# MicrosoftTechEd IT Forum 2007 – Keynote Session12 November 2007

## Technical Innovation

### Bob Kelly

#### Corporate Vice President, Infrastructure Server Marketing, Microsoft

##### Preamble

I am delighted to be here today to help kick off IT Forum. This is a very exciting time for us. This is an event where we have an opportunity to talk with and have a dialogue with you about the changes in the industry and in technology, and about what we can do to help you be more successful in doing what you do every day. The second reason why I am excited is that this is coming home for me. I have spent three different times in my life living in Europe, the first of which was here in Spain, in a little town called Escorial, just outside Madrid. I also lived in Ireland and Italy and so, for me, coming to Europe is always a chance to come home and to revive the roots, so thank you very much for the opportunity. It is also very exciting because this IT Forum is the largest that we have ever had. We have over 5,200 people here and had to put a tent outside to cope with the overflow, so thank you very much for your commitment and for the opportunity to enter into a dialogue with us.

##### Change

There is a lot of change going on right now in the industry; in fact, it is a very exciting time to be part of the industry – probably more so than at any other time. I am going to talk to you about these mega-trends: the hardware transition from 32 to 64-bit to multicore, or Web 2.0 and building new kinds of application solutions. The movement to software is the way to solve many difficult and complex problems that, until now, had been the realm of the hardware solutions market. Broadband connectivity everywhere means that the users of our solutions are going to demand more and more from us and place tremendous demands on you and on the software and infrastructure that you put in place to drive your business.

That is an exciting time, but it also means that there are lots of things that we have to think through in order to get them right. When we have thought about what it is that we want to do, stand for and help you become, we have thought about it in terms of what we call Dynamic IT. Over the last two years, at the keynotes at this event, you have heard us talk about the Dynamic Systems Initiative and Dynamic IT, and the promises to you, the IT professionals and developers, around managing complexity to achieve agility, protecting information to control access, advancing the business with IT solutions, and amplifying the impact of your people. What I am here to tell you today is not to throw that out. Today, I am talking about an evolution of that story, and I want to talk about the technical underpinnings of that story, since they are what we are going to talk about for the rest of the IT Forum and going forward.

##### Technical Innovation Areas

###### Unified and Virtualised

Unified

There are four technical innovation areas that we are focused on across the Microsoft stack. This is not a Server and Tools conversation or an Information Worker conversation, but goes across everything that we do to deliver software to you as IT professionals and developers in order for you to build new capabilities. The first is unified and virtualised. You will see a lot about what I mean by unified as we go through the session and the demonstrates, but Microsoft has a long history and hallmark of thinking about integration and about how to unify experiences across the full set of technologies that we bring to bear, in order to make it easier for you to do your job. That is still core to everything we do, whether it is unified communications bringing together messaging and voice over internet protocol (IP), or whether it is Office integrating across the application stack, or whether it is in server and tools in terms of how we think about from Windows all the way through to data tier through the management applications, so that you have one cohesive architecture.

Virtualised

The second element of this is virtualised, which is a very important buzzword today. There is a lot of activity around the virtualisation space. However, virtualisation is only at the very beginning of what we think is going to happen in IT. Virtualised, in the way that we mean it here, is logical. The more we move from a physical to a logical environment, the faster we can drive to a dynamic IT environment. Everyone here who understands server virtualisation has the basic construct of the ability to make a logical resource. Fast forward a number of years and think about a wall of servers that was just a giant blob of storage and about applications that were written in such a way that they knew how to take advantage of that blob of storage. Your management system could dynamically allocate resources to that application as necessary. That changes the way that we think about the data centre architecture. I am sure that many of you still have stickies on your servers, telling you what that server’s name and role is. That world is changing – it is going away. Building software for a logical data centre is the first of these four technical innovation areas.

###### Process-Led and Model-Driven

The second technical innovation area is process-led and model-driven. Process-led and model‑driven operations give IT greater control because they think left to right across the entire lifecycle of an application. This is about taking the insight of the business analyst, who in term passes that to the developer, who in turn has to then deploy the operation of that application through IT operations, connecting that lifecycle and capturing that process in a model. If we have one canonical model for the an IT process, the tools surrounding that model and process can become more intelligent and start to act against the model, instead of the individual person. There is nothing worse in terms of cost for an IT shop than having to send someone to do something because their process is broken. Capturing policy and all the insight required to enable the application or solution to run efficiently and effectively, and as designed, requires models. We are building models throughout the entire infrastructure, from developer tools through to the operating system and out into the management tool set.

###### Service Enablement

The third technical innovation area is service enablement, which enables a whole new set of business scenarios. How many of you remember the days of going from monolithic servers to thinking about service orientation and how we service-oriented architecture (SOA)-ise these applications and take advantage of this move to services? That is just the tip of the iceberg. As the business moves from being more SOA‑oriented to a true blend of services in the cloud and services on premise, how you consume and integrate those becomes an increasingly important challenge. As applications move from single tenancy to multi-tenancy, and given the dependence that you are going to place upon having on-premise experiences connected to those off-premise experiences, how do you federate those and how do you ensure that, when you add a user in one, it is added in the other? How do you ensure the compliance policies and that Sarbanes-Oxley or European Union regulations are enforced and that you are not held accountable for any issue? This is a third important pillar, because we have to be able to enable IT professionals and developers like you to build, consume, deploy and operate federated services, which are critical for the success of your business.

###### User-Focused

Developer

The fourth technology innovation area is user-focused. We have spent our entire history focusing on users, either as end user or as IT professional developer. I like to say that we do our jobs when we enable you to do yours best, by giving you the tools to do your job better than anyone else can. User focus is at the core of our heritage, but there are two elements to this that I want you to think about. The first is the developer experience, which is dramatically shifting today from a world of Win32‑style applications to web experiences and rich, Flash- and Silverlight-based applications. The user experience is becoming increasingly important, so the focus on the developer really needs to come to the forefront. We need to build tools and deliver experiences for you, so that you can deliver the world-class experiences in a Web 2.0 and Web 3.0 world.

