Cloud Based Storage Systems: An Automated Virtualization Systems for Intelligent World- A Short Communication

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Abstract-

Cloud Computing is a kind of Technology which is mainly responsible for the virtualization. Cloud Computing is a technology that uses the internet and central remote server to maintain data and application. Cloud Computing has been one of the most booming technologies among the other Information Technology weapon in today's scenario. Cloud Computing is classified public, private or it its hybrid companies and their IT vendors are focused increasingly on virtualization based cloud services and consolidation solutions and the potential benefit they provide business. It is a helpful tool for remote data and content storage and sharing. This paper is talks about Cloud based storage systems; including its need and role and characteristics in brief manner.

Keywords:-Cloud Computing, Information Services, Virtualization, Storage Systems, Networked Systems, Storage Virtualization, Data Systems

I. INTRODUCTION

Cloud Computing is a technology that uses the internet and control remote server to maintain data and applications. Cloud Computing is the vital services which is actually depends on the internet and network technology. Ultimately, Cloud Computing is promoting energy saving aspects or Green Computing fundamentals [02, 09]. Cloud Computing offers an outstanding solution for all over data storage and data sharing needs. Virtually, Data is growing rapidly and around 50 percent every years today many organizations are running big amount of storage and even some sector such as health and bio and technological sciences needs per day ITB data processing and handling and hence in almost all the organization, in today's competitive organization spend around 15-20 percent of finance. Cloud Computing is thus an important tool for Data handling and future Big Data Management [07, 12].

II. OBJECTIVE

The main aim and objective of this paper is includes but not limited to as follows—

- To know basic about Cloud Computing and its basic features and characteristics;
- To know about the need and importance of Cloud Computing in today's contemporary world;
- To learn about the role and value of Cloud Computing in centralization of Data Management;
- To learn about the storage virtualization as well as storage area network in brief manner.

III. CLOUD COMPUTING AND STORAGE SYSTEMS

Cloud Computing is an important tool which is more clearly a architecture with much more centralize storage, memory, processing, and bandwidth which is fully depends on network and internet systems. Such computing platform is depends on internet and similar online means, thus proper and sophisticated bandwidth and transparent communication is helpful for complete IT infrastructure virtualization and sharing from a remote place with out own infrastructure[11, 13].

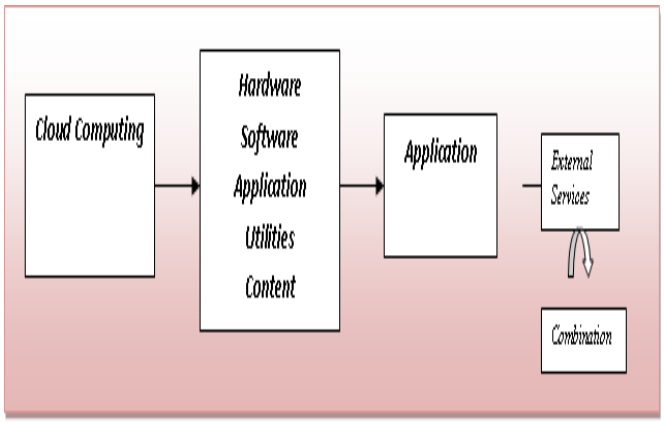

Fig: 1-Role of Cloud Computing in different working segment

Data is increasing day by day, each and every organization every day processing huge amount of data and contents by its several organization and thus Cloud Computing helps in proper data management. And thus, SAN or Storage Area Network powered by cloud platform is helpful for storage challenges in many cases. Ultimately, by embracing virtualization of storage, user can benefited by reducing storage network complexity by aggregating multiple devices into a general and properly managed virtual storage pool. Cloud Computing is enables organization and data centre with multiple operating systems concurrently on a storage physical server with effective utilization of the underlying hardware and hence, Data Centre need help in understanding have the different virtualization systems which will offer the concerned network [14, 16].

IV. STORAGE AREA NETWORK: PERVASIVE TECHNOLOGY

Cloud Computing can access, design, develop as well as optimize and empowered on-demand infrastructure which are integrated, virtualized and automatic. Ultimately, of an organization used cloud for storage systems that will be make storage simpler, storage more heterogeneous, and more manageable. For easy organization establishing own IT system is tough to build in several cases, like funding, proper management, up-gradation. Ultimately around 23 percent cost mainly spent for hardware and many of them are for content collection, selection, organization, processing, management and dissemination [09, 19, 22]. And thus, organization only needs to use some IT devices for connection with remote cloud system for sustainable Cloud Computing uses. The main reason for storage management are includes creation of digital content; each and every organization, e-mail conversation, internet bases application and emerging technology. In generally the storage cost getting double around 12 months and the value is increasing day by day. More importantly, each year the cost of managing the storage may rise higher with growth in traditional storage environment.

