



Cloud Computing: New Computing Technology Transforming Business, Transforming Life

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Introduction:

The word compute derives from Latin word “*computare*”, refers to the "arithmetic, accounting, reckoning" process. The word compute itself comes from two Latin words *com*, meaning "with", and *putare*, meaning "to settle, clear up, reckon". The complete meaning refers to the process that settle things together or reckon things with something. But in today's scenario computing refers to the process or operation performed using the computer or by using computing resources like CPU, ALU, Memory to complete a given goal-oriented task. Means doing or performing anything by using computing resources refers to the computing.

With the advancement in technologies especially IoTs (Internet of Things) and Web Technologies, volume of data and need of processing heavy volume of data is increasing day by day. Many of the companies are investing on purchasing latest high workload efficient server, networking infrastructure and on other computing resources to accommodate this need.

Technologies and demands are changing more rapidly, so form individual or for firm or for companies it is not possible to update their computing resources because this change need very heavy investment and technical skill. Solution to this problem of heavy investment and technical skills come up with the new and advance concept of **Cloud Computing**.

Cloud refers to the computing resources that are available online via an internet and allow to access by paying the rental only. We refers this as cloud because its size means resources available online are subject to change very rapidly to accommodate new technology and computing resources. Like natural cloud, size and shape are not fixed and change very frequently, collection of computing resources available online or via internet are subject to change, so we call it as cloud.

Many of the big organizations like Amazon, Google, and Microsoft are investing heavily in creating cloud infrastructure and providing these resources to the companies or organizations that demand the computing

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resources and services online on **the pay as you go basis**. Cloud provider companies are providing computing resources (servers and computers), data storage facilities, application development facilities, application hosting facilities, security to data and hosted application, also providing applications to the end user. More or less services provided by cloud provider are classified in three categories as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Most of the companies are shifting to cloud because they have to pay only for the services they are using and for the time they use. In cloud there is no need to sign long agreement and can use the services on demand and randomly and pay for that time only. Companies can concern only on their business planning and growth, don't bother about the new technology and computing resources because cloud provider companies like Amazon, Google and Microsoft are very keen to adopt new technology and computing resources. Many of the big organization are building their own cloud infrastructure for their personal use but for all it is not possible to set up own cloud infrastructure because it demand very heavy investment and technical personnel. In such situation small organization and small companies are using public cloud and renting resources as per demand and paying very less

amount on pay as you go basis. Some other companies are not fully relying on renting the resources on cloud instead they are shifting some of the part to cloud and rest of the part they are maintaining at own.

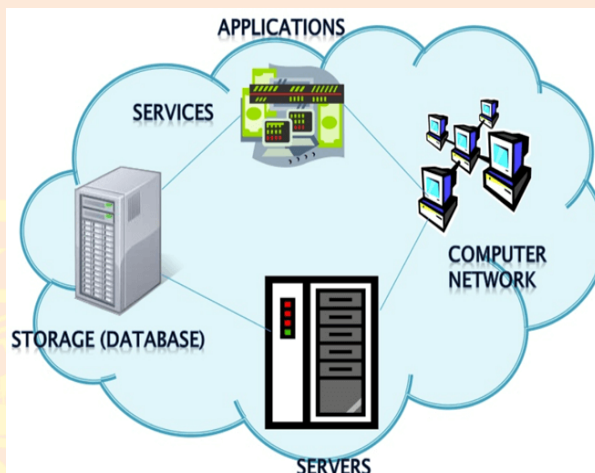


Fig. 1: Applications of Cloud Computing

Advantage of Cloud Computing:

Main advantage of cloud computing is cost saving, mean we need not to purchase heavy data centers, servers, storage space, and not employ technical personnel, instead we can pay as you go model, means we need to pay only for that we are use and for the time we are using. Other advantages are high speed, reliability, backup, software integration, security, and on demand self service.

Apart from these advantages of cloud there are some challenges also that need to be consider before shifting to the cloud such as speed can vary depends on the internet connection, some technically sound personnel are required and data security and performance

issues must be consider before implementing cloud.

Shifting toward cloud is also opening new horizon to employments to the technical students who are graduating in computer science and in some other technical discipline. Many of the cloud customer or clients are demanding some technical personnel before shifting to the cloud infrastructure and not getting up to mark skilled staff. The reason of shorting skilled staff is, very few institutions are offering graduation in cloud technology and offering training and certification. Now a time as demand of cloud profession is increasing day by day, many of the cloud provider like Amazon, Microsoft are offering free of cost cloud training to graduate students and also assisting for getting certifications in cloud. For Example Amazon is providing cloud training to college students through AWS academy program free of cost and also offering certification in cloud foundation, Cloud Operation, Cloud Architecture, and Cloud Developing, and Cloud Data analytics. This certification is accepted as minimum eligibility criteria in many companies and student get additional importance also. Many of the education institute or universities are offering graduation and masters in cloud technology to fulfill current demand of employments.