IT professional

There is also a secondary element to user focus, which is the IT professional. The focus on things like active directory as the core element of what makes our infrastructure light up and the core of being our identity, and the ability to use that identity to control access to applications and infrastructure and to ensure that a person has the right authorisation and authentication rules associated with them puts the user at the core. In so doing and by having one common architecture across everything that we do, we can build tools around that to make your job easier.

Those are the four technical innovation areas and are not release-specific, but are a multiyear focus for Microsoft. Our innovation will be driven through these technology innovation areas so that we can deliver on the promises that we described to you and ultimately deliver to you a foundation or platform for dynamic IT.

##### 2008 Launch Wave

With that as a backdrop, let us see how dynamic IT is surfacing in the waves of the technology that we will be delivering over the coming months and years. We have a very important launch wave occurring shortly; in fact, worldwide kick-off of the launch wave is 27 February. We will kick off a process to launch three of our flagship products:

1. Windows Server 2008.
2. SQL Server 2008.
3. Visual Studio 2008.

This is a broad set of technologies for IT professionals and developers to build and operate world‑class systems. As we have thought about what we are going to do here, we are going to do a joint launch wave. Even though all the products will not be released to manufacturing (RTMed) or available on the same day, we are joint one joint launch wave so that we can engage with you across that full set of experiences. This will be the most secure and reliable stack that we have ever delivered, which is good for you. It means that you can bet more and more on the infrastructure that you are building on with Windows today. On 27 February, we will be holding more than 300 events worldwide. We will reach more than 15 million people through blogs and online experiences, which is important because we know that we do our jobs best when we get down and talk to you face-to-face about the technology and deliver a better experience.

1. Visual Studio 2008 will be released before the end of this calendar year.
2. Windows Server 2008 will be released in the first quarter of next year.
3. SQL Server 2008 will be released by the end of the first half of next year.

##### Windows Server 2008

###### Solid Foundation

Scaleable, reliable, fast and secure

There is a lot of great innovation here and important things that we think we are delivering. Let us focus for a moment on one of these core products – Windows Server 2008. There are four technical innovation areas of Windows Server 2008 that are very important and that we think are game‑changing in terms of you doing your job better than anyone else. It is built on a solid foundation. Everything about a server operating system is about making sure that it is scaleable, reliable, fast and secure. The focus on the solid foundation has led us to some very important innovations in this particular release of Windows.

Server Core

Server Core is a way to deploy Windows Server 2008 in a dedicated, headless environment and to be able to deploy just the core bit of the operating system and then turn on roles that you need to be running in your environment, such as a web server or a file server, and nothing else. In the days of Windows Server 2003 and prior, everything was installed and you turned things off; Windows Server 2008 allows us to deploy just that server core and then turn things on.

Microsoft Management Console 3.0

We have also focused on some very important innovations around PowerShell and management with Microsoft Management Console 3.0. The ability to manage the Windows infrastructure from a scripting environment – from a shell – to expose the full application programming interface (API) set of Windows through a command shell is a very powerful environment and one that we are very excited about and that you will see us build more and more of our solutions around.

##### Security Features

###### Network Access Protection

The second focus is security. This is not just about hardening the operating system. Certainly, that is our job every day. Every release of Windows must be more secure than the last, or we have not done our job. We have absolutely heard that feedback from you over the course of a number of years. There are also a couple of important security features that are coming to the market place. The first is Network Access Protection. Combined with Windows Vista, you now have an infrastructure where you can quarantine wired, wireless or VPN connections. This means that as a PC comes on the network through any one of those types of connections you can put a policy in place and ensure that that PC meets that policy and if it does not, quarantine it, fix it and then allow it on the network. This is policy-driven infrastructure and it is, again, the next step, if you will, towards moving to a logical infrastructure.

###### Read-Only Domain Controller

In addition to the Network Access Protection feature, we also have a read-only domain controller for branch environments to be able to have Active Directory in a branch environment and have disconnected use. This has been one of the most requested features for Windows Server and we are very proud to deliver it in Windows Server 2008.

###### IIS7

The third area is web. IIS7 bar none best internet web-serving environment on the planet. It is a fantastic technology, a fantastic release. We have made a tremendous number of improvements in IIS and you are going to see some of those in a demonstration shortly.

###### Built-In Virtualisation Technology

The last are is built-in virtualisation technology. A true hypervisor will be built into Windows Server 2008 and I will talk quite a bit about this as we go forward.

End-to-end the most innovation that we have delivered in an operating system in many years. We are very excited about Server 2008. There are tons of sessions here; get your hands on the bits if you do not have them already and put them through the wringer. I guarantee you it will be the best experience you have had with Windows Server.

##### Announcements

To that end, there are a number of things that we are announcing today. The first is the Microsoft Hyper-V Server SKU. What is that? That is a SKU that has the hypervisor technology deployed as a role, so it is just a standalone role of the hypervisor, Microsoft Hyper-V Server. We are very excited about this. In addition, we are also announcing that the feature of Windows Server will be called Hyper-V. This is the same technology set across both experiences and will give you the most flexibility you need in deploying virtualisation across your infrastructure.

It is a very exciting time to be a part of the Windows Server business. I have been in this business for almost 12 years at Microsoft and I am thrilled to be in a position today where we are talking about this kind of technology that is true innovation and will help you to drive out costs and increase efficiency across the rest of your infrastructure.

In addition to that, there will be eight different SKUs of Windows Server each tailored to meet the business needs that you have in your IT environment. You will see a lot more on this in the press release that comes out later today.

