Vishnu

In the last almost 18 months to two years when we have heard different definitions of cloud-infrastructure as service, platform as the service, business process as a service and so on and so forth. Ultimately, when you look at from a clients perspective, obviously, the focus that we have today with the cloud is on Global 2000 customers and from a customers perspective there is going to be revolution of going through virtualization, infrastructure, consolidation and so on and so forth. But what we strongly believe is in the next five to six years, about 60% of enterprise workloads will be on cloud and when we say 60% on cloud that is a combination of private and public cloud. So, we see that for an enterprise to leverage cloud in its entirety has to go through evolution and evolution of going from the current set of legacy to a combination of legacy private cloud and public cloud combination. So when we look at a 60-70% split between cloud we see a combination of private cloud, public cloud and a legacy advantage. When we look at public cloud itself, it is a combination of several things. Based on needs of enterprises we believe that a right cloud ecosystem has to be set up. And a right cloud ecosystem is an evolution right from point where they are and point where they need to be and to set up an ecosystem that is on a continuous evolutionary path. And when you look at our strategy early on we are very clear that we want to continue to be asset light. We will not build data center and build infrastructure and services, and we will work with our eco system partners. So, from our perspective we have a comprehensive suite of services that help customers adopt cloud, build out a road map, help them look at applications landscape help them to migrate on cloud environments, the infrastructure required as well as setting up of an ecosystem directly comprises of several of partners. We are able to create ecosystem, which helps our customers leverage cloud based.

So, if we look at from clients' perspective, cloud actually poses a few challenges. One is that the cloud have different player they have different perspectives, infrastructure platforms, business platforms, software as a service and so on and so forth. They are quite fragmented. As a cloud ecosystem integrator we have customers integrate to work flow on cloud and show that the data integrity, process integrity and manage seamless.

The key thing that we focused on is how we differentiate ourselves, what is the key message? Because cloud itself is a new theme, our clients are getting their minds they are worried about what the future looks like from adoption standpoint. And we figure that from an overall perspective for our clients to be successful. There are two key things that we need to focus on. One is how do we make the cloud ecosystem robust. Because there is a huge amount of mind block that exists out there that Cloud is insecure, there is a further amount of IP issues, regulations, security issues and so on and so forth. So that is one thing about how do we make cloud seamless. The clients do have questions about how do we make sure this cloud ecosystem hangs in their balance. Who manages the SLA because they look at a cloud environment it actually fragments a lot of your workloads. Now, which means that the accountability is also fragmented. What used to be in your data center, everything in one place now fragments across multiple ways. So, who takes care of your SLA, who takes care of making sure outcomes are managed, who actually have the contracts and managements so on and so forth. So if we address that one need of clients how do we make this cloud ecosystem robust and who manages the accountability. Because now from our perspective client has an ecosystem integrator who takes care of making sure that process in balance.

The second thing that we focused on is the biggest worry our clients had which is the fragmentation of the workload itself because when you look at a combination of your legacy environment, your private cloud and multiple public cloud. You can have a legacy system scaleable running in your core, you can have a lot of your non-core applications on your private cloud and then you could have multiple workload sitting on Microsoft or Amazon or InfosysEdge platforms, Salesforce.com and so on and so forth The biggest worry that most of the clients have

is there is a huge amount of fragmentation. So, we focus on two things. One is how do we build a robust ecosystem for our clients and how we make this client ecosystem seamless in terms of managing it, in terms of positioning, in terms of deploying work flow so on and so forth, at the same time we focused on how we have customers migrate workloads. So the big gest positive thing that we have seen from our customers, we have now done about 60 to 70 clients conversations in terms of the solutions that we have built, we have done about 135 clients engagements in this area, we have team that is strong as about 3000 people. And we are seeing that the traction is slowly building up. So, what we want to show you today is one of the key solutions, the fulcrum of our offerings which the cloud ecosystem hub, which enables us to make the cloud seamless, make it robust and bring in the benefits of cloud much easier to our customers. So that the big pin pointer they have is cloud fragmented.

Sanjay Purohit.

