CLOUD COMPUTING

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Abstract- *Cloud is nothing but intangible thing which provide better services according to tangible things. "Cloud provides us services over the internet so we can access them with minimal configuration computer and with good internet speed". In present time more businesses are shifting towards cloud because they don't want to maintain the heavy configuration system, as it comes with big problems "problems such as maintenance is costly and main reason is the systems are not portable". Dur to shifting of businesses towards cloud in a large scale, security and server load are a big concern. Businesses are shifting towards cloud in a large scale to provide best services and security without any problem.*

Keywords: Cloud, PAAS, SAAS, IAAS.

I. INTRODUCTION

Today is the era of cloud computing, cloud is nothing but online based service, it refers to servers that are accessed over the internet, and the database that run on these servers [1]. Before cloud people needs to maintain heavy configuration systems which makes it costly to maintain and neither the systems are portable. To overcome this problem so introduce cloud, cloud says we don't need to have heavy configuration system beside of this we need only things such as browser and good internet. Cloud has configured the heavy system for us, so we can access over the internet. Cloud is dynamic in nature which means you can change your plan any time according to your need. Main thing is that how much we use this service we need to pay for that service and its portable also [8].

II. WHY WE NEED CLOUD?

It is simple we need cloud because it is portable, cost effective, dynamic in nature and everything is available on one platform. In cloud the main advantage is how much we use this service we need to pay for that service and we can deploy our software easily [9].

Like an ATM machine by which we can withdraw our money from anywhere, cloud is same as we can use its services from all over the world, only we need is Internet and a system.

III. WHAT IS THE ARCHITECTURE OF CLOUD?

Architecture of cloud means the internal functionality how cloud works, Cloud have Front-end and Back-end both connected over internet [3].

Front-end include Client Infrastructure. It means what we see on browser its client infrastructure. User can directly interact with this, shortly we say it's a GUI of cloud. Back-end includes Application, Services, Runtime cloud, Storage infrastructure, Management and Security.

Application: Cloud have various applications or software which provides online services, ex – Cloud Flare.

Runtime Cloud: It provide you runtime cloud and check its working properly.

Storage: It provides a storage where the data has been stored.

Infrastructure: It is Host level, Application level and Network level.

Management: It manages in cloud things.

Security: It is important because it may have very sensitive information it has to be secure so in cloud there is a chance of unauthorized access.

Internet: It is a medium where the request fetched and got the result over the internet.
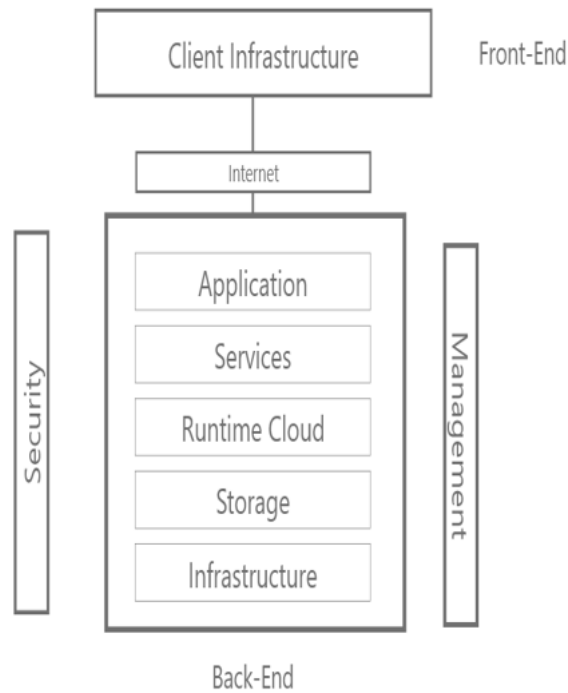
Fig 1: cloud architecture

IV. WHAT KIND OF SERVICES COME UNDER CLOUD COMPUTING?

If talk about individual cloud services it will take time, so under this scenario the services are divided into three parts *IAAS, SAAS, and PAAS* [2],[10].

- Infrastructure as a Service (IAAS)
- Software as a Service (SAAS)
- Platform as a Service (PAAS)

These three above services are major cloud computing which perform different roles.

a. **IAAS:** These services are defined by name like **Infrastructure as a service.** Which provide an infrastructure like CPU, memory (hard disk), RAM, operating system etc [4],[5].

These Infrastructure do not come as a package if you want this so you must use the "quantity" of these services, all these services are independent which mean according to your need you can choose processor, CPU, RAM, memory and so individually it provides elasticity. The most cloud services taken are IAAS because it reduces the problem of overtime needing resources fastly. The platforms are AWS, Google cloud, azure etc. The most popular is AWS [2].

fig 2: IAAS

b. **SAAS**: These services are used for software, the most popular SAAS is Google Workspace, Dropbox, Salesforce, Cisco WebEx, SAP Concur, GoToMeeting, etc. SAAS have very less elasticity meaning you subscribe to a software for how long, each software performs a particular task, according to your need. Most small companies or startups use SAAS. They

don't want to trap that particular thing; they prefer online services. They are fast, only they need a good internet connection. These services are used in small projects that are quick, easily portable and affordable [2],[10].

fig 3: SAAS

c. **PAAS: Platform as a Service** are used to run a particular software over the internet, basically it provides a platform given to users as a service in Platform as a Service, by which user deploy their own software [4].

fig 4: PAAS

V. ADVANTAGES OF CLOUD COMPUTING.

- The biggest advantage is it reduces the cost of physical equipment because everything is on the internet so we don't need a heavy configure system [6],[7].

- Scalability in cloud is an advantage it offers you to scale your data and services you are using. It is transparent for your accurate result that way you don't need to pay extra.

- High speed is the reason most people are on cloud, It allows you to deploy your application on server in a few seconds only depending on internet connectivity is good.[7]

- Easy implementation means you can easily retrieve the lost data without the need of a technical team. The cloud infrastructure is easily accessible for the team.

VI. DIS-ADVANTAGES OF CLOUD COMPUTING

- One of the major issues in cloud computing is internet connectivity because mostly cloud services are based on the internet so if you need to enjoy smooth processing without any interruption all you need to do is establish a good internet connection.

- Vendor-lock when the organization faces a problem transferring their services from one vendor to another cause that shifting the one cloud to another there may be a problem on that [7].

- One of the biggest disadvantages is security issues if your data is loaded and stored in a server so that's the biggest security concern.

- Lack of limited bandwidth in cloud have serious problems for speed of services provided by service providers.

VII. CONCLUSION

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Cloud marks the dawn of a new era in the strong of data and communication technology as it takes with building standards of behaviour which has all the chances to change the technique in which computing was done. Experience holder is still getting aware through this master and a change from conformist deducting to cloud computing will make sure but increasingly remain to this technology.

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