##### Windows Server 2008 Demonstration

###### Introduction

That is a lot of talking to start a keynote. What I would like to do is use the rest of this keynote to show you the products. We will see the products in action and take you through a little bit of structure as we do that. For the first demonstration, Ward Ralston, who is a product manager on one of my Server teams, will show us Windows Server 2008.

Ward Ralston, Senior Technical Product Manager, Microsoft

###### Three Objectives

Good afternoon, everybody. My name is Ward Ralston, I am a product manager with the Windows Server Group, as Bob mentioned. I would like to take the next few minutes to show you how some of the key technologies in Windows Server 2008 really can be used really can be used to solve some common business scenarios. In order to best demonstrate this, we are going to be taking on the role of Woodgrove Bank. Woodgrove Bank currently has two locations, in Seattle and here in the Barcelona area, and they have recently acquired a third bank in the Orlando area. With the acquisition of that new bank Woodgrove wants to accomplish three things:

* First, they want to ensure that their mission critical web application that you see here meets the needs of new customers who are anticipated in the Orlando area, so we want to provision a new web server.
* We also want to ensure that this mission critical application is in its absolutely most reliable configuration with failover clustering.
* The third thing we want to do is ensure that new employees in the Orlando branch have access to internal applications in the Seattle office, using presentation virtualisation or terminal services remote apps.

Before I jump in and start configuring there is one thing I want to point out and maybe some of you have already caught this. This application is a PHP application, which is now natively supported in Windows Server 2008. Not only is it natively supported in Server 2008, but with our new fast CGI implementation it is 25 times faster than previous versions, so definitely good news there. Let us go ahead and get started.

###### First Objective

Since Woodgrove is implementing Hyper-V, I do not need to go out and buy a new physical server to meet the anticipated growth of customers in the Orlando branch. What I have simply done is I have pulled my standard VHD image for a web server off my VHD library and stacked it up here in Windows Server Virtualisation. I am just going to go ahead and start that. While that is starting, I am going to bring up a remote desktop session to connect to that server. I am going to bring up Internet Explorer and show that this is a feral web server, nothing is configured on here yet and I am going to use a new setting in IIS called ‘shared configuration’ to make sure that PHP application works on this server. Now, in the past it has been a little bit challenging to make sure that all servers in your web farm had the same configuration, because all the settings were stored on a per machine basis in the metabase. Well, with IIS7 we no longer have a metabase, but yet we have one file that can configure all of the servers in our web farm called ‘applicationhost.config’. I am going to open this shared configuration and point this web server to the clustered file server where this application is stored to get these new settings.

One thing you might notice here too is with IIS7 there is no longer the need to right-click and go into the Properties and sift through the multiple settings to find the functionality you want. Only the modules for the functionality I have installed on this web server are present in this administration console.

I am going to open up shared configuration and point this to that cluster, which is file.config, enter my password and go ahead and apply it there. IIS has realised that I am putting in a new configuration, so it is asking me if I want to backup my existing configuration in case I need to roll back to it and you can see that my settings have been successfully saved. I am going to minimise this and bring back up my web server, do a refresh and boom, you can instantly see just from that one setting I now have this mission critical web application provisioned on a new web server.

###### Second Objective

As I mentioned, the second thing that we wanted to accomplish with our scenario is ensure that that web application is in its absolutely most reliable configuration. Currently, that web application is running on a two-node cluster. This is the new failover cluster manager and what I am going to do is add a new node. Now, for those of you who have set up clustering in the past, you know that adding a new node is no easy task: there are tonnes of documentations you have to go through; there are a lot of configuration settings you have to go through. This is an interesting screen. This is our validation configuration. How this came about is from previous versions of the product we found that 55%, which is a huge number, of support calls to Microsoft with failover clustering were due to misconfigurations of the system. I am not going to run through this validation wizard right now, but I just want to show the validation report I ran earlier this morning, which shows literally the thousands and thousands of checks that Server 2008 goes through before you cluster a resource or bring a new node online. I am not even at the beginning of this page and there are thousands of checks that it goes through to ensure we are putting it in its most reliable configuration. I also want to point out that what I am doing here could very easily be a geo-cluster scenario. We removed some of the iniquities in the past, if you will, of setting up a geo-cluster. Mainly, we do not use unreliable non-routable UDP for the heartbeat; we can now use IPv4 or IPv6 assigned by DHCP to enable the heartbeat for the cluster.

As you see here, it gave me a warning – and this is not a bad warning, this is a good warning - that said you had two nodes before, but now you have three nodes, which means we can implement a new feature of Server 2008 which removes the single point of failure, which is the witness disk. So I am going to go ahead and act on that and go in here to configure my cluster forum settings and you can see right now I am in a node and disk majority and I can sustain a failure of one node, but now, since I have three nodes, I now remove any one single point of failure. Again, just a couple of clicks and there we have it; I have that new node provision.

I just want to take a moment here and recap what we have just done. First, we easily provisioned and configured that new web server using Hyper-V in IIS shared configured and we also made that mission critical web application in its absolutely most reliable configuration by removing any single point of failure.

###### Third Objective

The third thing we wanted to accomplish was to ensure that users in the Orlando office have access to internal applications in the Seattle office, so we are going to implement this using Terminal Services’ remote app. Terminal Services’ remote app allows me to easily select any application and publish it either through an MSI file or an RDP file or, in this case, I am going to publish an application to an externally-facing Windows SharePoint Services site. So I am going to click here and go ‘add remote apps’, I am going to click ‘next’ and the application I want to make available is called ‘Credit Plus’. I am going to open that, click ‘next’ and you can see right here that the default setting is to enable this through Terminal Services Web Access. I am going to click ‘finish’ there and I see that Credit Plus is definitely published. I could easily create a Windows Installer file over here or an RDP file to publish it on users’ desktops.

