IBM WebSphere DataPower XI50B
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Full Transcript
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Hi, my name is Bill Hines, and I am the Worldwide DataPower Tech Sales Leader for IBM Corporation.

Well, some of the key problems, specifically in reference to change, are the ability to be agile. I think that if you look at some of the statistics out there, for example, only two out of the 10 largest companies in the world on the listing 2000 are still on that list today. The top 10 in-demand jobs in 2009 didn't even exist in 2004. Agility in terms of things like, it took 13 years for 50 million users to adopt television, it took four years for 50 million users to adopt the Internet, and it took Facebook only two years to reach 50 million users. So we can see that the pace of technology is just changing so fast, and that means that businesses have to be agile. They have to be able to move quickly, and sometimes that's not easy if you have a lot of older infrastructure that's just not adaptable or flexible to change. One of the other things that's really becoming a problem are silos of SOA or silos of computing infrastructures out there. We have seen with the economy that there has been a lot of consolidation in certain market industries, for example financial services. A lot of the big fish have bought up some of the smaller fish, and they found themselves in a position where one of their acquisitions may be using a certain type of Enterprise Service Bus or SOA architecture, another one may be using something completely different for their messaging infrastructure, and maybe at different levels of adoption. So this poses challenges now that we have got silos or islands of SOA out there that need to really be bridged or interconnected. Some other challenges are along the lines of modernizing legacy infrastructure so that we can get the most out of them, rather than having to just the rip and replace very expensive computing infrastructures.

Well, to me, smarter computing means making the most out of what you have. Certainly with the current economic conditions and the recession, we are just starting to pull out of now and budgets being decreased around the world for companies, it's so critical to be able to leverage the infrastructure you already have in place. So, for example, we have many customers that might have really existing functional systems that are built on mainframes, written in COBOL, using messaging infrastructures like MQ, and they want to modernize their clientele. Their partners are demanding a more modern face on those systems to be able to communicated over standards-based protocols and message formats like web services or Web 2.0. So smarter computing to me means being able to find a way to integrate all that stuff without having to rip out and replace what you already have. Now, as we know in IBM, we have also got the Smarter Planet Initiative, and that's a whole different take on this where we see computing systems being used in non-traditional IT environments. So, for example, we work with the Swedish Government in order to totally integrate their traffic systems, all the traffic monitoring lights and cameras out there in order to provide a very intelligent network like ecosystem for allowing traffic to flow efficiently through their roadways to avoid blockage, and accidents, and weather conditions and so forth. So drivers are really alerted on demand in real-time systems as to what the most efficient routes to take are. And if you think of the impact there in terms of not only traffic flowing much more smoothly but we are consuming less fuel, we have people getting to their jobs on time, emergency vehicles can pass much more easily, and there is just a big overall impact on that type of smarter computing.

The XI50B is really strategic I think because a lot of what I said already is dealing with leveraging our existing resources. So if you are a BladeCenter customer, if you have adopted BladeCenter for its many benefits of which are server consolidation, you are using less space in your data center, you are using your energy much more efficiently. And that's a big one because if you look at some of the statistics out there, about half of the cost of running IT environments right now is consumed by energy and cooling. So this is pretty huge, and it's kind of a hidden cost because it's not factored into the traditional IT budget. But we all know where energy costs have been

going and where they probably are going to continue to go. To share services like networking and storage across your computing platforms, the blade platform allows us to do all that. And when you put a product in there, like the DataPower XI50 which is such a universal product in terms of all the different protocols and message formats and standards that it supports, that really allows for quite a bit of power I think, and it's something that's going to be a huge asset to BladeCenter adopters.

As we all know, if we are keeping up with current trends, not just in computing but worldwide, the world is changing very rapidly. And these can be things in terms of energy prices going up, in terms of the economy where we have fewer people to work with to do the jobs that need to be done. We have less budget money to achieve the things we want to achieve. So it's very important for the CEOs and different IT executives out there to be able to leverage the resources they already have and be smarter about how they are using their computing assets.

Current statistics will show you that, for example, radio took 38 years to achieve 50 million users, television took only 13 years compared to that, so it's much less. The Internet took only four years to reach 50 million users. And the most stunning part of those statistics are that it took Facebook only two years to reach 50 million users. So what this seems to indicate is that the pace of technology adoption is becoming much more rapid, and this is important for the folks that are out there making decisions for IT infrastructures.

