The Merits of Cloud Platform Services:
Speed, Automation, Reduced Complexity and Rapid Integration

Event ID: 347235

Steve Kovsky: Good morning, good afternoon or good evening depending upon where in the world you happen to be right now. Welcome to today's webinar, The Merits of Cloud Platform Services: Speed, Automation, Reduced Complexity and Rapid Integration. This is brought to you by InformationWeek, by IBM and by UBM TechWeb.

I am InformationWeek Contributing Editor, Steve Kovsky, and I am your moderator today. We have just a few announcements before we start. This webcast is designed to be interactive between you and the presenters so later in the program we will ask for your feedback. I would like to take a quick moment to highlight ways that you can interact with us and how you can customize your viewing experience.

At this time we recommend you disable any popup blockers that you may have running. This webcast is designed to be interactive and it makes use of these pop-ups or widgets to help you interact with the presenters. You can launch these widgets from the docking tray at the bottom of your console. Some of them will open in a separate browser window. You can also resize the widgets by dragging the lower right corner, move them by dragging them to the top bar or minimize them by clicking on the blue button. You will find that in the upper right corner.

During the webcast you can ask questions at any time. Just type your question into the "Ask a Question" text area and then click on the "Submit" button. The slides will advance automatically throughout the event. You can also download a copy of the slides by clicking on the "Download Slide" icon. You will find that located below the presentation window. Towards the end of the program we will ask for your feedback in a separate popup form. I thank you in advance for filling that out. It helps us serve you better.

Now, if you are experiencing any technical problems please visit our Webcast Help Guide. You can do that by clicking on the "Help" icon on the far right of your docking tray. You will find that at the bottom of your webcast console. In addition, you can contact our technical support helpline. The number for that is located in the Webcast Help Guide.

Now finally on to our presentation, The Merits of Cloud Platform Services: Speed, Automation, Reduced Complexity and Rapid Integration. Joining us today to discuss this topic we have Don Boulia. He is Director of Product Management, Private Cloud and Application. Don is a Product Management Director with responsibility for IBM's Private Cloud and Application Structure products including the WebSphere application server family of product and appliance offerings. These include DataPower XC10 and IBM Workload Deployer. He brings over 15 years of experience delivering software in a variety of business and technology roles. In his current role Don leads the Private Cloud Private Strategy for IBM.

Also with us we have John Rymer, Vice President Principle Analyst at Forrester Research. John serves application development and program management professionals. He is a leading expert

on the market for application platforms and infrastructure software for building and running applications. He covers areas like Java J2EE application servers from IBM, BEA, JBoss, Oracle, SAP and Sun Microsystems and the equivalent portions of Microsoft's .NET platform. John also covers the cloud platform as a service market.

So with that I would like to welcome you both here to the studio. It is great to have you with us and I will turn things over to you, John.

John Rymer: Thank you very much, Steve. We tend to look at cloud I think in present day terms but I want to start my portion of this webinar by emphasizing that cloud has a very big role. A much larger role than I think many of us recognize. The way I have begun to see it is cloud is essential to two big movements that we are observing in our client base. These are business movements. They are not technology movements.

The first of these movements is what we call the New World of the customer. So this is all of the IT investment that is shifting now into systems that allow companies to interact with their customers wherever they are to provide incredible, very emotionally attractive experiences through media and very sophisticated content. You look at examples like Nike and even in the financial services sector companies like B of A and Liberty Mutual are now creating applications that reach out to the customer on their iPhone or their Smart Phone or their iPad and creating these really compelling experiences.

Cloud is essential to delivering those. The volumes that we have to deal with and the number of touch points that we have to reach to are just beyond what most organizations are willing to invest in their own data centers.

The second one is Web Economy II. We have been through Web Economy I. Web Economy II is where everybody gets involved, even slow-moving industries. Even industries that haven't been very information intensive. They now are under pressure to put their businesses online, to digitize their businesses. So if they are providing today flat files or information to their partners or customers they are going to be providing that in a digital format. They are going to be creating the new customer experience applications. It is affecting everybody, all of our clients.

Again, cloud is essential because of the volume, the scale and the reach that we need to be able to meet that challenge. So it is a really big deal. This is part of the reason I think that we see cloud penetrating in enterprises in new scenarios. We don't see as much use of cloud to just automate things in the back office and things we know how to do very well. It is all of the new scenarios, the new problems where cloud makes its first impact.

So as I am showing on this chart, social collaboration, cloud is a natural for that. It is a place where we can store a lot of content and we can provide very easy access to lots of different points. We certainly have seen a huge adoption of those patterns across enterprises, aggressive ones and conservative ones alike. The second new scenario is what we call Smart Computing. This is where you are harvesting information from sensors typically in the real world to determine what is going on at any given moment. What is the traffic pattern at this moment? Where are my vehicles? Where are packages, if I am FedEx, etc.?

Just think about the volumes of data that we need to gather, host and then analyze to basically gain this kind of situational awareness. Few data centers that I know of can accommodate this. So a lot of that work is moving to cloud. I hope you can see the tie-in here between these scenarios and the two big business movements. There is a very close correlation in these scenarios. We think at some point later on we will start to see cloud being employed more to traditional applications, but for now it is these new scenarios.

