

# Analysis of Attack in Infrastructure as a Service Cloud

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**Abstract**— Cloud computing this name is one of the latest and emerging technology in today's IT world, which has great effect on different users. Cloud computing is expected to become common solution to a great extent for deploying applications, providing storage and virtual OS. It has a capacity such that it can be used maximum by IT developers for infrastructure management tasks, thus it is reducing the overall estimated costs and services time to market. Using cloud an organization can focus on business idea and get with new milestone instead of IT infrastructure which is cheaper today.

**Key words:** Apache Cloudstack, Different types of attacks

## I. INTRODUCTION

Cloud is a shared multi-user built on a high efficient environment, high performance, high automated and preferably virtualized IT infrastructure where IT resources can be provided on demand from anywhere over a broad network, and can be charged as per usage. Virtualization is the technology or can say it is a process that is necessary for cloud has simpler features and convenient. A cloud can be deployed in following models; private, public, community or hybrid clouds.

## II. APACHE CLOUDSTACK

Apache Cloudstack is an open source software that helps computing resources to build public, private, and hybrid Infrastructure as a cloud Service. Apache Cloudstack manages the network, compute nodes and storage that make up a cloud infra. Use of Apache Cloudstack is to deploy, configure cloud computing and manage environments. Fig.1 shows a view of Apache Cloudstack. Apache Cloudstack helps to:

- Set up on-demand, elastic cloud computing service. Service providers can provide virtual machine, networking configurations over the Internet, instances, and storage space.
- Set up an on-premise private cloud for use by employees. With Cloudstack an enterprise can Offer self-service virtual machines to users without involving IT departments.

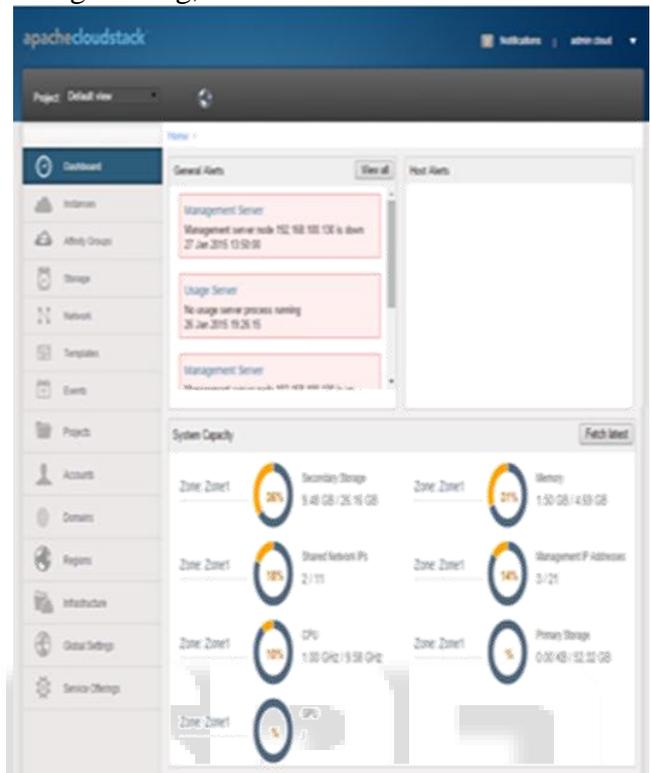


Fig. 1: Apache Cloudstack

## III. ADVANTAGES OF APACHE CLOUDSTACK

### A. Scalable infrastructure management:

Apache Cloudstack can manage thousands of physical servers installed at datacenters. The management server scales near-linearly and the need for cluster-level management servers eliminate. Maintenance of the management server is very easy and can be done without affecting the virtual machines on the cloud.

### B. Auto Cloud Configuration Management:

CloudStack automatically configures the network and storage settings for each virtual machine. Internally, a set of virtual devices auto configures the operation of the cloud

### C. Graphical user interface:

Administrator gets a web interface in Cloudstack used for supervising and managing the cloud, as well as an end-user's Web interface, used for running VMs and templates.

### D. API:

Cloudstack provides a REST-like API for the operation, management and cloud usage.

### E. AWS EC2 API Support:

Cloudstack provides an Elastic cloud control API translation layer to permit the common EC2 tools to be used in the usage of cloud.

For a host to function in Cloudstack, you must follow these steps:

- Install middleware called hypervisor software on the host system.
- Assign an IP to the host network.
- The host has to be connected to the CloudStack Management Server.

#### IV. PRIMARY AND SECONDARY STORAGE

Primary storage is associated with a cluster or (VMware) a zone and it stores the disk space for all the VMs on the hosts. You can add multiple primary storage servers to a cluster or zone. At least one is must. It is typically located close to the hosts for high performance. Apache Cloudstack manages the allocation of guest virtual images to particular primary storage devices.

Secondary storage stores the following:

##### A. *Templates:*

OS images that can be used to boot VMs and can include additional information about configuration, such as applications installation.

##### B. *ISO images:*

It containing data or bootable media for operating systems.

##### C. *Disk Volume Snapshots:*

Saved copies of VM data which can be used for the purpose of recovery of data or to create new templates.

#### V. DIFFERENT TYPES OF ATTACK IN CLOUD

In this we are going to see different types of threats to cloud service, they are:

##### A. *DOS Attack:*

In this attack flooding of network is done by useless traffic. Teardrops and Ping to death are some of the DOS attack.

##### B. *DDOS:*

By overloading the traffic from multi sources online services are made unavailable.

##### C. *Malware Injection:*

In these attack adds malicious service module or virtual instances, and adds it to the Cloud system.

##### D. *Side Attack:*

An attacker attempts to compromise the cloud system by placing a malicious VM in close to a target cloud server system and then a side channel attack is debuted.

##### E. *SQL Injection:*

The concept of injection attacks is to inject malicious code into a program in intention to change structure of SQL query. Such an attack may be done by adding strings of malicious characters into data values in the form or argument values in the URL.

security cloud which lead to great loss to cloud provider and subscriber. This paper gives an overview of the cloud computing attacks. We have successfully installed apache cloud on centos 6.6 .And on this cloud server various attacks like Sql injection etc are done, and the performance of the server before and after attack is analyzed.

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#### VI. CONCLUSION

Though world is moving tremendous towards cloud but it has become a key responsibility to secure this cloud from different attacks which lead to weaken the strength of