Opportunities from Cloud Computing

INSIGHTS | Corporate Clients

Headlines in the press announcing deal activity around acquisition of cloud computing assets has been increasing lately. SAP will spend $3.4 billion to acquire Success Factors for their human-resources software, Oracle Corporation will spend $1.5 billion on RightNow Technologies Inc for their cloud-based call center, sales force and CRM automation, and IBM will spend $440 million on DemandTec for their cloud-based retail pricing software.

customers with an opportunity to experience the benefits and reliability of cloud-based IT infrastructure. VCE, the Virtual Computing Environment Company formed by Cisco and EMC with investments from VMware and Intel, accelerates the adoption of converged infrastructure and cloud-based computing models that dramatically reduce the cost of IT while improving time to market for its customers.

successful business models with cloud-based delivery and the press regularly covers new announcements. Gartner estimates the cloud computing market will grow from $68.3 billion to $148.8 billion in 2014.

Where is the demand for these services? The demand arises from the need for businesses to continue innovation on their services and business processes without any access to incremental investment budgets. Cloud computing provides an opportunity to adopt better infrastructure at a variable cost and scale up or down depending on the environment. Availability of infrastructure on rent reduces barriers to entry for new players and allows small and medium enterprises to use efficient infrastructure at an affordable price.

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EMC and Cisco jointly launched their Cloud Experience Centers in Bangalore in May last year. This is a first-of-its-kind collaboration between two information technology (IT) industry leaders with the twin facilities located at the EMC Center of Excellence and at the Cisco Globalization Center East, creating a lab that provides Indian

Demand for cloud-based applications to fulfill requirements of big business is increasing and the upgrade of telecom infrastructure around the world facilitates adoption. Companies that sell software and IT services have found their next big opportunity. Some companies such as Microsoft and Google have already established

Nissan recently announced it is working with Microsoft to develop a cloud-based dealer management system to better connect it to its customers. A survey by Oxford Economics (in collaboration with AT&T, Cisco, Citi, PWC and SAP) found that 80 percent of business users consider

the cloud as essential for success. While cloud computing was first adopted in the US and Europe, it is proving especially valuable in emerging markets, where rapid growth and a lower level of legacy infrastructure make it an obvious choice. The survey found that 70 percent of firms in emerging markets are evaluating a migration to the cloud, versus only 46 percent in developed markets. There is considerable activity in India with a huge potential for SMEs to leapfrog from paper based tools to the best of breed applications to run their business. Companies such as Freshdesk (online help), Zoho (collaboration and productivity tools) and OrangeScape (platform provider) have been at the forefront of this trend and have seen significant take-up from companies migrating to the cloud. Similar initiatives in China are being encouraged by the government.

environment, IT is built, run, consumed and governed differently. It shifts the focus from technical management of IT to more of contractual management.

Cloud computing is a game changer as it allows companies to rent infrastructure instead of making large capital investments. This lowers the barriers to entry, particularly for SMEs and independent businesses. Once the service is set up it provides companies large or small with an easy delivery platform for a rapidly increasing array of digital services, including the deployment of sophisticated treasury solutions. Personal usage of cloud-based "applications" such as Facebook, Linkedin and Email applications have helped create awareness among potential user groups. 12 percent of the world's population already use smart-phones resulting in a 20 percent annual

under IaaS, the developers community would use PaaS to access Java, DotNet and other software infrastructure via the cloud. The most commonly talked about model, however, is SaaS which benefits the end user community with a variety of business applications. The most common applications are those that support payroll, enterprise resource planning, various treasury processes, customer relationship management, expense management, emails and others. Some of the most common cloud-based applications include salesforce.com, Google applications, Office 365 as well as many others listed on Wikipedia (Cloud Applications) http://en.wikipedia.org/wiki/Category: Cloud_applications

Public vs. Private Clouds

NIST has also defined the cloud delivery models as private, public, community and hybrid cloud. A public cloud, which many consumers already use on a daily basis via their email systems and smart-phone applications, is owned by the organization selling the service. A public cloud service can host applications, email, databases and usually consist of large investments from the service provider and hence is easily scaled up for growth in scope and volume. A private cloud, on the other hand, is operated solely for an organization and may be managed by that organization or a third party. A private cloud may exist on or off the company's premise, as they choose. A community cloud operates much like a private cloud, but is shared by several related organizations or by a community of users, for example a cloud-based offering for development of smartphone apps. Lastly, a hybrid cloud – as the name suggests – is a composition of two or more clouds bound together for data and application portability. For example, a company may have a private cloud infrastructure but may still use a third-party SaaS for CRM, ERP, treasury and payroll.

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What is It?

Cloud computing is the delivery of computing as a service rather than as a product, and it is done so in real time using a grid of inter-connected computers. Users pay for the amount of the service they use in a pay-as-you-go model, much in the same way you pay a utility for the electricity, gas or water you use. The on-demand self-service cloud offers rapid scaling ability and ubiquitous network access from anywhere, anytime, using any kind of device via the client's own interface. The ability to pool resources means reduced costs, with companies using and paying for only what they need while avoiding large capital investments in IT. Under a cloud

increase in usage of cloud computing. Cloud computing has moved from the fringes of technological innovation to mainstream business. Nothing illustrates this as clearly as the prices leading technology companies are willing to pay for cloud computing expertise.