So I have been using the word cloud very generally here. Let's just start to define what we mean when we say, "Cloud." There is three basic ways to use cloud in your environment. Three basic layers of cloud computing. At the bottom is Infrastructure as a Service. So just think of Infrastructure as a Service as the equivalent of servers and storage and networking hardware. It is just provided through a subscription, on-demand kind of model.

At the top you have Software as a Service. These are finished applications. So you subscribe to an application that maybe manages your sales data or it clears trades or something like that. It is a finished application. You don't have to build it. You just subscribe to it and maybe configure it to meet your needs. In the middle is in my opinion the most important one going forward which is Platform as a Service. Platform as a Service is the equivalent of today's Java application servers or .NET frameworks.

These are platforms that allow millions of developers to create applications without having to be rocket scientists. So we see the same need for platforms in cloud as we have in prior generations of information technology. Now among these three, Software as a Service is a really well-established market. There are a lot of people subscribing to all kinds of different applications. It is very well-established. The proof is there. It works. It provides value.

Infrastructure as a Service also is widely used. Not as widely used as Software as a Service but it is widely used and growing. Platform as a Service is a different case. I will talk more about it more in a minute. When people adopt cloud computing today, the surveys we do and when we talk to clients, we find that they are after a very simple benefit and they can gain a very simple benefit and that is time to market. Just get applications built and deployed very, very quickly. As we all know, this is crucial these days. Everybody's business is changing so fast. Markets change very quickly. International markets, global markets change on a dime. You have to be able to respond.

So just to capture the benefit of being able to move quickly, cloud has created huge value in lots and lots of companies and organizations all over the world. But note, when I started this talk I was looking ahead. I was looking to something much bigger. It is interesting to me that we have captured a whole lot of value out of cloud with a rather simple value proposition; just get there faster.

One of the reasons I am very excited about cloud is there is so much more, there are so many more benefits that we can gain for our businesses going forward. So we can start by meeting the challenge of change and being able to deploy very quickly but then these cloud environments will keep giving. There is a whole lot more we will be able to do with them going forward.

Now, I mentioned that PAS (Platform as a Service) is coming along a little bit more slowly than Software as a Service and Infrastructure as a Service. This is just some of the most recent data we have collected on adoption of PAS in our survey at Forrester. You can see the relative adoption rates of Platform as a Service are fairly low compared to Software as a Service and Infrastructure as a Service. This is a barrier to further adoption of cloud because Platform as a Service really unlocks the full potential of cloud for, as I said, millions of developers.

Today, those developers are working with very complicated and arcane environments. That is what Infrastructure as a Service environments really look like to them. They have to worry about all kinds of technical details and memory management and threads and connections into their services. There are a lot of very difficult design disciplines that they have to understand and manage.

So Platform as a Service needs to come along to really enable the next wave and usage of cloud. Fortunately, my research indicates that it is coming along. I think we went through a phase of about two years where we had a certain model for PAS where everything was concentrated in the cloud in a cloud provider's data center. The tooling, the run times, the testing, all of those facilities. The market said, "We don't like that so much. I want more control. I want to be able to deploy to the cloud, not necessarily develop everything in the cloud."

So now we are seeing newer environments that balance the control over the code that I develop, the applications that I build, but then give me the ability to then push those applications into the cloud and begin to get the benefits of speed of deployment and ultimately the larger benefits; greater reach, volumes, scaling up and scaling down. So, I think we are at a moment in time where Platform as a Service is about to become much more widely adopted. We are about to see a lot more growth in this and it will enable more companies to capture that broader range of benefits that I talked about at the outset.

In summary, before we move on to Don, I think we can recognize in the current experience with cloud and in experience-to-date with cloud some very significant benefits here. We can see responsiveness. We can see use of resources, pay for what you use and only what you use and then retire what you don't use. We can see a lot of benefits in agility by just getting to market faster. Ultimately I think we ought to be looking at cloud as a tool to help us as IT professionals do what we are supposed to do which is always drive towards lower TCO, always improve the business results.

In this case we need to provide business agility. And always provide in this day and age we have got to provide great user experiences because those are our customers we are trying to reach out to with software and motivate them to do business with us and to ultimately really like doing business with us and feel great about it and promote us to their friends and family. So there is a lot of benefit that we have already seen but I think there is a whole lot more still to come.

Don, over to you.

Don Boulia: Great. Thanks, John. I wanted to spend a couple of minutes and talk about what we are seeing from an IBM perspective with respect to early platform adoption. The use case I am going to talk about is Kaiser Permanente, who is an IBM customer. You can see some of the challenges that they have had to deal with with respect to being able to deliver services, deliver solutions within their IT environment.

Issues around scalability of that IT environment, around time to deliver, around being able to utilize resources more effectively, and when we talk about resources, as John said, there is an Infrastructure as a Service play here which is really about compute network and storage and really managing that. When we talk about utilization at this level we are really talking about how you get the software stack and middleware stack to really behave the way you want it to behave on top of that infrastructure.

