

## A cloud by any other name ...

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**Dig beneath any IT hype, and you often uncover an old idea relaunched with better technology. Remember Larry's Network Computer? – Google that on your iPhone or Android! How about "The Datacenter is dead, long live the Virtual Datacenter"**



Sean Hackett, Research Director, CloudScape, The 451 Group

The danger is when a "new solution" is embraced with the old thinking still intact. If we treat the Virtual Datacenter and "private cloud" simply as a new infrastructure on which to rehost existing applications, we miss out on the enormous potential benefits of virtualization. Not just cost and energy reductions, but business and IT agility, management efficiency, market responsiveness and service improvements

Vendors beware! Some are already bowing to demands from corporate IT departments to provide reserved (instead of shared) instances of cloud CPUs. Allowing users to make one-time, up-front payment to reserve an instance for three years sounds remarkably similar to the traditional model of buying servers.

We may never wean the industry off hype – it's the IT world's cocaine – but at a forum of NetEvents' caliber we will not be blinded by it. Where is the real value of virtualization and the cloud?. How can we steer our industry up the path of progress, and not back into old familiar patterns and comfortable world of repeated mistakes? What is holding back this bold step into the future? Is it still fears about cloud security? If so, how do we address them?

**Introduced & Chaired by Sean Hackett, Research Director, CloudScape, The 451 Group, at NetEvents EMEA Press Summit Barcelona 2011**

Panellists: Raul Chico, Head of IT & PS Practises, BT Spain; Justin Fielder, Chief Technology Officer, Easynet Global Services; Natasha Tamaskar, Vice President, Product Marketing, GENBAND Inc.; Steve Garrison, Vice President, Marketing, Infoblox; David Hill, VP EMEA, Spirent Communications; David Howorth, Regional Vice President of Cloud and IT services, Verizon Business

## Sean Hackett

So, it's my first time here. I was asked about a month ago to come to Barcelona. And as you may detect, I have a Boston accent. I looked out the window and I saw about five feet of snow and I said "Barcelona, I think, would be a very good idea."

So, here I am. And being the first time here, I'm sort of the rookie so a couple of things. My room gym is upstairs, I hit the treadmill all night. I got a panel of about 40 minutes which I think is now 30, and six panellists are going to try to get through it as fast as possible. And they told me I couldn't be mic'ed up. I had to speak venid here so I think I'm the rookie. But anyway, what I wanted to do today was I know there are, the cloud has sort of been maybe an overhyped term. I think everyone sort of believes that the cloud is the Shangri-La, right? It is everything I wanted my IT environment to be.

I have heard forecast that range from 20 billion to 100 billion, I'm not sure what vendors or what they are counting but what I felt like I wanted to do here, at least in the first five minutes to get through 14 slides I'm going to go quickly, is to sort of lay some context around just where are we in the cloud? What does adoption look like?

How big is this?

What are the implications on the competitive landscape and then finally, sort of give one key takeaway. One thing I think service providers can do to sort of up their game and move up the stack and generate some increased margin.

So I'm vice president of research. I run all of cloud at The 451 Group and just to set context in regards to the cloud, a lot of people have different definitions for the cloud.

One thing that we do is we try to stick to seven attributes that we use to define what a cloud service is.

We look at cloud as a consumption delivery model on the consumption side at the top with the dynamic pricing models, things like whether it is publicly accessible, rapid provisioning and enables you with a programmatic interface to do self service.

On the delivery side, there is an overlay to technology in essence, and it enables multi-tenancy and automation. It enables virtualization and scalability and elasticity.

And then you consume certain things from the cloud. You consume software and software as a service, software infrastructure as a service, and passes a very nascent market but I think will be the most disruptive moving forward. Application development integration, we think management to a certain extent, sits here as well.

And then infrastructure as a service which has storage and compute for us.

I have seen \$100 billion market estimates, we are not there, we are not even close, \$4 billion by 2013. We think the market is fairly small at the moment. We think we are going through a phase transition where actually a lot of enterprises are in the process of kicking the tires. As you will see, most say they are in pilot phase. They are trying to build trust with service providers trying to figure out what to do next.

