Final Paper Summer 2020

Course Title: Cloud computing

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Total Marks: 50

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NOTE: Understanding the paper is part of solving the paper so no questions will be entertained.

INSTUCTIONS:
1. Write your names and IDs at top of each paper.

2. Convert word file to pdf before uploading.

1. **When each of the following deployment models should be used?**

- Public Cloud
- Private Cloud
- Community Cloud
- Hybrid Cloud

Answer:

- **Public cloud:**

    The public cloud is most suitable for these types of environments:

- Predictable computing needs, such as communication services for a specific number of users
- Apps and services necessary to perform IT and business operations
- Additional resource requirements to address varying peak demands
- Software development and test environments

- **Private cloud:**

  The private cloud is best suited for:

- Highly regulated industries and government agencies
- Sensitive data
- Companies that require strong control and security over their IT workloads and the underlying infrastructure
- Large enterprises that require advanced data center technologies to operate efficiently and cost-effectively
- Organizations that can afford to invest in high performance and availability technologies

- **Community cloud:**

  A cloud service that provides for a community of users or organizations with shared interests or concerns. The system is managed by one or more of the organizations, by a central provider, or a combination of the two. Organizations utilizing this cloud service have shared missions, governance, security requirements, and policies. Cloud services can be hosted on-premises at the consumer organization, at peer organization facilities, at a provider, or a combination of these. This community cloud term is often used in marketing to explain the target consumers of the service, although the actual cloud might technically be a VPC, private, or hybrid cloud model.

- **Hybrid cloud:**

  Here's who the hybrid cloud might suit best:

- Organizations serving multiple verticals facing different IT security, regulatory, and performance requirements
- Optimizing cloud investments without compromising on the value that public or private cloud technologies can deliver
- Improving security on existing cloud solutions such as SaaS offerings that must be delivered via secure private networks
- Strategically approaching cloud investments to continuously switch and tradeoff between the best cloud service delivery model available in the market

2.Which layer of Cloud Computing Architecture is responsible for? Answer in one word.

Answer:

Layers responsibility in cloud computing: -

Resource scheduling: - PAAS

Connection with the cloud:-SAAS

Hardware resources: - IAAS

Load Balancing: - SAAS

3.How Cloud Architectures can be made secured?

Answer:

Infrastructure as a service is now widely used by organizations. Cloud architecture security is improved regularly, but various threats still drag the technology. We should improve its security by considering threats such as Dos attacks, firewall policy management, logging, and support authentication.

Iaas security will be improved by ensuring that:

a) Strictly testing apps and APIs for the various vulnerabilities like data leakages. Data leakages are brought about by having inadequate ACL.

b) One is having a strong virtual VM. To reduce Vm's weaknesses, exploitations. The Dos attack is mainly made through API.

c) Employing Encryption, the addition of multi-factor authentication is a major boost in securing the architecture.

d)security automation is another security boost that can assist in securing the cloud architecture. It ensures that organizations provide for privileged account policies that prevent backdoor intrusion.

By employing the security procedures above, one is guaranteed to have a secure cloud service.

4.Present DC Function Rooms diagrammatically with explanation.

Answer:

Explanation:

DC cinch meters chip away at the rule of the Lobby Impact. Lobby impact sensors sense the attractive field brought about by current stream which causes a little voltage over the Corridor impact sensor. That voltage, which is relative to current is then enhanced and estimated.

A Lobby impact sensor is a gadget to quantify the size of an attractive field. Its yield voltage is straightforwardly corresponding to the attractive field quality through it.

A wheel containing two magnets passing by a Corridor impact sensor.

