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Q1 Explain the different Cloud Security Model in details.

As A cloud security delivery Model represent a specific resources offered by a cloud provider. Three common cloud computing delivery Model have become widely established & formalized.

- ① Software-as-a-service (SaaS)
- ② Platform-as-a-service (PaaS)
- ③ Infrastructure-as-a-service (IaaS)

① SaaS ⇒ This Application are supplied by the CSP. The Applications are Accessible from various client interface such as Web browser the user does not manage or control the cloud infrastructure including servers, OS, storage or even individual Application capabilities with the possible exception of limited user-specific Application configuration settings.

- ⇒ Rents the software on a subscription Basis.
- ⇒ Service include software hardware & support.
- ⇒ User Access the service through Authorized device
- ⇒ Suitable for a company to Outsource hosting of Apps.

② PaaS:- PaaS user can deploy consumer created or acquired Applications using programming

Languages & tools supported by the CSP.

- Under Offers the development environment to Application developer.
- Provide, develops toolkits, building block, Payment hooks.

IaaS \Rightarrow IaaS offer the ability to provision processing Storage, Network other fundamental computing resources the consumer is able to deploy run arbitrary Software which can include operating System & Application.

- Processing Power & Storage Service
- ~~type~~ hypervisor is at this level.

Q2 What are the host layer security issue in cloud Computing? Discuss any one issue in details.

Ans Two type of Security issue at the host level

① Attack 1: Security concern with the hypervisor

② Attack 2: Securing virtual server.

Hypervisor is defined as controller called as virtual Machine manager [VMM] that allows multiple OS run on single Machine at a time. if no. of OS running on hardware platform security issues get increased because single hardware unit is difficult to monitor Multiple operating system etc.

Guest System tries to run Malicious code on the host system & get control of the system & Block other guest OS, even it can make change to Any guest OS Advance cloud protection system can be development in order to monitor the guest VM And intern communication Among the various infrastructure components

Prevention Method

hook safe that can provide generic protection against kernel mode Rootkits.

Q3 What are the Application layer security issue in cloud computing? Discuss Any one issue in detail?

Ans Six type of security issue At Application level

- ① Attack 1: Cookie poisoning
- ② Attack 2: Backdoor & debug options
- ③ Attack 3: Hidden field manipulation
- ④ Attack 4: Google hacking
- ⑤ Attack 5: SQL injection
- ⑥ Attack 6: Cross site scripting Attack.

SQL Injection

→ Attackers inserted a malicious code into a standard SQL code And it Allow unauthorized person to download the entire databases or interact it in other illicit ways The unauthorized user can Access the sensitive

data this will be avoided the usage of dynamically generated SQL in the code.

Prevention Method \Rightarrow Avoiding the ways of dynamically generated SQL in the code.

Ques 4 Write a short note on (1) ~~Data Availability~~ Integrity (2) Data ~~Privacy~~ Confidentiality.

Integrity
(1) ~~Data Availability~~ \Rightarrow Data integrity means protecting data from unauthorized deletion, modification or fabrication.

\Rightarrow Data integrity ~~means~~ in the cloud system means preserving the information integrity. The data should not lost or modified by unauthorized users.

\Rightarrow Data integrity is the basis to provide cloud computing service as SaaS, PaaS, IaaS. Besides data storage of large-scaled data, cloud computing environment ~~also~~ usually provides data processing service.

(2) Data Confidentiality: Authentication & Access control issue in cloud computing ~~about~~ could be addressed by increasing the cloud reliability & trustworthiness.

\Rightarrow Data confidentiality is the important for user to store their private or confidential data in the cloud. Authentication & Access control strategies are used to ensure data confidentiality.

Ques 5 : Write the short Note on ① Data Availability

② Data Privacy

① Data Availability ⇒ When Accidents Such as hard disk damage, IDC fire & network failure occur, the extent that user's data can be used or recovered And how the user verify their data by techniques rather than depending on the credit guarantee by the cloud service provider alone.

② ⇒ This issue of storing data over the trans border services is a serious concern of clients because the cloud vendors are governed by the local laws and therefore, the cloud clients should be cognizant of those laws.

Data Privacy ⇒ Privacy is the ability of an individual or group to seclude themselves or information about themselves & thereby reveal them selectively.

Privacy has the following elements:-

① When:- A subject may be more concerned about the current or future information being revealed the information from past.

② How:- A user may be comfortable if his/her friends can manually request his/her information but the user may not likely Alerts to be sent automatically & prevently.

Extent \Rightarrow A user may rather have his/her information reported as an ambiguous region rather than point.

Q-6 Explain term Cloud Security?

As cloud security are also known as cloud computing security, consists of set of policies, controls, procedures & technologies that work together to protect cloud-based system, data and infrastructure. These security measures are configured to protect cloud data, support regulatory compliance. And protect customers privacy as well as setting authentication rules for individual users & devices.