Computing?

- A. highly protected data
- B. independency from the Internet
- C. reduced cost
- D. small bandwidth

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What is a risk of providing Cloud based services?

- A. data continuity
- B. elasticity
- C. self-service
- D. virtualization

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What is a correct definition of Cloud Computing?

- A. a large pool of usable and accessible virtualized resources
- B. a network of globally interconnected client computers
- C. a service architecture based on thin clients
- D. a service offered by a Service provider, not limited by a Service level agreement (SLA)

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You are a small business owner who wants to move all of your IT to the Cloud. You are growing and want dynamic scaling. You expect the desktops of your employees to be virtualized. You discuss some policy-based services with the Cloud provider.

What type of service model will you be discussing?

- A. IaaS
- B. PaaS
- C. SaaS
- D. XaaS

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What is the purpose of the HIPAA Privacy Rule?

- A. to have the Hypervisor protect private data
- B. to protect personal financial and accounting information
- C. to protect personal health information
- D. to protect private information in HTML documents

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What is an important requirement for applications to be accessible in the Cloud?

- A. The application should be compatible with the browser of the user's computer.
- B. The application should use the same programming language as the clients.
- C. The user should know on which server the application is located.
- D. The user's identity should be known by the application.

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Authentication means asking: "Who are you?" Authorization means asking: "What are you allowed to do?"

What does the Accounting characteristic from triple-A ask?

- A. How much money do you need to pay?
- B. What are you going to do?
- C. What did you do?
- D. What resources will you need?

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Which process is not covered by ISOIEC 20000?

- A. Configuration management
- B. People management
- C. Service level management
- D. Supplier management

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What is not a mitigating measure against data loss?

- A. audits
- B. authentication and authorization
- C. encryption
- D. Storage area network (SAN)

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What is a big benefit of Cloud based services for a small Internet based business starting up?

- A. the data security and privacy
- B. the high Operational Expenditure (OPEX)
- C. the service level agreement (SLA)
- D. the short implementation time

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What top threat to Cloud computing refers to components that may not have been developed for multi-tenant architecture and may cause security issues?

- A. Account or Service Traffic Hijacking
- B. Denial of Service (DoS)
- C. Malicious Insiders
- D. Shared Technology Vulnerabilities

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How does Cloud Computing change the relationship between provider and customer?

- A. increased focus on Service level agreements (SLAs)
- B. less compliance to standards
- C. less focus on SLAs
- D. more focus on training

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What risk is minimized by proper HR vetting procedures?

- A. account, service, and traffic hijacking
- B. insecure application interfaces
- C. malicious insiders
- D. shared technology vulnerabilities

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What can be done to make maximum use of the interoperability principle of Cloud Computing?

- A. Employ multiple system integrators to build your private cloud.
- B. Only use cloud providers located in Europe.
- C. Use hardware and software of a single vendor.
- D. Use standard protocols.

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What are the main hardware components of a local Cloud environment?

- A. Blade server, Local Area Network (LAN), load balancer, storage
- B. Virtual desktop, Local Area Network (LAN), load balancer, storage
- C. Blade server, virtual desktop, Local Area Network (LAN), load balancer
- D. Virtual desktop, blade server, load balancer, storage

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Why did virtualization boost the emergence of Cloud Computing?

- A. A virtual machine is more secure than a physical machine.
- B. Virtualization made it easier and cheaper to share resources between users.
- C. Virtual machines have greater performance than their physical counterparts.
- D. Virtualization leads to better network utilization.

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Failover is the capacity to switch automatically to another system or resource in the event of a failure.

Which Cloud property makes failover easier to scale in the Cloud than on physical servers?

- A. Internet connection
- B. multi-purpose
- C. multi-tenancy
- D. virtualization

Answer Key

1 of 40

What is an important concern for the customer in multi-tenant environments?

- A. Availability
- B. Network bandwidth
- C. Network latency
- D. Security

- A. Incorrect. Availability is also important in a single-tenant environment.
- B. Incorrect. Network bandwidth is not a specific aspect of multi-tenancy.
- C. Incorrect. Network latency is not a specific aspect of multi-tenancy.
- D. Correct. Multi-tenant environments share data of multiple customers. Security is a key aspect (or risk) of multi-tenancy. Workbook CLOUDF, paragraph 1.3.2.

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Virtualization is a key architectural feature of Cloud computing.

What is another one of these key characteristics of Cloud computing?

