CLOUD COMPUTING

GOING BIG ON CLOUD

HARSHAL KALLYANPUR

Enterprises are going full steam ahead with cloud adoption and the numbers back it up. Here is a perspective on the cloud scenario in the country

That cloud computing is an everyday reality for a lot organizations today, is a statement that would hold water today. For something that got popular amidst a lot of hype as well as apprehension, cloud computing has come a long way. The words Salesforce.com, Azure, public, private, hybrid and increasingly becoming a part of IT discussions today.

In fact, most people believe that cloud has increasingly started finding an uptake in enterprises, both large and small. While cost remains the usual suspect, enterprises have come to terms with the fact that longer deployment cycles and a somewhat inflexible and less scalable IT, does not fly well with the business and it has become imperative to adopt IT which is 'plug and play' to stay competitive in the market.

D.D. Mishra, Research Director, Gartner says, "Gartner estimates that that the public cloud service market in India grew by 31.2% from 2012 through 2013, growing from US $ 322.7 million to 423.4 million. The public cloud services market is on a pace to grow 29.8% in 2014 to a total of US $ 550 million."

According to Mishra, India has shown one of the highest growth rate for cloud services in the country, especially because of the high demand for IT services of all types. Cloud services mostly represents an innovation platform in a country like India because there is great interest in new technologies, while it complements or serves as a replacement for traditional IT in mature markets such as North America and Europe.

Gartner predicts that between from 2013 and through 2017, around US $ 4 billion will be spent in India on cloud services, and most of this segment will be dominated by Software-as-a-Service or SaaS.

Echoing his opinion, is Srinivas

> The focus is on using more public cloud services, as there is no CAPEX involved and the OPEX can be optimized based on the real usage.
>
> **Sridhar Iyengar,**
> VP - Product Management, ManageEngine

> Only a cloud offers the flexibility to support the scale and the cyclic and uncertain demand on the mobile platform.
>
> **Somenath Nag,**
> Director – ISV & Enterprise Solutions, Alten Calsoft Labs

Tadigadapa, Director – Enterprise Sales, Intel – South Asia, who quotig an IDC estimate says, "The Indian cloud computing market is growing 50% year on year. The SaaS market in the in country will go from $176 million in 2013 to $500 million in the next four years."

Saju Sankaran Kutty, Associate Vice President and Head – Transformed Outsourcing, Cloud, Infosys is of the view that the bulk of new IT spend will be on cloud by 2016 and two thirds of the cloud business is expected to come from new business models as opposed to the current business models.

Pankaj Sabnis, Principal Architect - Cloud Computing, Blue Star Infotech Ltd. says, "The last one year has seen cloud computing become mainstream especially for large enterprises. Though it is yet to attain high levels of maturity, it is definitely a part of their IT discussions. 36% of companies using cloud services are using a private cloud. However, public cloud has seen the highest amount of growth and 40% of enterprises have either adopted public cloud services or have it in their plans."

Drivers for adoption

While the numbers point towards a bright present and an optimistic future, there are several reasons for which the outlook towards cloud is steadily changing.

Sridhar Iyengar, VP - Product Management, ManageEngine believes that cloud gives companies the freedom to focus on their core business and delegate or outsource all the IT to the cloud service provider and this today is a major reason for increase in the uptake of cloud services.

He is of the view that cloud adoption started mostly from a cost benefit perspective. However, more recently, the drivers have been, the ability to scale resources and expand the IT infrastructure in an agile manner, or roll out product development much faster.

Today, cost does hold a high place in order of benefits for organizations adopting cloud. Most enterprises who have owned IT traditionally, are coming to terms with the fact that investing more in CAPEX and the associated total cost of operations and infrastructure refresh every few years, is not a luxury anymore.

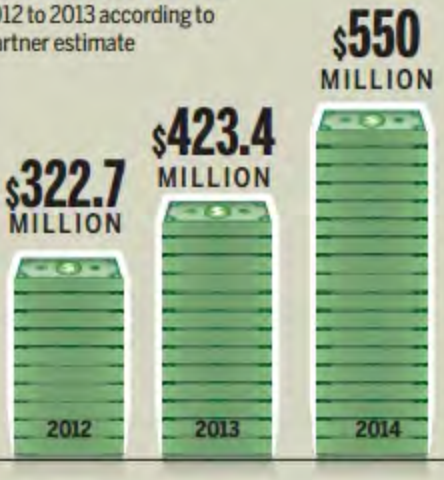
The industry's favorite 'go-to' reason of economic downturn or instability is more of a reality than excuse today. Every enterprise would like to hold on to its cash reserves and loosen its purse strings judiciously, only when necessary.

