



CS435 fianl by vu rocky - Goodb

Cloud Computing (Virtual University of Pakistan)



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Important MCQS

1. MCQ: **MTBF** stand for_____.

Correct Answers **mean time between failure**

2. MCQ: **CSP** stand for_____.

Correct Answers **Cloud Service Provider**

3. MCQ: **SSL** stand for_____.

Correct Answers **Secure Socket Layer**

4. MCQ: **CIS** stand for_____.

Correct Answers **Cloud Information Service**

5. MCQ: The_____ is called Cloudlet.

Correct Answers **workload unit**

6. MCQ NO : The characteristics of big data can be represented by_____.

Correct Answers **4vs:**

7. MCQ:_____ consideration is applied to ensure SLA is not violated.

Correct Answers **QoS**

8. MCQ:_____ scheduling, the task starvation can be avoided.

Correct Answers: **Priority-Based**

9. MCQ: SLA violation when IT resources are_____.

Correct Answers: **overloaded**

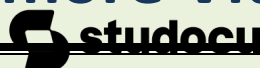
10. MCQ: Effective resource scheduling reduces_____.

Correct Answers: **Execution time**

11. MCQ : The best option is to move the data center to

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Correct Answers: **Cloud**

12. MCQ: It is a third party process of finding the appropriate Cloud provider.

Correct Answers: : **Cloud Brokerage**

13. MCQ: The _____ clustering creates a high-availability cluster across multiple physical servers.

Correct Answers: **Hypervisor**

14. MCQ: VMs hosted on a physical server are managed by _____.

Correct Answers: **hypervisor**

15. MCQ : Advantages of Mobile Cloud Computing:

Correct Answers: **Extending battery lifetime**

16. MCQ: _____ architecture is used for provisioning of dedicated IT resources.

Correct Answers: **Resource reservation**

17. MCQ: SDN stand for _____.

Correct Answers: **Software Defined Networking**

18. MCQ: API stand for _____.

Correct Answers: **application program interface**

QUESTIONS:

Common types of Resource Cluster Mechanism

Ans= There are three Common types of Resource Cluster Mechanism

- Server Cluster
- Database Cluster
- Large Dataset Clusters

Uses of remote administration console

- Capacity planning
- Provision and releasing IT resources for on-demand usage
- Configure and setting cloud services
- Managing user accounts, security credentials, authorization and access control
- Monitor cloud service status, usage and performance

A Cloud service may become disruptive/unavailable/down due to:

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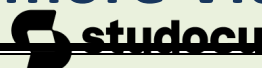
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- Over burden of processing load
- Scheduled updates

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Cloud Balancing Architecture improves/increases the following features:

- Load balancing
- Performance and scalability of IT-resources
- Availability and reliability of IT resources

In Dynamic Failure Detection and Recovery Architecture, The resilient watchdog module performs the following five core functions:

- Monitoring
- Identifying an event
- Executing the reactive routine/s
- Reporting

Dynamic Failure Detection and Recovery Architecture allows the implementation of an automated recovery policy consisting of predefined steps and may involve actions such as:

- Running a script
- Sending a message
- Restarting services

Following are the steps in Bare-Metal Provisioning Architecture:

- Consumer connects to central software through self-service portal.
- The available servers are shown.
- The consumer chooses the server and the OS to be installed.
- The resource management system is used to install the required chosen OS.
- The consumer starts using the provisioned server.

Following are the steps in Rapid Provisioning Architecture:

- A consumer chooses a VM package through self-service portal and submits the provisioning request.
- The centralized provisioning module selects an available VM and initiates it through a suitable template.
- Upon initiation, the baseline/s templates are applied.
- The VM is ready to use now.

[Cloud Consumer's Perspective] The administrative rights of the IaaS consumer includes, controlling of:

- Life cycle of VM (powering-On/Off and restarting)
- Cloud storage attachment

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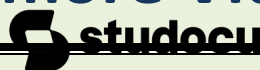
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- Basic software installations (OS and pre-installed software)
- Passwords and credentials

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- Costs

[Cloud Consumer's Perspective] Typically, a PaaS consumer receives the following:

- Cloud emulation environment
- Class libraries
- Software libraries
- Frameworks
- Databases

[Cloud Consumer's Perspective] The administrative rights of the PaaS consumer includes, controlling of:

- Cloud storage device selection
- Choosing the tools in case of ready-made environment
- Deployment of automated scaling listener, load balancer and replication etc.
- Login management of service/s developed/deployed using PaaS instance
- IT-resource usage cost

[Cloud Consumer's Perspective] A few runtime configurations can be controlled by SaaS consumers. These include:

- Security related configurations
- SLA monitoring
- Usage cost control

Inter-Cloud providers are of two types:

- With extra resources
- With resource shortage

Business Cost Metrics:

- Upfront Costs
- On-going Costs

Cost management can take place across the lifecycle phases of Cloud services. These phases may include:

- Design & Development
- Deployment

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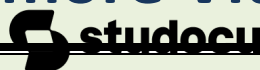
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- Service Contracting
- Provisioning & Decommissioning

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The cost templates used by the providers depend upon:

- Market competition
- Overhead occurred during design, deployment and operations of the service
- Cost reduction considerations through increased sharing of IT resources

A pricing model for Cloud services can be composed of:

- Fixed and variable rates definitions
- Negotiations by consumers
- Cost customization possibilities
- Discount offerings
- Payment options

Two common metrics related to service measuring resiliency are as follows:

- Mean-Time System Recovery (MTSR) Metric
- Mean-Time to Switchover (MTSO) Metric

The key terminologies of privacy are:

- Data subject
- Data processor
- Data controller

Trust has two types:

- Hard trust
- Soft trust
- Dynamic trust (short term)
- Persistent trust (long term)

Five primary functions of Cryptography:

- Privacy
- Integrity
- Authentication
- Non-repudiation (A mechanism to prove the originality of the sender)
- Exchange of crypto keys which are the strings of bits used to change the format of the data

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Remedies for Denial of Service (DoS) attacks:

- Contact ISP to clarify the reason of downgraded network performance
- ISP can help in throttling malicious traffic
- Using DoS detection tools

Some prominent security protocols for wireless security are:

- Wired Equivalent Privacy (WEP)
- Wi-Fi Protected Access (WPA)
- Wi-Fi Protected Access 2 (WPA2)

Encryption helps in countering:

- Insufficient authorization
- Traffic eavesdropping
- Malicious intermediary
- Overlapping trust boundaries

There are two basic types of encryption:

- Symmetric Encryption
- Asymmetric Encryption

Identity and Access Management (IAM) Consist of four main components:

- Authentication (verifies user identities)
- Authorization (grants access to specific resources based on user roles and permissions)
- User management (creates, updates, and deletes accounts as needed)
- Credential management

Several factors affect the Cloud reliability:

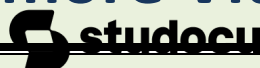
- Network Dependence
- Safety-Critical Processing

The system requirements are of two types:

- Functional (What the cloud service should do)
- Non functional (How well the cloud service should perform)

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Cloud Solution Design Metrics:

- Accessibility
- Audit

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- Availability
- Maintainability
- Backup

In Cloud Resource Scheduling, There are two main steps:

- Resource provisioning
- Resource scheduling

Effective resource scheduling reduces:

- Energy consumption
- Execution time
- Execution cost

Cloud Resource Scheduling Fulfills following QoS requirements:

- Security
- Availability
- Reliability
- Scalability

Types of computational offloading:

- Static
- Dynamic

Generic characteristics of big data:

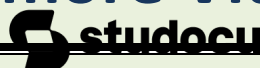
- Data volume is huge
- The data is generated, captured and processed at high speed.
- Data may not be categorized into regular relational databases

The characteristics of big data can be represented by 4vs:

- Value
- Volume
- Velocity
- Variety

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popular models for big data:

- Distributed Map Reduce model (popularized by Hadoop)
- NoSQL model (used for non-relational, non-tabular storage)

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- SQL RDBMS model (for relational tabular storage of structured data)

Software Defined Networking (SDN) has four characteristics:

- Standardized APIs
- Centralization of control plane
- Programmable control plane
- Separation of control and data planes

Online gaming consists of four basic building blocks:

- Networking module
- Input module
- Rendering module
- Game logic module

Effective resource scheduling reduces: (module no # 242)

- Execution cost
- Execution time
- Energy consumption

SDN has four characteristics (module no # 282)

- Separation of control and data planes
- Centralization of control plane
- Programmable control plane
- Standardized APIs

Advantages of Mobile Cloud Computing:

- Extending battery lifetime
- Improving data storage capacity and processing power
- Improving reliability
- Additionally

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