Let us see what this looks like from the end user perspective in the Orlando office. I am going to open up my client image here and the externally-facing portal and there it is. You can see that Woodgrove Credit Plus application is there; I am going to go ahead and click on it. What is happening here is this externally-facing SharePoint site has spawned the Terminal Services’ remote app and it is authenticating over firewall-friendly ports – this is going over port 443 instead of port 3389 through Terminal Services Gateway – and instead of giving me the entire desktop of the Terminal Server session all it is going to give me is just the application from that application that I just published. We should see that come up here in just a moment – there you go. Pretty cool.

I have to mention that everything you have just seen, all of the technologies involved here today are all built in to the core product, into Windows Server 2008. There is nothing extra to buy; it is all part of Server 2008. We saw how we could easily provision a new web server and configure it with all the other web servers in our web farm. We saw how easy it was to bring on a third node with failover clustering and remove a single point of failure. We also saw how it was easy to publish an internal application to new users in the Orlando office.

That was my demonstration. I hope everyone enjoys the rest of their time at IT Forum. Thank you.

Bob Kelly

That was fantastic, Ward; thank you very much. I would like to also add a couple of different points that Ward did not have a chance to cover. First, with IIS7, PHP is a first-class citizen. In other words, those applications today that were written in PHP and the only target you had to run those applications was Apache, you now have IIS. Secondly, this wave of innovation around the web did not start and end with Windows Server 2008. Obviously, Vista, Silverlight, IIS7 and Visual Studio as well as SQL are critical applications and solutions as a part of this shift to Web 2.0 and Web 3.0-focused applications and services. We are very excited about IIS7 and all of Windows Server 2008, as Ward showed.

##### Windows Server Targeted Innovation

However, that said, the Windows Server innovation does not start and end with Windows Server. One of the things that has become increasingly important for many of our customers is to have solutions targeted to them in a very specific way, so there is lots of innovation around Windows Server that is occurring in the same timeframe. We have the Windows Server codename Centro, Windows Small Business Server, Windows Home Server, Windows Compute Cluster Server. Lots of innovation targeted to very specific needs. In fact, it was just announced this week that Windows Server codename Centro’s final name is Windows Essential Business Server. We will now go to market with a family of products targeted to the small and mid-market segment (up to approximately 300 users) with solutions called Small Business Server and Windows Essential Business Server. We are very excited about this product release and these will become part of the launch wave, although both the Small Business Server and Windows Essential Business Server will not ship until the latter part of next year. It is very exciting innovation and, again, as I say, it does not stop with Windows Server 2008; we have lots to go.

##### Virtualisation Strategy

###### Context

With that as a backdrop, I want to shift now to a second area of increasingly important strategy for Microsoft and talk to you a little about our virtualisation strategy. Today, when you say ‘virtualisation’ most customers hear ‘server virtualisation’. That is because that is where that is the innovation has occurred to this point in time. It is important, however, to put this into context. Less than 5% of all the new servers shipped in the world are used as hosts for virtualisation. By corollary, that means more than 95% are not. It means that as a physical and virtual world and it will be that way for quite a long time. Therefore, at Microsoft, we thought about what we should do with virtualisation. We talked to lots of customers and it became a very important focus for us to ensure that virtualisation was a technology that could be used in many different ways.

###### Four Core Areas

What you see on this slide is our offering in these four core areas of server virtualisation, application virtualisation, desktop virtualisation and presentation virtualisation. These are different ways to use technology to isolate and, to create a word, ‘logicalise’ your infrastructure. Server virtualisation makes logical that resource, so too does application virtualisation. With technologies like the software technology you could isolate that application, virtualise it and push it down to the PC with no state on the PC. It is a stateless way of deploying applications, which means then that you could have side by side applications with incompatible versions. This is very exciting use of the technology that allows you to isolate and virtualise the application. However, as you start thinking about the world becoming a mixture or blend of logical and physical, what comes to the fore is the need for a management toolset that understands those differences and therein lies a real differentiation from Microsoft and a strategy that is going to help you be more effective.

###### System Center

System Center is our toolset to manage physical and virtual environments from one pane of glass. Why should you have to have one toolset to manage a virtual environment and another to manage a physical environment? That does not make sense. Therefore, in our System Center portfolio we have been focusing on building one toolset that manages physical and virtual through operations, configuration management and so on and you are going to see a lot more of this in the demonstrations going forward. This is a very important differentiator for Microsoft; as importantly, it is a differentiator for you, because you have invested in the knowledge, the skill and the know-how around Windows and Windows management.

With that, I am going to ask Brian Serosnay[?], who is a programme manager within the System Center virtualisation team, to show you a great end-to-end demonstration of the virtualisation technology and capability.

Brian Serosnay, Programme Manager, System Center Virtualisation Team, Microsoft

##### System Center Virtualisation Demonstration

###### Hyper-V

Introduction

Hello. It is my pleasure to be here today to demonstrate the full suite of Microsoft’s virtualisation technologies. I will be demonstrating how when used together these technologies can truly provide a dynamic IT environment. To begin, let us take a look at server virtualisation and, as mentioned earlier, the official release name for this technology will be Hyper-V, so let us take a look at Hyper-V in action.

Here, we have an install of Windows Server 2008 with the Hyper-V role installed. I will go ahead and bring up the management interface and you can see we have a number of virtual machines all running simultaneously. Our first virtual machine is running Windows Server 2003 32-bit edition. Next, we have Server 2003 64-bit. Our third virtual machine is running Windows Server 2008 and our fourth virtual machine is also running Windows Server 2008, but in the Server Core installation. As you can see, our fifth virtual machine is running SUSE Enterprise Linux 10 for those customers who have heterogeneous environments. Microsoft’s goal is to provide a robust virtualisation platform. That is why we have announced that we will be releasing integration components for Linux to ensure not only Linux runs, but runs well on our virtualisation platform.