The attractive cylinder in this pneumatic chamber will cause the Corridor impact sensors mounted on its external divider to initiate when it is completely withdrawn or expanded.
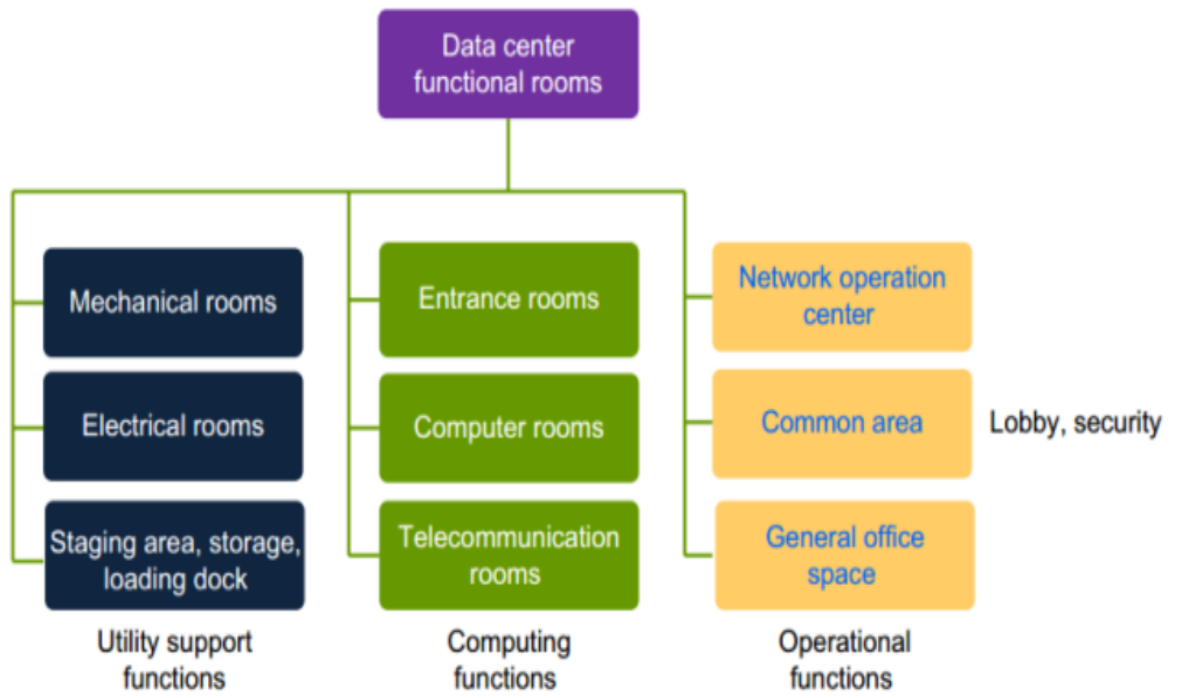
Motor fan with Lobby impact sensor

Generally utilized circuit image

Lobby impact sensors are utilized for closeness detecting, situating, speed location, and current detecting applications.

Much of the time, a Corridor sensor is joined with edge recognition, so it goes about as and is known as a switch. Ordinarily observed in modern applications, for example, the envisioned pneumatic chamber, they are additionally utilized in purchaser gear; for instance, some PC printers use them to distinguish missing paper and open spreads. They can likewise be utilized in PC consoles, an application that requires super high dependability. Another utilization of a Corridor sensor is in the production of MIDI organ pedal-sheets, where the development of a "key" on the pedal-board is deciphered as an on/off switch by Lobby sensors.

Corridor sensors are normally used to time the speed of haggles, for example, for inside burning motor start timing, tachometers and non-freezing stopping mechanisms. They are utilized in brushless DC electric engines to identify the situation of the perpetual magnet. In the imagined wheel with two similarly divided magnets, the voltage from the sensor tops twice for every upheaval. This plan is ordinarily used to direct the speed of circle drives.

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      functions              functions               functions
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5.Why do we need Infrastructure as a Service (IaaS)?

Answer:

IAAS means Infrastructure as a Service. It is one of the components of cloud computing that provides us with "virtualized" computing infrastructures such as storage space, servers, virtual machines, and network connections. Below are the main reasons as to why we need IaaS.

1.**Helps us to save cost.**

IaaS helps us to save on costs since one is not required to buy hardware. All the hardware requirements are provided by the cloud service provider.

2. Helps us in having a Virtual Data Center

IaaS helps us to have access to a centralized virtual data center. This enables every member of the organization to have access to the organization's computing resources without the need to relocate.

3. Provides a back plan

The cloud service providers provide their customers with data back up plans

4. Better security
With the appropriate service agreement, a cloud service provider can provide security for your applications and data that may be better than what you can attain in-house.

5. Gets new apps to users faster
Because you don't need to first set up the infrastructure before you can develop and deliver apps, you can get them to users faster with IaaS.

6. Focus on your core business
IaaS frees up your team to focus on your organization's core business rather than on IT infrastructure.

7. Innovate rapidly
As soon as you've decided to launch a new product or initiative, the necessary computing infrastructure can be ready in minutes or hours, rather than the days or weeks and sometimes months. it could take to set up internally.