Is it going to be mission critical applications, what types of applications, and we like the concept of what we call the best execution venue. So organizations are going to look through their application portfolio and decide which apps are best to fit where?

Based on risk reward, based on cost benefit, etcetera.

Just a little data on Europe. In general, we think adoption looks like the U.S. about a year ago. A lot of the innovation start ups tend to be coming out of the U.S., we think that telcos can play a very big role here. And there are some interesting dynamics around compliance in the regulatory environment that we will get into.

In terms of asking our customer base where they are with the cloud, almost 40%-50% say they are increasing their budgets by over 10% on cloud. That means a variety of things. That can mean SaaS, that can mean PaaS, that mean infrastructure as a service.

What is really driving cloud adoption? The interesting part of this slide is we have increasingly seen this cost reduction and 1, 2, and 3 just are numeric values associated with the importance. So I've seen cost reduction continue to sort of fall back in terms of importance and I think it's because most people just imply that as a benefit, "I'm going to lower my cost because I use the cloud" automatically.

And it sort of shifted. Now, what enterprise are looking for is the flexibility and quicker time to deliver services. And the key is fix my business and enable me. So I think, Nir said, "Wait a minute, we have been talking about this for 10 years. Right?"

Enable me." And IT departments have increasingly become "No, I can't enable you.

There are things we can't do."

So they are looking to the cloud for that and I think in terms of flexibility and scaling, it's how fast can you get to zero? Not just how fast I can scale up. But I don't want to pay for the stuff that I don't use. And then, avoidance of CapEx and cost reduction, those are sort of some implied benefits.

And then in terms of inhibitors, again, this is an industry that is built on trust. Not a whole lot different than what happened 10 years ago on the outsourcing market, when we are talking about third-party provided clouds.

So what are public clouds? So what are our end-customers saying are sort of the leading inhibitors? Things like compliance. And we think compliance will increase as an inhibitor as more mission-critical applications get moved to the cloud.

This is a real issue in countries like Spain and Poland and some other European countries in terms of the high data privacy and I think high regulatory environment, I think it's going to become more of an issue.

Governance becomes much more of an issue as you start to parcel your internal IT and leverage the cloud for some of that. I think governance becomes an increasingly important inhibitor. And SLAs become more important.

Today, if you ask Amazon, why is your SLA sort of "If it goes down, sorry"? It's because the use cases simply just don't demand a 140-page SLA today. That is going to change but just test and dev and some cloud bursting and [T03] archive simply doesn't demand that rigid of an SLA today.

In terms of workloads, what are companies actually doing with a cloud? The collaboration is an increasingly important application. What does that mean?

Conferencing, email, things that wrap around office productivity applications. The collaborative tools that Google Docs leverages for instance, where they commoditize the productivity application and added collaborative features that really drive the differentiation. CRM, of course, sales force, HR has become a SaaS application with high adoption. ERP, we are seeing some movement in ERP in the lower end of the mid-market. We are also seeing wrappers being put around ERP, enabling it to be more flexible and some of those sit in the cloud.

And again, cloud adoption. More than 50% of enterprise actually say that they are in pilot phase. And they are doing non-mission critical applications. What are they doing? They are doing some test and dev. I don't need 140-page SLA for test and dev, I might use the environment for two days and bring it down.

We are seeing some DR, business continuity and disaster recovery, and this is additive and we are seeing that additive to the IT pot and we are seeing this in the mid market and small-sized businesses.

This critical application, we see some use of critical application. This is sort of a misnomer, email is pretty critical. A lot of companies are using the cloud for cloudbased email but as I said before, over 50% of respondents say they are in pilot phase.

Kicking the tires, trying to build trust with service providers, trying to figure out how they can best leverage the cloud.

And all this, and Nir spoke a little bit about innovation. A lot of this is about innovation and the technology and that has been happening for a while but is innovation and it's change in the business model.