I just wanted to mention one point that if you go back in history and you look at 80s and early 90s and read into the clients mind regarding global delivery model, we had a very similar fragmented work situation, develop into half a miles away, how will I adopt this model, is it secure, will I get the support at the right point in time. If you go back in that point in time we were sitting in this room and I was trying to explain to you global delivery model and how it works. It would have any similar reference. And interestingly, technology has brought us to a stage where we are having a similar reprieve in the context of what we do with cloud. And so strategically and philosophically we have taken the same instance and the same mindsets saying if we have to help our clients succeed in the cloud environment then we have to give them the ability to understand, absorb and leverage this model and then stay on top of it, the way global delivery model scales overtime. So, if you look at the hub that you are looking at now, this hub is the one that gives you the platform a basis on which you can solidify your cloud strategy and grow onwards and scale on top of it vis-à-vis what you were trying to say, no, should I buy from here, should I buy from there, I hope we can equate the two. If I was providing an offshore development services in the 80s I would say first let me go and do few projects, let me illustrate it works for you and grow and scale it overtime. It is a similar strategic mind that because now technology is pushing the next change in the way outsourcing typically of technology would be done in future and that is the process we are taking into the cloud. So when you look at this demo, we copied from that perspective that you are talking to our clients, who is very similar to mindset and saying will it be work to a point that it will not work.

Speaker

What we will cover out here this particular solution is a self-service portal. In cloud it is all about self-service, the ability for various IT users as well as business users to able to access various kind of IT services or business services such as Salesforce, etc. through a single pane of glass. Typically, what they do today is they have a Salesforce website login, they have an Amazon login, they have their own internal intranet login. What they are trying to do here is in the context of the Cloud, when an enterprise user logs on to a self-service portal out here, he basically gets his roll based entitlement and access to an ecosystem of cloud services, and we provide the seamlessness. So we take care of security, everybody accesses what he is entitled to, but he provides, he gets one workplace but he can carry out all his tasks. He does not need to go anywhere else. All his job tasks which requires to carry out his job function for an IT managers he is provisioning, for an approver he is looking at the various aspects of whether a request is sane or not, or for a business user who is a first user. He has just logged on, accesses the ecosystem of various cloud services. So, it just shows how they are actually helping and IT procurement on a provisioning workflow in the context of the cloud through this one single pane of glass.

For Example, John is an IT manager, when he logs on, he basically needs to ensure as part of his daily jobs tasks all the different projects have the access to the right set of resources which he needs. So he has the dashboard which gives him a bird's eye view of what his resources are doing ,what his utilization is on a private cloud or on a public cloud. So, we are providing one single unified view in terms of what his resources are spread across. Then he needs to ensure his memory storage, all of those are well aligned. So he gets a single dashboard view. Then it is a data center as has fragmented, it has fragmented across multiple different clouds, he needs to be able to navigate through these diverse ecosystem of various clouds, Amazon, Salesforce, Microsoft, private as if he was doing it in his own Firewall, in his own data center. He provides that seamlessness of them having to navigate through the ecosystem just through a major way of clicking through to various different portals and trying to get access to the information which he needs to carry out his job task. So, he gets all the information which he needs to ensure that a project requires a data is available to him. Now, you look at this dash board as we figure out there is a space on Amazon and space center on this cloud. Now, he sees there is a request which has come to him. So that is why we are actually bringing in the context of collaborative decision-making together. So, when an IT procurement or provisioning request comes in, there is a request which has the project team, then there is an approver who is the IT manager who knows whether this request can be approved, then there is a provisioning guy who actually goes back and provisions it and then there is a purchaser. So, there are five different stakeholders and they all need to see the same single view of when a request has been logged, whether based on their job roles whether the request is compliant and can it be provisioned on to a cloud. So that is where he provides a seamlessness of a single order NT form whereas – this is the request which is particularly coming. So this particular form is basically telling him, the requester had said I need so and so operating systems, I need so much amount of compute power on my system, so he can specify what is the number of systems is, what are the number of compute note he needs, what is the memory he needs. The important point is he also mentions what time period he needs therefore. The start time and the end time because cloud is all about elasticity. You do not want that resource sitting idle after the job task is done. So the provisioning guy needs to know whether after the job is done, when is the time to de-provision that resource automatically. Today, it is done manually. How do you automate the entire process? And we have a scheduler is built in, which basically helps schedule the entire job.