- A. the use of secured access
- B. the use of Service Level Agreements
- C. the use of standard protocol
- D. the use of the Internet

- A. Incorrect. You can use secured access for any system.
- B. Incorrect. You can use service level agreements within any IT service management system.
- C. Correct. Using standard protocol is one of the keys for Cloud computing. It enables compatibility. Workbook CLOUDF, paragraph 3.1 Accessing the Cloud)
- D. Incorrect. Cloud computing does not need Internet in a private Cloud network.

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Where did the Internet begin?

- A. a cluster of cooperating universities in the USA
- B. computer hobbyists
- C. the CIA
- D. the Department of Defense of the USA

- A. Incorrect. It was not a cluster of universities who developed the Internet.
- B. Incorrect. It was not a group of computer hobbyists who developed the Internet.
- C. Incorrect. The CIA did not develop the Internet.
- D. Correct. It started as the Arpanet project at the Department of Defense of the USA. Workbook CLOUDF, paragraph 1.2.2.

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What is a benefit of Cloud Computing for IT staff?

- A. higher payment of IT staff involved in Cloud Computing
 - B. less interruption of work caused by users asking for support
 - C. less knowledge needed: Cloud Computing does not require special skills
 - D. lower stress levels: less worry about normal daily activities like making back-ups
-
- A. Incorrect. IT staff involved in Cloud Computing do normally not get higher salaries.
 - B. Incorrect. Cloud Computing does not automatically reduce the need for user support.
 - C. Incorrect. Using Cloud Computing may need less staff, but they still need to be skilled professionals.
 - D. Correct. Using Cloud Computing may place less stress on IT staff freed from normal daily activities as seen in typical data centers. Workbook CLOUDF, paragraph 5.1.2.

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What is a correct description of a Thin Client?

- A. a Client computer without a screen
 - B. a mobile phone with access to the Internet
 - C. a Personal Computer without a hard drive
 - D. a user terminal without a processor
-
- A. Incorrect. Thin Clients need a screen as an interface with the user.
 - B. Incorrect. Thin Clients are not necessarily mobile devices.
 - C. Correct. A Thin Client is a client computer, normally a PC, without a hard drive, but with a processor, read-only memory or flash memory. Workbook CLOUDF, paragraph 3.1.3.
 - D. Incorrect. A Thin Client has a processor to run software.

What is Multi-tenancy?

- A. An architecture in which a single instance of a software application serves multiple customers.
 - B. An architecture in which each customer has their own software instance.
 - C. A way of thinking in terms of services and service-based development and the outcomes of services.
 - D. The act of creating a virtual (rather than actual) version of something, including (but not limited to) a virtual computer hardware platform, operating system (OS), storage device, or computer network resources.
-
- A. Correct. Multi-tenancy is an architecture in which a single instance of a software application serves multiple customers. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 1.3.2)
 - B. Incorrect. Single-tenancy is an architecture in which each customer has their own software instance and may be given access to code. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 1.3.2)
 - C. Incorrect. Service orientation is a way of thinking in terms of services and service-based development and the outcomes of services. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 1.3.2)
 - D. Incorrect. This is the definition of virtualization. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 1.2.3)

The ISO/IEC 20000-1:2011 standard requires that ISO/IEC 20000 processes are documented.

Who needs to show that they are familiar with the processes and adhere to the procedures and working instructions?

- A. Only the organization, because they are responsible for the processes.
 - B. Only the Cloud service provider, because they take over all responsibility.
 - C. Both the organization and the Cloud service provider, because they share responsibility.
 - D. Neither the organization, nor the Cloud service provider, because the processes within Cloud computing are outside the scope of ISO/IEC 20000.
-
- A. Incorrect. The organization is partly responsible, but so is the Cloud service provider.
 - B. Incorrect. The Cloud service provider is partly responsible, but so is the organization.
 - C. Correct. Both need to show that their processes adhere to the ISO/IEC standard, because they share that responsibility. Workbook CLOUDF, paragraph 2.2 The principles of managing Cloud services)
 - D. Incorrect. The processes are within ISO/IEC 20000 scope.

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Which service model allows the customer to choose more layers in the computing architecture?

- A. Infrastructure as a Service (IaaS)
- B. Platform as a Service (PaaS)
- C. Software as a Service (SaaS)
- D. There is no difference between the service models.