And innovation has a dark side as well. I mean is Amazon really an innovation? At the end of the day, Amazon meets the needs of the lowest end customer with quality that is good enough.

We see the service providers really moving in and starting to insert themselves within the four walls of the organization. They are going head first at the do-it-yourselfers.

CSC, for instance, just announced the BizCloud, where they are taking a public cloud, sitting

it within the four walls of the organization and charge them on a rate card. And then what is the first discussion that happens after that? "Let me look at your application portfolio and see what we can move to my cloud." So they are coming in, Trojan Horse strategy and trying to move workloads out to the public cloud.

We think that service providers have the upper hand; we think that public clouds are going to be the dominant model moving forward. The traditional providers are racing to keep up especially in the software as a service space.

Oracle had \$12 billion of maintenance revenue last year and high-margin consulting revenue.

In the SaaS world, what happens to that revenue? And then the separations of duties is driving increasingly interesting partnerships and acquisitions that are happening.

So the last point here is we think that these best execution venues are really going to be sort of a next driver of innovation and what is really lacking in the cloud today.

And what we mean by best execution venue is this is what enables the hybrid cloud.

All clouds are hybrid. There maybe a couple of 100% cloud, those companies are borne in the cloud, everything is hybrid.

Companies internally are going to look at their applications and say "What can I leverage the cloud best for?" and then "What is my best execution venue?" There may be applications that sit in outsourced environment. There may be those that sit in a dedicated hosting environment.

There is going to be a number of them that sit internally. The question becomes how do you fill the mid space? This is security. This is monitoring. This is integration.

There are a lot of things in here. It is a fragmented market with a ton of capital being deployed and there is going to be a consolidation here and someone is going to own, everyone is racing for the control point.

So that was my attempt to get through 14 slides in five minutes. I'm not sure how I did. I'm here all day. Anyone wants to go into additional detail, feel free to come by and ask me.

We have six panellists. I'm going to quickly introduce them all because if they introduced themselves, they'll have to walk off the stage afterwards. Raul Chico, is Head of IT at BT; Justin Fielder, CTO of Easynet; Natasha Tamaskar, VP of Product Marketing at GENBAND; Steve Garrison is the VP of Marketing at Infoblox; David Hill is the VP of EMEA at Spirent; and then David Howorth is the Regional VP of Cloud and IT services at Verizon.

So along the theme of where are we with the cloud today, I guess the first question is very general. In terms of a lot people that I talked to kind of say "This has been around for a long time, at least the technologies have."

The business model has changed but I would like to get your insight in terms of what makes this different? What is different about the cloud and why do you think it has legs?

I will start off with Steve.

### **Steve Garrison**

I think what is different is we are trying to repeat the goods of the mainframe from 30 years ago. Having a central resource that we share and you can bring the difference components down and (inaudible) is you have to rethink the whole model.

### **Sean Hackett**

And David, we have talked a lot over the last couple of days and I would like to get your perspective from a service provider. What is different about the cloud and why does it have legs?

### **David Howorth**

I think your first part actually was a very good example of these, [trying to get it off].

I think we are in the midst of a perfect storm. I think there are lots of things that are driving this. It's really the consumerization of IT, employers today have better IT than the corporate.

I think there is a big driver that is driving expectation in the business as to what IT should be

doing.

So what the cloud brings is exactly the point you said. The flexibility, I think in terms of us as a service provider, we see a huge opportunity here to build the underlying infrastructure and then really, working with the companies, taking a consultative approach to really looking at workload by workload and actually delivering as a service, those workloads back to organization.

So I think lots of things happening and a big opportunity there.

### **Sean Hackett**

And David, we talked the other day and I know, is this all about virtualization? Is this a private cloud play? Is this public? What do you think?

### **David Hill**

Probably all of the above I would guess.

### **Sean Hackett**

That is a great answer.