Sharing a similar sentiment, Somenath Nag, Director – ISV & Enterprise Solutions, Alten Calsoft Labs says, "The overall slow growth rate has

CLOUD COMPUTING: KEY FACTS

MARKET GROWTH

31.2% growth in public cloud services market from 2012 to 2013 according to Gartner estimate



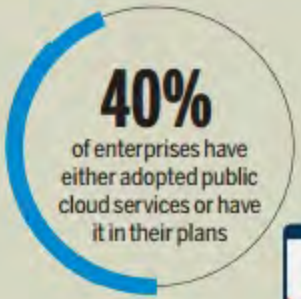
29.8%
growth in public cloud services market in 2014

Estimated spend on cloud services according to Gartner. Most of this segment will be dominated by Software-as-a-Service or SaaS.

BENEFITS

- Lower cost
- Increased performance
- Scalability
- Rapid development
- Increased mobility
- Virtualized environment

companies using cloud services are using a private cloud



of enterprises have either adopted public cloud services or have it in their plans

50 BILLION
mobile devices by 2020

400 smart phones require one server at the back end

41Mn smart phones sold in India in 2013

> Public cloud has seen the highest amount of growth and 40% of enterprises have either adopted public cloud services or have it in their plans.
>
> **Pankaj Sabnis,**
> Principal Architect - Cloud Computing, Blue Star Infotech Ltd

> SMB customers are adopting cloud-based ERP at a much higher rate than large enterprises, largely due to the complexity of enterprise class ERP deployments.
>
> **DD Mishra,**
> Research Director, Gartner

made CIOs look for solutions which need low CAPEX, as CAPEX is hard to come by during this challenging economy. This has pushed the focus on using more and more public cloud services, as there is no CAPEX involved and the OPEX can be optimized based on the real usage. With SaaS and IaaS, the spend can happen over a period of time."

However, cost is not the only driver here. Looking beyond savings, enterprises are also realizing that the business today depends so much on IT that its agility or the lack of it, can reflect on how fast or slow the business can react to changing market demands. Gone are the days of long indulgent deployment cycles and IT today is expected to be one step ahead of the business when it comes reacting to market requirements.

Himanshu Khanna, Head - Enterprise Products, Tata Teleservices Limited, says, "The go-to-market time and the complexity of getting it done in house, the associated vendor interactions and time spent in developing applications and the infrastructure is making more organizations adopt cloud."

And finally, scalability is another key reason for increase in the uptake. Organizations today are increasingly opening up channels such as mobile and Web, to reach out to customers and other stakeholders. The business needs IT to be capable of throttling up or down, depending on market demand.

Nag gives an an instance of a large educational institute in the country using the cloud to conduct competitive exams, to explain how scalability matters today

THE BULK OF NEW IT SPEND WILL BE ON CLOUD BY 2016 AND TWO THIRDS OF THE CLOUD BUSINESS IS EXPECTED TO COME FROM NEW BUSINESS MODELS AS OPPOSED TO THE CURRENT BUSINESS MODELS

from a cloud perspective. When the candidate goes to a center to register himself for the exam, a scan of his fingerprint is taken. He can select a center three days before the exam. And then on the day of exam, he needs to go there half an hour before the exam, to validate his identity and attendance for the exam at the center, through a fingerprint scanner.

The system is said to take scans for 30 people across each center, for 300 centers, in a span of half an hour. Hosting this infrastructure and managing it by themselves would have cost the institute $100,000 a year. Also the service is required only few times in the year and therefore by having this hosted on a cloud infrastructure, the institution ends up paying only a few thousand dollars every year.

Cloud starts to find uptake

Having gone past the initial reservations, a lot of enterprises today are adopting cloud for various applications. The first few applications to get delivered via cloud were CRM, e-mail, collaboration and travel and expense management among others.