- A. Correct. The customer can choose more layers. Workbook CLOUDF, paragraph 3.2.1.
- B. Incorrect. The platform only allows certain programming languages to be used.
- C. Incorrect. The software can only be configured by the user.
- D. Incorrect. IaaS provides more choice of layers to the customer.

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What is an example of a single purpose environment?

- A. any application on any server
- B. interface to a large computer
- C. interface to large storage
- D. Mainframe

- A. Incorrect. This is an example of a multi-purpose environment.
- B. Incorrect. This is an example of a multi-purpose environment.
- C. Incorrect. This is an example of a multi-purpose environment.
- D. Correct. A mainframe was used for a single purpose. Workbook CLOUDF, paragraph 3.1.3.

What is Federation in Identity management?

- A. cloud-based Identity management enabling single sign-on (SSO) for multiple systems
 - B. systems in the Cloud sharing information about the identity of users
 - C. the cloud of all systems accessible by a single user
 - D. the identity of a group of users sharing the same cloud resources
-
- A. Correct. Federation refers to cloud-based identity management to enable SSO. Workbook CLOUDF, paragraph 4.2.1.
 - B. Incorrect. Sharing information would not yet provide SSO as required in federation.
 - C. Incorrect. Such a group of systems is not a federation in the sense of Identity management.
 - D. Incorrect. Such a group of users is not a federation in the sense of Identity management.

What is the benefit of storage availability in the Cloud?

- A. Additional storage does not require budget for new large storage devices.
- B. Storage in the Cloud has a higher availability than storage devices in the Local Area Network (LAN).
- C. Storage in the Cloud has shorter access times than storage in the LAN.
- D. Storage in the Cloud is easier to protect against intrusion.

- A. Correct. Storage in the Cloud requires only investment in the capacity needed.
Workbook CLOUDF, paragraph 5.1.1.
- B. Incorrect. Storage in the Cloud can even have a lower availability due to network problems.
- C. Incorrect. Storage in the Cloud can even have longer access times due to network problems.
- D. Incorrect. Storage in the Cloud can even be less secure if accessible via the Internet.

Which question do you **not** have to ask when moving your local Cloud network to a hybrid environment?

- A. How do I test if my provider has everything under control?
 - B. How well is my data protected against theft?
 - C. What happens to my data when I'm not using it?
 - D. What will my customers notice from the move?
-
- A. Incorrect. It is important to ask this, so that you can put measures to check your provider in place. You need this to guarantee data safety and privacy for your own customers.
 - B. Incorrect. This is another important question to ask. You need this to guarantee data safety and privacy for your own customers.
 - C. Incorrect. You are ultimately responsible for the privacy and safety of your data, so you need to ask this question.
 - D. Correct. You do not have to ask this question. Normally customers will not notice anything except maybe a short time of down-period. Workbook CLOUDF, 2.1.3 Risks of connecting a local Cloud to the public Internet

What is Abuse of Cloud Services?

- A. An intolerable system slowdown leaves all of the legitimate service users confused and angry as to why the service isn't responding.
 - B. Cloud provider may not only host your data and applications, but also malicious software.
 - C. Moving into the Cloud may make it more difficult for organizations to prove their compliance to legislation and regulations during external audits.
 - D. Some of the cloud providers staff or sub-contractor staff may be untrustworthy.
-
- A. Incorrect: Denial of service (DoS) attacks are attacks meant to prevent users of a cloud service from being able to access their data or their applications. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1)
 - B. Correct: Many Cloud providers give very easy, and sometimes free for a trial period, access to their services. Registration is relatively anonymous and can and will attract 'darker customers' like spammers and hackers. Your Cloud provider may not only host your data and applications, but also malicious software. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1)
 - C. Incorrect: This is an explanation for Insufficient Due Diligence. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1)
 - D. Incorrect: This is an explanation for Malicious Insiders. (Literature: Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1)

Why is a trial period needed when considering to use Software as a Service (SaaS)?

- A. to establish the required bandwidth for using the cloud services
 - B. to evaluate whether the cloud services will be useful
 - C. to find out whether the vendor will meet the Service level agreement (SLA)
 - D. to have time to accommodate the local network to use of the new services
-
- A. Incorrect. The bandwidth during the trial period may not be realistic and bandwidth can be enlarged while using the application.
 - B. Correct. Before investing in the new service the organization will want to know for sure that the selected application is appropriate.
 - C. Incorrect. The trial period will be too short to sufficiently evaluate the SLA with the vendor.
 - D. Incorrect. Changes in the infrastructure will have to wait for a final decision and will not be performed during the trial period.

