



Transcript

**Innovation for Business Advantage:**  
IBM System x™ and Next Generation  
Xtended Design Architecture™

**Alex Yost**  
Director of Product Management  
IBM System x

## **1. Introduction: Business Challenges**

Thanks for joining us today to talk about Innovation for Business Advantage. We're introducing today the Next Generation of Xtended Design Architecture with new systems from IBM System x.

I'm Alex Yost and I'm Director of Product Management for IBM System x.

As we design our new System x products we wanted to make sure that we address the key challenges that customers are facing today in their environment. Business Responsiveness: Customers today demand 24 by 7 access and availability for their systems.

Customers are also facing significant power and cooling challenges in their datacenters. And, their significant technology changes. Technology is moving more rapidly today than ever before. As we see new generations of processing power, memory, interconnects and IO.

## **2. IBM Innovation**

Extended design architecture is all about innovation that matters, and IBM has a long history and heritage of delivering innovation first to the marketplace.

X-Architecture is simply bringing our large system technologies to industry standards.

But since that time we've brought that innovation into our Systems management, into our new BladeCenter® that we introduced in 2002 and revolutionized the industry. We've done it with Enterprise X-Architecture, the first system that was scalable from four processors to 32 processors. In 2004 we delivered the first generation of Xtended Design Architecture, really differentiating our products with things like calibrated vectored coolants to have the most capable products in the most rock dense form factors.

We opened our BladeCenter specification with our partners Intel in 2004 as well. We've also introduced the Virtualized hosted client and our X3 Architecture, the second generation of Enterprise X-Architecture. And then in 2006 we're bringing more industry standard innovation to the marketplace with our new System x products and the second generation of our Xtended Design Architecture.

We're going to talk today about how that delivers for you the business advantage that you're looking for.

### **3. System x and Xtended Design Architecture**

IBM System x with Xtended Design Architecture helps customers get where they want to go with their infrastructure in their datacenter. Customers want to optimize, they want to manage and they want to protect, their infrastructure, their data and their business. The pillars that we deliver with System x and Xtended Design Architecture are: Performance, Availability, Manageability and Flexibility.

Let me talk first about Performance. We deliver the best in class performance with System x systems by maximizing the scalability with Dual-Core CPU's, with the right memory scalability to take advantage of today and tomorrow's new Intel processor's and give you what you need for the growth of your business, the growth of your data, and the demands that your departments are putting on to your systems.

IBM System x innovation extended design architecture deliver you the performance that you need for your datacenter, for your business.

The next pillar I want to talk about is Availability because customers today are increasingly looking to use these industry standard servers to run mission critical applications. Just a few years ago people were running things like file and print on industry standard servers. Today customers are running mission critical applications. Whether it's mail and messaging or whether it's a SAP or database type application, customers need these servers to be up and running so that their business can be up and running and IBM includes standard integrated data protection. It includes standard features like hot-swap and redundant fans and hot-swap and redundant power supplies on our servers and we give you the capability to know that your servers are up and going and we talk about that in our next pillar with Manageability.

Manageability is knowing that your servers are up and running. It's using technologies like light path diagnostics to show you where your servers are running well and where they might need some attention. Giving you the capability to manage your power environment with PowerExecutive 2.0.

The last pillar I want to talk about is Flexibility. This is everything from having the same platform for an extended period of time for your roll-outs, for your datacenter environments. To having the ability to configure the servers the way you need both today and tomorrow. Giving you the scalability and also the manageability to make these servers work best for you. Also having extended IO. The ability to use both today and tomorrow's IO solutions and give you differentiated business solutions for your environment that work with your applications.

#### **4. What's New: IBM System x server**

With our next generation of Xtended Design Architecture and the whole new System x naming, what's new here? What's new here is we have four new servers and a new workstation. Our new workstation is a ZPro it's a two socket server, Dual-Core capable. So that's four total cores of processing power in the latest workstation. And then we also have two new tower servers. The x3400 and the x3500 and two new rack base servers our x3650 and our 3550. These servers all take advantage of the latest generation Intel Dual-Core processors. Our new Syxtem x servers deliver extraordinary datacenter economics.

If you take a look at the graphics on this slide what you'll see is that it use to be that if you bought a rack full of two way 2 use servers you could get about 48,000 web requests per second. Today you can do that with half as many servers. This is enabled with our new System x 3650 server using the latest generation of Intel Xeon Dual-Core processors. So what that means is with 48% fewer servers you get about the same performance and you'll also use 62% less power than you did just months ago with similar technologies.

