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Cloud Computing and its benefits

Introduction:

As we step into the modern world of the 21th century**,** education, government and business have evolved to a stage of endless possibilities. Computers are required to perform mass amount of processes today for many purposes. Institutions like our federal government, universities, and private companies utilize computers to run classes, payrolls, accounts, and many other services. The problem was that users have to access that information at certain locations. Problem is created when information has to be accessed

from anywhere, but it was denied. Cloud computing was created to end the problem. What is cloud computing? “Cloud computing is a means of providing computer facilities via the Internet, but that is only half of the picture. The other half is that it is also a means of accessing those same computer facilities via the Internet from different locations.” (Katzan). Cloud computing provided us a better and efficient way to access our information in a timely manner. Users wouldn’t be limited to the same computer for software and information, instead they can access what they need from anywhere on the globe where internet is available. The significance of cloud computing for organizations and users are they don’t have to prepay the costs of hardware, software, networks and other components. The major benefits of cloud computing are it reduces cost, increases space, more flexible, and efficient.

Background:

“Cloud computing provides users with ways to access technology applications "in the cloud", that is hosted on remote servers which can be accessed by users using the Internet.”(Srinivasan) The concept of cloud computing is having everything user needs available online and being accessible without all the hardware or software. “Cloud computing service would provide a utility level infrastructure with the following operational characteristics: necessity, reliability, usability, and scalability.” (Katzan). The users don’t have to worry about software update, losing their information and crashing of the hard drive due because all the things needed is in the “cloud”. With cloud computing, it is delivering services to the business using a combination of internal and external virtualized resources. Cloud computing focuses on the shared information over a strong network that could be accessed anywhere whenever.

Potential Benefit:

Cloud computing is first defined by its utility based on pricing models. The user has a "pay-as-you-go" form of payment. Since users only pay for services they use, they could reduce the cost for new hardware with high performances and software updated. "In many cases, the cost and time elements are too high for many organizations, because the up-front costs and time to develop the information, software, and on premises resources is simply too great for many potential clients and ISVs. The cost of providing computing infrastructure and software by traditional ISVs is such that it is affordable only by larger institutions." (Katzan) Cloud computing reduces the maintenance cost of software and hardware because it's needed to improve the sufficiency of the cloud that users use, not the organization. Many small organization or individual can use the same service with reduced price. The government has also moved their service into the cloud to reduce budgets.

Cloud computing also increases the storage capacity for users, the difference between cloud computing and traditional form of computing is cloud offers shared information or as traditional has many copies. Often times people has to worry about if their hard drive could hold all those information, now they don't have to. Cloud computing provide them with the amount of storage they need at a certain time point and not all of the information. In cloud computing we have extreme spaces to store data because the storage consists of many bases in the cloud. Mainly we only use small amount of the information at a time, so space is not required as much. "With hardware, the end user does not need to plan for peak periods and growth, since elasticity is

designed into the architecture of cloud platforms." (Katzan) There will be no more questions about space because cloud computing provides us with more than enough.

Cloud computing doesn't only benefits on the cost and storage size, the availability of information is another major benefit with cloud computing. Reese once said, "Software as a service is a term that refers to software in the cloud. Avant is a web-based software deployment model that makes the software available entirely through a web browsers, As an users of Avant software, there is no need to worry about where the software is located, what kind of system its running on.." For cloud computing all it need is internet access. Cloud delivers the service via internet with only a web borrower such as us going on Firefox to www.facebook.com. The technology increases the mobility and availability information for users. Every time when a user changes a computer, the user doesn't need to install anything to access the services or information because cloud has it available on the internet. Simply open a web browser like Firefox then users will have access. Users should be able to go back into the software anytime anywhere.

Further Research:

The challenging aspect for cloud computing is security; there isn't any guarantee that data won't be accessed by other users! Under cloud computing, the data and storage of multiple computers is shared, and can be accessed by multiple users or hackers. This wills increase the risk for hackers finding methods to insert viruses into cloud computing system to obtain data for personal gains. The lack of protection is extremely serious and very dangerous. According to Srinivasen "Security threats as malware, spam, spoofing, man-in-middle attacks, exist in all cloud communications and is one of the major reasons that not all major enterprises have switched to cloud computing." Without a good

protection, cloud computing will not be worth its value. Nobody wants to lose their information in the cloud or stolen by hackers. Many methods had been created to prevent secure issue for cloud computing. According to Hwang and Li "To protect clouds, providers must rest secure virtualized data-center resources, uphold user privacy, and preserve data integrity. The authors suggest using a trust-overlay network over multiple data centers to implement a reputation system for establishing trust between service providers and data owners. Data coloring and software watermarking techniques protect shared data objects and massively distributed software modules."

Conclusion:

"The cloud is not simply the latest fashionable term for the Internet. The cloud is where you go to use technology when you need it, for as long as you need it and not a minute more." (Reese) Cloud computing provide the service users better availability, reduced cost and increase storage space. Cloud computing lead a contextual shift on how computers are provisioned and accessed. Users no longer need to worry about all the technological problems come with the software or hardware. One thing standing between the users and information is the browser. Many advantages of cloud computing have proved it's a new generation of computing, pay as you go service help you to prevent waste of money and the service's availability can be increase as well. Information technology no longer needs to focus on individual's computer performance, but instead maintaining the servers. It makes future computing an easy and more efficient path for everyone. There will be better and more well round improvements in the future. The system won't died, but instead evolve into something that will last years to come.

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