Why are standards used in Cloud Computing?

- A. Standards provide compliance.
 - B. Standards provide location independence.
 - C. Standards provide portability.
 - D. Standards provide security.
-
- A. Incorrect. Application of standards as such does not provide compliance to rules and regulations. Human behavior is for example another important factor.
 - B. Incorrect. Application of standards as such does not allow a user to connect to a service from any location.
 - C. Correct. Application of standards provides uniformity and portability. Workbook CLOUDF, paragraph 2.2.2.
 - D. Incorrect. Application of standards as such does not provide security. Besides standards, security awareness and for example firewalls and virus scanners are needed.

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What is a major limitation in using applications on mobile platforms?

- A. lack of applications available for mobile platforms
 - B. limited memory of mobile phones
 - C. not all applications are available for all mobile platforms.
 - D. there are no enterprise applications available for the mobile platforms
-
- A. Incorrect. There are thousands of applications available for mobile platforms.
 - B. Incorrect. Most phones have ample memory and applications in the cloud often do not use storage on the client.
 - C. Correct. Applications are not always available for all major platforms. Workbook CLOUDF, paragraph 3.1.4.
 - D. Incorrect. Enterprise applications are or can be made available, though they need to be tailored for mobile access.

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What is an important limitation of Cloud Computing?

- A. automation
 - B. increased costs
 - C. privacy
 - D. shared resources
-
- A. Incorrect. Automation is a benefit of Cloud.
 - B. Incorrect. Cloud Computing is usually cheaper.
 - C. Correct. Since data might reside on unknown servers and may be crossing borders it is not clear where data is stored and who can access your data. Workbook CLOUDF, paragraph 1.4 Benefits and limitations of Cloud Computing)
 - D. Incorrect. The fact that resources are shared is a benefit of Cloud.

In a cloud environment, consumers become dependent upon providers for products and services.

What is a term used to describe the difficulties in migrating a software application from one provider to another?

- A. Data conversion plan
- B. Loyalty program
- C. Marketing strategy
- D. Vendor lock-in

- A. Incorrect. A data conversion plan may help in migration but it is not the cause of dependency.
- B. Incorrect. A loyalty program attempts to retain the consumer as a customer.
- C. Incorrect. A marketing strategy is used to attract new and retain existing customers.
- D. Correct. Vendor lock-in is the common name given to difficulties in migrating from one provider to another. Cloud Computing Foundation Workbook, page 26.

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What is a staffing benefit of Cloud Computing?

- A. fewer IT-staff
- B. higher recruitment
- C. managed services
- D. self-service

- A. Correct. This is a staffing benefit for the organization. If you have fewer IT staff, you have less wages to pay. When moving to the Cloud, you can probably make do with fewer IT staff. (Literature: Workbook, 5.1 The business case for Cloud Computing)
- B. Incorrect. Cloud computing usually leads to lower recruitment, because you have outsourced part of the need for IT staff.
- C. Incorrect. Managed services is one of the operational benefits.
- D. Incorrect. Self-service is one of the operational benefits of moving to the Cloud.

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What is a Virtual Private Network (VPN)?

- A. a secured connection for remote access to a Local Area Network (LAN)
 - B. a secured private cloud for a single user
 - C. a virtual network device for private purposes
 - D. an operating system for private network systems
-
- A. Correct. VPN allows a remote user to access a LAN via a secured connection. Workbook CLOUDF, paragraph 2.1.2.
 - B. Incorrect. VPN can be used by many users to access a LAN.
 - C. Incorrect. VPN is not a device but a way to connect to a LAN and not only for private purposes.
 - D. Incorrect. VPN is not an operating system but a way to connect to a LAN.

What is not a valid reason for the customer asking a Cloud provider where their servers are located?

- A. Geographical location may tell something about network latency.
 - B. The geographical location may tell something about legislation.
 - C. The number of sites tells you something about disaster recovery possibilities.
 - D. When a server breaks down, the customer wants to send a technician to fix the problem as soon as possible.
-
- A. Incorrect. This is a valid question, because the geographical location may indeed tell something about network latency.
 - B. Incorrect. This is a valid question, because the geographical location may indeed tell something about legislation.
 - C. Incorrect. This is a valid question, because the disaster recovery possibilities are limited if the provider uses only one site.
 - D. Correct. A server breaking down is the responsibility of the cloud provider.