### **David Howorth**

I mean at the end of the day, we had a long discussion about virtualization, cloud computing in reality has been around for a long time. I go back to the X25 days, to me, that was a cloud.

I think virtualization is a huge difference. I think it is being driven too by cost reduction, competitiveness, and so on. And I think there is a huge challenge out there.

People say "I don't actually know what I want. I just know that I got to reduce my cost to remain competitive in the market space."

So I think those big changes are taking place.

Last year, we sat down here and everybody was saying "Cloud, it's going to take a hell of a long time. There will be private clouds, a few public clouds, maybe the SMEs will go into public cloud." Now, I'm hearing a slightly different story so I'm quite excited about it.

We will remain agnostic which is tested.

### **Sean Hackett**

So in terms of inhibitors and the next question would be, what is inhibiting us from getting to the next phase? So the first phase as I said in my presentation, at least from my perspective, has been sort of pilot phase, right?

We are kicking the tires, let us take our non mission criticals, even though I would say email is pretty mission critical, but test and dev, some [TO3] archive, some cloud bursting, let us leverage it and see what happens.

But Justin, you are a CTO, what do you think? Not only from a technical perspective but from a business model perspective, what do you think the inhibitors are moving forward?

### **Justin Fielder**

I think for us, it's probably the quality problem. It's almost like business process outsourcing, you go for a process of how am I going to get what I want by giving it to someone else? And if you can be sure that you are going to get that, then you will go for it because the economics do that.

So when I go through this internally within Easynet because clearly, there is a whole load of stuff we do which we probably shouldn't do but when I talk to our customers, they almost are starting to think "Well, hang on a minute, if I put everything in the cloud, I need to work out where my data is and I need to work out what is important to me." And then things like the network are almost a retrofit whereas I think up until now, we have come from, we got a network, we got internet connectivity, we can do this stuff, therefore we will move it that way. The problem with that is if you do the simple one which is media exchange servers, you

need LAN speed in the WAN because people email stuff around themselves. And I think the final one is getting away from the IT department being the know, so a brilliant presentation before because actually, that is what they have to say and they have to say it because they can't trust the answer which will give a "yes" and that is the Achilles' heel of it. And until we address that, it is just going to sit it dev and test and stuff like that because the risks around that are very small.

**Sean Hackett**

You brought up an important point though at lunch, we say one of the things to sort of -- there has been a lot of going around now, right? And the decision point, we see most of shadow IT as being actually in one way or another, sponsored through the CFO. So it is a bypass of IT.

And we were talking at lunch, Justin, and you mentioned that this has been going on for a long time, right? So there's these microsites, what would you say is different about the cloud? Is there anything different about the cloud here?

**Justin Fielder**

No, I don't think so. I think the difference about it is actually, and this is the Achilles' heel between private and public cloud for me. If it is a private cloud, you will get some of the benefits, economic, primary through virtualization. We have gone from 1,000 servers to 200 servers. It's amazing how quickly you get back to 1,000 because of the demands of the business. So I'm never quite sure whether we really did save some money over a three-year plan.

But I think if it is a sort of private cloud, at least you know where it is. And therefore, you can get that implicit trust but it takes time. It takes time for a CIO to really start writing potentially his death warrant because if it goes wrong, and you stopped the business, whereas previously, when stuff goes wrong, it doesn't stop the business. If a microsite dies, it doesn't stop the business.

You put your ERP into the cloud and it stops, your business stops. And I think therefore, that is the reluctance, is the CIO just isn't going to write that death warrant.

**Sean Hackett**

But didn't they write that before with outsourcing? I mean outsourcing is a huge market and a massive market, I think with close to 60 billion to 70 billion...

**Justin Fielder**

And you have seen the court cases, don't you?

**Sean Hackett**

Yes. The most important guy at the table is the lawyer, right?

**Justin Fielder**

Yes.

**Sean Hackett**

Raul, I would like to get your perspective. You work for BT. In terms of inhibitors, I know Justin mentioned the network. What are your thoughts around what is inhibiting sort of us getting to the next phase of the cloud?

