CLOUD COMPUTING IS AN UMBRELLA TERM USED TO REFER TO INTERNET BASED DEVELOPMENT

Ramesh Kumar,

(Research Scholar)

ABSTRACT

Cloud computing is an umbrella term used to refer to Internet based development and services. The cloud is a metaphor for the Internet. A number of characteristics define cloud data, applications services and infrastructure:

- *Remotely hosted: Services or data are hosted on someone else's infrastructure.*
- *Ubiquitous: Services or data are available from anywhere.*
- *Commodified: The result is a utility computing model similar to traditional that of traditional utilities, like gas and electricity. You pay for what you would like.*

Software as a Service (SaaS)

SaaS is a model of software deployment where an application is hosted as a service provided to customers across the Internet. SaaS is generally used to refer to business software rather than consumer software, which falls under Web 2.0. By removing the need to install and run an application on a user's own computer it is seen as a way for businesses to get the same benefits as commercial software with smaller cost outlay. Saas also alleviates the burden of software maintenance and support but users relinquish control over software versions and requirements. The other terms that are used in this sphere include *Platform as a Service* (PaaS) and *Infrastructure as a Service* (IaaS).

Cloud Storage

Several large Web companies (such as Amazon and Google) are now exploiting the fact that they have data storage capacity which can be hired out to others. This approach, known as 'cloud storage' allows data stored remotely to be temporarily cached on desktop computers, mobile phones or other Internet-linked devices. Amazon's Elastic Compute Cloud (EC^2) and Simple Storage Solution (S3) are well known examples.

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories.
International Research Journal of Mathematics, Engineering and IT (IRJMEIT)

6 | P a g e

Data Cloud

Cloud Services can also be used to hold structured data. There has been some discussion of this being a potentially useful notion possibly aligned with the Semantic Web [2], though concerns, such as this resulting in data becoming undifferentiated [3], have been raised.

Opportunities and Challenges

The use of the cloud provides a number of opportunities:

- It enables services to be used without any understanding of their infrastructure.

- Cloud computing works using economies of scale. It lowers the outlay expense for start up companies, as they would no longer need to buy their own software or servers. Cost would be by on-demand pricing. Vendors and Service providers claim costs by establishing an ongoing revenue stream.

- Data and services are stored remotely but accessible from 'anywhere'.

In parallel there has been backlash against cloud computing:

- Use of cloud computing means dependence on others and that could possibly limit flexibility and innovation. The 'others' are likely become the bigger Internet companies like Google and IBM who may monopolise the market. Some argue that this use of supercomputers is a return to the time of mainframe computing that the PC was a reaction against.

- Security could prove to be a big issue. It is still unclear how safe outsourced data is and when using these services ownership of data is not always clear.

- There are also issues relating to policy and access. If your data is stored abroad whose FOI policy do you adhere to? What happens if the remote server goes down? How will you then access files? There have been cases of users being locked out of accounts and losing access to data.

The Future

Many of the activities loosely grouped together under cloud computing have already been happening and centralised computing activity is not a new phenomena: Grid Computing was the last research-led centralised approach. However there are concerns that the mainstream adoption of cloud computing could cause many problems for users. Whether these worries are grounded or not has yet to be seen.

References

1. *Software as a service*, Wikipedia,
   <http://en.wikipedia.org/wiki/Software_as_a_service>

2. *Welcome to the Data Cloud*, The Semantic Web blog, 6 Oct 2008,
   <http://blogs.zdnet.com/semantic-web/?p=205>

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories.
International Research Journal of Mathematics, Engineering and IT (IRJMEIT)

7 | P a g e

3. *Any any any old dat*a, Paul Walk's blog, 7 Oct 2008, <http://blog.paulwalk.net/2008/10/07/any-any-any-old-data/>

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories.
International Research Journal of Mathematics, Engineering and IT (IRJMEIT)

8 | P a g e