



Cloud Computing Security issue with solution

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Abstract: Cloud computing offers the extraordinary potential to enhance productivity and reduce prices, however, within the in the meantime, its several security risk. Distributed computing may be a characteristic development for data what is additional, calculation focuses with processed frameworks administration, work adjusting, and virtualization innovations. Cloud specialist co-op and therefore the cloud profit emptor got to confirm that the cloud is sufficiently shielded from all the surface dangers in order that the consumer doesn't face any issue, such as, loss of knowledge or data felony. During this paper discuss Parameters that influencing the cloud security and cloud model and therefore the differing kinds round-faced by cloud security and cloud advantage client, for example, data, assurance, and corrupted application and security problems. It furthermore plates a few of tips for managing these problems and issues.

Keywords: Cloud security, cloud model, Cloud Security issue

I. INTRODUCTION

Cloud computing is a network based model that provide the different services on-request, this service available worldwide to everyone, every place and every time, adding cloud and taking internet and web as reference source. [1][2]. Cloud Computing is homogeneous mixture of platform and tech that provide storage services on the web. [3]. The prime purpose of cloud computing is to provide scalable infrastructure when the user requests it with the best services that are quality oriented. [4][5]. Though, Cloud computing is a buzzword today and specially more because of the Big Data that is growing day by day. Actually one of the solutions of big data [6] is putting it on the cloud. Several International as well as national organizations are creating and are putting the cloud processing administrations but they have not appropriately considered the hazards of getting to, preparing and putting away the information in a dispersed shared condition. Many cloud-based application designers are attempting to incorporate security. In different other cases, the cloud designers basically can't give genuine security with the as of now reasonable Innovative abilities. Cloud computing idea is easy to comprehend as it enables us to share the assets on a bigger scale dispersed systems which require less cost and is area free. [7]. Assets on the cloud can be utilized by the shoppers and conveyed by the merchants, for example, snap deal, Google, IBM, salesforce.

Different IT industries are shares required on request gadget and software's. cloud computing has numerous advantages such as providing software, media, text file to third party sources. Cloud computing even though provides much application but it is still expensive. Cloud computing is not only services provide to multinational companies, cloud computing it's also to provide by medium and small business. [8].

Fig.1[12] There are the three types of cloud deployment. First is private cloud second is public cloud and third one is hybrid cloud. The private cloud is expensive but more secure. Public cloud is less expensive and less secure. Hybrid cloud is

mixture of both clouds. Hybrid cloud is most used services by the industries. [8].

Section II explains the basic Cloud Model. Section III illustrates the parameters that influence cloud security. Further, Section IV contains a description of various security threats faced by cloud computing. Section V contains the solutions and Section VI contains the conclusion.

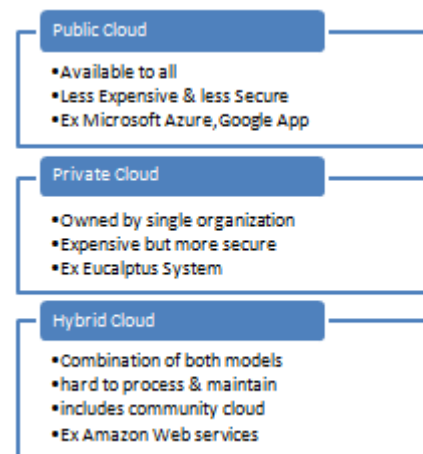


Fig.1 Cloud deployment models

II. CLOUD MODEL

Cloud computing models can be broken into three fundamental outlines, which are appeared here and described below.

- Infrastructure-as-a-service
- Platform-as-a-service
- Software-as-a-service

Fig 2 [10] describes the basic Cloud Model.

A. Infrastructure-as-a-service (IaaS)

As the name suggests, you are purchasing Infrastructure. You possess the software and are purchasing virtual energy to execute as required. This is much similar to running a virtual server all alone gear, but you are currently running a virtual

server on a virtual disk. This model is is like to utility company model, as you pay for what you use. [10].

B. Platform-as-a-service (PaaS)

In this model of cloud computing, the supplier gives a stage for your utilization. Administrations by this model incorporate all periods of the System Development Life Cycle (SDLC) and can utilize Application Program Interfaces (APIs), web-based interfaces, or, then again gateway software. Purchasers do need to take a gander at particular arrangements since a few suppliers don't permit software made by their clients to be gotten off the supplier's stage. [10].

C. Software-as-a-service (SaaS)

This model is intended to give everything and just lease the product to the client. The administration is typically given through some kind of front end or online interface. It is the endlient who can use the administration from anywhere but it is required that the organization has to pay for the utilization charge..

