Study on Private Cloud

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Abstract- Private Cloud storage is also called as internal cloud. Since storage capacity is doubling every year organizations are moving to Cloud .Mostly 60 percent of IT industries have moved to private cloud a study says. Private cloud is mainly used for Infrastructure as a service where organization use mainly for developing their application and use public cloud for testing which leads to next step called hybrid cloud. In this paper, we discuss about the private cloud its flexibility, scalability need of using its space and view about hosted private cloud and dedicated cloud.

Keywords- Private Cloud; Hosed; Public Cloud; Hybrid Cloud and Infrastructure as a Service.

I.   INTRODUCTION

Cloud computing has become a talkative word everywhere we pass around. It's mainly focused on Big Data where it offers elasticity on storage, sharing of resources like Infrastructure, Software and Platform as a service. The increase in availability of space makes cloud to move, grow faster in IT industry as no one imagine. Many IT users say they go for cloud to meet business solutions. Solutions like pay-as-a- service, Cost effective, can concentrate on business needs moreover virtualization servers made work much easier. Let us explain the concept of cloud in our real time example. Like say in our daily life we use our cloud not only through internet even where we shop. Where we go for shopping? mall or to a small scale departmental store. When we need to get things, what we do? We just swap our credit card or buy through cash. Make mall as a storage area where we are getting our requirements and to use them we simply pay. Same way we do in cloud. When our laptop or system doesn't have any software or hardware we simply buy it from cloud. So even having particular software or hardware we can still run our

program. This comfortness made geeks to move cloud. NIST defines five essential characteristics as on-demand self service, broad network access, Resource pooling, rapid elasticity and measured service. It also defines three service models called IaaS (Infrastructure as a Service), SaaS (Software as a Service), PaaS (Platform as a Service). And it defines finally four deployment models as Private Cloud, Hybrid Cloud, Public Cloud and Community Cloud. Cloud is just a server with datacenters which use internet to access the data.

In a survey Joe McKendrick, contributor said Cloud Will Generate 14 Million Jobs By 2015. Those findings come from research conducted by IDC and sponsored by Microsoft Corp; they say it as a good start to have 14 million new jobs across our globe. A job they could develop like IT-Cloud developers, integration specialists and so on until our creation doesn't stop.

In this paper we describe further sections about 1.Public Cloud, Section 2. Private cloud, Section 3. Hybrid Cloud and Section 4, Conclusions.

II.   PUBLIC CLOUD

At first IT industry started to use a Public cloud. But storage area in Public cloud is not dedicated that is they share the same datacenter for many users. Since many people data is to secure, this type of storage made business people move to Private Cloud. Many Industries like Microsoft, Amazon etc., supports both public cloud and private cloud. Microsoft provides free space for user to use public cloud like in that space we have our own limited storage area to make store our presentations, word files, photos and we can share our data etc., By using this kind of usage cloud helps students to store their files and without carrying any hardware equipment like pen drive, laptop, modem students can present their presentation in cloud just if that place as a internet. So taking all the things throughout way is not necessary. But to get more space we have to buy from cloud provider. Like Microsoft many other also gives access to public

cloud. This public cloud can be used where we feel we don't want a too much security for the data.

III.   PRIVATE CLOUD

Private Cloud can be used either as a own dedicated cloud or can be hosted to providers the partner can still sell the cloud hardware and latter can resell cloud hosting services. Public cloud often used for test and development purposes. Examples of public Cloud: Amazon Web Services, IBM'S Blue Cloud, Good AppEngine and Window Azure Services Platforms. Private Cloud computing typically is used to run applications in production. Unlike Public Clouds, Private Clouds are proprietary networks or data centers managed by the organization it services or by a third party. So the hardware, compute, data storage and network can assure high levels of availability and security that can't be accessed by other clients if they are in the same data center.

A business can manage their own private cloud but use a third party to store its servers and other hardware, relaying on the datacenter to supply power and security. But using hosted Private Cloud solutions is solved leaving to providers from space to power.

A. Things a Private Cloud is NOT:

Gartner says things about what a Private Cloud is: Gartner analyst Tom Bittman says be careful to avoid the hype about Cloud.