However, given the concerns related to security and data sovereignty, enterprises chose to hold back their core IT infrastructure, and it was restricted to on premise.

In case of large enterprises, having invested in building and running an IT infrastructure over a long period of time, moving the entire stack to the cloud immediately, is neither viable nor recommended. Having said that, business demands are changing dynamically, and these organizations do not have the time to spend on lengthy deployment cycles, which eventually end up with an IT infrastructure, which is still lagging behind, as the business requirements would have changed by then.

Says Sabnis of Bluestar, "If you look at the cost of running an ERP solution, the refresh costs involve not just the software but hardware too. Also they have to invest in additional skill set to maintain these systems."

Therefore, enterprises today have gone beyond the few periphery applications and are looking at having bits and pieces of their core ERP application, being delivered out of the cloud.

Nag of Alten Calsoft says that large enterprises, having already invested in big ERP solutions, are not open to public cloud services and therefore, are looking at a hub and spoke model today, wherein the main ERP elements are hosted in-house while non-core components such as SCM and distribution management and vendor management are deployed on a SaaS model.

Saju of Infosys says, "Enterprises are definitely using a two tier model wherein certain functions are hosted on a SaaS model, while the rest are delivered through an on-premise infrastructure. However, within on-premise, that infrastructure could be hosted on an IaaS model. Functions such as HCM and procurement are today being deployed on a SaaS or an IaaS model."

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ENTERPRISES THAT HAVE TAKEN TO THE CLOUD

Ratnakar Bank is an instance of a bank who has actually taken its applications to the cloud. Though hosted on a private cloud run by Netmagic, 95 percent of the bank's applications are delivered out of the cloud. They are even considering moving the remaining few applications in a few months. The bank had adopted the public cloud for its lead management, salesforce management and campaign management applications.

Talking about what has worked in the bank's favor, Anup Purohit, Head-IT, Ratnakar Bank says, "We started the transformation journey when most of the technologies had matured and we too had little legacy to deal with. The thought process was that whatever applications do not access sensitive customer data, can be moved to the cloud."

The bank initially had one server per application and these servers hosted applications such as Active Directory, email, DHCP, branch servers etc. In June 2012, the bank had close to 52 applications spread across 49 servers. In June 2013, Ratnakar Bank looked at moving these to a cloud infrastructure such that today it has nine applications per server. However, its core banking platform is running on a separate AIX virtualized environment.

Moving to the cloud has helped the bank reuse its existing infrastructure. "For the salesforce applications deployed in the public cloud we pay on per user basis. For the Netmagic infrastructure, we pay on a quarterly basis," informs Purohit.

Blue Star Infotech on the other hand, has adopted Office 365 for e-mail and SharePoint. Talking about the cloud service adoption, Pankaj Sabnis, Principal Architect - Cloud Computing, Blue Star Infotech says," For an IT company likes ours, email is also a critical application. We also moved our website to the cloud and since website traffic is variable, from a cost perspective, setting up the server on cloud has helped us minimize the cost by 50%.

Prior to moving to the cloud, the company had Exchange 2010 on premise. It required one person to monitor this infrastructure. As it would get updated only every few years, the company would skip one version and move to the next. Due to this, a lot of productivity tools would come to the employees late.

Moving to Office 365, has helped the company ensure that they are using the latest version of the applications and also helped them mitigate issues associated with perpetual licensing. The company is now looking at moving to a hybrid cloud during the later half of 2014.

According to Ramesh Babu - Chief Delivery Officer, Ramco Systems, providing ERP on the cloud is much more challenging, as it deals with confidential data and any downtime can lead to disruption of business and directly impacts revenue. Therefore large enterprises with big ERP systems prefer to keep them on-premise and use the public cloud for peripheral ERP requirements such as vendor, dealer and services ecosystem.

"A lot of large enterprises are choosing to go for ERP in the cloud for such applications because the availability has matured, there is no CAPEX involved, it is less expensive and they do not want to extend their existing ERP implementations because it is time consuming and often expensive," adds Babu.