**Raul Chico**

I think that there are two official versions of all the inhibitors, if you ask, a CLA would say the security, the compliance, but I think that there are different ways to address these potential issues. I think that the main inhibitor has to do with a trust, okay? I think that people don't want to lose control and I think that the same goes to the cloud industries in the early stages.

And I think that we need some time and we need to sort the methodology of how we transform the IT of the enterprises from the legacy state from the traditional model to the cloud, with a clear methodology, with a clear transition plan. We'll have to transfer this trust to the decision makers. I think that the key is the trust.

**Sean Hackett**

Natasha, you are shaking your head. Do you agree? Is there anything else?

**Natasha Tamaskar**

Yes, actually, I would like to touch upon what was just said in terms of security. It is security but it is also a little bit broader.

I think what we are starting to see is that as many of the service providers are starting to offer newer applications, these are all IT based applications, multimedia applications. There are two factors. It is not just about securing the applications, they actually first need to find out what the applications are that people are interested in using. It is about usage patterns and so forth.

So we are seeing, based on our traffic management system that many of the service providers want to have these applications hosted in the core of their networks but want to get visibility into how people are actually trying to use these applications and then make decisions as to what is the right way of actually enabling -- monetizing that as well as securing that.

So these are some interesting patterns that we are starting to see just in the last year or so as the number of applications are starting to grow.

**Sean Hackett**

One other thing, in terms of the competitiveness, so there has been a lot of services firms and technology firms who have sort of moved or looked to move up the stack.

So how do we get away from the increasing commoditization at the lower levels of the infrastructure? First, it was network and now, it is starting to be the things that sit right on the network.

And if we taking to most of the people on the panel, there is that look of sort of what's next? How do I get up the stack? How do I add more value and how do I drive more margin?

Natasha, we are talking a little bit and you mentioned that -- I know GENBAND sort of started at the network, great business there but it has decided to sort of move up the stack and have an application store. Can you talk a little bit about sort of the drivers to move up stack and then how you are doing it?

**Natasha Tamaskar**

Yes, absolutely. So as a part of our portfolio, we of course, have gateways and switches and so forth but we also have a very strong application server product portfolio. In fact, we are the number two from a service provider perspective.

What we are starting to see is again, it is all about what are the types of services service providers want to offer to be able to monetize their networks. Go away from being these providers to being something that can actually provide something more than that.

So we see a lot of interest in collaboration tools, UC type tools across the board, those are the kind of things that we are seeing. Single phone number type of applications, as people are roaming from one network to the other, all of those things are becoming very important to make the experience seamless and transparent to the end user.

That seems to be the goal.

**Sean Hackett**

And then David, great acquisition of Terremark or obviously, having approvals yet, so what is next that you can talk about? Sort of now you have built the foundation, now you have sort of the scale to compete, but what do you layer on top of that in terms of value added services

to sort of move you up the stack and enable you to drive sort of more value within your customer and more margin?

**David Howorth**

I think that is a good question. So from Verizon's point of view, obviously, we are one of the largest network providers and that is where we come from. So really for us, cloud is very strategic and hence, the investment in Terremark and really, build at the infrastructure level, a world class, globally distributed platform.

It is a platform that has really, for me, what I say is a huge capability. So once you have this platform as you say, then moving up the stack into offering solutions, you know, software as a service, specific application solutions for our clients. And so what we have seen in Europe over the last year is a lot of companies coming to us and bringing to us whether it be in areas such as eCommerce, looking to utilize the flexibility and utility of our cloud solution and actually turning that into customerspecific solutions which are flexible, which remove the need we talked about earlier in terms of CapEx or OpEx.

So I think that for us, we have been investing not only in the infrastructure but also a lot in the professional services because that is the key. Because those professional services will allow us to consult and to really understand the customer environment, we need to build those solutions and hopefully, monetize the infrastructure that we have invested in.

**Sean Hackett**

And then Steve, your thoughts on sort of where does Infoblox go next? And is it the cloud that influences your decision to go somewhere else?