- First thing he says Cloud is not Virtualization: just by installing hypervisor on a server it doesn't mean it is an Private Cloud. Virtualization is a technology allows organizations to pool allocate resources and scale those resources.
- Cloud is not only a money saver but automation technology that is increased agility and dynamic scalability.
- Private Cloud is not always on-premise but also sell off-premise (Resources are dedicated to a single customer).
- Private Cloud not only IaaS but also Saas and Paas.
- Private Cloud will always not be there it can mature into Hybrid Cloud in recent years.

B. Private Cloud Options:
1) *Self-hosted Private Cloud*: Provides dedicated on-premises environment which is internally designed, hosted and managed.
2) *Partner-hosted Private Cloud:* A dedicated environment that is internally designed externally hosted and externally managed.
3) *Private Cloud Appliance*: A dedicated environment procured from vendor, designed by vendor, internally hosted, and externally or internally managed.

C. Five Characteristics of Private Cloud:

- Scalable
- Accessible
- Elastic
- Shared
- Metered consumption.

D. When Is A Private cloud Needed?

- When need data Sovereignty but want cloud efficiencies.
- A Private cloud hosted by a third party can deliver a Service level Agreement (SLA) that helps us to meet user's requirement.
- More server capacity
- Data center must become more efficient.
- When we want private Cloud.

Microsoft offers two private cloud solutions. Can build private elements on top of windows server Hyper-v and manage them using Microsoft system Center Virtual Machine Manager Self Service portal or can obtain key communication and productivity services from Business Online Standard Suite-Dedicated (BPOS-D).

E. Survey on Private Cloud

Gartner in his survey said that: Close to two-fifths of organizations now run private clouds in one form or another, and one-fourth are using public cloud services in an enterprise capacity. Private clouds are being extended deeper into the organizations that have them — a majority expects to be running most of their workloads in the cloud within the next 12 months, especially Platform as a Service middleware. In addition, close to one-third of public cloud users report they are employing hosted services to run their private clouds for them.

In the survey, 37% of enterprise managers indicate they are running or piloting private clouds, up from 29% two years ago. Another 26% use public cloud services for enterprise applications, up from 14%. Among the public cloud users, 32% are employing outside services to host at least part of their private cloud infrastructures.

For purposes of this survey, "private cloud" is defined as on-demand shared services provided to internal departments or lines of business within enterprises. "Public cloud" is defined as on-demand services provided by public cloud providers. Currently, 38% of respondents with private clouds report that a sizable segment of their workloads. . By next year, a majority, 51%, expect to be running substantial parts of their workloads within private clouds.

IV.   HYBRID CLOUD

Gartner says nearly half of Large Enterprise will have Hybrid Cloud Deployments by the end of 2017. Flash mostly used in Hybrid storage.

Common Characteristics of Hybrid Cloud
1)   *Legacy Application Architectures*:
One of the most common attributes of hybrid cloud architecture is that it enables a business to continue to leverage legacy application architecture principles and preserve their previous investments. A large amount of capital may have already been invested in the form of development work, software procurement or hardware. Leveraging bare metal or private VMware is often a great way to continue to use these legacy application designs that enable to solve for high availability with infrastructure layer solutions such as shared storage clustering, VMware HA and DRS
2)   *Large Scale Cloud Consumption:* A second commonly overlooked use case for hybrid cloud architecture is the efficiency gains for large scale cloud consumption.

V.   CONCLUSIONS

This paper describes about the study material of Private Cloud how scalable and dedicated service provider Private Cloud is. This also gives idea about secure storage in Private Cloud and concludes that in future we can find large enterprise moving to hybrid Cloud and people have not to worry about the booming of Cloud since it going to provide a large job opportunity. Many researches must start to come with many clear ideas so that it makes awareness from all technical perspective.

REFERENCES

[1]   www.forbes.com
[2]   www.pwc.com
[3]   www.microsoft.com/govcloud
[4]   www.cloudpro.co.uk
[5]   www.dummies.com/how-to/content/how-private-cloud-and-public-cloud-computing-compa.html
[6]   www.rackspace.com/blog/demystifying-the-hybrid-cloud-five-common-characteristics-of-hybrid-cloud-architectures-part-1
[7]   *Harjit Singh,"* Current Trends in Cloud Computing: A Survey of Cloud Computing Systems" ISSN- 2277-1956
[8]   www.opengroup.org
[9]   Lauren E. Nelson,"The Forrester Wave™: Hosted Private Cloud, Q1 2013" January 17, 2013 Updated: February 22, 2013