There's another way to look at this one. And that is take up the same amount of space and double the performance but you still use about a third less power. Using our new system x3650 you can get 90% more performance and use 28% less power. That is great datacenter economics. You're hitting two of the most important elements of datacenter performance. One is how much work can I do, and the other is how much power and heat do I require?

#### **5. Overview of IBM Rack Servers**

Let me start off talking about our rack offerings from System x. We have three offerings in the rack category. Starting with our 306m our new System x3550 and our new Ssstem x3650. What we're offering with these products is a full range. Everything from entry cost and performance, up to high availability, high performance, highly scalable to your two-way server.

So let me start off talking about our x306m. The 306m is the lowest cost edge of network server. It helps you optimize the space that you are using. Achieve a lower budget number and also give you the investment protection that you need. It's a very popular server for things like web applications, infrastructure and security type applications. The x306m is available with Dual-Core processors and the x306m gives you the entry performance that you need to run an edge of network server.

I want to talk to you now about the new System x3550 server. This incredibly rack dense 1U high server has the capability to meet many of your application server room requirements. Because not only is it incredibly dense but it also

offers the high availability and scalability that you'll need to run applications like database, email and messaging, file and print, virtualization, ERP. It can contain up to four hot-swap hard drives, 2 IO slots, all the while having the redundant and hot-swap fans and cooling that you need to keep your system up and available in that dense 1U package.

The x3650 is a 2U high rack application server. When we take a look at this 3650 what you're going to see is an incredibly capable system. It can contain up to eight hot-swap hard drives while at the same time having a tape drive. The tape drive is important because a lot of customers will put this in a remote location and what they want to do is to have plenty of data capability with eight hard drives and also be able to back it up. The 3650 delivers. The 3650 also delivers the performance that you need with two Dual-Core Intel Xeon processors backed up by up to 8 memory dim's. That gives you the memory scalability that you need for today and also looking forward to tomorrow's next generation of Intel processors. We also have the integrated raid capability and system management capability that you are looking for with a high availability applications server. Hot-swap power and fans make this a highly available system backed up by our IBM light path diagnostics. With predictive failure analysis light path diagnostics tells you where things are happening before they happen so you have a highly available system that's unmatched in the industry. Not only that, but we accomplish all this in only 2U high and 28 inches deep a unique form factor in the industry. So we're excited about the new 3650 because it delivers you the application performance that you need for e-business mail and collaboration, ERP terminal services remote locations, it is an extraordinary server for your business application environment.

## **6. Overview of IBM Tower Servers**

Many customers and many applications call for tower base servers. Tower base servers are incredibly important in a remote office location, small and medium businesses or in a location where you don't have a full rack of servers. A lot of times customers are looking for these towers to be all-in-one devices. Everything from your data, to your processing, to your backup. So with our new System x offerings what we deliver is a full range of power base servers. So starting everywhere from our smallest x100 system, all the way up to our brand new system x3500.

I want to talk first about our single socket tower base servers. The first one is our x100. The x100 is an ideal server for a small or medium business that is looking for basic application performance. They are looking for the most server that they can get for the most affordable price tag. That's the x100. Our partners are selling this product and our partners are very happy to offer you this with a variety of applications, a variety of operating systems.

We also offer the x206m which is a very popular server for remote locations. The x206m gives you the redundancy that you need and the power supplies. It comes with these new Dual-Core Intel processors. Many customers are bringing business critical applications to remote locations, and they want to have this peace of mind that comes with having redundant power supplies on their system. These systems also have the ability to be managed remotely with a remote management card. Our RSA2 adapter card.

The System x3400 tower base server gives you the performance of two Intel Dual-Core processors. Giving you four total cores of performance in a tower base server. It gives you the flexibility that you need to run business critical applications in a remote office location. Starting out with up to four hard drives, upgradeable to eight, and a tape drive. The system gives you the capability that you need to run business critical applications in a remote location.

The System, x3500, is the next step up in our family of tower base servers. It gives you more hard drive capability it also gives you more memory capability so that you can scale-up to have the most capable tower base server in the industry.

