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MID - II

1. Cloud computing is powerful network architecture intended to perform large-scale, complex operations.

- There are many challenges which need to be addressed during its architectural design

- 1 service Availability and Data lock in problem

* Cloud is not managed by a single company which would be so. ware of single points of failure Multiple cloud providers work together to acheive high availability.
* Even if a company has multiple data centres located in different geographic regions, it may have common software infrastructure and accounting systems.
* Therefore using multiple clouds providers may provide more protection from failure. Another availability obstacle is distributed denial of service attacks which make services unavailable to intended users

2. Data privacy and Security Concerns

* Current cloud offerings are essentially public networks, exposing the system to more attacks.
* Many obstacles can be overcome immediately with well understood technologies such as encrypted storage virtual Lans and Network middleboxes
* Many Nations have laws requiring SaaS providers to keep customer data and copyrighted material with national boundaries

* Traditional network attacks include buffer overflows, Dos attacks spyware, malware, root kits, Trojan horses.

* In a cloud environment newer attacks may result from hypervisor malware, guest hopping and hijacking

* In general passive attacks steal sensitive data or passwords.

3- Unpredictable Performances and Bottlenecks

* Multiple Vm's can share CPU and main memory in cloud computing but I/O sharing is problematic.

* It is required to improve I/o architectures and operating systems to efficiently virtualize interrupts and I/o channels

* Internet applications continue to become more data-intensive

If we assume applications to pulled apart across the boundaries of clouds, this may complicate data placement and transport.

* Data transfer bottlenecks must be removed, bottleneck links must be widened and weak servers should be removed for minimizing the cost

4- Distributed storage and Widespread software Bugs

* The Database is always growing in cloud applications. The opportunity is to create a storage system that will not only meet this growth but also combine its with the cloud advantage of scaling arbitarily up and down on demand.

* This demands the design of efficient distributed SAN's
* Data centris must meet programmers expectations in terms of scalability data durability and HA Data consistence checking in SAN connected data centers is a major challenge in cloud computing.
* Large-scale distributed bugs cant be reproduced, so the debugging must occur at a scale in the production data centers

2. i) There are different components of Aws, but only for key components are

a) Amazon clusters: To assess Aws cloud computing capabilities we must first examine the basic components of the cloud This is also known as Amazon account, Aws has the main computer service EC2 and ELB Due to these cases Companies can increase or decrease according to needs. Administrators and system developers use EC2

b) storage:

c) Databases:

d) Management and security

e) Networks:

f) Analytics

g) Application services

h) implementation and management

i) Mobile services

b) Elastic cloud computing EC2

It is a web service interface that provides resizable compute capacity in the AWS cloud It is designed for developers to have complete control over web scaling and computing resources

EC2 components :

In AWS EC2 the users must be aware about the EC2 components the operating system, support, security measures, pricing structures, etc

Features of EC2

- Reliable
- Designed for Amazon web services
- Secure
- Flexible tools
- inexpensive

objective

1) B
2) A
3) A
4) B
5) C
6) C
7) D
8) B
9) D
10) C