Cloud Service Models

According to National Institute of Standards and Technology (NIST), USA, the cloud-based services can be classified as IaaS (infrastructure as a service), PaaS (platform as a service) and SaaS (software as a service). While web-based servers, storage systems, virtual LANs and others would fall

Growing Adoption Despite Challenges

While the components of technology have been available for some time now, adoption had been limited given concerns around security, telecom infrastructure reliability and lack of appropriate user applications. The need to innovate with limited resources has now resulted in large business houses prioritizing involvement and adoption. The Open Data Center Alliance (http://www.opendatacenteralliance.org/) was formed a year ago to push for the development of industry standards for security, data center management and cloud-enabled applications and to accelerate cloud investment. Members consist of representation from all sectors of the economy including manufacturing, services, financial

However, the cost pressures and need to continue innovating have forced companies to evaluate the feasibility of using cloud infrastructure. In a recent meeting with a startup venture, the CFO announced that the entire Treasury and HR teams would be setup on a public cloud infrastructure. A consulting company has been engaged to find the appropriate applications, infrastructure and support services that can be rented for a minimum of two years. Particularly SaaS is increasingly becoming a preferred option as several large global players have entered the market with state-of-art solutions. According to Gartner, the adoption of cloud-based emails by enterprises will grow from 4 percent in 2011 to 55 percent by 2020.

EMC IT's ultimate goal is to enable end-to-end, on-demand, self-service provisioning of IT services to its customers, i.e., the business units of EMC. While the core infrastructure and mission critical applications reside on EMC's private cloud, the company also uses third-party SaaS for payroll, expense management, CRM and other applications. It has also introduced lab as a Service (IaaS) at its R&D center in Bangalore where different business units can rent customized virtual machines from a common pool instead of investing in their own infrastructure. EMC expects to recoup their initial investment within one year due to energy and other efficiency savings.

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institutions as well as consulting. The alliance predicts that its members will triple their cloud deployment in the next two years, an adoption rate five times faster than earlier market forecasts.

Security is a key concern among potential adopters and the cloud model has evolved accordingly. Deployment over a public cloud often results in apprehension about security of data, performance of the infrastructure, lack of customization, costs and risks of contract termination, and reliability of support. At present there is no comprehensive legal framework in place to set and enforce standards of cloud computing service. Hence public clouds have not been popular for business critical information and related processes.

The de facto enterprise model for large international companies is a hybrid cloud, which combines both private and public clouds for greater security and flexibility while maintaining the portability and accessibility of a public cloud. Companies may choose to move non-sensitive functions to the public cloud, while putting more sensitive data on their private cloud.

EMC Corporation – a global leader in data storage, virtualization and information management solutions – has saved over USD100 million through virtualization of its IT infrastructure, while also reducing over 90 million pounds of carbon emissions. By transitioning to a hybrid cloud-based IT infrastructure, and using the advanced capabilities that such an infrastructure provides,

Treasury in the Cloud

An increasing number of corporate functions are moving to the cloud and users have a growing range of cloud-based software offerings. Salesforce.com serves the CRM market, while Microsoft 365 is used in productivity management. Treasury Services, tgoldsoftware.com and Sungard all offer a range of cloud services to assist in risk management, cash management, finance and treasury control.

Many companies are already adopting these technologies for their finance and treasury functions. It is the companies whose treasurers work together with their CIOs and IT departments to adopt such higher-efficiency solutions that see greater profits and longevity in today's challenging business environment. Efficiencies in data management, technology and resource centralization quickly convert into wins for treasurers who are being asked to deliver higher performance with reduced liquidity. New players as well as new business units of existing player's budget assuming usage of cloud-based computing resources.

New Business Models and Banking Support

Businesses that have digital content and services automatically use the Internet for delivery. While established players use their own infrastructure, startups often use cloud-based infrastructure for quick entry with flexibility to scale up. These new business models result in large scale consumption of digital content over the Internet.

While many services are free at the basic level, the higher end version usually has a price. Pricing models range from monthly flat subscriptions, usage based tiered pricing or even pay-as-you-consume models. Collection of some of these small-value but large volume of fees can be challenging given the global reach of the Internet, the large number of user consumption and the velocity at which collections accrue. Businesses require a high level of sophistication to collect the charges, reconcile against the services and ensure that the appropriate MIS is being collated for related analytics. Credit cards have been the most common mode for payment while other solutions include direct bank debits, Paypal and similar regional solutions. The costs can include interchange, foreign exchange conversion costs as well as bank service fees.

For example, Microsoft sells digital services on Xbox360, Office 365 and Azure, among other products. Google sells all of their services via the cloud, while Facebook, the world's most valuable social network, is a cloud-based infrastructure. Microsoft charges for usage of the service while both Google and Facebook charge for the advertisements. Users have the option of paying by credit cards and Paypal in some cases.

Banks like Citi have been developing collection methods that can support such business models and provide a one stop shop to support all collection models. Moreover, payment to app developers located around the world can be facilitated by single window payment services provided by Citi. Citi's new generation of capabilities can provide standardized capabilities across more than 100 countries to support this adoption of cloud computing and related services around the world.

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