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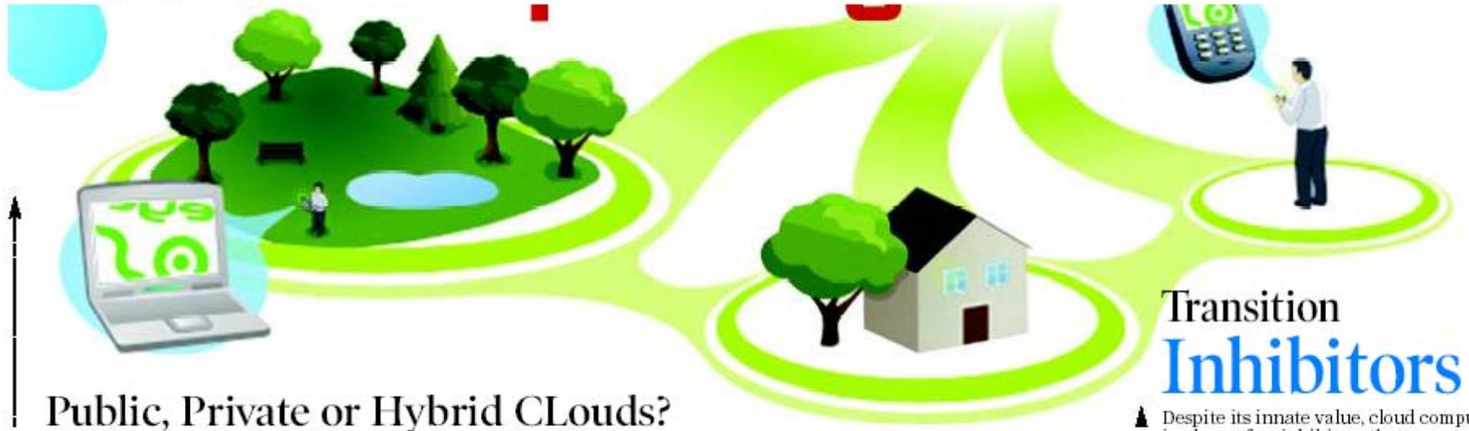

The total market of cloud computing in India stands at US$ 110 million today and is expected to reach a figure of about US$ 1,084 million by 2015, finds a research study. In the cloud computing market in India, Software-as-a-Service has witnessed the most rapid uptake until now. As a component of the overall cloud market, Software-as-a-service (SaaS) in India is likely to reach a mark of US$ 650 million by 2015, while Platform-as-a-service (PaaS) and Infrastructure-as-a-Service (IaaS) markets cumulatively would touch US$434 million each, by then. The domestic market for SaaS is estimated to be about US$ 66 million and is currently dominated by Collaborative Applications, CRM, ERP and Email workloads.

There are several multinational and Indian companies entering the cloud space and trying to drive business relevance of its solutions for the Indian customers. Cloud computing has allowed the smaller ISVs access to global customers, thereby, significantly reducing their cost of sales. On the other hand, this has also increased the flexibility for end customers and increased the choice of products and services.

In addition to the global providers of PaaS, Indian companies have also sprung up offering cloud based Platform-as-a-Service. India being the world's fastest growing mobile market with over 20 million subscribers added every month and the money that companies have invested for 3G services showcases the belief the large telecom providers have on data services in the Indian market. Also, over 500 million people form the middle class in India, and the products and services consumed by them are relevant to other emerging markets as well. All this clearly suggests that Indian customers are ideal for cloud offerings.

As Indian SMBs tend to lack budgets, want business improvement, lack management bandwidth required to manage internal IT and are looking for rapid growth in the next few years. For all of this put together, 'Cloud Computing' is indeed the answer".

Public, Private or Hybrid CLouds?

Cloud computing comes in three forms: public clouds, private clouds, and hybrid clouds. Depending on the type of data you are working with, you will want to compare public, private, and hybrid clouds in terms of the different levels of security and management required.

PUBLIC CLOUDS

A public cloud is one in which the services and infrastructure are provided offsite over the Internet. These clouds offer the greatest level of efficiency in shared resources; however, they are also more vulnerable than private clouds. A public cloud is the obvious choice when

- Your standardized workload for applications is used by lots of people, such as e-mail.
- You need to test and develop application code.
- You have SaaS (Software as a Service) applications from a vendor who has a well-implemented security strategy.
- You need incremental capacity (the ability to add computer capacity for peak times).
- You are doing collaboration projects.
- You are doing an ad-hoc software development project using a Platform as a Service (PaaS) offering cloud.

Many IT department executives are concerned about public cloud security and reliability. Take extra time to ensure that you have security and governance issues well planned, or the short-term cost savings could turn into a long-term nightmare.

PRIVATE CLOUDS

A private cloud is one in which the services and infrastructure are maintained on a private network. These clouds offer the greatest level of security and control, but they require the company to still purchase and maintain all the software and infrastructure, which reduces the cost savings. A private cloud is the obvious choice when-

- Your business is your data and your applications. Therefore, control and security are paramount.
- Your business is part of an industry that must conform to strict security and data privacy issues.
- Your company is large enough to run a next generation cloud data center efficiently and effectively on its own.

To complicate things, the lines between private and public clouds are blurring. For example, some public cloud companies are now offering private versions of their public clouds. Some companies that only offered private cloud technologies are now offering public versions of those same capabilities.

HYBRID CLOUDS

A hybrid cloud includes a variety of public and private options with multiple providers. By spreading things out over a hybrid cloud, you keep each aspect at your business in the most efficient environment possible. The downside is that you have to keep track of multiple different security platforms and ensure that all aspects of your business can communicate with each other. Here are a couple of situations where a hybrid environment is best.

- Your company wants to use a SaaS application but is concerned about security. Your SaaS vendor can create a private cloud just for your company inside their firewall. They provide you with a virtual private network (VPN) for additional security.
- Your company offers services that are tailored for different vertical markets. You can use a public cloud to interact with the clients but keep their data secured within a private cloud.

The management requirements of cloud computing become much more complex when you need to manage private, public, and traditional data centers all together.

Transition Inhibitors

Despite its innate value, cloud computing has a few inhibitors that seem to impact the speed at which implimentation takes place in India. From the infrastructure standpoint five major parameters that can enable or inhibit enterprise customers (and SMBs) from moving to Cloud.

Performance; wherein Application performance needs to be same or better than before.

Reliability - here enterprise mission critical applications have a very high level of reliability - the current cloud computing platforms are not matching the requirements

Security - This is the biggest inhibitor of adoption at this time, where organizations are not yet comfortable of moving their data to public environments outside their firewalls or even visibility and control of the Cloud infrastructure (for users) - the Cloud environment needs to provide extensive monitoring, logging and reporting support to troubleshoot the environment

SLAs - Cloud Computing environment providers, while claiming a very robust environment, have yet to provide high levels of service guarantees, at operational level and security level. As the provider community practices mature, these would be in place

On the **application/solutions** front, the biggest inhibitor is the lack of clarity on what applications (from their portfolio) make good business sense to move to cloud.

The **second inhibitor** is that while the application in the cloud is very economical, the transformation of applications to be "in the cloud" is expensive and takes time and effort.