Why is it beneficial to businesses that Cloud computing involves managed services?

- A. All services are managed, even when a Cloud provider goes out of business.
 - B. Cloud services automatically comply with the national and international legislation.
 - C. The business does not have to worry about the performance of Cloud services.
 - D. The business' own IT department can shift the focus away from operational issues.
-
- A. Incorrect. This is simply not true. The business still needs a contingency plan for when the Cloud service provider goes out of business.
 - B. Incorrect. The business will have to look into the national and international legislation and ensure that the Cloud service provider complies with these rules.
 - C. Incorrect. Businesses will have to negotiate the performance and scaling up will still be the decision of the business.
 - D. Correct. The own IT department does not need to be working on server updates and maintenance issues anymore. Instead, the IT department will have to negotiate the IT governance of the Cloud services. Workbook CLOUDF, paragraph 1.2.4, Managed Services

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What is information that can be used to uniquely identify, contact, or locate a single person or can be used with other sources to uniquely identify a single individual?

- A. Enterprise Architecture (EA)
 - B. Personal Identifiable Information (PII)
 - C. Service Oriented Architecture (SOA)
 - D. Single sign-on (SSO)
-
- A. Incorrect. EA is a practice for conducting enterprise analysis, design, planning, and implementation, using a holistic approach, for the successful development and execution of strategy.
 - B. Correct. PII is information that can be used to uniquely identify, contact, or locate a single person or can be used with other sources to uniquely identify a single individual. Cloud Computing Foundation Workbook, page 62.
 - C. Incorrect. SOA is an architectural style that supports service orientation.
 - D. Incorrect. SSO is a property of access control of multiple related, but independent software systems.

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What is an important benefit of Cloud Computing?

- A. highly protected data
 - B. independency from the Internet
 - C. reduced cost
 - D. small bandwidth
-
- A. Incorrect. Data protection is something to be worried about.
 - B. Incorrect. The dependency on the Internet is high.
 - C. Correct. Cloud Computing is saving costs in several ways. Workbook CLOUDF, paragraph 1.4.1.
 - D. Incorrect. High bandwidth is needed for Cloud computing.

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What is a risk of providing Cloud based services?

- A. data continuity
- B. elasticity
- C. self-service
- D. virtualization

- A. Correct. Data continuity is not automatically guaranteed. This is a risk that you need to have a contingency plan for. Workbook CLOUDF, paragraph 3.3 Benefits and risks of providing Cloud based services
- B. Incorrect. This is a benefit of Cloud based services.
- C. Incorrect. This is a benefit of Cloud based services.
- D. Incorrect. This is a part of moving to Cloud based services.

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What is a correct definition of Cloud Computing?

- A. a large pool of usable and accessible virtualized resources
- B. a network of globally interconnected client computers
- C. a service architecture based on thin clients
- D. a service offered by a Service provider, not limited by a Service level agreement (SLA)

- A. Correct. This is a correct definition of Cloud Computing. Workbook CLOUDF, paragraph 1.1.
- B. Incorrect. A network is not always a Cloud.
- C. Incorrect. A thin client is a possible but not necessary asset in a Cloud.
- D. Incorrect. Services offered by a Service provider are not by definition Cloud.

You are a small business owner who wants to move all of your IT to the Cloud. You are growing and want dynamic scaling. You expect the desktops of your employees to be virtualized. You discuss some policy-based services with the Cloud provider.

What type of service model will you be discussing?

- A. IaaS
 - B. PaaS
 - C. SaaS
 - D. XaaS
-
- A. Correct. Dynamic scaling, Desktop virtualization and Policy-based services are characteristics of IaaS, an Infrastructure as a Service. Workbook CLOUDF, paragraph 1.1.3 Service Models for Cloud Computing
 - B. Incorrect. Platform as a Service is mostly used for remote application development and support, and provides low development costs.
 - C. Incorrect. Software as a Service may become part of your demands and will be incorporated within the desktop virtualization, but is not the main service model.
 - D. Incorrect. XaaS stands for Anything as a Service. You may be discussing such a contract, but based on the characteristics, it is more likely that you will discuss a IaaS model.

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What is the purpose of the HIPAA Privacy Rule?