Vishnu

We actually have one of our clients in Canada he has to leverage Amazon cloud for their testing development environment. Now, what that does is if you look at your typical development cycle and the client has you have a business requirement, you have to go ahead and provision for infrastructure for the development to takes place. The starting time from the time you get your requirements infrastructure is ready for your actual development work and testing work was about four to six months because you have to place an order, the order has to be procured, it has to be installed and then provision for so on and so forth. So when we move this development in such environment of the Amazon, they are able to do this activity in less than 20 minutes now. So from the time you know your requirements of what infrastructure you need and the time it is available for development work starts. So, this will cut down the cycle issues. So, overall if you look at the elasticity of compute, elasticity of storage, and you are able to develop, deploy your workloads as fast of that, this too now provides you with various options of which is the best provider, which is the best construct and we are able to deploy them on the best construct that we have, at the same time giving them on an ongoing basis which is a huge benefit for our clients to start leveraging that. So the whole idea is how can we fast track the process, how can we take on the problems that clients have.

Speaker

So this really we talked about, the concept of provisioning and procuring resources, which is we are reducing the cycle time. Now, the next thing is the development organization within an enterprise is like an assembly line basically, where different projects are cut out and different projects require different types of infrastructure. Typically, all of those tasks are manual, there is a project manager who basically looks at people, allocate resources and then he grows it out to his development team who do the coding and do the deployment of the code. Now that entire lifecycle typically depending on the size of the project it would take from six months to one year to two years, whatever the standards period but organizations are looking at abilities, leveraging the cloud to kind of cut down the cycle time of their development process itself. So today, if a project typically takes six months with cloud what the cloud provide? Cloud provides a unified data, it provides cohesiveness and then it provides ubiquitous access; access from anywhere, anytime. So, leveraging the cloud based automation task of the assembly line, so that is development, there is deploy, there is test, there is again deploy and then it is released to production. This cycle time we can cut down to actually from six months to four months and even 50% half the time leveraging the automation techniques. So what we call is an extreme automation. What do we provide to actually do that? We provide a complete drag and drop interfaces. That is where the self-service comes. It is all about self-service. It is like a catalog. So, a catalog basically has various different environments. So can I actually drag and drop what I need in order to develop? I need infrastructure, I need data, and I need applications. Can all of these things be deployed with a single click and can I get that entire environment ready to me in one minute without me having to worry about any of the configuration needed. So, it is about an entire automatic IT process, the IT assembly line which cloud provides a perfect platform to do.

Another concept is as you mentioned cloud is all about choice. And procurement or a provisioning guy basically needs to know that if a request comes to him, like he needs to provision resources on a cloud, how does he make the decision as to which cloud to provision the resource to? We have the entire capability which we have built-in called the brokerage capability; smart brokerage capability, which keeps the cloud ecosystem. So here the decision maker can select various types of cloud. Few are Public Clouds and few are internal. He basically selects all the resources and we have the details and the eco systems integrate that and with the partner eco systems we know the technology that he provides .Now he can enter his workload details in terms of an abstraction of workload that computes the memory and storage irrespective of what the application is. So, he enters the workload details of what that application needs and we provide the recommendation. So here is where the decision makers make a choice, what is the really compute cost going to be in Public Cloud versus on his own internal network. So we assess a set of parameters and we actually suggest a recommendation for deploying his workload. We look at the technology compatibility, we look at the quality of service needs, we look at the pricing options which these providers provide and we also look at the governance and compliance aspect of whether this particular workload, the same enough to be deployed for A Cloud or B Cloud.

Vishnu

Partner ecosystem plays a very important role in this. What we have done here is to this hub we have built connectors across multiple cloud frameworks. At the same time we have a very good relationship with these organizations where we have only access to their beta, to their future roadmaps as well as what they are putting there. So, we are able to put down technical framework for an application deployment. So it becomes an important part of how enterprises are going to leverage this technology. So, we have very advanced conversations and actually contracts and MoUs with the strategy partners we have with strengthened that even more. So, which we believe it is an important aspect of the ecosystem integrator and we are doing joint solutions of most of how these clouds can be implicated to an enterprise and how application works when we deploy them on their framework.

So, overall the summary is that from a cloud ecosystem integration I think our overall operation is pretty mature now, we have now got plus 22 customers. The solution has been about 60 plus clients and the feedback is extremely positive, we are now deploying this across multiple stack and a huge amount of interest in the marketplace. The services itself is growing. We are focusing quite a bit on building solutions of migrate applications and workload. So, all in all, we believe that we are definitely being quite aggressive in the marketplace and we believe that the cloud ecosystem is a philosophy and the need for an ecosystem integrator will become more and more apparent.

Participant

How many existing clients or customers?