Let us move back to our Server 2008 virtual machine and we will bring up System Properties. Right here, you can see that this is a 64-bit virtual machine running six gigabytes of RAM. In fact, Hyper-V has support for up to 64 GB of RAM per virtual machine, which is four times that of the competition. If we bring up Task Manager, we can see that this is a four-core virtual machine. So now, with 65-bit support, large memory support, support for four cores and the ability to run Linux virtual machines you can see that Windows Hyper-V is really designed to handle the vast majority of enterprise-class workloads.

Snapshot Feature

Now I want to show you the new snapshotting feature as part of Hyper-V. We will go back to our management interface and we will bring up this virtual machine. Here, you can see this virtual machine is running Windows Server 2003. When we initially installed it we took a snapshot. We then installed Service Pack 1 and took another snapshot and finally, we installed Service Pack 2 and took a third snapshot. Now we have the ability to roll back to a previous point in time. For example, I will select our Service Pack 1 snapshot, right-click and say ‘apply.’ This happens pretty quickly, so let us not miss it. Right here, you can see that we are rolling back to our previous snapshot and the key is we are doing this without rebooting the virtual machine. For IT professionals this is a very important feature. In the development environment it allows developers to have multiple configurations all by the click of a mouse and in the production environment it allows you to easily roll back to a previous point in time in case you have any change management issues. In addition, as you can see, we still have our other snapshots available, so we can easily roll back or forward to any point in time of which we have taken a snapshot. Once you start creating hundreds or even thousands of virtual machines, the need for centralised management becomes critical, so this takes us to System Center and specifically System Center Virtual Machine Manager.

###### System Center Virtual Machine Manager

Virtual Machine Manager is the centralised console for managing both virtual server and the new Hyper-V technology. Here, you can see we are running a number of virtualisation host computers. Our first host computer at the top is running Virtual Server 2005 and directly from Virtual Machine Manager we can take action against its virtual machines. We can do things like start, stop, pause and restart. Down here at the bottom, you see we have two other virtualisation host computers both running Windows Hyper-V and, again, we can easily go into the properties of the virtual machine, we can change settings to, say, the memory or we can add more processors. As you probably have already noticed, we are also managing two VMware ESX servers. As I mentioned earlier, we know that customers have heterogeneous environments. Therefore, Microsoft has announced that a future edition of System Center Virtual Machine Manager will be able to manage VMware’s ESX server as well. Thus, what we are really looking at here is three separate virtualisation platforms, two from Microsoft, one from VMware, all being centrally managed from System Center Virtual Machine Manager.

###### System Center Operations Manager

It is important to remember that management does not end with the virtualisation layer. In order to be successful, you need to be able to manage the workload regardless of whether it is a physical or virtualised environment. With the addition of System Center Operations Manager Microsoft provides end-to-end workload management. Here, we see the diagram view of Operations Manager. At the top-most layer we see the logical group that we created in Virtual Machine Manager and as we work our way down we can see the physical host computer and then the six virtual machines that are running inside. However, it does not stop here; we can even go deeper. We can go into the specific virtual machine and see that it is running Windows Server 2003. We can even go further and in fact see that it is also running SQL Server 2005. However, it does not stop here. We can even go further. If we select this, we can drill all the way down to the specific database running inside of this virtualised workload. I can select this database and I can run actions directly against it, such as opening up SQL Database Manager. Thus, what we are looking at here is with the combination of System Center Virtual Machine Manager and Operations Manager we are able to manage both the physical and virtual workload from the very top down to the specific workload running inside. One of the most commonly asked questions is whether one can quickly migrate a virtual machine from one physical computer to another. For a dynamic IT environment, this is very important. The answer is yes, absolutely, using Quick Migration. Quick Migration can not only move a virtual machine from one physical computer to another, but it can do it over long distances using stretch clustering.

We have Cluster Administrator as part of Windows Server 2008. We have two physical virtualisation host computers, hosts one and two. Currently on host one we are running a single virtual machine. I can select this virtual machine and say, ‘move’. With quick migration, the virtual machine is paused and access to the shared stores is swapped. The virtual machine is un-paused on the next host computer. The virtual machine is no longer running on this host computer. If we switch over to VS host number two, we can see it is now running here. Since we are using Quick Migration and only changing access to the shared storage, not actually moving the large virtual machine files, this process can be very quick, accomplished in three to four seconds.

##### SoftGrid and Terminal Services

###### Overview

Everything you have seen so far is only part of Microsoft’s complete virtualisation strategy. In order to provide a truly dynamic IT environment, you need to be able to deploy applications quickly to various platforms such as thin client, rich client, terminal service sessions and virtual machines. This takes us to the final piece of the puzzle, Microsoft SoftGrid and Terminal Services. We have a client desktop with no Microsoft Office applications installed.

###### Multiple Versions

We are running the SoftGrid client. On the server side, in active directory, we have configured this user to have access to multiple versions of Microsoft Word. I can click on SoftGrid and say ‘refresh applications’. In a matter of seconds, you now see four separate versions of Microsoft Word on the client desktop. We have Word 97, Word 2000, 2003 and XP. Using SoftGrid, all four versions can be run simultaneously on the same machine in isolated application virtualised environments.

###### User Preferences

We can open Word 2003, streamed automatically from SoftGrid. I can add an additional tool bar, such as the drawing bar. I am going to drag it and move it to the middle of the screen. I am going to close it down and bring up a Terminal Server session. Terminal Services is running on top of Windows Server 2003 and we are logged in as the same user. Here in the Terminal Server session we have access to the same four versions of Word. SoftGrid not only streams the application but also the user preferences, so if I open Word 2003…

[applause]

What is supposed to happen is that the user preferences are brought to any environment the user is in. The task bar would pop up in the Terminal Server session, so SoftGrid combined with Terminal Services can provide dynamic applications and user preferences, regardless of where the user is located and what device they are using.

