CLOUD COMPUTING

Guide: MS.BARKHA NARAG

ROHIT KUMAR (104)
VAANYA (122)

INTRODUCTION

Cloud computing is a relatively new paradigm for distributed computing. Although not a new idea that has come up recently. The much anticipated 1969 L. Kleinrock, now, of young computer networks. But as they grow and grow, we will probably see the distribution of 'computer equipment' which, as current electronics and telecommunications equipment, will work for individual homes and offices across the country. One of the biggest steps in the country was taken in the mid-1990s when grid computing was introduced to allow consumers to gain computing power on demand. first Google chief executive Eric Schmidt in late 2006 (he may have named that one.) So the birth of cloud computing is very recent even though its roots are some old ideas about new business, technology and socialism From the point of view of cloud architecture naturally built into which is based on an existing grid and uses grid services and adds other technologies such as aisaliz ation and other business models.

In a short cloud it is actually a bundle of commodity computers connected together in the same or different geographical locations, working together to serve a large number of clients with different needs and the burden of working on demand with visual aids. Cloud services

are provided to cloud users such as mobile services such as water, electricity, phone using

the business model you pay for. These usage services are generally defined as XaaS (X as a Service) where X can be Software or Platform or Infrastructure etc. Cloud users make use of these services offered by cloud providers and build their applications online and thereby introduce them to their end users. So cloud users do not have to worry about installing, storing the necessary hardware and software. And they are able to pay for these services as they have to pay a lot for the users. So cloud users can reduce their costs and effort in the IT sector using cloud services instead of launching IT infrastructure on their own.

Clouds are provided by large distributed data centers. These data centers are usually organized as a grid and then the cloud is built on top of the grid services. Cloud users are provided with virtual images of virtual machines in data centers. This accessibility is one of the key concept of cloud computing as it actually builds more visibility into the physical system. Many cloud applications are gaining popularity day by day with their availability, reliability, vulnerability and operating model. These systems are made to be easily computer-shared as critical features are handled by the cloud provider itself.

Cloud computing is growing now-a-days in the interest of professional and business organizations but this can also be beneficial for solving social problems. Recently E-Governance in developing countries to improve efficiency and governance. This approach can be further enhanced by using cloud computing

instead of traditional ICT. In India, the agricultural economy and most of the residents live in rural areas. The quality of life, agricultural productivity etc. can be improved

In this report we will try to clarify some of the ideas {Why do clouds create a buzzword today? i.e. what benefits does the provider and users gain from using the cloud? Although its idea dates back to 1990 but what situation made it relevant today? How was the cloud formed? What distinguishes it from the same terms as grid computing and computing? What are the different services offered by cloud providers? Although computer clouds talk about business days and not for profit organizations; how is this new paradigm applied to services such as e-busa and rural development issues in India?

• Cloud Computing Basics

Cloud computing is part of a distributed computer to provide customers with on-demand, computer-based computing services. Cloud users can provide reliable, existing and renewable services to their customers. The cloud itself contains virtual machines in the data centers of cloud providers. Virtualization is provided on top of these virtual machines. These virtual machines are provided by cloud users. A separate cloud provider provides cloud services for different levels of outsourcing. E.g. Amazon EC2 enables users to manage low-level information when Google App-Engine provides a development team for developers to develop their applications. So cloud services are divided into many types like Software as a Service, Platform as a Service or Infrastructure as a Service. These are services

they are available on the Internet worldwide where the cloud acts as one access point to serve all customers. The development of cloud computing addresses the complexity of big data operations.

• Cloud types

by using cloud computing effectively. Both of these computer cloud applications have technology and social challenges that you can overcome.

Clouds can be of three types:

1. Private Cloud {This type of cloud is stored within an organization and is used only for its internal purpose. The operating model is therefore not a major term in this scenario. Many companies are moving into this setting and experts think this is the first step for the organization to step up to the cloud. Security, network bandwidth is not a critical private cloud news.

2. Public Cloud {in this case the organization is hiring cloud services from on-demand cloud providers. Services provided to users using a computer operating system.

3. Hybrid Cloud {this type of cloud is made up of many internal or external clouds. This is the situation when an organization relocates to a public cloud computing site from its own internal cloud.

- **LITERATURE REVIEW**

[Michael et al. 2010] Cloud computing is an IT freedom model that provides computer infrastructure and services as a service. In an organization, information is shared using a private cloud. Organizational gains are based on important benefits such as ease of management, cost reduction and acceleration processes. With a wide variety of designs, cloud computing technology can be developed under a variety of services and delivery methods. In the organization cloud computing is used to transfer existing infrastructure to dynamic environments. By embracing cloud computing, business operations can be performed with minimal effort and with great success. Cloud computing offers many benefits to different customer segments and is easy to find.

