

K. J. Somaiya Institute of Management Studies and Research

PG EXECUTIVE Trim IV – 2016-17

Cloud Computing

Marks: 50

Date : 21/09/2017

Duration: 3 Hours

Q.1 Solve following multiple choice questions. (Read the questions carefully)

10M

- A.** An enterprise needs highly controlled storage and access to their databases as well as managing the infrastructure for web front ends and other applications. They have a large existing IT infrastructure and they are continually expanding the capabilities. Which cloud computing model will satisfy all their current needs and enable them to reduce cost?
- public cloud
 - hybrid cloud
 - private cloud
 - internal cloud
- B.** Which customer scenario is best suited to maximize the benefits gained from using a virtual private cloud?
- A small start up business focused primarily on short term projects and has minimal security policies.
 - An enterprise whose IT infrastructure is underutilized on average and the system load is fairly consistent.
 - An enterprise that requires minimal security over their data and has a large existing infrastructure that is capable of handling future needs. For interactive and self-paced preparation of exam 000-032, try our practice exams. Practice exams also include self assessment and reporting features! 6
 - An enterprise that does not want to sacrifice security or make changes to their management practices but needs additional resources for test and development of new solutions.
- C.** A company wants to build a test environment to test software updates and new solutions. The environment should mirror the production environment and be secure and inaccessible from outside the company network. The company does not want to invest in infrastructure that may be idle for a significant amount of time. Which cloud computing model will satisfy all these requirements?
- Public Cloud
 - Private Cloud
 - External Cloud
 - Virtual Private Cloud
- D.** A company is considering a cloud environment to improve the operating efficiency for their data

and applications. The company is part of an industry where strict security and data privacy issues are of the highest importance. Which type of cloud would be a good choice?

- a. hybrid cloud
 - b. public cloud
 - c. private cloud
 - d. governed cloud
- E.** Which two statements are true about the public cloud model? (Choose two.)
- a. It meets security and auditing requirements for highly regulated industries.
 - b. Resources and infrastructure are managed and maintained by the enterprise IT operations staff.
 - c. It shifts the bulk of the costs from capital expenditures and IT infrastructure investment to a utility operating expense model.
 - d. It shifts the bulk of the costs from capital expenditures to creating a virtualized and elastic infrastructure within the enterprise data center.
 - e. Resources are dynamically provisioned on a self service basis from an offsite third party provider who shares resources in a multitenanted infrastructure.
- F.** A company would like to leverage cloud computing to provide advanced collaboration services (i.e. video, chat, and web conferences) for its employees but does not have the IT resources to deploy such an infrastructure. Which cloud computing model would best fit the company needs?
- a. Hybrid Cloud
 - b. Public Cloud
 - c. Private Cloud
 - d. Virtual Private Cloud
- G.** A company has decided to leverage the web conferencing services provided by a cloud provider and to pay for those services as they are used. The cloud provider manages the infrastructure and any application upgrades. This is an example of what type of cloud delivery model?
- a. Platform as a Service
 - b. Software as a Service
 - c. Application as a Service
 - d. Infrastructure as a Service
- H.** Which statement is true about the Platform as a Service cloud computing delivery model?
- a. It provides a virtual machine and storage so that computing platforms can be created.
 - b. It provides a runtime environment for applications and includes a set of basic services such as storage and databases.
 - c. It provides the entire infrastructure along with a completed application that is accessible using a web based front end.
 - d. It is required by the infrastructure as a service delivery model so that end user applications can be delivered on the cloud.
- I.** Which statement is true about the maintenance of a cloud computing environment?
- a. In Software as a Service (SaaS) environment, patches are automatically installed on the clients.
 - b. In a SaaS environment, customers do not need to worry about installing patches in the

virtual instances.

- c. In an Infrastructure as a Service (IaaS) environment, patches are automatically installed on the clients.
 - d. In an IaaS environment, customers do not need to worry about installing patches in the virtual instances.
- J. Point out the correct statement :
- a. Service Level Agreements (SLAs) is small aspect of cloud computing
 - b. Cloud computing does not have impact on software licensing
 - c. Cloud computing presents new opportunities to users and developers
 - d. All of the mentioned

Q.2 Read the following case. Apply the Cloud Buyer's Decision Tree to analyze the situation. Give a step wise answer for every question defined in decision tree. Explain what the following organization should opt? Whether company should opt outsourcing or Cloud? If cloud which deployment and service model and Why?

10M

ViWi

ViWi is a small **start-up** company based in California that was formed to develop and sell the product that is its founder's dream – the Virtual Widget. This is an intelligent agent operating on the Internet that people can use to do all sorts of wonderful things. (We don't need to go into details of what these are.)

The processes the company might need to develop the products or widgets may have different requirements which must be considered separately. In totality, the business processes for these operations will have multiple sets of requirements.

