**White Paper Topic on Cloud Computing Technology**

There is a sliver lining in every cloud is what many cloud service providers are thinking; as many organizations are increasingly looking at cloud computing as an answer to the shrinking budgets that their IT department is forced to deal with.

Cloud computing offerings look attractive to CIOs/CTOs to the following inherent advantages.

1. No upfront spending on Capex

2. Pay per usage

3. No maintenance personnel to keep the applications /services running and hence no fixed monthly cost

4. No hassles of procurement of HW and SW, patches, antivirus, security as all this is handled by the cloud vendor

5. Focus on core competency of the organization.

6. Cost effective and easy handling. Peak and trough demands in computing resources.

Cloud computing is defined as computing using the ‘cloud’ (internet , intranet ).It is a way of computing to scale dynamically and often using virtualized resources as a service .Public cloud means that it is an offering over the internet to anyone having an internet connection .Certain larger organizations’ IT department create a scalable and virtualized environment on the same lines as a public cloud but on the intranet(Private cloud) to serve the different business units who are their customers and this helps them charge back the SBUs in a transparent and automatic mode .This also provides most of the benefits of the public cloud plus the the additional security of hosting on the intranet .However building a private cloud will need CapEx spending upfront and the resources to keep it operational .

Cloud Computing is a general term and can mean many things .Software as a Service (SaaS) is one of the offerings offered by various software providers .In SaaS , the user just pays as per his usage of the software and the SaaS provider takes care of maintaining the software as scales up or down as the customers demand .Google Apps and Microsoft are two major players which provide SaaS solutions to SMBs .(Small and Medium Businesses). Email and BPM products/workflow would be the early adopters in cloud computing, Infrastructure is also offered as a Service (IaaS) as a cloud computing offering.

Here Infrastructure like storage, servers are provided in an easily scalable and virtualized solution which requires very lead little lead time .Amazon provides such computing resources on demand and pay per use basis.EMC’s Mozy provides backup on demand solutions and so does Amazon .These are early days for EMC as a cloud provider but since EMC has acquired VMware and RSA , it is only a question of when and not if EMC would roll out massive solutions for storage and backups .

Platform as a Service (PaaS) is another trend that is catching up.Here middleware application servers, Databases are provided as scalable containers where the customer’s developer group can develop/test/run his code and also provide it to the end users .Amazon and Google are two the two big players in this market , but Microsoft is also planning to enter this market in a big way.

Increasingly CIOs are turning to cloud computing to handle peak demands on computing resources .CNN used cloud computing resources to handle the peak demand for CNN news during Obama’s election.The economic slowdown has also resulted in shrinking budgets and the cloud computing model of pay per use with no capital expenses and no binding contracts has found favor with many a CIO/CTO/decision maker.

The cloud service providers are providing excellent security using encryptions , firewalls and other techniques to their customers .As the usage grows and reservations about security of data reduces , cloud computing is likely to grow exponentially. Besides the big cloud service providers ,network providers , large telecom service providers , large data center players , niche skills in maintenance of technologies used in these cloud computing data centers , grid computing softwares , virtualization software and encryption and firewall software and software products which automate the billing based on usage of computing resources will be needed to meet the growing demands of cloud computing .

TOP HIGHLIGHTS

* Operational benefits
* Pay as per usage
* Excellent security using encryptions
* Niche skills
* Cost Effectiveness

KEY DIFFERENTIATION

Resource optimization

* Cost Effectiveness