**Steve Garrison**

Definitely it is and I think everybody is struggling with how to move up the stack. Everybody looks at price per port and the switch, that is commoditizing, service are commoditizing, and so what we look at trying to do is build an automation layer for network control plane. It doesn't matter to us whether it is private or public, so like Dave and Spirent, we are agnostic.

But the way we help our customers move up the stack is if you believe the network is getting commoditized, why not automate it? Why not make it simple? And that is how we help our customers forget about that layer and keep it simple and then they can move up the stack to more challenging issues like you pointed out.

What applications, what is the trust badge, what should I outsource first, or what should I "cloudize" first?

**Sean Hackett**

And then David, again, the same issue. How do you diversify? What does the cloud mean to your decision in doing that? I know that a lot of test and dev sort of -- it's becoming more of a broad based application life cycle sort of solution. Is that the next step for you and how do you see your strategy unfolding?

David Hill?

**David Hill**

Right, I wasn't sure which David....

**Sean Hackett**

I saw you looking over -- all right.

**David Hill**

I wasn't sure which David -- so I was half listening to the question.

I think that there is a lot of hype still, I'll probably answer a different question for you now. I think the challenge is a lot of misunderstanding that is going on out there and people are just

not sure. They are not sure whether they are going to get the performance they need. They are not sure whether there is the availability they want.

I mean they are used to having it all the time, press the button, there it is. They are not sure if it is going to be scalable though I would suggest that the scalability aspect of it is far easier in a cloud environment than it is in their own environment.

And the last one, and probably the biggest is the security aspect. Now, if they can be reassured that all of that exists, and that it will meet their needs, then I think there is going to be significant investment in cloud and that is going to move forward.

And obviously, as a test vendor, that is one of the areas that we are very interested in and virtualizing test capability, and being able to test from inside the cloud to outside of it, I think that is probably going to help people accept that there is a significant future for that business (inaudible).

### **Sean Hackett**

Okay. So Raul, during our conversation the other day, you brought up a very good point. In terms of competitiveness through cloud, you mentioned that you see a lot of smaller sort of regional providers who now, by leveraging the cloud and the efficiencies in the cloud, see sort of a competitive parity almost.

Can you talk a little bit about some of those competitors and sort of what you think in terms of how that landscape is going to evolve and then what BT needs to do to be more competitive?

### **Raul Chico**

Well, I think that the fact that there were new small competitors, I think we should assume from the BT perspective, as an opportunity and (inaudible) as a service.

Because I think that this is an opportunity for us to develop additional channel on top of the traditional ones.

Today, for instance, we have developed a mutually [descended] platform on solution and we are selling this to [Accenture] for instance, to deliver their ERP solutions to their customers and we are selling this to very small companies, very niche players, very specialized in web services or content delivery networks.

We are selling these to traditional (technical difficulty) SMEs. So I think that this democratization of the network, because the small companies can take advantage of infrastructure as a service or platform as a service are ready to deploy, platforms ready to deploy for a third party, bring us the opportunity to push and to accelerate the adoption of the cloud in the market.

I would like to show you an experience is this is not a big experience but for instance, the TV channel Spain, with their capability to show the football match world champion in the summer, might I remind you, Spain was the champion, was TV5, a local TV channel and obviously, they were in the negotiation process and they have only four weeks to develop a new website in which potentially a lot of people will go there to see the football matches online.

And they only have four weeks to deliver this because that is the time they have when they finally agree to pay these rights to the company who has the rights.

So basically, what they do is to go to a very small company they have worked with before to develop their website and with this small integrator, a content delivery network supplier, and using an ES platform, they deployed this website in this four weeks.

Basically, they said with us how flexible in terms of requirements was the platform for instance, during the football match, they were using around 500 virtual machines and in the valley points, during the rest of the week, when the football was showing, they were using just four virtual machines.

I think that the cloud brings this type of flexibility and these are small players, I think that is an opportunity for everybody. I think that there is room for everybody.