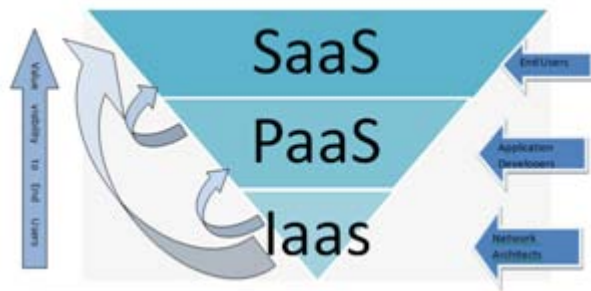


Fig. 2 Cloud Architecture

II. PARAMETERS INFLUENCING CLOUD SECURITY:

There are many security issues for cloud computing. Fig 3 [11] clearly describes them. Cloud computing is surround many tech involving web, framework, database, load balancing, virtualization, memory management and control management. [9]. Cloud computing is appropriate to different security system issue of these framework and tech. for example, virtualization paradigm in cloud computing result in several security, network that interconnects the system, data security involves encrypting the data as well as ensure that appropriate polices are enforced for data, mapping the virtual machine to the physical machine to the physical machine has to be carried out securely, data processing procedure could also be appropriates to malware found in cloud computing.



Fig.3 Parameter that influence cloud security

III. THE DIFFERENT SECURITY THREATS FACED BY CLOUD COMPUTING

At whatever point a discourse about cloud security occurs there will be especially to accomplish for it. The cloud specialist co-op for cloud ensures that the client does not face any issue, for example, loss of information or information robbery. There is additionally possibility that a client can infiltrate the cloud by imitating an honest to goodness client, there by tainting the whole cloud. [8]. this prompts influences numerous clients who are sharing the tainted cloud. There are four sorts of issues raise while examining the security of a cloud. [9].

- Privacy issues
- Data issues
- Security issues
- Infected Application

A. Data Issues

Data is extremely important part of any processing. It is a major thread whose security is important. When the data/information is stored on a cloud it is susceptible to anybody accessing it and from anywhere and irrespective of any time constraint. The fact is that this data may actually be belonging to a person or an organization and therefore may be private in nature. Its accessibility to anybody else can substantially affect a person. At the same time it is also possible that the breacher may be the administrator of the data itself. Also, the cloud computing administration clients and suppliers maybe getting and altering this information. So there is a critical prerequisite for information honesty in cloud computing framework.[10] And cloud computing in data loss is a common problem.[6].

B. Secrecy Issues

The customer and user, service provider is making sure that the consumer all important information/data fully secured from other provider. [8]. As most of the cloud computing

servers are external, the service provider should make properly clear about this who is access the data and maintain the cloud server, so provider make sure to enable the service to protect the users for personal information/data.

C. Infected application

The service provider of the cloud should have complete and autonomous control over on the cloud sever for the purpose of maintains and monitory day to day user activity this also keeps the cloud server save round users with malicious intend to words a cloud.[11].

D. Security issues

The cloud security is two levels types of issues. First is provider level and second is user's level. The cloud service provider to make sure to the server is prefect secured from the all external virus/threats. And they cloud service provider also provide a best/good security layer for the users and consumer, the user should make properly sure that they should not loss any data and information for other users who are in the same cloud. A cloud is best when the service provide is given the best security to the users. [10][11].

IV. CLOUD COMPUTING SECURITY ISSUES SOLUTIONS

To ensure security in cloud computing there many technology and method that prove to be use full on the top list is a layered framework consisting of four layers each with its specific functionality.

The framework consists of four layers as shown in figure 5. [11].

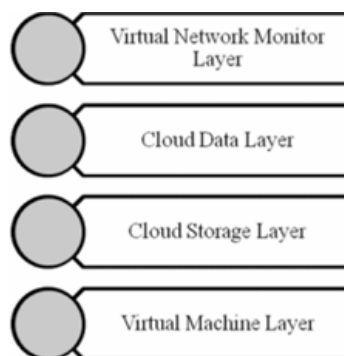


Fig.5 Layered Framework for cloud Security

In Fig5, Secure virtual machine layer is the first layer, most computers consist of multiple layers of hardware and software that operate together as a system. And fig5, second cloud storage layer has a storage infrastructure which combining resource from multiple cloud services provide to build heavy virtual storage system. And fig5, the last virtual network monitor layer, this layer combining both hardware and software, virtual network monitor layer to handle the problem. [8].

V. CONCLUSION

It can be observed that it's the client as well as the cloud master provider who can ensure that the cloud would be secure from any harmful effects or external dangers and thus make the whole system robust and secure from all the external factors. Who would be responsible for the security threats has to be decided by perfect laws and regulations with a well defined framework that can answer these questions. In addition, there is an urgent need to create correct solutions for the threats that cloud computing faces today. With growing technical needs like that of big data dependency on Cloud for storage and processing it , there is a dire need monitoring the cloud to prevent it from malicious threats.

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