So that is a slightly different problem set and it really starts to focus a little bit more on what we consider to be kind of a workload awareness. An awareness of what is actually running on that infrastructure, how it runs, and effectively gives you the ability to really capitalize on management costs, the deployment time, the things that are currently pain points within your organization.

When we look at what people spend in that infrastructure layer with compute, hardware, networking storage, those kinds of elements, that ends up being roughly about $0.30 on the dollar from a customer spend perspective. The rest of that is really on managing the rest of the stuff. A lot of the rest of that stuff is middleware and how you get these applications deployed on these middleware stacks.

So, Kaiser was seeing very long lead times required for new services to be deployed. Not a good utilization. Lots of silos within the application stacks in terms of the hardware and software they ran. When they moved to a cloud based solution from IBM you can see some of the benefits of that solution, right? Effectively being able to more rapidly deploy solutions, getting more reliability which is something that is often sort of not really talked about, but just the process of moving from development to test to production in a typically IT environment can be something that actually has a lot of variability in it and effectively can be painful to go through the transition.

So just because you have an application configuration in one of those steps it doesn't mean you can reliably reproduce it as you go through to production. So that reliability factor is something that automation and standardization of cloud really sort of allows you to get to much more effectively. So you can see some of the stats here but the one I like to point out the most is the fact that you are talking about lead times of 45 days, a month and a half, to be able to provision a new service or solution being reduced literally to minutes.

People see those numbers and they say, "Wow that is really an amazing turnaround from a cloud perspective." But to really internalize that I think you have to think about what you could do when those kinds of cycle times actually decrease. I think that gets to what John was talking about in terms of the real changes that cloud brings about aren't just in reducing these cycle times but then what can you do with that to achieve business agility.

I like to compare it to if the only way to ship goods in the last century was via a slow boat to China, so to speak, you got a certain amount of turnaround time and therefore a certain number of things you could potentially do with that. You look forward to how we do things now and there is overnight delivery to any part of the world. What does that enable? What has that allowed businesses to do? What new businesses have formed as a result of that kind of change in technology? I think this is that kind of thing. Don't just look at the cycle time but then what is someone going to do with that and how are they going to make their business better?

I want to transition now and spend a little bit of time with John sort of asking him a few key questions about how he sees the Platform as a Service evolving and some of the trends that he is seeing from the customers and clients that he has worked with.

So John, to start off with, what do you see Platform as a Service being used for primarily today?

John Rymer: Well, as I mentioned, it is being used to provide applications in those certain scenarios. It is being used for building applications that allow for sharing of information; a big area of focus is sales, enabling sales, enabling partners and enabling another one in product development and enabling collaboration there.

It is very straightforward. You use cloud to stage and share content, to put process flows around and metrics and so forth. So there is a lot of activity there. One of the things that are interesting about those applications as well is that they oftentimes will access data that is running in the core, in the business core. So transactional data. They will project that data out or project those processes out to partners or customers or employees in the field.

We sometimes call those systems of engagement and they are very, very important. They allow for very fast business responsiveness.

Don Boulia: Okay. Just to sort of follow-up on that, when you look at the kinds of applications that people are using, are they using them at the development and test sort of phase or are they really looking at production time kind of usage patterns?

John Rymer: Well, certainly there is a lot of usage of cloud for development and test purposes and then the actual deployment of the application is in a more traditional environment. But there is an awful lot of production applications that are going in as well. So again they tend to hue to those scenarios that I outlined at the beginning but the nature of those applications is such that they operate at a scale, they operate at a level, they have a certain amount of dynamism to them in terms of the handling scale and being able to scale up and scale down, handle lots and lots of different access points that deploying in the cloud just makes sense.

There is an important point here that when you deploy an application, a production application, you are looking for security, of course. You need to have reliability and security. There is a lot of proof points out there that say security is possible. You can actually impose security and privacy concerns on these applications that are running in the cloud, even the public cloud.

Don Boulia: So that is a good question. I know security is kind of one of these things that always ends up being top of mind when people talk about moving to the cloud. How are people securing their data? What are some of those processes that people are using to feel more comfortable with Platform as a Service?

John Rymer: Well, thing one about security is each of the cloud environments from any of the vendors out there will offer you certain features to control security and to control privacy. So one thing to do is get to know those features. They are different from what you are accustomed to but they do exist. There is an impressive range of uses out there that are involving sensitive data.

Now in addition to that, when you get into scenarios like development and test there are additional steps you can take using data masking so it essentially obscures your data while it is executing in the cloud, therefore making it more secure, making it more private. A lot of people use those techniques when they are doing development and test in the cloud and then they transition into a more traditional environment. So there are a lot of controls out there, a lot of features out there that you can use to secure applications in the cloud.

Don Boulia: Any comments on some of the sort of geography related or country-related issues when it comes to data?