- A. to have the Hypervisor protect private data
 - B. to protect personal financial and accounting information
 - C. to protect personal health information
 - D. to protect private information in HTML documents
-
- A. Incorrect. The Hypervisor does not protect data.
 - B. Incorrect. HIPAA does not cover financial information which is not related to health care.
 - C. Correct. The HIPAA (Health Portability and Accountability Act) Privacy Rule provides protection of personal health information. Workbook CLOUDF, paragraph 4.2.2.
 - D. Incorrect. The HIPAA Privacy rule is not restricted to HTML-documents.

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What is an important requirement for applications to be accessible in the Cloud?

- A. The application should be compatible with the browser of the user's computer.
 - B. The application should use the same programming language as the clients.
 - C. The user should know on which server the application is located.
 - D. The user's identity should be known by the application.
-
- A. Correct. Because users access the application via their browser, the browser should support the features the application is using. Workbook CLOUDF, paragraph 3.1.1.
 - B. Incorrect. Applications do not exchange programming code with clients.
 - C. Incorrect. In the Cloud the user does not need the location of the application.
 - D. Incorrect. This may be a security issue, but in general this is not needed for accessibility.

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Authentication means asking: "Who are you?" Authorization means asking: "What are you allowed to do?"

What does the Accounting characteristic from triple-A ask?

- A. How much money do you need to pay?
 - B. What are you going to do?
 - C. What did you do?
 - D. What resources will you need?
-
- A. Incorrect. The Accounting in Triple-A is about tracking the resource usage by users.
 - B. Incorrect. Accounting is done afterwards.
 - C. Correct. This is the question that goes with Accounting in Triple-A. It means the tracking of resource usage by users, and can for example be used as part of an audit trail, costing or billing, or capacity monitoring. Workbook CLOUDF, paragraph 4.2.1 Main aspects of Identity management
 - D. Incorrect. Accounting is done after the actions.

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Which process is not covered by ISOIEC 20000?

- A. Configuration management
 - B. People management
 - C. Service level management
 - D. Supplier management
-
- A. Incorrect. Configuration management is part of the control processes.
 - B. Correct. People management is not part of ISOIEC 20000. Workbook CLOUDF, paragraph 2.2.2.
 - C. Incorrect. Service level management is part of the service delivery process.
 - D. Incorrect. Supplier management is part of the relationship process.

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What is not a mitigating measure against data loss?

- A. audits
- B. authentication and authorization
- C. encryption
- D. Storage area network (SAN)

- A. Incorrect. Audits help identify and remedy weak spots.
- B. Incorrect. Authentication and authorization help prevent unauthorized access.
- C. Incorrect. Encryption lowers the consequences of data leakage.
- D. Correct. A SAN is a way of centralizing data storage, not necessarily mitigating data loss. Workbook CLOUDF, paragraph 4.1.2.

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What is a big benefit of Cloud based services for a small Internet based business starting up?

- A. the data security and privacy
- B. the high Operational Expenditure (OPEX)
- C. the service level agreement (SLA)
- D. the short implementation time

- A. Incorrect. The responsibility for data security and privacy remains.
- B. Incorrect. The OPEX is likely lower.
- C. Incorrect. This can be a benefit, or a risk, depending on which provider you choose.
- D. Correct. Starting up your Internet based business with Cloud computing can go very fast. Workbook CLOUDF, paragraph 5.1 The business case for Cloud Computing

What top threat to Cloud computing refers to components that may not have been developed for multi-tenant architecture and may cause security issues?

- A. Account or Service Traffic Hijacking
- B. Denial of Service (DoS)
- C. Malicious Insiders
- D. Shared Technology Vulnerabilities

- A. Incorrect. Account or Service Traffic Hijacking refers to fraudulent tactics like phishing, password hacking and identity theft. Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1.
- B. Incorrect. DoS attacks are attacks meant to prevent users of a cloud service from being able to access their data or their applications by forcing the victim cloud service to consume inordinate amounts of finite system resources. Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1.
- C. Incorrect. Malicious Insiders refers to staff or sub-contractor staff that may be untrustworthy. Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1.
- D. Correct. Shared Technology Vulnerabilities refers to multi-tenant architecture with its own challenges, where some components may not have been developed for this type of use and may cause security issues. Workbook EXIN Cloud Foundation Rev. June 2015, Chapter 4.1.1.

How does Cloud Computing change the relationship between provider and customer?