The company has over 300 customers using its cloud-based ERP solution, 200 of which are Indian organizations belonging to verticals such as manufacturing, BFSI and Pharma. Ramco, which started off with SMB customers has grown over the last two years and now caters to large enterprises such as Siemens which uses its solutions for the manufacturing sector.

Mishra of Gartner giving his perspective says, "ERP solutions are somewhat fragmented. SMB customers are adopting cloud-based ERP at a much higher rate than large enterprises, largely due to the complexity of enterprise class ERP deployments. Therefore we see cloud-based ERP adoption in large enterprises mostly taking a piecemeal approach, where some components may be implemented as a cloud service while others continue to be implemented using traditional software. HR is one such application that could be delivered out of the cloud."

Talking about adoption of cloud services by large enterprises, Karan Kripalani - Associate Vice President, Product Management, Netmagic says, "Netmagic has seen a revenue growth of almost 145% year on year. More and more enterprises have started moving their critical workloads to the cloud. We today have a significant number of SAP

CLOUD GIVES COMPANIES THE FREEDOM TO FOCUS ON THEIR CORE BUSINESS AND DELEGATE OR OUTSOURCE ALL THE IT TO THE CLOUD SERVICE PROVIDER AND THIS TODAY IS A MAJOR REASON FOR INCREASE IN THE UPTAKE OF CLOUD SERVICES

implementations hosted on our cloud."

Driving cloud adoption: SMBs and mobile

While enterprises may be opening up more to the cloud, it has traditionally been the SMBs who have been gung-ho about cloud adoption. The lower entry cost, CAPEX requirements and compartively lower total cost of operations (TCO) make cloud computing a definite SMB favorite. Small and medium businesses spread across verticals, start ups and even smaller government organizations to some extent, are contributing to the growing adoption of cloud.

Due to the size and complexity of a large enterprise, decision making goes through multiple channels. SMBs on the other hand, do a risk versus rewards analysis for cloud and find that the rewards outweigh the risk and therefore are more akin to adopting cloud services.

Jiten Patil - Cloud Expert & Senior Technology Consultant, Persistent Systems says, "The amount of business generated by the large enterprises is more, but the number of use cases are more from an SMB perspective."

Tadigadapa of Intel says, "Smaller banks are even looking at hosting their core banking applications in the cloud. For instance, NABARD is driving a project with TCS and ISVs to help co-operative banks move to the cloud. The

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Ramesh Babu,
Chief Delivery Officer, Ramco Systems

"The Indian cloud computing market is growing 50% year on year."

Srinivas Tadigadapa,
Director – Enterprise Sales, Intel – South Asia

drivers for these organizations to put core applications in the cloud is that they don't have in-house expertise to manage IT."

However, besides the traditional businesses, it is the start ups that are using the cloud increasingly to deliver services. Started mostly by new age entrepreneurs, these organizations are pretty cloud-aware and therefore are at the forefront of adopting cloud-based applications.

Says Nag of Calsoft, "The growth of internet-enabled services such as news portals, e-commerce and social media has fuelled the growth of cloud services. A lot of the enterprises offering these services are set up by first generation entrepreneurs who have no legacy baggage and are better aware about cloud services."

Adds Iyengar of ManageEngine, "With IT as a service, it is much easier to develop applications, invest in hardware where outliers are limited and even from a budgetary standpoint, the entry barrier to a product becomes very low."

Due to this, they are in turn able to deliver to the market faster, and therefore are even seeing better support from venture capitalists and angel investors to further expand their business. E-commerce portals which are primarily relying on cloud to deliver data to their consumers are increasingly posing a threat to the traditional brick and mortar shops.

Furthermore, a lot of these start ups are adopting a mobile first approach, where data would reside in the cloud, and will be delivered to the end user primarily through mobile apps. And this sort of new business model of delivering applications and data on mobile devices is causing a disruptive change in the way organizations provide access to employees, partners and even end consumers.

This is because cloud offers the ideal IT infrastructure scenario for delivering on the mobile platform. Given the fact that the space is so fragmented, with a variety of applications, form factors, operating system platforms, and consumption across verticals by different types of employees, investing in a dedicated infrastructure to host such a dynamic environment, would not prove to be efficient.

> With cloud computing, warm site disaster recovery is an optimal solution as backups of critical servers can be spun up in minutes.