John Rymer: Yes, that is a great point, Don. I don't have a comprehensive list but there are places like Canada that impose restrictions on where data can be stored, where certain types of data can be stored. So financial records must be stored within the Canadian borders. There are similar restrictions in some European countries and then of course there are many privacy restrictions in Europe. Those have been a barrier because the cloud data centers just didn't exist in some of these locales.

That is changing pretty rapidly. The big players are all expanding their footprints and establishing their presence in different countries and there are more players coming into the market as well. So that is changing pretty rapidly and opening up I think a lot more opportunities for us to use cloud.

Don Boulia: Okay. So switching gears a little bit, we talked a little bit about the dev and test scenario as being one possible use case for cloud. Are you seeing anything with respect to the marriage of development and operations teams? When you start talking about Platform as a Service there seems to be an expectation that this is all going to integrate and I am going to be able to more rapidly cycle through my development process through production and then back again?

John Rymer: Yes, that is a set of developments that is generally known as DevOps, the combination of development and operations. This movement is based in the reality that as a developer working in a cloud environment I am actually exposed to operational concerns more so than in the past.

That 45 day period that you talked about there was an awful lot of preparation and planning of the deployment environment and production environment that went on during those periods. If I

go to minutes to deploy then it is on me as a developer to make sure that I am deploying correctly, that I have visibility into the running application as you had described it. So this compression of time results in a change in the duties, essentially, and a change in the responsibilities.

The operations folks are really going to be finding themselves in the business of providing virtualized resources for developers and developers are going to have to take a lot more responsibility for the architecture of their application and how it will actually behave and be controlled once it goes into production. It is a very big change and the hardest part of it is not technology, it is culture.

Don Boulia: Absolutely. So we talked a little bit about the types of applications that work in the cloud. We talked a little bit about the scenarios and data issues. Any other key questions that you would say people should be asking as they look to transition to a Platform as a Service model?

John Rymer: Yes. I will describe this a little bit more in a moment. Getting to the next level of detail essentially you have got to understand the platforms. We always have to understand the platforms that we are selecting and what their idiosyncrasies are and how we get benefits out of them and how we get flexibility out of them, for example. But then how do we ensure that we are secure? How do we ensure that we can actually have availability and reliability?

So, yes there is a whole level of concerns that I find that as IT pros we know how to do this, it is just with a different platform. We did this with Java. The Java platforms are very different from the client server platforms that preceded them. We have done pretty well. We have created an awful lot of value on those platforms. So we know how to do this and I will describe a little more in detail in a minute.

Don Boulia: Okay.

John Rymer: What those questions look like.

Don Boulia: That sounds great. Before we do that, though, I did want to spend a few minutes talking about what we are seeing from an IBM perspective. You mentioned the Java platform. Certainly IBM has had a key role on delivering in enterprise application environments for Java in the past. A lot of that, quite frankly, shapes the way we think about Platform as a Service. We know what enterprises, the questions they will ask, the things they will need and the things that will keep them, frankly, from being able to adopt these kids of technologies. You see a list here about some of the things that people are going to expect and some of the things we are delivering on. Some of the things we can offer kind of unique perspectives on.

John mentioned the dev ops movement that is an integration between development and operations. Certainly a key part of how we expect people will want to view the platform going forward. This kind of waterfall and/or handoff process of multiple roles and multiple days to be able to turn around things just doesn't work in kind of this agile, cloud-based environment so you need to have a much more rapid set of techniques there.

The integration of those applications across environments. So one of the things we spend most of our time on with enterprise applications regardless of whether they are cloud or not is integrating them across the various things you already have. As you move to cloud we expect those things to also include different clouds so you could imagine hybrid use cases where private and public will start to mingle and how do you integrate across that? How do those data security issues, data latency issues, where do those things start to show up?

Those are problems we know how to solve from our heritage with enterprise applications, with Java, etc. and bringing that forward into the cloud. Heterogeneous environments, this is a key point. Having an open system, something that allows people to deploy to different deployment models if they choose across different architectures, having some portability and no lock-in, right? At the end of the day that is a key concern I think people have about Platform as a Service is am I getting locked into a specific solution.

Then various issues around governance and things we have brought forward with some of our services oriented architecture approaches and really we see SOA as being something that fits very nicely and is really kind of a next turn of the crank, if you will, as you start to deploy cloud technologies too. Some of the modularity and flexibility and scalability that we have seen with SOA. But you still need governance. You still need a way to basically manage and keep control of the environment whether that is a cloud environment, an SOA environment or a Java applications.

So these are some of the things that we see as being key points to the way we approach cloud as a platform. You will see us start to deliver more and more in these key areas and start to extend these capabilities out to the cloud.

So John let me hand it back to you for the last section here.

John Rymer: Alright. Thanks, Don. So you asked a moment ago what sort of additional questions should clients be asking about Platform as a Service. I think there are two key ones that really will open up your understanding of the real benefit you can get from Platform as a Service.

The two questions are; "What is the value and how do you open the value for me of elastic resources?" The second question is really something called multi-tenancy. If I am going to be deploying my application into a Platform as a Service environment and I am running alongside other applications from other clients if I am in the public cloud or other applications from other departments if I am in a private cloud, how do I ensure the other customer's application doesn’t stomp all over mine? How do I make sure my data is actually secure?

