

# “Cloud Service Utilization”

## Journey to cloud...

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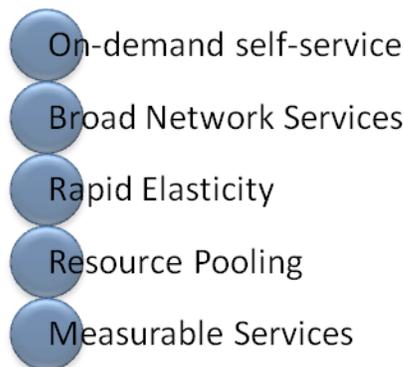
### Abstract

As we know that cloud computing is an emerging area, the services provided by the cloud is helpful to overcome the limitation of Information Technology. Such as Globalization, Security, Storage and the most important Cost. And as Cloud plays a vital role to overcome these challenges of new age of Information technology. The above paper would focus on various factors in which cloud mainly developed the suitable environment for Communication and business aspects, new trends in the emerging arena and various issues regarding the cloud computing. At various domains and how these domain mainly get affected by the cloud.

**Keywords:** - Virtualization, Storage, Compute, Security.

### Introduction

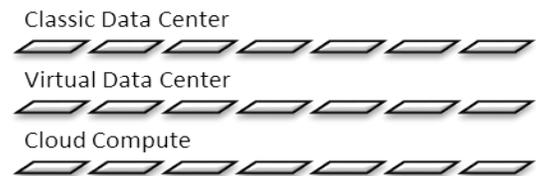
As when we talk about the cloud the first thing that comes in our mind when we look upward at cloud is the unlimited space [2]. According to NIST i.e. National institute of standard technology the cloud mainly contain the five characteristics



**Figure:1.1 Shows Characterstics of Cloud computing**

These are the main characteristics of the cloud computing. If these characteristics were in the system

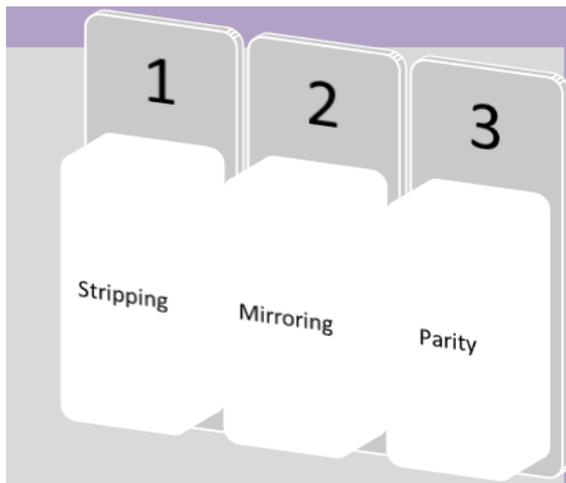
means the system is cloud system. Know moving towards the cloud we should know that cloud is vast there is no end so we call it as a journey to cloud. On our journey to cloud there are mainly three phases [1. EMC] First phase is Classic data center, and then second phase is Virtual Data Center and at last cloud. Figure 1.2 shows the three different phases towards cloud computing [1].



**Figure 1.2: Shows the different Phases in the cloud computing**

Know coming to the classic data center (CDC), it mainly consist of the several component such as Compute, Applications, DBMS, Storage, Networks. The compute mainly consists of the logical and physical components such as hard disk, floppy drive, RAM, ROM, Processors, Switches, NIC card etc. while the logical components consist of the various protocol [3]. Coming to second components the Applications it mainly consist of various applications such as Email Application, Customer Retail Mgmt., Enterprise Resource Planning etc. various applications while Third Components is about the Data Base

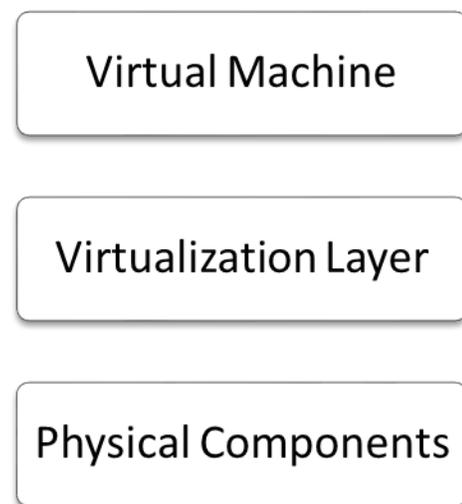
Management system which mainly talks about the data base that how the data is important, which type of data and purpose and classification of data. Consist of sql and PLSQL. While the Fourth components mainly about the Storage the storage of data is another main complex problem how to store the data because as the Information technology is facing the biggest problem which is storage, that how to store the data and how to manage the data, the big data maintenance is another big and emerging area of Information Technology, but in case of classic data center , Storage mainly uses the RAID: Redundant array of independent disk, in which various levels are there RAID 0 , RAID 1, RAID NESTED, RAID 5, RAID 6 . While the RAID6 is been used by the Google and you tube [5].The RAID model mainly used the three different techniques such as



**Figure 1.3: Shows the three techniques of RAID**

These techniques mainly provide the better storage; the better techniques mainly maintain the business continuity in the system. The business continuity can be achieved through these techniques and backup is also an important part for these which can be maintained on disk and as well as on tape, coming towards backup the backup of data is well categorized on client side and as well as on server side. Backup is mainly done