##### Conclusion

You have seen a suite of Microsoft virtualisation technologies. We have seen Microsoft Windows Hyper V, Microsoft SoftGrid and Terminal Services. When you combine these applications with the power of Systems Center management, we truly provide a dynamic IT environment. Thank you very much.

## Microsoft Application Virtualisation Product and Datacenter Management

### Bob Kelly

##### Preamble

That was a fantastic demonstration of the breadth of the technology we are talking about. Having an end-to-end and consistent strategy around virtualisation means you will be able to take advantage of that virtualisation capability across many different scenarios. It will help the Data Center become more logical and drive to an environment that is faster and easier to consume.

##### Announcement of Renaming

With SoftGrid application virtualisation, I am also going to announce two things. The first is renaming it: we are calling this the Microsoft Application Virtualisation Product. It is in beta right now. It launches in summer 2008, bringing a new set of capabilities around isolating and virtualising applications to ensure you have a rich set of user experiences yet still deliver against your commitment to the business.

##### Datacenter Mangement

With that as a backdrop, I want to expand from the virtualisation conversation and talk about the next generation of the Datacenter management experience. Those of you who have worked with Microsoft for a long time know that our management capabilities have been principally focused around the client PC. As we have moved into Operations Manager and now Virtual Machine Manager, we are taking more of an end-to-end view of your management needs. This view talks about management from the physical hardware up through virtualisation to the operating system to the applications themselves. It works from the Datacenter through the client PC and to the branch offices themselves.

This is an important event, because we are launching many of these new capabilities in the Systems Center family, specifically around deployment and configuration with the new version of Configuration Manager; the new technologies in Windows Update and updating as part of Configuration Manager; and back-up and disaster recovery with the new Data Protection Manager, which now not only targets file servers but adds the exchange, share point and sequel environments.

##### New Releases

You now have a wave of innovation targeted towards the server infrastructure, towards deploying, managing, updating, securing the server infrastructure in addition to the client PC infrastructure. We are very excited about this set of technologies. We are announcing three new releases this week: Systems Center Configuration Manager 2007, Systems Center Data Protection Manager 2007 and Systems Center Virtual Machine Manager. Combining these with the release of Systems Center Operations Manager 2007 which occurred earlier in the year, you now have an end-to-end complete tool set for managing, deploying and updating your physical and virtual environments. It is an exciting time to be part of the Microsoft innovation machine and an important time for us in the management business.

I would like to ask Bill Anderson, a principal PM, to give us a demonstration of Datacenter management.

## Datacenter Demonstration

### Bill Anderson

##### Server Provisioning

###### The Problem

We have invested heavily in the Datacenter over the last couple of years. I want to show you a simple end-to-end scenario that you probably face frequently: server provisioning. More specifically, I have a set of multi-purpose servers: file and print servers, possibly running as domain controllers, that I want to be able to use Systems Center Configuration Manager and Systems Center Data Protection Manager to be able to manage, migrate and enforce as we go through.

###### Data Protection Manager (DPM)

I believe that migration is more successful when you start from a well-managed enterprise, so I shall start by showing how we are using DPM to manage these servers today, and how that will help us through the migration process. It is important to back up and protect that data, so that if something happens in the migration, we have an emergency to return to.

The first thing that hits you in the user interface for DPM 2007 is the advanced workloads. It has backed-up exchange, sequel, file shares and even virtual workloads. It is a great tool to manage all of your critical workloads. I am also focused on file and print workload, and we will use DPM to manage it and use it as part of the deployment process. I have a group of servers I am managing, backing up their files. Because it is context specific, I am managing file and print and it shows me things like drive letters and shares.

###### Frequency of Synchronisation

There is the ability not only to do continuous data protection, but also a single unified tool that does that and back up to tape. I want to be able to do both. This is about the frequency of synchronisation and how frequently I am backing up this data. For my business purposes, two hours is good; I am not worried about plus or minus a few minutes on my critical Excel documents. For the deployment process, I am concerned about that two-hour window because I am going to bounce the server and make it a Windows 2008 Server. I want a quick snapshot before I do the deployment. I can slip in the UI, do the snapshot and do the deployment. However, you do not want to run to hundreds of thousands of servers with a UI to do that; you want to use the extensibility of scripting to automate that. Fortunately, DPM is fully extensible via PowerShell. I am going to show you how we can use that PowerShell automation to force this to happen just before the build.

The last piece as we go through is long-term retention. My business is okay with seven years for long-term retention. We talked earlier about a single, integrated solution. It is important to set my tape variations too. I am showing you how we use DPM today to manage our system and help prepare us for this provisioning exercise.

###### Build Process

If I enter my Configuration Manager console, I can show you how I do the build process. If you are used to building servers, there is a common tool that you use frequently called Notepad: scripting, in scripts, out of scripts, edit the period, change the common, syntax, copy and paste; all the detailed booklets of scripts you manage on a day-to-day basis. With Configuration Manager, we want to be able to take the most common things you do in the scripting world and make them point and click experiences. We do this with the path sequencer. Last year, you saw the path sequencer for provisioning of desktops. I want to show you some of the investments we have made that are specific to the Datacenter.

We want to be able to automate that PowerShell task from DPM. Configuration Manager’s path sequencer has the ability to run a generic command line. I shall call it my DPM command line. This is a simple one-line PowerShell script that allows us to invoke the DPM server that forces the server synch. You can automate that process for all your server provisioning without doing it manually.