These are two key questions you encounter when you go deeper. They address both benefits and protections. So let's talk about elasticity for a moment. I mentioned to start off that a lot of people are just getting benefit from the speed of deployment that cloud gives them. So they can deploy something in moments where it used to take days. That is wonderful. They can get out into market very, very quickly and be very responsive to the business.

But there is more here. So a true cloud environment is elastic. What we mean by that is that the resources, the compute, the storage and the network connectivity resources that cloud is providing come and go as needed. They should come and go as needed. This is one of the key distinctions of cloud that makes cloud different from just regular hosting. You are not just renting physical servers. You are running in virtualized servers, virtualized storage, virtualized network connections.

So what does this mean? This means that you can add resource on a moment's notice. Technically that is possible. For any cloud provider I would say you should be able to add resources at a moment's notice. That is a concept called Scale Out and that is how you add capacity to your application. There is also then the opportunity to retire resources when you don't use them anymore. So think about the cost savings that could result here if you are only paying for what you need.

We have never had this before. We have never had this available to us before. The model we have all been working under, laboring under maybe is that we buy the resources and we own them. It is up to us to use them as intensively as we can and we just haven't done a very good job with that. In the cloud model this elasticity yields potential for a great deal of cost flexibility and it really changes the model around. Really, I think it introduces a real breakthrough.

Now, first of all you have to recognize in the PAS provider that you look at how do they provide elasticity to you. Some of the environments are better at this than others. Some of them don't allow you to automatically or make it hard for you to automatically add new capacity, for example, or to retire capacity when you are not using it. I advise people to look very carefully at the tools that the provider gives to you to take advantage of the elasticity.

You also have to think about what elasticity will give to you in your organization. The obvious is if you deploy say a web application or let's say you are going to do a digital marketing campaign and you don't really know how popular that is going to be so you deploy it. Let's say it is fabulously popular and you get all kinds of traffic coming to the site that is behind that digital campaign. With an elastic environment you can add resources very, very readily and very easily to accommodate that additional demand. You are not off scrambling in the back office to add servers and configure them and basically meet that additional demand.

Just think of the campaigns that run during the holiday season. There is an obvious benefit here but you can also scale down. A lot of people only think about up and scaling out and they don't think about scaling down. This is crucial. This is where you can really lock in some great savings. You are using the resources in time and you retire them when you don't use them and you just stop paying for them. Not something we have the luxury of in our data centers today.

There is another dimension here as well, and Don you mentioned intensive use of resources. All of us have lots and lots of applications that are running on servers all over the place and they tend to occupy on average about 10% of the capacity of that server. Now we can basically spread our portfolios or deploy our portfolios over cloud resources and use them very, very intensively.

We can use the scale up, scale down features to manage priorities in those portfolios. Again, not many people are talking about this yet but this is a big benefit. We can basically balance our portfolios, balance the demand, balance the priority of our application portfolios to make sure we are getting the most efficient possible cost dynamic that is operating in our budgets.

That's the first one, elasticity. I would encourage everyone to really focus on that because it is really the thing that unlocks the next set of benefits out of cloud. Now, on the side of protecting ourselves and making sure we have reliability and security and privacy, we have to worry about something called multi-tenancy. I found there are a lot of people running around saying you don't have to worry about multi-tenancy. I just completely disagree with that.

If you don't understand how your provider is balancing the two competing interests that I am showing here on this slide then you are at risk of either losing availability, compromised availability, or of compromised privacy. So the two competing interests here are one, the PAS provider wants to isolate tenants from one another. They don't want one tenant to be able to see another tenant's data. That is a disaster.

So that means they have tenants running together but they are all running on the same set of resources but they need to figure out clever ways of keeping them separate. Also, they are a Platform as a Service provider so they are actually running custom code. They don't have control. They don't have a lot of control over what people will write and deploy into their environments. This is a very tricky balance to try to manage.

If I am providing a packaged application, just a Software as a Service, it is easier for me to isolate tenants from one another because I know what the patterns are. As a PAS provider I don't, or I know less. I have much more variability. Then in the middle of this of course is economies of scale. The elasticity that I referred to earlier is all about economies of scale basically providing very intensive use of resources.

So this is a tough balance. It is tough on the vendors to put together environments that really help to balance these two competing goals. So as you look at your Platform as a Service provider and you look at their multi-tenancy environments I would recommend you look at these three levels of multi-tenant and of tenant isolation. So you can isolate the data so in this case your data is actually running on different resources from other tenant's data. You can isolate the application itself. Of course the application provides access to the data so that is a way of getting to isolation. Or you can isolate the services, the actual services that are being used in the application.

So I have listed out some of the major techniques in each one of these categories. Just hopefully as a helpful way for you to begin the dialogue with your provider. Like I say, I have come to the position that this is something we need to understand as IT pros. We will give our business partners better advice if we understand this topic of multi-tenancy than if we rely on the promises of vendor X, Y and Z. I think it is a very important thing to understand.

