

Infosys Technologies Limited
2005 ANALYST MEET
August 12, 2005

Topic : Independent Validation Services – Session 3

Speaker : Arun Ramu

Hello everybody. My name is Arun Ramu and I head the Independent Validation Services group. Just to give you a background of myself, I have been in the industry for about 22-1/2 years and I have been with TATA Infotech for the first 13 of that, and a start up company called Trident Software after that, and then finally during the last 5 years I have been with Infosys, 4-1/2 of which I have been heading the Independent Validation Services.

To quickly step through the introduction of the service itself. What we do is provide third party validation or testing solutions to clients. This means that this is not the part of the old life cycle between requirements and system test, its beyond that life cycle and it is more to do with taking business requirements and on the business analysts and then checking and making sure that the final end product, not the source code but the real end product, the executable, is actually matching that requirement from the business analysts and the business user.

IVS acts as a trusted advisor for our client's global QA needs. It basically means that we are looking at helping customers set up QA departments, QA groups or create QA practices as we go along and we are seeing more and more of that.

Infosys does provide a carrier path in testing and we think that is the most important part of the whole needs to have testing and to make sure that the testing is done right and so on.

Our resource pool includes validation experts, business domain specialists and technology specialists. Business domain experts because we are there in the business process testing and technology experts because we do testing of technology in terms of performance, in terms of security and so on.

Our expertise stands in multiple areas:

1. The biggest chunk of the business comes from the business process validation of software solutions, this is what I talked about where we look at end-to-end transactions of different business solutions and software.
2. We also do test process and strategy consulting. This is actually really a 6-8 week kind of consulting assignments, where we go in and tell customers how to set up their testing groups or testing services or we tell them how to improve their processes and so on.
3. We also deal with enterprise performance testing. Again these are solutions where we do testing to ensure that the application software is actually providing us the right performance that we require. To put it simply, that it give you the number of seconds per transaction that we are looking at.
4. The fourth is one is setting up test centers of excellence for clients, and this is something new and it is catching up really well, where we actually set up centers of excellence meaning that a dedicated team for the customer's whole enterprise where we typically test everything that has to go in to production and we certify that whatever is going to production is production ready and so on.
5. And the final one is test automation of solutions. Here what we do is that we apart from making sure that we ___ and high quality, we also make sure that we can do that all in quick time and we have high productivity levels and things like that.

Since we are a horizontal, we do work in multiple geographies and in multiple verticals and we have covered more or less every vertical that Infosys works in.

Now just to give you a background the industry has in this particular case, that is the enterprise test industry and enterprise application test industry, is rather new. The reason for that is that pre 2000 the software industry was developing software solutions mostly for the MIS teams which means that there is a backend team and they didn't have much effect on your direct business and your top line is rather safe from defects from the software. However,

once the internet caught on this business process is now fully exposed and now are available to the customer and if there are defects in that and we will get hit badly. So during that situation from 2000 onwards this whole thing has caught on.

What I have here is numbers which are estimates because so far most of the market analysts have yet to write about testing and the size of testing and things like that. So we don't we really have a number on that. What I am taking here is Gartner's number for the IT services market and if you look at 2006, it shows \$ 200 billion and Gartner says about 25% of that would be typically testing services, so that makes it about \$ 50 billion. And if you take a very conservative 10% of that would be outsourced testing, we still have at least a \$5 billion market sitting there, and at that I am sure is a very very low number in that, actually its probably much higher than that number.

In terms of vertical split, we are almost equal to whatever the overall Infosys split is. BCM being the largest chunk, retail being the next and so on. We are working with other verticals too and we are catching up at that, this is slightly dated data, and hence some of them are not visible here.

In terms of geography split, we had started the services mainly in the USA, so obviously the numbers there are high, but if you look at Europe and UK put together it is almost 10% and growing.

In terms of metrics of the unit, we had over 45 enterprise application customers in different verticals and of course 20 product based customers. Now product testing has always been there since the time products have been there and it has not been much of a business in that sense simply because they are very IPR unfriendly and things like that, they want to make sure that nobody looks at their software etc, etc, So product testing has always been a very low key business. However, the new business is in the enterprise applications business. We have around 80% repeat business and we are in the range of about 2,000 senior employees and onsite effort is in the range of 25%. And of course you can see the growth, the way it has been growing, and we are hoping that it continues at that slope.