**Sean Hackett**

And I would like to get in two more questions but I'm not sure it's going to happen. One thing I would like to do is seeing this is around sort of where we are with the cloud. I would like to go around through everyone. I know you just gave one example so I'm going to skip you.

If everyone could give us, so we're not going to mention the name, but a use case example of someone that is leveraging the cloud and how they are doing it?

I will start with Steve.

**Steve Garrison**

Sure. Quite a few of our customers are experimenting with private clouds and inside the customer prem and we also work with managed services providers but also with private cloud to answer the question. And it's really just building a base platform to put applications on it to see how they work with respect to all the questions we have raised on the panel. What kind of SLA can I give myself internally and trust that model? So It's really a general purpose platform right now, just to understand.

**Sean Hackett**

David, just a....

**David Howorth**

Yes, I would say -- so in the two years that we have been offering cloud, we have seen everything from the test right to customers actually moving now, key SAP applications into the cloud and I think this very much goes upon what we talked about earlier -- trust.

Verizon is a large established company and we get to that level of maturity and then customers will contemplate that.

I think what has been interesting for me is actually, as a provider, I could not invent the different solutions that our customers have in terms of how to utilize it. So whether it be insurance companies using it once a week, every month to crunch actuarial data or whether it is customers looking to move into new markets where they don't have infrastructure and the cloud offers a low cost entry for them to put their platforms and really, we are able to grow with them if their business is successful.

So plenty of use cases.

**David Hill**

What we have seen is basically non-critical applications going into private cloud at the moment.

**Sean Hackett**

When you say private cloud, are you referring to behind the four walls?

**David Hill**

Behind the four walls and I think that is where people are testing virtualization in reality and a lot of the big data centres are moving over to virtualization, we are being asked to come in and help them do that change over and test it and make sure that when they go live with an application, it's actually going to work.

**Sean Hackett**

Okay. Natasha?

**Natasha Tamaskar**

Yes. So what we are seeing is a little bit different, we are also seeing infrastructure being positioned as part of the cloud. In fact, infrastructure and services, some of our largest service providers who are actually servicing their enterprises and Fortune 100 companies

are actually leveraging our infrastructure and services and positioning that as the cloud-based services as a whole.

So very different from looking at Salesforce.com. This is an entire infrastructure and that is where we come in.

### **Justin Fielder**

I will give you a slightly different example actually where we are not actually doing the cloud bit but it is I think, quite a good one. Kellogg's we normally aim at sort of tier two but Kellogg's in Italy came to us and they had a big cloud strategy as you would expect someone like Kellogg's to have.

They were realizing that actually, in order to enable that, their sales force needed connectivity anywhere. Because they were going to move away from a traditional client server, CRM, to a more in-the-cloud one. And so what we have done is we had to do a huge amount of consulting with them to actually understand their wider challenge and then build a remote-access and fixed-access network that actually secures that on an end-to-end basis because that is really scary stuff for them.

And actually, it's therefore quite interesting, to pick up on the previous point, I think there are a lot of areas to play and certainly for the telco point that you mentioned. I think telcos are actually almost naturally positioned because of things like that example, yes, we are all trying and run up the value chain and do the cloud and the servers and the virtualization, everything. But actually, also, sometimes, getting the expertise and Italy is not easy for connectivity and we've got a good 12-year track record in doing that.

Actually, that can be where some players can really add value to a cloud strategy.

### **Sean Hackett**

Do we have time for one more question? Yes.

So I wanted to save this for last -- okay, actually, let us open it up for Q&A I guess.

Anybody have questions for me or I guess, more so for the panellists?

### **Dean Bublely**

Dean Bublely again, for the service providers on the panel, are you expecting to sell cloud services always bundled with the connectivity bit or will you be doing cloud services or capabilities over the top of other people's connectivity?

### **David Howorth**

So I would say, absolutely today, obviously, we see a big opportunity within our established client base to sell cloud services but the reality is today, customers can come to us who are not network customers and actually consume our Computing as a Service and literally straight out into the internet.