## **7. Solutions Running on Xtended Design Architecture**

Because customers are increasingly using System x servers for business critical applications, we find that they can benefit from the pre-testing qualification that we do with our ISV partners. We do this for customer specific applications like retail, banking, telco, automotive and healthcare. And we also do this for cross-industries solutions such as vmware, citrix and we have a unique offering with our storage server with continuous data protection. We do the pre-testing and qualifications so that you get the server that meets your needs and get up and running as quickly as possible and have a productive business critical application server. Now that we've spent some time talking about our servers and our solution offerings, let's hear from our partner at Intel.

## **8. IBM Business Partner Intel**

Hi. I'm Boyd Davis, General Manager of Intel's Server Platform Group Marketing. I'm very excited to be here today talking about the new technologies that we're delivering to enable IBM to deliver the new XTA platform architecture. The Intel Dual-Core Xeon 5000 series, previously known as Dempsey, and the Xeon 5100 series, previously known as Woodcrest, really represent some breakthrough technologies for two-way servers. This has really been evident as IBM was recently able to take these new technologies and deliver world record industry leading benchmarks in the area of point performance, Lotus Domino and web server performance. Let's take a second to dig in a little bit deeper on

these technologies in three areas: energy efficient performance, virtualization and reliability and stability.

We know that energy efficient performance is critical to enterprises for a couple of reasons. It's more and more difficult to get the compute density in the limited square footage in a datacenter and we also know that energy costs are rising. Intel is helping by lowering the overall power consumption of our building blocks at the same time we continue to deliver the performance increases that customers expect. In fact, the 5100 series Xeon delivers over twice the performance of previous single floor versions but three times better performance at a given energy level. This is really enabled by the core micro architecture which is a breakthrough underlying technology for processors that Intel is delivering in a mobile server and desktop processors. In fact most of the 5100 processors will contain less than 65 watts of energy.

Virtualization is really one of the key trends that we see customers migrating to to lower their cost and increase their flexibility and agility. We've seen virtualization move from test and development environments to be used for server consolidation and now being used for things like dynamic resource allocation and dynamic failover. Intel has built virtualization technology into our underlying hardware to enable the shift to virtualization not only in the high end systems, where it's been for decades, but on these volume systems. We're delivering the performance and reliability capabilities that customers need for these virtualization usages. But maybe most importantly we're working with IBM and the entire software community to enable applications to move into a virtual environment with things like sizing guides and tools. We really believe that we can enable a mainstream shift to virtualization by building the technology and the hardware and linking it to the software.

And finally, reliability and stability. This is what you've come to expect from companies like IBM and Intel. Intel continues to invest in reliability features in the underlying platform there to protect customers. One example of that is fully buffered dim memories. Intel is leading the transition to the industry standard fully buffered dim memory technology because of the benefits it provides not only capacity but in reliability. Stability we know is important. Customers want to be able to invest in a platform and extract a return on an investment over time yet continue to deliver performance enhancements with it. With this new technology that surrounds the 5000 series and the 5100 series Xeon, we actually expect to deliver four additional versions of dual-core and quad-core processors into that same socket so that customers can have head room over time but maintain their investment in the platform technologies.

You know the 5000 series and the 5100 series and the supporting technologies around it that enable the new XTA platform architecture really represent one of the most exciting breakthroughs in server technology in a number of years.

I'm excited to have had the opportunity to talk about it. Thanks.

## **9. Tools of power management, IBM PowerExecutive**

As datacenter managers use our IBM system x servers for increasingly business critical applications, one of the things that they want to do is set their datacenters up to do it right. And managing the power requirements in a datacenter is absolutely critical. Customers are demanding more out of their datacenter, more out of their servers, and more out of their applications. IBM System x with PowerExecutive gives the datacenter manager the power control that they need in their datacenter. It takes the guess work out of managing power it gives them the ability to understand, maintain, and control how much power that they are using in their datacenter. That gives them the ability to deliver the business critical performance that they need out of their IBM System x servers.

I want to encourage you to take a look at our web-based on-line demonstration of PowerExecutive to show you what it can deliver for you in your application environment.

## **10. Online Demo link & closing statement**

Thanks for joining us today to talk about the Next Generation of IBM System x offerings with Xtended Design Architecture. These servers are designed to deliver on the business critical performance that you need in your application environment. They're pre-tested with a broad range of applications. And they include the performance, the scalability, the manageability and the flexibility that you need for your datacenter. Also with critical capabilities like PowerExecutive these servers are differentiated in the industry and they will deliver you what you need for your datacenter. And we also have our strong partner Intel working with us and I want to thank them for being here today.

Again thank you for being here. I'm Alex Yost with IBM System x.