In terms of what is it that differentiates us from the competition? One of things that we have found that in our business plan and research on the testing market is that, one of the reasons that people are having a pinch of what testing is that most people are not trained in it or not motivated to do testing and so on and so forth. So we cannot bargain there and figured that one of the biggest reasons for that is that most people don't have the training to compete with us in the market. So while programmers are taught anything there is to be taught in programming for 3-4 whole months and then they are allowed to program, testers across the world typically don't get enough training. So we do have a lot of training, 6 weeks of intensive training after the 3 months of E&R training.

We also have invested in large in 3 of our development centers with various tools and things of that sort so that we can get familiar with that and we also have a specialized performance testing team that ensures that we get architect level, data base level, and even network level kind of skills in place because that is what is required for that particular team.

In terms of certification like I mentioned we do have to be domain experts because we are testing the software from the outside in and not from inside out like the programmers do and hence we need to know the business, the business processes and all of that, and to be able to understand that easily and to also be able to impress upon the customer that we understand them. We do go in for lot of industry level certifications like the once mentioned here. We also do testing and QA certifications to ensure that our level of testing is fairly high.

In terms of alliances, we have an alliance with Mercury who is almost 60% market shareholder of the testing tools market and I must say that our alliances is growing pretty well.

In terms of solutions we have typically the test center of excellent solutions which is a managed testing solution. We talked about it a little before, but we also have for every industry typical industry requirements that need to be certified and the new application and we do a lot of those, once here are for the financial industry obviously.

In terms of trends in the market, there are lots of tool vendors who are trying to _____ but Mercury definitely is by far the largest chunk of the business. They own 60% while IBM, which is a next one, has only about 19% to 20% of the market and we are tied up quite closely with Mercury to work with them.

In terms of competition, the market is quite new, in the sense that it just started in about 2000 timeframe, so there are not too many players in the market and there are not too many serious players in the market in that sense, most people still try to attempt using developers to do testing for short terms of time and in my opinion that does

not really make the cut. People also don't understand that it is the application enterprise market that we are talking about and not the product market, which is there all along.

In terms of my view on some of the stuff what testing really gives you, is a very clear reach to the CXOs. By that what I mean is if you really look at typical testing where the testing comes in, and it comes in a cycle, but what happens with that is that if testing is bad the product goes out with bugs in the market. If bugs come in, then you have the customers screaming, they head out for _____ and you have your topline getting hit and so on and so forth. So today there is a clear quality gate before software goes into the production. We do have a very, very clean software going out and the people who appreciate that most typically happen to be the CIOs and the CXOs who are trying to put out new things into the market through variety solutions and so on. And that's where a great reach that we can get.

The other thing is the focus on total cost of ownership, most of our customers are very focused on wanting a lot of total cost of ownership to come down and so on and so forth and testing is again one gateway of doing that. Simple way of explaining that would be if you did a 100% test which meant that there may be test going out in the market, you don't need to do any maintenance. Because all your maintenance done is are really _____ to better things and better enhancements and new features and things like that which make you more competitive in the market. That is a very broad thing but there are other things like you probably can shut down all your call center costs quite a bit because there is not enquiries coming because of defects or things like that. So all those things do come into play when you really do good testing.

Then finally, like I mentioned earlier, automation is starting to get bigger with the customers. We are realizing that while testing is good to stem the defects what happens is that the time lines and all that are still long because you do have to do decent amount of testing and shopping bag would be to actually bring an automation and things like that, so automation is definitely going to go ahead as we go forwards.

In terms of our challenges, the main challenge would be the area of resourcing. Like I mentioned, the market is new, the perception of what testing is all about is also rather low because people think that if you cannot do programming then you do testing, that is the percept in the market. However, after 2000, things have changed but not significantly enough. So we do have our own training centers, we call it the IVS University for a lack of better noun. We do train a lot of people, not just people for IVS but people all across Infosys coming for training and testing in that sessions. We also look at alternate talent pools, the BSc people and the people also from the industry like people from banks and insurance companies who have 5 to 7 years of experience, and we actually training them on testing and so on and we have found that that's a very good source of talent.

In terms of commoditization of the services, testing is very firm to that because it has been that way all along. In the early days, you asked for testing bodies, we did not even asked for the testing product and testing was meant to be something that you did again and then you had enough time on the time line. But today we have been able to provide high value services and solutions where the customer realizes that if we do good testing, then they do have a lot of money to save in the market.

One other thing that we are also trying to do is trying to go to market with tool vendors, especially Mercury and I am sure that we are up there in the front in terms of automation solutions and things like that.