So there are advantages of course for customers who have a network connection, essentially our computing power becomes a virtual private data centre for them.

### **Dean Bublely**

(Technical difficulty)

### **Justin Fielder**

How long do we got? And I think actually it's inevitability. Because it is funny having a conversation "We got a 6-megawatt data centre in (inaudible)" everyone is doing this but actually, shouldn't everyone virtualize towards one provider's data centre, if that is the way to go in economics.

So I think it's an inevitability and actually, our good friend is Verizon, we use them quite a lot because no one has network everywhere, it's just the reality of life and actually, half of our job is to stick all those little bits of network into a cohesive offering to the customers so they can do it.

So I think if you try to force that, yes, it is good hunting ground in your network customers for this stuff but if you try and force it, so you've got to be relatively – you got to make sure the proposition does actually stand on its own rather than only really works if you try and combine the two.

### **Raul Chico**

Seeing that we are a technical provider, so at the end, the other players and other more specialized specifically in the (inaudible) parts area, so the natural way of doing this is going to the install base and offering these new services.

However, all our colleagues have said you can discard all the opportunities because at the end it is very difficult that you have all the network, all the IT and all the applications of a very big enterprise so you have to be able to take advantage of the opportunities and to have the flexibility to make the things happen, working together with other players.

### **Sean Hackett**

Any other questions?

### **Thierry Outrebon, Editor in Chief, Windows News, France**

Thierry Outrebon from Windows News. Have you any request on splitting on one side, the application rented? And on the other side, the data stored in a different way which could save time and maybe help for security?

So the split between application and data has been already done or not?

### **Justin Fielder**

It's a difficult one. We've got quite a few financial institutions and I think half the issue is around what was mentioned earlier on, compliance around that. It is very, very hard, and to be honest, we are not sure the regulators actually understand it which is ultimately, where most of this problem comes from.

But I think what is clear is they know they've got a problem, PCI compliance is certainly starting to address this but I think if you split the data and the application, that would really blow some regulators' minds.

So it probably depends what it is about but ironically, Microsoft have got this problem with -- they got a data centre in Dublin where is that really where the application for Office 365 is going to come out is going to come out forth for every European user and therefore, do you need safe harbour or don't you if you put your email out there?

So I think it's a good point but I don't think there is an obvious answer.

### **Sean Hackett**

And this is becoming an increasing -- Amazon, for instance, they have a large gaming client in Europe and they couldn't really tell the gaming client where the data was going to be at any one time due to the availability zones.

And obviously, it's illegal to have gambling data in certain countries so this is definitely becoming an issue in terms of trying to put a finger on exactly where my data is and I think regulatory is only going to play a bigger role in having to solve that challenge.

### **David Howorth**

I think I would say that from my perspective, not all clouds are different, and when I talk about cloud, I would say business cloud and I think having that transparency is absolutely key so for customers who come to Verizon, the first screen they come to is "Where do you want your data?"

So physically, Amsterdam, Beltsville, and I think for service providers, it's going to be very important that they are addressing the needs of enterprises that they need to upfront, address the need of transparency and obviously, security, and ultimately as well, the end-

customers need to understand how important a particular piece of data is. So classifying data is absolutely key.

**Raul Chico**

What we have done and I think that -- when I look at service providers has done, for instance, Terremark, in order to address partially this problem is to deploy its own nodes in certain geographies, in order to accomplish the compliance with the difference source. I know that for instance, BT has deployed different nodes in Germany and Spain, Italy, UK, the BBC platform, Terremark who had a very big data center in Miami now has deployed a node in the Netherlands as well in order to have the compliance with the European community and will not worry about the data protection. So I think that we are doing these steps in order to have nodes in the different locations.

**Sean Hackett**

Thank you, everyone. And I hope everyone enjoys the conference. I will be here today and tonight. If anybody has questions around the presentation or anything else, feel free to come by.

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