A Study on the Application of Cloud Computing in Education Sector

Gouri Malhotra[1], Jyotika Pruthi[2], Neha Sahu[3]

[1] Gouri Malhotra, Student, Dept. of Computer Science, The NorthCap University, Sector 23A Gurgaon, Haryana (122017), INDIA

[2] Jyotika Pruthi, [3] Neha Sahu, Faculty, Dept. of Computer Science, The NorthCap University, Sector 23A Gurgaon, Haryana (122017), INDIA

ABSTRACT: From the past 10-20 years as there have been many developments in computing technology from parallel to grid and so on one of the latest and upcoming technologies now a days is of cloud computing .it basically aims at sharing huge data on a common platform to a larger audience at the same time and at a much cheater price, which makes it so popular in today's business revolution. Through this paper I aim to describe what is cloud computing?, its need, different ways of computing and its importance in the government sector .one of the major benefits of cloud in the Business sector is that there is no longer a need buy, develop and maintain expensive computing facility.
Keywords: Cloud computing, business revolution, Saas, Paas, Iaas

1. INTRODUCTION

We human beings have this tendency of expecting more and more .We are not satisfied with what we have but we always tend to look for more, one such area where we humans can never limit our self or can never be satisfied is technology .

In 2700 BC abacus was invented by Sumerians which was basically introduced to reduce the human effort by making arithmetic easy. Since then humans has been moved by the power and impact that technology carried to refine their lives. One of the most significant and revolutionary innovations in the field of Information technology was made by Tim Burner lee .He developed a system that gave us the power to communicate with people from across the world instantly which was called the world wide web. Innovation after innovation continued and thus we ended up having a lot of data which can be expressed in various forms. For example applications, file, videos, music, broadcast, e-books, etc and we are constantly facing the problem of storage of this data. What if I tell you that that you have an unlimited storage capacity like your own infinite reservoir. Well yes, what looked impossible in the past is now a reality, cloud computing is the solution to this problem. Cloud computing is a technique of storing data virtually that is on a cloud

which can't be physically touched but can be accessed from anywhere, any time and its capacity is variable to the user needs. Today we are in the middle of a revolution in business computing and cloud computing is one such concept in the field of computer science.

CLOUD COMPUTING

Cloud computing is one such concept which has been evolving from the sixties ever since then till 2007 some or the other engineer has overcame a milestone and contributed towards its development. It was actually in 2006 that Amazon for the very first time introduced its own Elastic Compute cloud (EC2) as a commercial web service that permits individual users and some small companies to use the services and since then Cloud computing is all on hype till now and will continue to be.
Cloud computing is pretty enormous/vast and it's growing bigger every day.
There are basically 3 layers to cloud computing .companies use them differently based on what they offer: at the bottom we have the foundation that in cloud computing is called as the Infrastructure.
Let us take an example to make the concept easy : let's say that you have a company , your company has a website, now this website has a lot of short conversations that will be exchanged between the members who use the website that means initially a few users start talking to each other and they promote this site amongst their friends who end up using the site and further tell their friends and so on…, finally you become Successful as you planned, but now arises the big challenge that is the equipment that you used can't match up the demand which leads to slowing down of the service and now you are in trouble . Now imagine if this scenario would have happened few years ago you would have put down your website on a computer or server somewhere and when you would have succeeded you would have increased the number of servers from one to more and more to many. This is what almost every company possibly would do a few years back, which in turn was not cost efficient and took a lot of time. This is what is called Hosting; we pay for these servers when we use them and also then when we don't use them. Now-a-days this issue can be resolved by Cloud Computing. Cloud computing gives us the flexibility to use computing power as and when we need it. Now instead of using a dedicated server we use a cloud server which means putting your website on a cloud server. When people start accessing your website and the number of users increases you have an access to more computing power dedicated to your website, thus this capacity can be scaled up to fulfil your requirements almost instantly.
Therefore when you need more computing power you can acquire it through cloud and when you are done with it you return /release back to the cloud.

HOW DO I ACCESS A CLOUD

This is possible by sitting at your home or in the office even though you cannot physically touch the cloud but you can access it through your own personal computer. Under cloud computing we take the service of computing from any cloud computing service provider and the payment is made on the basis of our usage of the service

3 WAYS OF CLOUD COMPUTING/SERVICE MODEL

Ways to cloud computing are the means that allow the users to move from traditional storage techniques to storing data online.
What makes these 3 ways different and unique from each other is user control and flexibility
Computer services are provided by cloud computing service provider. These services can be categorized as:-
   1. Infrastructure as a service where the cloud service provider provides infrastructure to their client companies like computers, servers, storage or load balancers etc. Users who utilize these services are responsible for operating systems, application and license. Instead of buying a physical server, you are installing the operating system / application on a server in a cloud. The maintenance of the operating system and the application is the responsibility of the client company requires some laptops or computers and good internet connection to connect to the cloud service provider and use these services effectively.
   2. Platform as a service where the cloud provider provides its users a development environment in which the operating systems, programming language, execution environment, database etc are provided. Cloud provider provides its clients a built in platform. The company does not have to hardware, software, application or maintenance. The client company only requires

some computers/ laptops and a good internet connection to connect to the cloud service provider. There is flexibility as the client company has to pay for the platform used

3. Software as a service where a cloud provider provides a type of software application which can be installed operated and maintained on the cloud. The client company does not have any infrastructure nor has to install and maintain any platform. The cloud client can use such type of services with the help of network and internet. For example E-mail services. The company does not have its own E mail server but they have to pay for using such services. There is flexibility in the payment as the user has to pay for what they have used.

2. PROPOSAL

Cloud computing is cost effective and is very secure and reliable way of data storage and backup. It is easily accessible and available to users. In short, it is user friendly. Traditional server systems aren't as flexible and pose many problems in comparison like very expensive, need information technology professionals, congestion in network etc. This is why most of the corporate and other organizations like schools and colleges have shifted to cloud computing. This helps in promotion of new technologies and students are more aware, this gives them a head start when it comes to exploring such new technologies.

My proposal is that If we can move towards a better and a more efficient computing technology in the government sector like government offices such as income tax, sales tax , government hospitals and judiciary this will in turn reduce the effort required for setting up, updating and maintaining hardware and software . One of the innovations which the Indian government has put into action is e-governance. This has provided identification to every citizen of the country
The beneficiaries of cloud computing in government sector will be all including government officials as well as general public.

Some of the most common cloud computing vendors in the market are as follows:-

3. Conclusion and Scope

Cloud computing is one of the most discussed and researched topics due to the flexibility of size, remote services, high reliability and versatility.
Cloud computing has revolutionized government, business industry and education sector.
We have explaining the benefits, drawbacks and uses of the 3 different ways of computing.
We intend to propose this technology of cloud computing in the government sector specially hospitals, major offices and judiciary.

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