So in wrapping up here, I think we have tried to outline here the major benefits, the major direction here, some of the key issues that you need to look at. Here is a set of additional questions that I find is helpful as you plot your adoption of cloud and you start to think through

what can these environments do for my business. I just tell people to start with what is happening in your business. I don't know anybody that isn't under incredible pressure to move fast and to build and deploy software on just ridiculous time scales. So cloud again can be very helpful here.

We are all under the gun cost wise. We are all trying to do an enormous amount of work despite being constantly squeezed on our budgets. Again, cloud can be very helpful in terms of allowing you to deploy lots of things and manage the operating costs in a much more flexible and sort of targeted way than we have ever been able to do in the past. You have got reach here that is unprecedented with these environments.

I won't go through these questions but I think this is a good list to start to understand the benefits here. You will notice also some of these questions are appropriate for you to bring to your business partners. If they aren't already jumping up and down about cloud they soon will be and you can actually take a leading position, a leadership position in the conversation about how IT is going to support improvements in the business going forward. You don't have to sit there and take orders. Bring these benefits forward to your business partners and help them understand what benefits are there and what you are going to have to do to attain those benefits.

Steve Kovsky: That is fantastic. Thank you very much both of you for those insights. It really helped me connect some of the dots. I have seen how many businesses are launching cloud externally to their customers and not internally as their first cloud deployment. I thought maybe that was just an anomaly or that I wasn't getting it but in fact you are observing that as well. So good validation there.

Now, before we begin with your questions please fill out the Feedback form that is opened on your computer to complete the form. Please press the "Submit Answer" button. You will find that at the bottom of the page. Thanks in advance for filling out that Feedback form. Your participation in this survey really allows us to serve you better.

Now onto the Question and Answer portion of our event. As a reminder, if you would like to participate just type your question into the "Ask a Question" text box and click on the "Submit Question" button. That will get you into our queue. We will answer as many as we can during this live webcast. If we don't get to your question rest assured someone will get back to you. We do appreciate that participation.

Question and Answer Session

Steve Kovsky: So to begin with we have a question that has come in from Stewart in the audience. He would like to know, I think this is a question initially for you John. Apart from marketing, how is IAAS, and I guess we can't just pronounce that one. It is awkward to pronounce. PAS and SAS are okay. That one is the only one we want to stay away from. How is that any different from what the industry has called the IT outsourcing phenomena? That has been around for decades.

John Rymer: Right. I refer in my presentation to the difference between elastic resources, cloud really has this characteristic of being elastic, and I made a contrast between elastic clouds and regular hosting. Most of the outsourcing until the last two or three years was in fact done on

traditional hosting. That is the case where typically you rented space in a data center. You rented physical servers. You rented a certain amount of network capacity and storage. Those were your servers to use.

So it was just like your data center except it was running somewhere else. It is not structured to be elastic. I have a colleague who likes to use the term Cloud Washing. As cloud has become a hot marketing term a lot of people have started to call what they do cloud. But there is an awful lot of people that say they do cloud that are just doing hosting. Look for elasticity as the critical difference there. That is really what is different here and that is really what opens up the benefits we have been describing.

Steve Kovsky: Okay. One thing that came to mind when you were talking about the elasticity is there is different flavors of cloud and one is private cloud for people who are still very concerned about security and want to keep things close. But don't you sort of forfeit that elasticity if in fact you are building a private cloud? You are committing to those resources. They are committed to you and you don't have that scale down ability for sure?

John Rymer: Well, hopefully you will. If you design your private cloud to be really a cloud environment it will be elastic. Now there is an interesting dynamic that we have observed in people that are building private clouds. Oftentimes the effort is led by the data center operations folks and what they do is put in place virtualization, operating system or server virtualization technologies. That is not cloud. That is an enabler of cloud.

You can have a whole pool of virtual resources but if they are not elastic you just have a virtual version of your existing data center. It is not elastic. It is not going to be as flexible. So to really deliver on private cloud, to really deliver the same level of benefits as you get in the public cloud you have to implement or put a software layer in place that is going to give you the elasticity.

Steve Kovsky: Okay. You need that platform.

John Rymer: Yes.

Steve Kovsky: Don?

Don Boulia: I would just reinforce what John said. We see a lot of instances in the private cloud in particular where you have the so-called application silo effect. Because of availability requirements and peak workload requirements average utilization on most application stacks is probably 20% to 25% at most. So there is an opportunity, to your point Steve, you definitely have to sort of pay for the hardware up front. A lot of these people already own the hardware and frankly want to continue to own the hardware but there is a tremendous opportunity for them to say, "How do I get 25% up to 75%, 80% or 90% and really get that value?" As well as, at the software layer have a more efficient way of deploying the software and managing those software licenses and I can get a humongous return on investment even though I haven't necessarily gone to public cloud or I haven't stopped paying for the hardware, so to speak.

Steve Kovsky: It seems like that partnership between development and operations, development could learn a lot from operations in terms of how to save money, how to maximize resources. I made a note to myself while you were speaking that old servers never die, they just get virtualized. I think that is our mindset.