From the above authors' viewpoint it can be concluded that, cloud computing is a model of IT delivery and provides the infrastructure and computing resources. By using the cloud, information can be shared. Simplifying management, reducing costs and accelerating such benefits provides success for the organization. With support from different services and deployment models, cloud computing technology can be developed with a wide variety of designs. This offers many different customer benefits and these benefits are easy to obtain. By embracing cloud computing, business operations can be accomplished with greater success and less suffering.

[Meiko et al, 2009] In general, cloud computing offers flexible and robust services as a service over the Internet. The cloud is used to reduce costs and operating costs, and provides economic growth. This happens in real life and, however, there are some cloud-defined contracts. It is described as an important consideration for enterprise IT integration. Even cloud computing has many benefits and

still faces many risks. Cloud security is one of the most important issues in a computer.

In view of the above view of the authors it can be concluded that cloud computing provides flexible and robust services online. ICloud provides economic growth and lowers operating and operating costs. It describes it as an important consideration for IT integration. It has many benefits and yet faces certain risks. Sometimes the cloud can't provide security for a customer's property. It detects significant interruptions of cloud computing.

[Chang et al, 2005] Generally, in a computer in the cloud, important customer data can be stored in data centers. In essence, data centers dictate where data should be stored in a central location by having large data storage capacity. Data processing is performed on servers. Important information should be handled by the cloud provider. Therefore, customers should trust the cloud provider for data security and availability. In this case, a legal agreement called an SLA (legal service agreement) should be provided by the cloud computing between the cloud customers and the cloud provider. The supplier may gain the customer's trust through this agreement, and, therefore, the SLA must comply. In a cloud environment, all security depends on cloud security standards. This concept of cloud computing promises to revolutionize the future of computing by offering many benefits to the field. And the main obstacle to achieving this is nothing more than a misplaced security concern.

From the above authors view it can be concluded that, in general, in a cloud computer, the data will be stored in data centers. Data storage methods are performed on data servers. Large si9ze data can be stored in data centers. On a computer in the cloud, customer data must be handled by a cloud provider. So cloud providers should provide assurance on data security. To rely on a cloud provider, the cloud customer must comply with a legal agreement called SLA that must be provided by cloud computing between the cloud customers and the cloud provider.

[McKinsey, 2009] Fundamentally, cloud computing is the specification of the promoted IT (capabilities, software, or services). Clouds are hardware-based services that provide computing power, networks and storage. It has special features that require risk estimation in areas such as data integrity, renewal and privacy. Security parameters are set to create a trust boundary where important customer information is stored and processed. The network provides travel services that operate in the same way, and that contain other reliable storage sites. Confidential information may be processed externally and identify trusted locations as these computer locations often have vague limits on where they are stored and processed and when a security border is visible. Frequent privacy problems in the cloud are not only exacerbated by the public cloud and have their own security features.

- ALL THE CHALLENGES OF HOMEWORK IN HOME

Computer Cloud research looks at the challenges of meeting the needs of private, public and hybrid homes, as well as the challenges of allowing use and development platforms to take advantage of the benefits of cloud computing. Cloud computing research is still in its infancy. Many of the existing issues have not been fully addressed, while new challenges eventually emerge from industrial systems. Some of the most challenging research issues in cloud computing are given below:

- Cloud Data Management

- Data encryption

- Migration of virtual machines

- Collaboration

- Access Control • Power Management

- Multi-tenancy • Server Integration

- Loyalty & Service Availability

- General Cloud Rating

- **RESEARCH METHODOLOGY**

The research process will include the following phases of Achieving the Research Purpose to study and analyze specific security risk issues in Cloud Computing in an effort to leverage the security implementation model, which will include the benefits of the process used to manage Security of Cloud Computing security and will be able to provide a more reliable startup environment Cloud Cloud:

- Phase I: Lesson

The learning phase will focus on studying the various risk factors in the Security of Cloud Computing environment. Current status, limitations, implementation issues that specifically address the risk, usefulness and disadvantages of available security measures will be studied and comparisons will be made to identify the lost area in terms of vulnerabilities in Cloud Computing Security.

- Phase II: Analysis

In the next section a classification analysis will be done to identify and classify risk factors

Associated with Cloud Computing Security is to investigate the feasibility of the Cloud Computing Security implementation framework. The result that can be brought to the end of this section will be a document that identifies details of how to apply the various risk factors in Security of Cloud Computing.