Vishnu

The first step most clients take, so we have automated for our existing clients and built private clouds on top it, for example, Ricoh is an example. Then we go down to our web site Ricoh ,how we have implemented a private cloud and automated it.

So for example of how we have done that and we continue to manage that The interesting part is that as an ecosystem evolves the clients are entrusting us to actually build that ecosystem and manage it for them both in terms of infrastructure, consolidation of an entire ecosystem as well as application that we help migrate across to the running ecosystem. So we continue to stay there , we provide those services while we continue to invest in building those solutions and make ecosystem more and more robust. And we believe that the ecosystem will evolve because new technological, new things are coming in the marketplace. So, once we see that investing in it look at six months to a year ahead of what is happening in the market and preparing ourselves to help our customers adopt it because the next five to eight years there is a huge amount of evolution of this ecosystem. And what the clients are now becoming more apparent is cloud is not an infrastructure game anymore. It starts with an infrastructure, start with virtualization, with asset consolidation and there is a definitely 15 to 25% benefit in doing that, but the huge amount of mindsets we are moving towards the innovation. So if you look at explosion of high performance applications, big data and analytics, it is becoming largely a competitive advantage for most of our clients. So, the shift is moving from infrastructure to applications and that is why we have a huge strength in helping our customers migrate to applications, build high performance computing applications, build data warehouses that leverages both traditional way of doing analytics and big data way of doing analytics that leverages both traditional way of do ing and big data of doing analytics in cloud as a picture. So, the more advanced the clients are, the discussion is moving from infrastructure to applications, high performance computing analytics and how do we integrate cloud, analytics and mobility in a business way.

So, we have seen different paradigms . We definitely have seen retail indus try becoming quite advanced, because of their need to connect with the huge amount of consumer base and the innovation possibilities they offer in terms of brand management, consumer analysis and so on. But we have also seen there is a huge amount of uptake of private cloud and financial services because we have also seen there is a huge amount of uptake and compliance issues and analytics that helps them compliance is huge in financial services. So if you look at public cloud, hybrid cloud, retail is ahead, hi-tech manufacture is ahead because we probably earlier talked about from a technology perspective, we are definitely seeing a huge amount of private cloud in Financial services because obviously the public cloud is a kind of not ready for them yet because of the privacy issue that there is still there but private cloud huge. Energy and mining industry is again deals huge amount of data, like seismic activities, geospatial analytics and so on and so forth. So, again, a combination of private-public cloud becomes hybrid for them. And today, I think

it is not an option anymore because most customers have realized the time-to-market benefits are so huge that even the adoption of hybrid cloud. So that is something that we have definitely seen across the board irrespective of the industry as well.

Sanjay Purohit

If we step a back you will see that this is a very interesting continuum in our IMS strategy of keeping ourselves asset light. Because we consciously took a position saying we will do asset light IMS and now you can see the continuum because this is the direction and it is an asset light model because the assets are with the cloud provides and we do not have to actually take the assets on board, we actually have to help the clients leverage those assets more efficiently for innovation and scale . So, that continuum we are still maintaining.

Participant

Cloud service is kind of multiple service provider for helping clients migrate to clo ud and similar was the case for key vendors SAP, Oracle also would have kind of multiple vendors. Now in the case of complex let us say implementation of an ERP across multiple countries, there is a value-added provided Infosys brings in terms of the under standing and how to consider and customize that ERP. But here it seems to be more simple where mo st of the heavy lifting is done by top service provider, we are just selling like this client needs so much. So, let us sa y what is the differentiator from let us say the similar platform that a TCS or Wipro or Persistent would ha ve done?

Vishnu

First of all, you do not see a solution as comprehensive as this. There are fra gments of the solution, I mean there is something that manages the infrastructure. What we have done here is we have taken an enterprise centric view because what we are seeing that rest of t he world has taken is the cloud centric view, and there is no center for the cloud. There is a one perspective of infrastructure, there is a platform perspective, there is a business process perspective, there is a software as a services perspective and so on and so forth. So we have come entirely from an enterprise perspective and what does enterprise needs. That is number one. Secondly, this too helps in the speeding of adoption, in an accele rating adoption. So, our focus is not infrastructure because infrastructure is done by our partners. Our focus is to help clients enable cloud faster and that is the work on the applications and workloads, because that is where the real value is. And our understanding of the workload is extremely strong in our existing clients as well as the existing industry that we work in. So, to bring in the best of breed of how we actually integrate the enterprises, and our understanding of applications landscape and solution s that we used to actually lift and shift those applications with building new applications high performance and so on and so forth. So we bring in the elements of innovation around applications, around workloads, and using this tool, we are able to integrate those workloads completely seamlessly in making sure that data integrity is managed, making sure that the busi ness process integrity is managed, making sure that the e cosystem is co mpletely robust beh ind the scenes and working with t he partners. So, ultimately, obviously, yes, even if you are a typical SI, the question always ask can somebody catch up, and obviously we can catch up and our strategy is to ahead the game all the time.