One of the most amazing statistics we have encountered recently are related to the pace of technology adoption. It took radio 38 years to reach 50 million users. Compared to that, it took television only 13 years to reach 50 million users. It took the Internet four years to reach 50 million users. And the most stunning statistic in that group is that it took Facebook only two years to reach 50 million users. So this is very indicative of the fast pace that technology is moving on as we go forward through time, and this is something that IT executives need to keep in mind when making decisions about how to spend their budgets for computing infrastructure.

The DataPower XI50 has been IBM's most successful appliance. It's really the flagship of the entire DataPower line. It's an Enterprise Service Bus contained within the appliance form factor, which has many advantages. The most exciting recent news that we have had is that the XI50 capability are now available on the blade platform for the IBM BladeCenter. This allows BladeCenter customers to leverage all of the unique capabilities on the XI50 in terms of Enterprise Service Bus capability in a secured hardened platform in the form factor that they know and understand well and can easily administer along with the other blades that they have within there, for example using the System Director to do administration using the shared local bus, networking and storage frameworks along with all their other blade assets.

The WebSphere DataPower XI50B, which is essentially the traditional XI50 DataPower appliance, moved into the BladeCenter form factor, is a really exciting new product that allows BladeCenter customers to leverage all the exciting features that are found within the XI50 platform.

For customers that are already BladeCenter centric and have adopted that platform, I think they will find a lot of benefits by moving to the Xi50B inside of their blade environment. First of all, we have all of the unique Enterprise Service Bus capabilities of the DataPower XI50. The security platform is extremely well respected in terms of its compliance with a lot of the standards out there, like common criteria. And we have a lot of different capabilities there in terms of speed. For example, we can take advantage of the internal local bus; we can take advantage of the 10

gig Ethernet infrastructure, and we can do all these in a much greener platform using a lot less cabling than you would typically have to have in a standard network environment.

For SOA and XML applications, the XI50B brings a lot to the table. The primary used cases for a traditional XI50 have really been centered around a couple of things. One of them is being able to grab the message on the way into the computing infrastructure and make sure that the message is well formed, make sure that it doesn't contain any threats, any malicious content, to virus scan any attachments to go out and schema validate the message, and these thing can be done in the case of XML or non-XML messages because the XI50 platform, including the XI50B, understands all those different types of payloads. So if you think of the impact on being able to do those things, decrypt the message if it's already encrypted, do any kind of transformation that might be required, these are really mundane heavy lifting tasks that we don't want to burden our back-end transactional environment with having to do. They suck up a lot of CPU and memory. So with hardened computing platform, like the XI50B, you can do all these things much faster and ensure that your back-end are able to get cleaner messages and therefore spend a lot less time and exception handling and error processing modes and to stay more healthy because they are going to be protective from all the many kinds of different hacks and intrusions that you find out there.

The WebSphere DataPower XI50B has a lot of options for governance. First, for moderating and general health checking of the appliance, we have things like the ubiquitous SNMP protocol which is well supported in DataPower, and then we can move on to web services environments where we support WS-Management and WSDM, Web Services Management Protocols, and we have great monitoring tools including Tivoli IT camp for SOA platform and other monitoring infrastructure that can be used for that. In terms of other types of governance, we have strong integration with not only the standards-based UDDI environments but also our very popular WebSphere Service Registry and Repository product and also Security Policy products from Tivoli, such as Tivoli Security Policy Manager, that make the governance environment really a very tightly-integrated, cohesive unit throughout the computing infrastructure.

 I think some of the benefits of the WebSphere DataPower XI50B for SOA and XML applications are that you can really streamline your applications by having the XI50B to a lot of the heavy lifting tasks. You can speed up your deployment by doing a lot of the typical deployment tasks without having to do any coding in the standard way that you normally would do those using ANT or any of the other types of deployment scripting environments. And for governance, we have standards-based governance capabilities in terms of SNMP as well as compliance with web services, standards like WSDM and WS-Management and compliance with a lot of the integrated tooling out there across IBM and third party products such as WSRR and Tivoli Security Policy Manager.

Some of the benefits that can be realized immediately upon installing the WebSphere DataPower XI50B into the BladeCenter platform that can be demonstrated by, for example, simply importing a visual file into the XI50B and, within minutes, having a fully functional web service proxy intermediary that will not only hide the back-end endpoints but provide the necessary SSL termination that we normally want to see and also do all the schema validation and XML Well-Formedness checking per the visual and schema to ensure that only legitimate messages pass to the back-end. So we like to describe the DataPower environment as low programming. We like to use the graphical workflow editor to achieve a lot of the tasks that we have to do such as adding encrypt or decrypt actions into the stream or message checking, digital signature checking that may be required for standards compliance with things like PCI for the credit card processing guidelines that we need to conform with through federal regulation. Certainly, speed would be realized immediately upon installation and, for sure, consumption of energy which is one of the primary reasons to move to the BladeCenter environment.