- A. increased focus on Service level agreements (SLAs)
 - B. less compliance to standards
 - C. less focus on SLAs
 - D. more focus on training
-
- A. Correct. Providers are virtually running the customer's business processes so the customer needs to define SLAs. Workbook CLOUDF, paragraph 3.3.1.
 - B. Incorrect. Standards are even more important with Cloud Computing.
 - C. Incorrect. SLAs receive even more attention with Cloud Computing.
 - D. Incorrect. Training requirements do not necessarily change because of Cloud Computing.

What risk is minimized by proper HR vetting procedures?

- A. account, service, and traffic hijacking
 - B. insecure application interfaces
 - C. malicious insiders
 - D. shared technology vulnerabilities
-
- A. Incorrect. This is mitigated by strong authentication techniques and monitoring of user behavior.
 - B. Incorrect. This is mitigated by designing for security, proper testing methods, understanding how they interact with other interfaces and software, and strong authentication and access control.
 - C. Correct. This is minimized by good HR vetting procedures. Workbook CLOUDF, paragraph 4.1.2 Measures mitigating security risks
 - D. Incorrect. This is mitigated by enhanced operations procedures for monitoring and escalations when security breaches and application of good security practice for installation, configuration and application of patches.

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What can be done to make maximum use of the interoperability principle of Cloud Computing?

- A. Employ multiple system integrators to build your private cloud.
 - B. Only use cloud providers located in Europe.
 - C. Use hardware and software of a single vendor.
 - D. Use standard protocols.
-
- A. Incorrect. Employing multiple system integrators does not guarantee interoperability.
 - B. Incorrect. The geographical location of the provider is not a key factor in interoperability.
 - C. Incorrect. Using a single vendor creates vendor lock-in.
 - D. Correct. Standards ensure interoperability. Workbook CLOUDF, paragraph 2.1.1.

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What are the main hardware components of a local Cloud environment?

- A. Blade server, Local Area Network (LAN), load balancer, storage
 - B. Virtual desktop, Local Area Network (LAN), load balancer, storage
 - C. Blade server, virtual desktop, Local Area Network (LAN), load balancer
 - D. Virtual desktop, blade server, load balancer, storage
-
- A. Correct. These hardware components will help the most when building a local cloud environment. Cloud Computing Foundation Workbook, paragraph 2.1.1.
 - B. Incorrect. These hardware components are useful, but a server would also be required.
 - C. Incorrect. These hardware components are useful, but Storage would also be required.
 - D. Incorrect. These hardware components are useful, but LAN would also be required.

Why did virtualization boost the emergence of Cloud Computing?

- A. A virtual machine is more secure than a physical machine.
 - B. Virtualization made it easier and cheaper to share resources between users.
 - C. Virtual machines have greater performance than their physical counterparts.
 - D. Virtualization leads to better network utilization.
-
- A. Incorrect. Virtual machines are not less vulnerable than physical machines.
 - B. Correct. Virtualization makes implementing a multi-tenant system easier.
Workbook CLOUDF, paragraph 3.1.3.
 - C. Incorrect. Virtual machines have some overhead compared to their physical counterparts.
 - D. Incorrect. There is no difference in network usage.

Failover is the capacity to switch automatically to another system or resource in the event of a failure.

Which Cloud property makes failover easier to scale in the Cloud than on physical servers?

- A. Internet connection
 - B. multi-purpose
 - C. multi-tenancy
 - D. virtualization
- A. Incorrect. The Internet connection itself does not make it easier to scale failover.
- B. Incorrect. The multi-purpose architecture makes it possible to have failover architecture in the Cloud, while also providing other services, but in itself, it does not make it easier to scale failover.
- C. Incorrect. The multi-tenancy architecture may play a role in switching from one failing system to another when failover is needed, but you can achieve this on a physical server as well.
- D. Correct. Virtualization of the systems makes it easier to add resources when necessary, thus making it easier to scale failover. Workbook CLOUDF, paragraph 1.2

Evaluation

The correct answers to the questions are in the table below.

number	answer
1	D
2	C
3	D
4	D
5	C
6	A
7	C
8	A
9	D
10	A
11	A
12	D
13	B
14	B
15	C
16	C
17	C
18	D
19	A
20	A

number	answer
21	D
22	D
23	B
24	C
25	A
26	A
27	A
28	C
29	A
30	C
31	B
32	D
33	D
34	D
35	A
36	C
37	D
38	A
39	B
40	D

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