Srimathi K Swamy,
AVP and Practice head for Technology Services, Head, Technology, Infrastructure services, Infosys BPO

With the ecosystem constantly evolving, an enterprise would only end up spending more, trying to keep itself abreast of the demands from the market. This is where cloud, with its agile and dynamic way of IT delivery, provides some answers to the requirements of a growing mobile ecosystem.

According to Nag of Alten Calsoft, cloud is finding adoption for mobile because, only a cloud offers the flexibility to support the scale and the cyclic and uncertain demand on the mobile platform.

Says Tadigadapa of Intel, "By 2020, the world would have seen 50 billion mobile devices. The different screen sizes and form factors of mobile devices is affecting the application back end. For every 400 smart phones they need a server at the back end. Last year it was estimated that around 41 million smart phones were sold in India, and an estimated 9 million tablets would have been shipped this by year."

Going by this estimate, it is clear that deploying a dedicated infrastructure on premise, would not be enough or the most efficient way to handle the workloads generated by mobile platforms.

DR in the cloud

Another trend that is steadily catching on is having a disaster recovery (DR) infrastructure delivered out the cloud. It saves the organization the trouble of investing in a mirror infrastructure and the associated tools and manpower, to manage an infrastructure which would rarely get used. Instead, with a cloud-based DR service, an enterprise only ends up paying for parking resources on the cloud, periodic data replication and synchronization and DR drills. The only additional cost is when the DR infrastructure is actually used, which could be for as less as a day.

According to Mishra of Gartner, backup and recovery solutions including DRaaS are popular and are delivered by IaaS providers or their partners. It does

SMBS ARE FINDING DR-AS-A-SERVICE LUCARATIVE, AS THEY DO NOT HAVE TO PUT COMPLICATED INFRASTRUCTURE AND IT ALSO OFFERS EASE OF ADOPTION

not require any upfront investment from organizations and therefore they can adopt these services without making much investment. SMBs are finding this lucarative, as they do not have to put complicated infrastructure and DRaaS offers ease of adoption.

According to Srimathi K Swamy, AVP and Practice head for Technology Services, Head, Technology, Infrastructure services, Infosys BPO, "Cloud makes cold site disaster recovery out-of-date. With cloud computing, warm site disaster recovery is an optimal solution as backups of critical servers can be spun up in minutes on a shared or private cloud host platform. With SAN-to-SAN storage replication between sites, hot site DR with very short recovery time objective (RTO) is also recommended. One of the inherent capabilities of disaster recovery in the cloud is the ability to deliver multi-site availability."

Says Kripalani of Netmagic, "DR in the cloud will be a huge growth driver for us. This is because traditional DR is expensive. The cost of duplicate infrastructure and the additional load, when doing DR the traditional way, takes the total production cost up three times."

"DR in the cloud can help slash the DR cost by 70 to 80%. The cloud can sync data on a daily basis. We formally productised the service six months ago and recently, we have closed a deal with one of the largest insurance companies in India," he adds.

Clouds ahead

Cloud computing has indeed come a long way, finding adoption across verticals and making good in-roads even in the larger enterprises. As enterprises realize that the only scalable, flexible and cost-effective way (in most cases) to consume

IT is to have it delivered as a service, cloud will start to find more takers in the country.

Says Ramesh Babu of Ramco, "I feel cloud maturity in the country is increasing. Enterprises have become comfortable about availability, security, disaster recovery, processes and SLAs when it comes to the cloud. The technology has matured, SLAs have been re-drawn and people are getting a lot more confident to venture into the cloud."

However, what we have not touched upon, is the challenges or concerns around cloud adoption. Although services are getting mature, and cloud providers are increasingly trying to make their services secure, the jury is still out on important factors such as regulatory compliance, auditing, vendor lock-in, data privacy, accountability and portability.

The cloud service providers say that a few niggles have been ironed out, while the industry is hoping that the ecosystem will come together to agree upon certain standards, guidelines and interoperability measures to make the customer feel a lot more 'at home' when adopting a cloud service.

However, it would be safe to say that cloud computing has indeed arrived, and is here to stay. The next few years look promising from a cloud computing perspective. How it really pans out? Only time will tell.

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