**CLOUD COMPUTING**

Afnan Pathan and Anuj Khasgiwala

**ABSTRACT**

Cloud computing is one to the most recent breakthroughs in the IT Industry. However, due to its recent advent, it is not impeccably flawless and a lot still needs to be done in this field for the cloud to become synonymous with our daily lives. The cloud in itself is an ambiguous term as of now with each organization coming up with its own definition. However, it aims to provide a cheaper and more convenient way to access and store information remotely. Also, security is one of the most important issue associated with the real world use to the cloud. We aim to attain, through this report, a better understanding to the subject and to make it more reliable and secure to store confidential data.

**1. INTRODUCTION**

**Cloud computing** is a technology that uses the Internet and central remote servers to maintain data and applications. This technology allows for much more efficient computing by centralizing storage, memory, processing and bandwidth. Cloud computing provides computation, software, data access, and storage services that do not require end-user knowledge of the physical location and configuration of the system that delivers the services

Although there is no agreed to definition of cloud computing, extensive research in this field is being carried out world over. This is because although the term itself it controversial at present, its aim and goal are very clear - a way to increase capacity or add capabilities on the fly without investing in new infrastructure, training new personnel, or licensing new software.

**2. PROBLEM DOMAIN**

There are various issues related to cloud computing.

**Privacy** - The cloud model has been criticized by privacy advocates for the greater ease in which the companies hosting the cloud services control, and, thus, can monitor at will, lawfully or unlawfully, the communication and data stored between the user and the host company.

**Abuse** - As with privately purchased hardware, crackers posing as legitimate customers can purchase the services of cloud computing for nefarious purposes. This includes password cracking and launching attacks using the purchased services.

**Security** - The relative security of cloud computing services is a contentious issue that may be delaying its adoption. Issues barring the adoption of cloud computing are due in large part to the private and public sectors unease surrounding the external management of security based services.

All these factors have hindered banking sector, insurance sector, e-commerce zone etc to adopt cloud. We aim at checking the reliability, security and performance.

**3. SOLUTION DOMAIN**

If the various issues of cloud computing can be dealt with, the adoption of cloud computing will be a huge leap for the entire IT industry. Our project aims to deal with the most important issue of Security. Since the data or information is to be stored in a remote location such that it can easily accessed security is a major concern because the data can be confidential such as passwords, transaction ids, which if mishandled can lead to utter chaos. This is also one of the reasons that the banking and insurance sectors are not using the cloud.

This research aims at:

* Implementing the cloud for a better understanding of the upcoming technology.
* To try and improve the security of the cloud against unauthorized access and hence improve the reliability of the system.

***4. SYSTEM DOMAIN*** *(150 WORDS APPROX.)*

We are using IBM Eclipse 3.6 Galileo with cloud plug-in and google app engine and IBM smart cloud for the implementation of the cloud. Google app engine is used for compiling the cloud code. The IBM tools are used for developing the cloud.

The user should have a simple Pentium IV (and above) processor containing computer with an Internet connection. The user should also have any web browser supporting adobe flash player 10.1(and above) installed.

**5. APPLICATION DOMAIN**

A paradigm shift to cloud computing will affect many different sub-categories in computer industry such as software companies, Internet service providers (ISPs) and hardware manufacturers. While it is relatively easy to see how the main software and Internet companies will be affected by such a shift, it is more difficult to predict how companies in the Internet and hardware sectors will be affected.

The implementation of cloud will aim at reduced cost, centralization of data, scalability, monitoring of performance, improvements for systems that are often only 10–20% utilized. In short the affects of shifting completely to the cloud will affect the entire industry and more.

**6. EXPECTED OUTCOME**

* To study the various existing deployment models of the cloud.
* To study the various open source implementations of the cloud available.
* Implementation of the cloud.
* To study the issues and problems faced in using the cloud.
* Security enhancement of the cloud.