##### Custom Configuration

###### The Problem

Another feature of the server world is those intricacies or advances that original equipment managers do for you: custom configurations of firmware and bio. I am going to return to my favourite tool for provisioning, Notepad. If you had a Dell server and wanted to put in a script to automate a simple configuration path like setting firmware settings or bio settings. The idea of integration on the part of competitors who do OS provisioning is a copy and paste routine from this into their product. We have been working closely with Dell and other partners because we do not believe that is acceptable; we want to give you a native integrated experience where this two-page script is a simple four clicks.

###### Four-click Configuration

If I return to my path sequencer, for Dell, we have built their PowerEdge server configuration tool into our interface. You no longer have to fumble for a script. Dell will be releasing this in 2008 as an installation for Configuration Manager. I then do four clicks: click one, I am going to do a bio config; click two, this is a set action; click three, we store things in packages so I need to choose the package; click four, I choose the II file that Dell gave me with their PowerEdge configurations inside. Four clicks leads to two pages of scripting trouble shooting. We are happy with this work.

##### Server Core Provision

###### The Problem

We also want to be able to help you with server core provision, specifically for the 2008 Server. We are going to provision just that core server, then layer the other pieces on top. In terms of layering, drivers are one of the first things that come to mind. It is difficult to manage these complex drivers as part of provisioning: there are many and they are big.

###### Driver Catalogue

In Configuration Manager, you no longer have to do that. We have built a driver catalogue that allows us to download the drivers you need from your providers and put them in a single integrated catalogue. When we do the deployment, we enumerate the plug and play on the local system to determine the drivers that are necessary and only download and apply those particular drivers. We not only do that for the OS you are provisioning down, but also for your Win PE images for your boot process.

###### Role

The last element on top of that core is the concept of a role. If you have had to provision a domain controller, terminal server, DNS or DHCT server, layering those roles on top of the core can be difficult. In Server 2008 we have a tool called Server Manager that will allow us to put those roles on top of an existing server. We have taken a lot of those technologies and brought them to you integrated in Configuration Manager. This was announced last week as part of an offering called Microsoft Deployment. The name might be new to you, but this one is not. Microsoft Deployment is the new name and offering from the Business Desktop Deployment Solution Accelerator, and allows us to do just that. It is easy now to take my core server and install it as a domain controller or file server. If I find the right place on my path sequencer, click the deployment tool and install the roles and features. There are 30-40 roles; I only care about two – a domain controller and file server. I have told it to do the installation, but now I need to give it the configuration data. I can configure it, for example, for 80 domain services, [syncintosa.com] and let us call it IT Form. We can enter a secure and logical password. I have given Configuration Manager all the information I need to be able to provision this server or group of servers and all the role information they need to be configured at.

##### Design Configuration Management

At Microsoft and other large enterprises, we often provision a system and then one, two or three minutes, hours or days later, it is no longer compliant because someone changed some configurations in the Datacenter. We want to be able to take those pieces of knowledge, roles and models and enforce them through the life cycle of the server. We do that with a feature called Design Configuration Management. This takes those models that represent a system, apply them and monitor them over time for drift. We have updated the user experience with some embedded charts that makes it easier for you to understand that. You will also notice that this is not only for technical but also business role, EUPD, SOX, etc. We have been working with partners to make this knowledge available to you as well.

You can manage this rich configuration data through a tool like Configuration Manager. I want to be able to take that base configuration I built for a domain controller and enforce it in production ongoing. We do that by creating a baseline with the different pieces of the system: operating system, IIS configuration, application requirements and business requirements. I want to add a configuration item that represents that domain controller to this list. I go into properties, to my rules tab, and add on. We call this an optional application, so it does not have to be there, but if it is, these are the required settings.

##### Conclusion

I have shown you how using Configuration Manager and Data Protection Manager to manage your systems today can help you with the automation for the provisioning and ongoing management through that Datacenter life cycle.

Bob Kelly

As you can see, in this way by focusing on the server infrastructure, we believe we are introducing real innovation to help you drive a low cost, highly effective Datacenter built around Windows.

You have seen what we are doing in the Windows and management infrastructure around virtualisation and model driven. We will now look at the needs of the data platform and what we are doing around SQL Server 2008 and the rest of the portfolio, building a cohesive, scalable and flexible data architecture.

## SQL Server 2008

### Francois Ajenstat

##### Preamble

Good afternoon. I would like to thank you for the support you have given over the years and the trust you have placed in SQL Server. Thanks to you, we now shift more units of SQL Server than Oracle and IBM combined. We are now the fastest-growing database and business intelligence vendor.

##### The Problem

We have heard that you are suffering from explosion of data within your organisation. There are new data types to manage, from unstructured information, XML information, documents and videos, all of which must be managed within a data platform. You also have a proliferation of new devices: laptops, mobile phones that all contain data that need to be managed. Regulatory compliance is placing extra pressure on you to better manage your environments and have more control over what is going on across your SQL Servers within your organisations. That sets the context for how we are looking at the next version, SQL Server 2008.

##### Innovation

###### Overview

SQL Server 2008 is due to be released in the second quarter of 2008. We are looking at innovation around four key pillars: one, the enterprise data platform; two, moving beyond relational; three, dynamic development; and four, pervasive insight. When we look at the enterprise data platform, it must be secure, available, scalable and manageable. We want to make it easier to manage your systems, drive the compliance requirements you need and get the predictable response you expect. In SQL Server 2008, we are introducing new policy-based administration so you can more easily enforce policies across your database environment and manage your various servers. We are introducing new features such as the resource governor which will enable predictable response across your various workloads.