Sanjay

Also to add that we are happy that the front-end looks so simple because that is the beauty of the design that the complexity is behind. It is like saying just because you can take an iPhone and single click access 2 million a pplications does not mean th at the iPhone is a very simple device that anybody can copy it. The front end simplicity is in the US and the UI design of the whole thing

so that when you have regular people, in their day jobs using something like this it should work very simply and we take care of the technological complexity in the back ground in terms of algorithms and the designs that are there. So, just adding to your observation that many of our products and platforms on the face will look very simple, but that is by design that they should be easy to use and the underlying technological complexity is something that we should be able to deal with. For example, to integrate to an ecosystem of partners in the substantial amount of complexity because there are different players, different protocols, different kinds of systems, different kinds of data structures, putting all of that together. So on one hand while we can simply provision an environment that you want to use and if it is simple that is good because that is what the client actually needs to do and we take care of the technological complexities behind. So that is an important facet of this.

Participant

What is the revenue model here?

Vishnu

We have multiple revenue models. We have revenue models which are tradition ones and we also work on per transaction basis. The idea is to actually cloudify the entire set up for our clients because cloud means transaction-based pricing, cloud means elasticity and variability enterprising in compute. So, we have different models that we have deployed in this case as well. Some clients have told us that they are not ready for them yet so let us go back to the traditional model and slowly transition into what we call as the transaction-based regular service price in the transition part as well as we have transaction-based pricing in terms of how much compute has been used, how much traditional workforce is used. What is our deploy model that actually drives by applications usage by transaction as well as number of users that have been deployed in that application. So, we have both of that. But one key thing is when you look at an ecosystem integration the activity that we work with our partners is very important because our partner's transactions are also embedded with our overall concept of commercial as well as overall contract, SLA so on and so forth.

Participant

And the SLAs are back-to-back or?

Vishnu

In most cases they are back-to-back, in some cases depending on what the client actually needs especially non-core set up the clients have, request just to keep it as simple and as cost effective as it can be so we have worked out on a model like that but that is for completely non-core kind of scenario. For most of the core applications or semi-core applications, core are still not the public domain yet but semi-core will have an impact.

Participant

What is the reusability of your component across the system?

Vishnu

The component reusability for us comes more across, deploying it across multiple clouds. So what we saying is that as we now build new applications and we take on the contract to manage those

applications, we are saying that the applications are designed and built in such a way that they are incorporated with the cloud. So, that has to make cloud ecosystem completely seamless. Today, we can look at on Amazon tomorrow it cou ld be to Microsoft. The technology is still evolving, but the idea is to actually design and build applications workloads in such a way that they componentize and take work on multiple clouds. So that is where we have believe we have a huge leverage for us as well as the clients.

Sanjay Purohit

And to support that what Vishnu also does it sounds what is called the cloud academy where just to mention that, where engineers are trained on how to do techno logy and development on the cloud because it is different, lik e I said, if you have to build an application which is multi-approval across different environments, then the engineering capability is of the people are doing it is different. So, he operates a cloud academy, similarly, Samson who heads platforms, he could not be here today, because he is i n the US as we speak, he runs the pl atform academy, we run our products academy, we run our mobility academy because this is not about taking the same skill sets and making them do different thi ngs, it is important to invest and build this new technol ogy skill sets. So for example, the engineers have worked with him, know how to build applications on the cloud, it has different characteristics to build the applications for the cloud.

Participant

We saw three platforms today. Ho w many IP s would have been registered for them and things like?

Sanjay Purohit

So we do n ot do that by platform, what we do is across the portfolio of cloud because if you go below the family of platforms, there are components which can be reused across platforms. So the intellectual asset, or inventi on disclosures are made at that le vel. Bala was talking that we do about 140-150 patent disclosures every year. That is across the fa mily of su ite rather than associating them with individual ecosystem