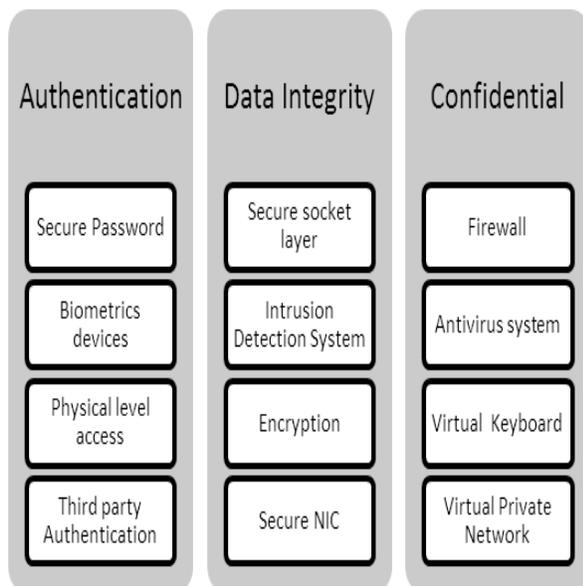
to maintain the recovery, while recovery can be on local and remote side recovery. If we talk about the recovery the various recovery tools are there which mainly provide the recovery of data. Moving ahead towards CDC the last component is Network, which plays again the vital role in the classic data center. The fiber channel over Ethernet is used FCOE for transmission. Now second phase of journey towards cloud is Virtual data center, before that concept of virtualization is quite simple. I.e. it is logical structure which acts and behaves like physical structure. The virtual machine is based on virtual file and it also acts and behaves like a physical machine. The virtual machine consists of the applications and operating system running over it. Above figure shows the position of the virtual machine in cloud system.



**Figure 1.4 shows the virtualization machine and its position**

The virtual machines are actually logical files which are mainly created on the physical machine. The main concept is to provide the virtual environment in the system, the file which is created on the machine requires more protection because these files contain the whole data of the virtual system. And the biggest characteristics of these cloud computing is that they just maintain the resource pool (Virtualization). The virtual machine also contains the various virtual

devices such as virtual switch, virtual NIC, virtual hard disks, virtual storage. The virtual machine and physical machine mainly consist of hypervisor in between them. Hypervisor mainly allow the multiple operating systems to run simultaneously on the physical machine. It mainly works on the physical machine the used virtualization can be achieved by these. coming to the security purpose the virtual machine can be bigger loophole they can be theft so the virtual machine theft prevention can be done the first level , privacy at physical level should be maintain by the physical level security. The authentication should be maintained by the stronger security mechanism such as Biometric devices. And the physical access privileged should be under the secure services so that various problems regarding the virtualization security can be solved and hypervisor and virtual machine should work under the secure environment. [7] The business continuity should be maintained the business should work regularly. The privacy condition should be maintained properly

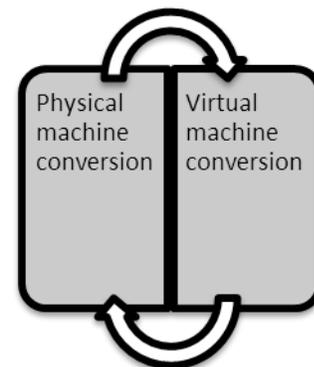


**Figure 1.5: Shows the working of antivirus between the Physical machine and virtual machine**

The basic aspects of security can be achieved by the

Following existing system as shown in the figure 1.5 the security can be maintained at its better level because as said that no system can be said as perfect secure or 100% secure. We can only increase the level of security. The virtual system is the core concept of cloud, the basic characteristics of cloud is virtualization so logical structure should be strong and it should be safe. The various problems which mainly occur during the virtualization they can be solved by maintain this proper aspect of principles.

The cloud will go to play a vital role in the next emerging environment, so maintaining the trust is an important challenge for the service provider. The cloud security is biggest issue which has to be kept in mind and then services can be used. So the cloud is vast and big enough to resolve all the challenges of information technology. Cost, security and the problem of storage can be easily solved by maintain the virtualization. The virtualization mainly provides bigger space to maintain the large amount of data. Complexity of maintain the data can be easily be solved by virtualizations sphere and as when physical machine get converts into virtual machine by Vm sphere. [6] The physical machine will acts like a virtual machine conversion can be hot conversion or it can be cold conversion. If the machine is on then it is hot conversion and if the machine is off then it is cold conversion. Figure shows the physical to virtual machine conversions. [7]



**Figure 1.6: PM to VM conversion**

So the bigger challenges to information technology can be solved by the cloud.

## Conclusion

As we know that the cloud is an emerging area most of the services providers where moving towards the cloud services. So cloud issues should be kept in mind and the services of cloud can be used at broad level and as discuss, above it can resolve the biggest challenges to information technology and the problems which mainly big data center faces.

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**Biography:** Pranay Chauhan has receivable. (Bachelor of Engineering)Degree in Information Technology Engineering from Rishiraj Institute of Technology, Indore, M.P., India in2007. He has 4+.years of teaching experience. His subjects of Interest include, Computer Networking, Biometric system, Security assessment, Securing E commerce Operating system, Network Management, Wireless network, cloud computing, security in cloud computing, Network security presently. He has published several researches Papers and Journals in National/International Conferences. Currently working as Assistant Professor in SVCE Indore.