Some further benefits that can be realized upon installation of the XI50B are things like accelerated mediation of message formats, protocols, security credentials, for example Enterprise-Wide Single Sign-On since the XI50B understands and can create a number of different credential formats, dynamic routing for message distribution and web services processing for many types of different dynamic routing scenarios. And the XI50B is also a tremendously capable load balancer which also has intelligent load balancing capabilities to the back-end to monitor the back-end application server clusters and dynamically remove and add servers into its load balancer group based on what's happening in the back-end cluster without any kind of administrative intervention.

One of the big benefits of the XI50B is that it's part of a DataPower family. It is very similar to the other DataPower appliances. They all share a common firmware. So if you do happen to be using any of the other types of DataPower appliances, you don't have to worry about a special firmware for each separate platform. And I think touching on the firmware, this is where the total cost of ownership really is demonstrable. For example, to employ any new fixes or upgrades or features from IBM, you simply need to upload a small firmware file, attached file which is signed and encrypted for security purposes and do a quick reboot of the appliance. It literally takes a few minutes as compared to patching, operating systems and software stacks on distributed computing platforms.

So when you see how simple it is to do the upgrades on the XI50B platform by uploading a small firmware update and restarting the box, just by nature of the very small amount of time it takes and the very few steps that are required, you are thereby exposed much less to the types of disasters that happen in enterprises that are trying to do maintenance cycles that have maintenance windows that must be adhered to in order to achieve their service-level agreements, for example, for 99.999% uptime. When you have a lot of steps and a lot of complexity in updating your environments, that's where these things typically go wrong as anybody who has gone in for a late night production update and encountered disaster well knows.

I think the combination of putting the WebSphere DataPower XI50B into a BladeCenter platform is really exciting, not just because both technologies are great, and as you might say 1+1 does not necessarily always equals 2, but I think putting the DataPower XI50 into this environment really helps one unleash a lot of the power within that we don't really get with the standard rack-mounted appliance. For example, we can take advantage of the 10 gig Ethernet environment on the XI50B for two of the Ethernet interfaces, we can take advantage of additional shared storage by using a trusted platform module that is within the BladeCenter. So that's another advantage for DataPower to have that additional storage at its beck and call. We have the shared networking environment and the administrative environment through the system director that helps makes administration a lot easier. The shared internal bus is going to make internal communication between the XI50B and other components that might be running within the BladeCenter chassis such as _____ 2442 or any of the other different software platforms much more faster and much more efficient. So what some customers are doing is that they are leveraging this to have for example you might call it SOA in a box by putting all those component modules in blades into the same chassis and letting them take advantage of this surrounding computing infrastructure at much less cost and it makes them much more agile because it's very easy to add capacity. And if you recall we started this talk out by saying how important it is to be agile these days because computing is on the move very rapidly these days.

Sure. I think the advantage of the BladeCenter in terms of less power consumption and less money spent on cooling and the server consolidation for example the footprint of the data center and the tangle of cabling that you can avoid are really spelled out well in a series of commercials that IBM did not too long ago. I think back in the prior Olympics these were quite popular and I liked them so much that I went out and found them on YouTube and when I wrote the article on IBM developed a virtual website called Rise of the DataPower blade, I made sure to include the links to those commercials because I can't think of anyway to spell out those advantages that is better than the really hilarious commercials that were built to really demonstrate these advantages. One of my favorite ones is when the data center manager comes into the computing center and sees a lot of empty space and panics and thinks that somebody has stolen his servers and he calls the police, the fire department and ambulances are showing up and he's being interviewed by a police officer and his network adman comes in and says, "Oh nobody stole all of our servers, we just consolidated it into that box over there" and at the far end of the data center you can see that there is a very small BladeCenter chassis there that is taking the place of massive computing infrastructure and tangle of wires that they had previously. Some of the other ones are really cool in that they show the giant ball of cabling rolling through the city and crushing buildings and so forth. They are kind of exaggerated examples of real problems that we face in computing today and it helps to add a lot of humor, I thought they were really good.

I think to demonstrate the advantages of having the DataPower XI50 in the BladeCenter chassis in form of the XI50B product are really numerous. For example, if anybody has been around the standard Rack-Mount Appliance you know that there are number of fans running in there. They are quite noisy sometimes, there is a lot of heat being generated. This can cause problems in terms of cooling the infrastructure if you have a lot of them running in one place. But in the BladeCenter chassis we really don't have to deal with these problems because of the much reduced power consumption. DataPower appliances are network appliances to some extent so we have all the Ethernet interfaces there which can lead to a lot of cabling going in and out of the appliances and with BladeCenter of course we are taking advantage of the big feature where we don't have all the cables to deal with. So these are all reasons I think that are big advantages to the BladeCenter platform.