John Rymer: I would just say, Steve, that operations folks can learn an awful lot from developers. I think in this world the developers really have the ball because we are all under pressure to deliver more and more applications. So the development folks are being forced to take on, as we described earlier, so much more of the operations responsibilities.

The operations folks need to pay attention to that and begin to learn what the new balance should be.

Steve Kovsky: Yes. It is going to have to be a true partnership. A question has come in from Tom in the audience. "How does Platform as a Service specifically improve the deployment process?" Is this a technique that is specific or unique to a cloud provider?

John Rymer: Good question. Yes. I think the answer is yes. Think of it this way. When you develop an application today, say it is a Java application and you end up with a set of files that you are going to deploy and you are going to use to deploy that application to your app server. There is the main line, JAR file or your file or whatever format you use and then you have a bunch of deployment files that you have to build. Just think of it as those files sort of get generated, you describe the application in very high level terms to the cloud environment and the end result is you end up with kind of a manifest.

Then you push the application into the cloud environment, the environment reads that manifest and basically deploys the application as instructed. So each cloud environment has its own sort of version of that but it is essentially a way of automating what today is often a very manual process to get from completion of the app to actual deployment and running of that application.

Steve Kovsky: Don, what is your perspective on that?

Don Boulia: I would absolutely agree. We like to use the phrase "Bring your Application" as opposed to today most people focus on all of the software that stacks up to get to the eventual deployment of your application. What we are I think trying to get to with Platform is to change the conversation to really be about what are you trying to do? What you are really trying to do is actually get your application out there, not manage all of the other pieces of that puzzle.

That said, the enterprise focus that we have that is where that concept or ideal is also probably best suited for newer stuff, right? You mentioned some of the early PAS use cases are really a lot of newer applications. But there are ways you can get sort of some of those benefits with even more traditional models. So we talk about patterns of middleware and being able to describe as opposed to deal with the installation configuration and maintenance of the middleware stack you can still describe the attributes of your middleware that you have today and automate a lot of the process of deploying that application.

So it's not as great as not having any worry about what is underneath, but you do get the benefit of really focusing on what does my application need? When I say push it out to the cloud, have the automation and standardization behind that really take over and allow me to get my application out there quicker and that is what it is all about.

Steve Kovsky: Okay. I think we have time for just one or two more. This question has come from Alexander. He is in municipal government. He says, "If I have a stable network why should I go with the cloud? I already own all of the stuff I need to run my network. What happens if we lose connectivity to the cloud?"

John Rymer: You are asking the right question. You have to start with what benefit can this new set of facilities, this new set of ideas provide to me? In government, among our government clients we see a lot of interest in cloud as a way of supporting very rich interactions with citizens. The United States federal government has certainly been very aggressive in pushing in that direction. They are trying to provide better information or helpful information and better interactions. They tended to use the public cloud to do so.

It is going to depend on what your needs are. You certainly could choose to try to introduce some of these more dynamic concepts, one of these faster delivery concepts into your own environment and sort of begin to introduce cloud concepts into it.

Steve Kovsky: Connectivity, we don't think about it very much here in Silicon Valley. It is just not an issue unless you get the stray [back hoe] every now and then but elsewhere in the country if you go into Texas and talk to school districts and things like that some of them are quite rural and may have a very tenuous connection. Don, what would you say to these folks that are saying, "I already have everything I need?"

Don Boulia: Yes, I think as John said you really have to look at what are the upsides and obviously there is the downside of any kind of new model tends to have things that need to get fleshed out in that system. We have seen some techniques start to develop. People are writing, I would say, defensive applications if that is the way to put it, expecting failure. That has been something in the web application space with commodity hardware and the principles of design there have kind of taken over as well.

It says I need to anticipate the fact that things will fail and when they fail I need to react accordingly. There are different things that can fail that in some cases those failures are tolerable and in other cases you will experience an outage. We have seen some pretty high profile outages frankly in the public cloud that have been the result of exactly that. Now there have been some players in those same instances that have survived those outages and they have done that by being very defensive about how they build their application, the architecture they use to enable things like elasticity and scale out really came in to play there. That is the differentiator.

John Rymer: I think one of the fallacies about cloud, at least in the early stages, is that cloud somehow would obviate the need for IT expertise. You would just rent resources and things would get really easy and as an IT professional your value would go down. It hasn't played out that way.

The Amazon outage that occurred very recently, Don you were mentioning that some people got through that hole which is true. Some people were hurt by it. The people who were hurt by it hadn't done their due diligence on disaster recovery. They didn't have an architecture that allowed them to continue to work through that outage. Those that survived it did.

So the IT expertise, everything we have come to understand over the years about reliability, security and so forth is still crucial. It is just being played out on a different field.

Steve Kovsky: Outsourcing was the same thing. People thought that would perhaps be a panacea. Throw it over the wall and now it is their problem and we can go onto something else. But in fact that is not the case. There was also I think some insecurity about oh we are going to outsource my job in our IT department. That is not the case. They are going to need you now more than ever.