In terms of influencing our community, like I mentioned, the community is rather evolved and hence it requires a lot of influencing, it also requires a lot of evangelization of testing, career path and so on and so forth, so we do a lot of international conferences, leaders of change forums and things like that. We also brief up the college students and regular workshops and things like that, to make them understand why testing is equally important as anything else.

I will run you through a quick case study, this is for one of our customers who are Fortune 500 food services marketing and distribution organization who wanted to do a business process reengineering to enable them to have a more efficient flow of products from suppliers to customers and also to reduce transactions cost. So we are not just to reengineer their entire IT applications but also make sure that it worked in the shortest timeframe as possible.

The overall spend was in the range of about \$400 millions and the IT itself was in the range of \$100 million. That would give you an idea of the size of the project, they are huge number, they have lots of vendors providing different software pieces of that particular integration project and they have more than 100 plus integration points across that needed to be tested, ensured, debugged and anything else and the time line is of course was fixed by

the client and we had committed the client that we will have a new food distribution software available for them to use and so on and so forth.

So the objectives of the integration testing that we put in were to certify the readiness of the integration system to the business user from an IT stand point. So actually we are answerable to the business user and not to the IT department and to provide confidence to the business and application design prior to the commencement of user acceptance. So one of the things that we had said that if we come in early enough, we can actually stop defects from going in even at design stage, so that was the second line that we are talking about where we had said that we will do that.

We proposed a multi layer strategy and it was a very, very detailed one, we had a huge number of people working on this project and the strategy was so well-developed that even delivery folks actually started using that strategy to delivery their pieces of software and so on. And then finally we actually did a lot of test cycle optimization. In a project like this where you have so many pieces, you could continuously keep testing and not get over with it, so what we did was actually optimize and decided how much of coverage is required, what is the business criticality and so on and actually optimize the whole thing and we kind of _____ that we gave our client was only detection and quality gates _____ clearly the release management and so on and of course the benefits were the fact that we could give them a valid cost saving of about \$ 350 K in a lapsed time of 8 weeks, and that is just in the planning and through good planning we managed to do that and through good quality we managed to ensure that there are another 2 weeks of user acceptance testing that is cut short, and so the product actually run 8 to 10 weeks ahead in terms of time line. And the good part was that, after all that testing and after proving to them that the software was near 100% defect free, they also had the higher confidence of throwing it in the market and it actually went live with no delays.

So that was the _____ project that is 400 million to go on line. That easily is that something that they had not seen.

That's about it from me. I will take any questions.

Question and Answer session

Participant

_____.

Arun Ramu

This was about 75 people working for 2 years on testing.

Participant

_____.

Arun Ramu

_____ simply because testing comes as a backend of the whole cycle and if anything gets delayed, testing gets hit and then you have rework in between and things like that; so given that we typically go for time and material. Yeah, that's only _____ projects, otherwise what happens is after we do a few projects the customers likes it so much the 100% defect free software, that he says can you do this for all my software. So at that point what we happens is we convert that into a test center of excellence, where we say we will give 30 people through the year, it's a capped T&M with 30 people every month. and we do all the testing that happens and if we have time, we also start automating and things like that so and make sure that they have that team for themselves.

Participant

_____.

Arun Ramu

From my view point, the market is open to that.

Participant

_____.

Arun Ramu

Okay let me again put it back in perspective. I have touched only 45 of Infosys' customers. Infosys itself has 400+ customers right now and this is about 10% of that market share. So you can extrapolate.

Participant

_____.

Arun Ramu

This is outside the development testing that happens.

Participant

_____.

Arun Ramu

Yeah, if you just look at that fact that going back to the Gartner's numbers, even if we just take Infosys numbers, see if you are doing \$ 2 billion and if it is 25% of that, that should be interesting.

Participant

_____.

Arun Ramu

I like that, my job is secure then.

Participant

_____.

Arun Ramu

Yes, this is added simply because being a new service we make sure that couple of things. One is we don't charge below ADM and the second thing is that performance testing and consulting is always at a much higher rate anyway because it is higher skill and everything so automatically margins go up.

Participant

_____.

Arun Ramu

Handset, no we have not come down to that product level of testing but I think that we have done a lot of wireless and that type of testing but not really handset level of testing, yeah not embedded.

Participant

_____.

Arun Ramu

Not really, see because the market is so huge and so open, we rarely come across anybody else in that sense. Lot of time you come across people who don't have testing, like I said, we have core group of testing career path people and in those case we find it very easy to win over them, but there are few Indian vendors who have starting to do that. So in those cases, yes, we see real competition.

Okay. Thank you folks.