So many of our customers are familiar with the advantages of the WebSphere DataPower XI50 Rack-Mount Appliance and we all think the BladeCenter is a really fantastic and unique platform as well. When adding the two together in the form of the XI50B product we have more than just one plus one equals two because putting the XI50 into the BladeCenter environment really unleashes a lot of the power in terms of being able to take advantage of 10 gigabit Ethernet, being able to take advantage of extended storage for the trusted platform module, being able to take advantage of unified administrative environment, the very fast internal bus and the networking environment in general.

For customers that are considering adding the WebSphere DataPower XI50B into their existing BladeCenter infrastructure I would highly encourage this. Because if you look at DataPower it's been so successful for IBM, we have got over a thousand customers currently worldwide. And taking advantage of the unique power of the DataPower appliance within the BladeCenter chassis to me is just really a very perfect world for computing, everything is powerful, consolidated into one place and you have unlimited capabilities there. You have the agility that we talked about earlier that is so important in terms of leveraging your existing assets, you have got a highly secure and reliable environment and when it comes down to it, that's what it's really all about. We want to keep our systems healthy, running fast, keep our customers healthy and that in the end will lead to success for our business.

I think in terms of business level benefits getting away from some of the deep technical issues that we have been discussing here and advantages, what I think keeps a lot of CTOs awake at night are worrying about things like getting hacked or having their infrastructure compromised. We all know this is really bad for business. So, one of the primary use cases for DataPower is to protect against a lot of the really difficult, to fight off attacks out there like Denial-of-Service attacks, some of the very tricky XML based attacks that are out there, attacks that are part of viruses that are in attachments. And I think DataPower has always been very successful about protecting against those sorts of things and keeping our backend infrastructure healthy and this in the end is a huge business benefit.

So, in summary, I think the WebSphere DataPower XI50B really exemplifies smarter computing because no matter what you have out there whether it's some legacy COBOL applications running on IMS or CICS or whether it's some of the kind of peak of the technology adoption bell curve right now which is probably web services or whether you are more of a bleeding edge type of environment or you are adopting cloud computing or Web 2.0 RESTful environments, JSON payloads, DataPower XI50B can understand and interact with all of those environments. It can bridge the islands of SOA that we talked about at the top of this broadcast and allow you to finally connect those islands of computing infrastructure that so badly need to be integrated with each other in order to have a fully functional enterprise-wide SOA environment.

I think one of the examples that best exemplifies using DataPower and using technology adoption to make a smarter planet is one of our energy and utility customers that is currently using DataPower for their worldwide energy and utility smart grid initiative. And as we know energy is a big concern lately, we are worried about attacks upon our electrical and energy infrastructure which could cripple entire communities or countries and we also want to make the collection of information about energy much more efficient. The old days when we had a meter reader trudging from house to house just doesn't really cut it anymore. So what our customer has done is gone out and made all this dynamic and automated where at their datacenter they can monitor real time consumption of energy, any problems in the grid and really optimize energy generation which I think is a benefit to everybody. We are using less of our natural resources so it's a benefit to the planet, we are cutting back on the cost for generating electricity which is a benefit to the customers and if the age-old energy industry can modernize to this extent I think that a lot of CTOs out there will be able to envision the benefit that this kind of technology will bring to their shops.

I think that existing BladeCenter customers by purchasing the XI50B are going to find that what they can add into their existing infrastructure is really a Swiss army knife of connectivity, integration and security in terms of all the things that XI50B does really well.

So I think the WebSphere DataPower XI50B is just the latest exciting news in IBM's legacy of great products in innovation. We have been in the appliance business over five years now, we have got a mature roadmap and this is just the latest exciting news as part of that roadmap. For further information, I think that folks can see the rise of the DataPower blade article that's out on IBM developerWorks website or check the InfoCenter or simply contact your local IBM sales rep to come in and will do a proof of concept and demonstrate the capabilities to you in your own environment.

In summary, I think the XI50B is just the latest exciting news in IBM's long line of appliance products.

So in summary, if your goal is smarter computing, if your goal is to be agile and make the most of your computing resources and to integrate all those islands of technology that you have across your enterprise, I think that the XI50B and the BladeCenter are really a fusion of two of IBM's hottest and most exciting products, it's got everybody here in our environment extremely excited and there is a lot more information available out there on the Internet and through your local IBM sellers.