- Phase 3: Design and development

In this section an implementation framework model will be implemented to implement vulnerability issues in Cloud Computing Security. This section will use the prescribed need document and will convert the requirements into an outline. The framework will describe the elements, their interactions, and their behavior. The practical design

document will be a design that describes the process of applying risk factors. It represents the "How" section.

Phase IV: Examination

This section will include various tests and tests that will help identify errors and possible limitations in the proposed vulnerability and secure data security in the Cloud Cloud environment. Testing the process for the specific purpose of detecting errors before being delivered to the end user. The assessment strategy comprises the design of trial cases and provides a guide outlining the steps to be undertaken as part of the assessment, arranging when and where to put them, and how much effort, time and resources will be required.

- Phase V: Getting started

At this stage the proposed implementation model will be developed in the design space to achieve the purpose of the program so that the model can be transferred to Real Data Security in Cloud Computing for implementing vulnerability issues. This section uses the construction document from the design phase and the document required for the analysis, acquisition and modeling phase. The launch phase addresses issues related to quality and performance.

- **POPULATION**

A number of researchers are usually a large group of people or objects of intense scientific inquiry. It's about helping the community get the research done. The number of people researching is also known as a well-defined group of people or things that have similar characteristics. All individuals or objects within a particular society tend to have the same character or symbol.

POPULATION IN THIS STUDY: Existing data and responses of college students from top sources

> ➤ **FINDINGS**

- Sampling of IT skills may be required in the future:

- Operational development and operational support.

Me. Oracle, SAP, SQL, hardware that integrates with software.

- Measurement data to make strategic business decisions.

Me. Business Intelligence: Adding sales forecasts to inventory and building decisions.

- Wifi Engineers

USF to replace broadband (LTE replaces GSM / CDMA).

- Optical engineers

Optical provides the highest bandwidth today (PON, CWDM, DWDM).

- Virtualization Specialists

Scale economics requires optimization (server, storage, partition)

- Network Security Specialists

- Web Developers

- Development and application of a smart business application

> ➤ **CONCLUSION**

Every new technology has its advantages and disadvantages, and so does cloud computing. Although cloud computing offers easy data

storage and access. But there are a few problems related to storing and managing data, which can be controlled by the data owner. This paper discusses cloud security issues. These issues include cloud reliability, cloud reliability, cloud availability, cloud privacy. There are several threats to cloud security including cross-VM attacks and malicious sysadmin. On the other hand cloud integrity has been compromised due to data loss and unreliable connectivity to remote servers. Denial of Service (Dos) attacks are the most common attacks that can also occur on a cloud communication network. This attack tries to block the data available to its intended users. The problem with maintaining cloud privacy is the same with cloud security. If cloud stabilization is at stake, cloud privacy will be at risk.

> ➤ **RECOMMENDATION**

- **Clearly identify data and print operations to be transferred to the Cloud**

Before planning to use Cloud computing, the data management customer must clearly identify information, processing activities or services that can be hosted on the Cloud.

- **Explain your technical and legal safety requirements**

  Switching to Cloud requires a strong approach in terms of technological and legal security.

Unlike standard outsourcing offers, where service providers provide customized feedback to customer-defined information, many Cloud offers are "common" to all customers and do not meet specific specifications.

• **Perform risk analysis to identify key security measures in the company**

Performing a thorough risk assessment is essential for companies to define the appropriate security measures that the service provider should seek out or be included in the company. The EBIOS3 method is important as a risk assessment

Service types are as follows:

i) SaaS: "Software As a Service", that is, the provision of software online;

ii) PaaS: "Platform as a Service", that is, provision of online application development;

iii) IaaS: "Infrastructure as a Service", that is, provision of online infrastructure and infrastructure maintenance.

as long as personal data is considered an asset to be protected and the impact of data privacy is considered.

• **Identify the appropriate cloud type in the planned configuration**

There are many Cloud computing services offered in the market, which can be customized according to three service models and three deployment models.

➢ **REFERENCES**

a) https://en.wikipedia.org/wiki/Cloud_computing

b)https://www.zdnet.com/article/what-is-cloud-computing-everything-you-need-to-now- from-public-and-private-cloud-to-software-as-a/

c) https://builtin.com/cloud-computing

d) http://www.ijfcc.org/papers/95-F0048.pdf

e) http://www.academia.edu/Documents/in/Cloud_Computing

f) https://www.ijraset.com/fileserve.php?FID=963