Don Boulia: We are very, very excited for our clients on this exact point. We are at a point with Web Economy II that I talked about is digital business in large. So everybody now is moving their business into some digital form of some form or another. Who are the critical people? Who are the people who understand or have the knowledge of both the business and technical sides of this movement in organizations? It is application development, operations, IT people. There is a chance to really become quite an important leader in your organization if you step up and start to really use these new facilities to drive those changes in the business. We are really excited about this. Where else is that leadership going to come from? We just don't see it. So it is a great opportunity for everybody in IT today.

Steve Kovsky: It is. Yes. It is not just hype. We thought it was for awhile but that is not the case. We will take just maybe one or maybe two more questions. This is coming from Al from a very large pharmaceutical company. You addressed this somewhat. "How does cloud support global data that must comply with foreign data, privacy regulation?" You mentioned some of those foreign ones but also in the US I think HIPPA requires that you cannot move health related personal data outside of US borders. So it occurs here in this country as well.

Don, how does IBM and its offerings support that?

Don Boulia: I think as a global company this is something that isn't new to us in terms of just the dynamics of how different parts of the world are going to deal with things like cloud. Obviously in IBM's case with our global presence we have the ability to in the short-term really allow the compliance with individual geography or country restrictions just by those points of presence.

I think over time there is also going to have to be a realization that some of these things are going to have to be relaxed or techniques are going to have to be developed that will allow the data to be legally residing where it needs to and still enable some of these cloud solutions. At the end of the day what everybody is looking for is these pooled resources, these large shared kind of capabilities and if you are going to start to divide it amongst geography boundaries you have to be very careful how you do that or else you start to minimize the benefits that everybody was trying to get to.

So I think for now it is going to be a meet people where they are. You obviously have to comply with the law and in those cases you are going to have to be very careful where the data resides. Over time I think there is going to have to be some changes in terms of how people think about those problems if we are going to be able to get to a cloud in a global fashion.

John Rymer: Just in terms of compliance regimes that is on the customer. There is nothing magic about any of the cloud providers. They provide certain facilities, as I mentioned, and it is on the customer to understand how to use those facilities to achieve their goals which is usually flexibility, speed and cost, but still meet their compliance requirements as well.

We don't find clients using cloud for very high compliance kinds of scenarios, not yet. I think we will get there. We have to learn as an industry. If you think back to the early days of the web we are basically in 1995 again. It is all starting. A new platform is starting. It only took us 10 years to do an amazing amount of stuff with Web V1. We will figure it out for this environment too but for now you have to be smart about which processes you really look to the cloud to help you with.

Steve Kovsky: And you need your vendor to have a certain amount of transparency so that you can manage that. Don, what would you add to that?

Don Boulia: The other thing I would point out is there are different kinds of clouds. If you are talking about a high compliance area or something where you are going to be subject to specific regulations and restrictions that might be an opportunity where maybe a public cloud isn't the right match for that instance. A private cloud maybe is a better match because you have more control. You have more locality of the data and you can comply with those regulations. So I think it is not a question of you can't use cloud. You may have to do a little bit more investigation on what kind of cloud or maybe even a hybrid model where again you have a mix of private and public to really get the value you are looking for while still complying.

Steve Kovsky: I think the key message today was also that security is possible in the cloud. I am sure that Forrester has studied this long-term but [ASGA] tech has done an eight-year running survey that continues to show that security is the number one obstacle people name to going into the cloud. I had an instance very recently where a woman at Boeing said they are using cloud applications in the cockpits of fighter jets. So that tells me we are making progress.

Don Boulia: My favorite question about security is when people say, "Cloud is insecure." I always say, "And you are secure? Is your data center secure? How many issues have we had over the years with internal data centers?" As you say, we have control over them but we haven't done a great job on security. So there is actually a chance, I think, to improve security by moving some things to the cloud. If the environment is more secure, gives us better controls and better patterns, I think there is actually that opportunity. We shouldn't eliminate that possibility.

Steve Kovsky: I have spoken to some IT leaders in our military who prefer to use contractors that are using the cloud because they know as a small company they are more likely to have good security.

John Rymer: Just to build on that, I think this is another instance of one of those situations where you have to be very defensive about how you build your application and how you structure things. To some extent, having the prospects of things being out in the public cloud I think does sort of add rigor to a process that I think people may, in some cases, fool themselves into thinking because I have control of my data center there is no issue here. Moving to the public cloud I think people immediately focus on security but in some ways that could actually be good in terms of application design and how this sort of builds out in the future.

Steve Kovsky: Okay. I wish we had another hour to discuss this but unfortunately we have run out of time. If you would like more information please visit any of the resource links that should be opening before you.

With that, thank you for attending today's webcast, The Merits of Cloud Platform Services: Speed, Automation, Reduced Complexity and Rapid Integration. It was brought to you by InformationWeek, IBM and by UBM TechWeb.

On behalf of our guests, Don Boulia and John Rymer, I am Steve Kovsky. Thanks for your time. Have a great day.