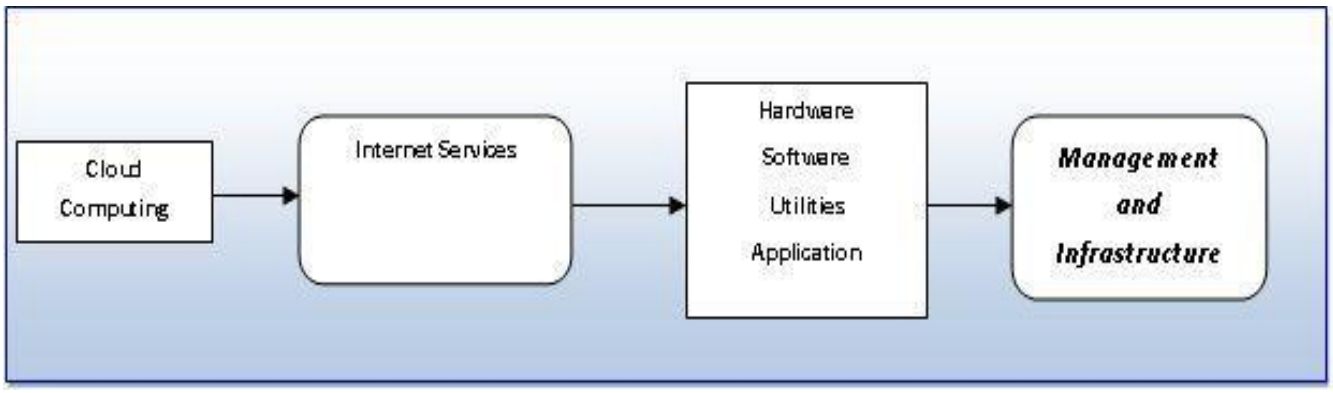

Fig: 2-Depicted Cloud Computing and its role towards healthy Management of IT

So, Cloud Computing is the best alternative of future data management. SAN or Storage Area Network is most appropriate method which is play an important role for attaching devises locally to the operating systems and to the servers. Several disk arrays', types and other storage devices connection is properly possible with SAN. With fire based protocol such as NFS, it will be much more sophisticated and modern. In such platform storage is available through online system and can ne accessed as a file and not as the disk block system. In such system Host may able to share storage system which will be directly attach with point based SCSI connections; where storage is physically separate and will not configured to attach to multiple hosts. Here the individual physical unit connected to multiple hosts with point to point re cabling. Ultimately, better connectivity and hence improved performance with larger bandwidth connections. It keep IT system more heterogeneous and more manageable and comes with several features such as effective use of capacity and effective management and very reasonable cost of ownership. This type of storage system more clearly helps in Data Migration, security and investment protection and more clearly any to any attachment.

V. NAS AND NETWORK INFRASTRUCTURE

NAS or Network Attachment Storage is mainly connected with the server which is virtually serve the workstations connected to the network applications; it is more clearly helping in Big Data Management due to application and files are not challenging the same resources on the network. NAS is a IP address and Ethernet switch based and empowered with RAID or Redundant Array of Independent Disks system healthy hard disk storage and configuration devices.

NAS is uses plug and play features to the Ethernet networks and make its availability within a few moments as it is works on file based protocols. Virtually, NAS does not have the characteristics application on directory server but it is based on the specific function. NAS is available to perform on different server such as on UNIX, Novell, Linux, and Windows and so on.

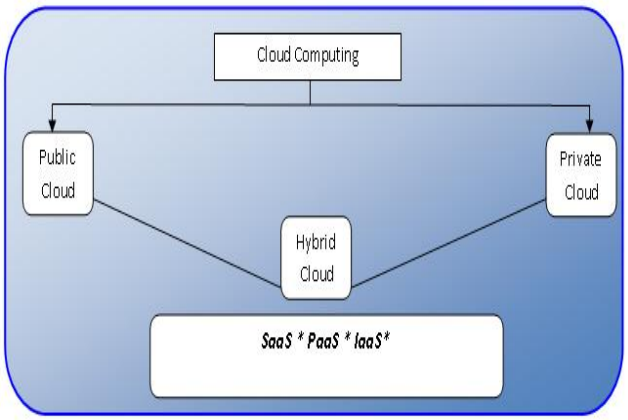

Fig: 3:- Depicted three core model of Cloud Computing and Virtualization

As like NAS, in NFS too the systems are non windows based and server large parts. NAS is connected with proper protocol, there are so many protocols, out of which server messaging block protocol, Common Internet File System, Network File System, Fiber Channel over Ethernet is most important. For easy information and content sharing and delivery, some NAS interconnects are essential. Fast Ethernet may be used as best alternative due to its less expanses and sharing of 10 MB of data within a group; however if, it needs some more group interaction then it is better to fall under the Gigabit Ethernet. Normally it comes with 100 people accessing. For large scale connection we can use 10 GE systems with very good performance with huge file transfer and more speed.

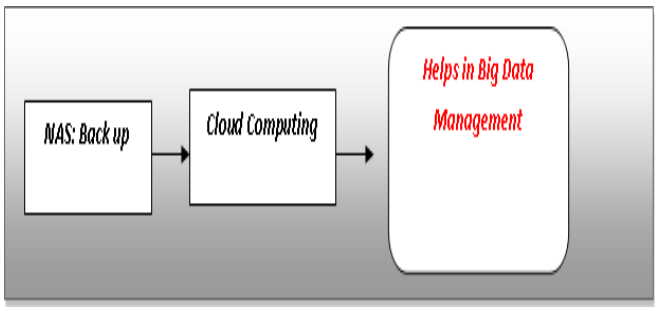

Fig: 4- Showing NAS and cloud architecture dependency

However, it is important to note that, before installations of Cloud based storage system define the NAS implementation. Virtually listing of the requirement required for the devices can be more easy and healthy step. Ultimately, NAS is helpful in distributed computing platform as like NFS and CIFS. Interestingly, such platform may be combines with small fred based storage

system. Thus higher performance NAS is comes with SATA or SCSO and hence comes with higher scalability. So, Network Infrastructure is a helpful tool for building Cloud Based Systems.

VI. CONCLUSION

Today most of the Data Centre of various organizations are moving towards Cloud Computing systems. Virtual machines are providing business to run multiple operating systems concurrently on a particular single physical server with wider effective utilization of the underlying hardware. There is a Information Infrastructure Management requirement to manage contemporary Data Management and hence Cloud Computing with healthy storage area network. Ultimately Data Management with distance flexibility, scalability and improved performance comes with virtualization systems.

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