The product will be developed on the Cloud, and offered to the public as a cloud service. This company:

- Wants to make big profits from an innovative product;
- Is looking to obtain a high reward, and is willing to take a big risk;
- Will offer a new product, in a new market;
- Is considering the Cloud for software development, and as the platform for its product;
- Is looking at a large scope of operation but small process complexity; and
- Intends its virtual widgets as personal devices, but with ability to share some information publicly.

ViWi's architecture vision is: "We will develop and launch a new product without the need for major investment in supporting IT by using cloud services."

Question no	If answer is Yes	If answer is No
1	2	3
2	7	3
3	6	4
4	X	5
5	✓	X
6	4	X
7	8	X
8	9	3
9	X	10
10	X	3

Q.3 Answer any Four of the following

20M

1. What is private cloud? Elaborate the types of **Private** cloud in detail. Discuss the scenario how the private cloud can be used in pharmaceuticals industry?
2. Justify according to you how the **community** cloud should be used in education sector? What processes can be moved on education community cloud.
3. Explain cluster computing and also elaborate the types of clusters
4. Explain the IaaS infrastructure in detail. What is pod and availability zone?
5. Explain the following terms
 - a. Availability
 - b. Reliability
 - c. Responsiveness
 - d. Recoverability
 - e. Provider Access Control
6. Explain the cloud benefits on the basis of following terms
 - a. Agility
 - b. Quality of Service

Q.4 Read the following cases and give a solution in terms of service models and deployment model that organization should opt (Any 2)

10M

1.

Company Background	Current business unit activity has opportunities to create common utility services to better support merger and acquisition activities.
Business Problem/Description	This government agency is prone to expanded operations, mergers, and/or acquisitions, and activities that are shrinking the capacity of its information technology (IT).
Actors	Program Managers Business Operations Controller Business Procurement Management IT Operations Management
Business Requirements	Use commodity services to reduce operating costs Rationalize business assets through alternative sourcing of assets Use external transition services to assist consolidation and rationalization of merger and acquisition activity Need more elasticity – access to and rapid deployment of end-user services
Business Risks	Over- and under-provisioned capacity Failure to leverage assets to better serve common business services across business agency units Complex asset dependencies remain unresolved Lost customers from underperforming business Excessive costs of infrastructure assets

2.

Company Background	A company embarked on a strategic initiative to establish development and test environments for functionality and performance of applications so that businesses can achieve faster time-to-market for their products.
Business Problem/Description	The development and test environments need to be provisioned at short notice and then mothballed or redeployed elsewhere once the development or tests have been conducted. This represents a significant cost in effort and capital expenditures (CAPEX). Virtualization can be used to address this but there is often a demarcation along physical lines across business units, and so the take-up rate is not as large as it should be due to the localized nature of using virtualization.
Actors	Development Teams Test Teams Product Sales and Marketing Executives
Business Requirements	Development and test environments need to be provisioned at short notice. Development and test environments need to be mothballed or redeployed elsewhere once tests have been conducted. Time-to-market for products needs to be maintained or decreased.
Business Risks	Time-to-market increases CAPEX costs increase as individual projects or business units need to provision test environments that are segregated

3.

Company Background	A retail distributor embarked on a strategic initiative to unify its brands worldwide under the company's name for competitive advantage, and to increase business results by "helping its multiple business units work together more efficiently".
Business Problem/Description	The company's workforce needs to communicate and collaborate more efficiently with its global network of customers, suppliers, and business partners in support of a strategic brand unification initiative.
Actors	Suppliers LoB Leaders Distribution Centers
Business Requirements	Reduce total costs of ownership by: <ul style="list-style-type: none"> Transforming the workforce into a globally integrated team Looking to partners for solutions that may have better capabilities Leveraging existing IT infrastructure without burdening IT resources Be innovative without compromising security, reliability, or privacy
Business Risks	Unmet business performance objectives Poor partner selection and product service offerings Delayed order fulfilment cycles Inconsistent service offerings Security, reliability, and privacy compromised

4.

Company Background	Agency needs to facilitate collaboration with a range of partners and customers with no or limited IT resources or funding. There is a large marketplace of individual customers and participants all with common service needs to access business offerings.
Business Problem/Description	High manual workload tasks make each business transaction increasingly less cost-effective with increasing volumes. Business needs to offer common services to a large market that involve interaction of participants.
Actors	Business Procurement Data Warehouse Management Data Center Operations
Business Requirements	The business needs to manage the cost of business operations and seek alternative ways to offer common services Provide social collaboration tools and skills within the business to meet demand Information and services need sharing between participants' collaboration using a common collaboration process and tool set Control transaction costs
Business Risks	Transaction costs increase Collaboration is not efficient Customers' and participants' business is lost