###### Moving Beyond Relational

Moving beyond relational is about going beyond words and numbers to sights and sounds. We are introducing new features such as file stream that enables you to store unstructured documents directly within the database, and introducing support for spatial capabilities within SQL Server. Unlike other vendors, we are putting these capabilities across all of our editions, and taking something special like spatial and enabling it across all of our products.

###### Dynamic Development

Dynamic development is for developers to build applications faster with SQL Server. It is about delivering those in rich offline and online modes that can be easily synchronised across applications.

###### Pervasive Insight

Pervasive insight is moving forward on the themes we laid out in the early versions of SQL Server of not only enabling you to store data, but also extract value and drive rich analytics and reports. In this release, we are delivering new capabilities for enterprise-scale data warehousing, mission critical BI and advanced visualisation for all of your ports.

##### Community Technology Preview

SQL Server 2008 will be a big release that will enable you to manage the data explosion. Today, I am pleased to announce the upcoming availability of the November community technology preview (CTP) of SQL Server 2008 which will be available shortly and include the majority of the capabilities within SQL Server. This is an important CTP and I encourage all of you to download it when it becomes available and provide feedback so we can include it within the final release.

##### Demonstration

##### Policy-based Management

I would like to show you SQL Server 2008 in action. We will start with the new policy-based management. This enables me to define policies within my SQL Server and apply them to monitor my SQL Server or enforce particular business rules. In this case, I have one database that is out of compliance. I can look at my policies and subscribe to one or multiple different ones. In this case, the policies are stored in SQL Server, but we have integration with Systems Center Operations Manager so the operations professionals can also monitor and engage in these compliance activities. The auto close policy has now been set and we can run it. With one click, I can configure and SQL Server will automatically bring that database back into compliance. I can do this on one server or all of my servers across the organisation.

##### Performance Management

Another aspect of management is managing the performance of your applications running on SQL Server. The best way is to look at the performance manager. Imagine you have a payroll application running at the end of the month; it is a critical application. Another user enters with a complex report that brings down the system. If we start a process and execute it, we can see that the payroll users are executing queries and taking up more and more of the processing power in the machine. Olga our analyst is authoring a report; it is not a well-authored report. You can see that both those workloads are fighting for resources. The payroll users are now getting an inferior experience because of the reporting user. I would like to control the performance they can expect across those workloads. With the new resource governor functionality, it is simple to enable. Within my resource pools, I will enable the slow one to use 20% and the fast one to use 80% of the CPU, click ‘execute’ and you will see my two workloads splitting. Now, my payroll users are experiencing the performance they expect, and my reporting user can continue using the job they need. SQL Server 2008 will enable predictable performance using technology such as the resource governor.

Another new feature in SQL Server 2008 is IntelliSense. Many of you asked for this. That will enable you to write better SQL faster.

##### Reporting

The last aspect of the demo is about reporting. We have had some great success with reporting capabilities within SQL Server. In SQL Server 2008, we are improving usability and driving advanced visualisation directly within reporting services. Here, I have a report that shows we sell a lot of bikes. The other products do not show up because the scale is different between the various measures. We see that our second measure of order quantity does not show up in the report. There is a new report designer in SQL Server 2008 that uses a familiar Office 2007 ribbon-style interface. It is easier to use than before. I can go in, change the chart and add a scale break to make the values of the bar chart easier to read. Next, I can add a second axis for this particular metric. There is a lot of additional functionality in SQL Server 2008 Reporting Services to drive more advanced and interactive reports to end users. I can preview this report, and you can see that it is a lot easier to use and more visual. This is thanks to the advanced visualisation capability in SQL Server 2008.

There is a lot of extra functionality in SQL Server 2008 reporting services to drive more advanced and interactive reports to end users. The report is a lot more visual and easier to use, thanks to the advanced visualisation capability that we have in SQL Server 2008. If we want it to be more advanced, we can enable 3D effects or add some of the new visualisations that we are introducing in SQL Server 2008, such as gauges. You can use gauges similar to what you would expect in your car, or thermometers, in order to manage and monitor your key performance indicators. This capability is going to enable your users to achieve greater value from the reports that you deliver. With SQL Server 2008, you are really delivering on a trusted, productive and intelligent data platform for all of your data-driven applications. Thank you very much.

Bob Kelly

You now see the innovations across the infrastructure and the operating system. Across the data tier, we are also ensuring that you have an application architecture that will scale and be robust for anything that you want to throw about it. We are very excited about that wave of innovation.

##### Windows Home Server

###### Preamble

Lest you think that everything we do is enterprise- or business-focused, I want to introduce you to a product called Windows Home Server. I expect that people out there, like me, are the IT professionals for their house. Windows Home Server is an interesting and important innovation from Microsoft, targeted right at your needs. In fact, we are excited not only about the offering that we have, but also about the breadth of hardware partners that are coming to market with us to deliver really interesting and innovative solutions. Medeon is here with us at the show and anyone who visits their booth will receive a coupon for €100 off a Medeon-based Windows Home Server. I expect to go there tomorrow and find no coupons. With that, Steven VanRoekel will now talk about Windows Home Server and give you a great demonstration of it.

###### Launch Partners

Steven VanRoekel, Director, Mid-Market Solutions, Windows Server Group, Microsoft

You have seen some amazing technology in today’s keynote, but I will ask all of you, now that we are talking about consumer technology, to enter a new frame of mind. We all know that the IT environment at home is just so easy – it is nothing like the workplace: you do not have to manage PCs or to care about the health of the network. Maybe that is not the case. How many of you today manage what you consider a server at home? How many of you are the helpdesk for your friends and family? You are like me: I have a 42U rack in my house and run a domain. Why would someone like me run a group that makes a product like Windows Home Server? For the average consumer, we have added some amazing features to this product. As Bob mentioned, Medeon is one of 14 of our launch partners shipping Home Server hardware, and that number keeps growing. Cool innovations include hot swappable drives in the front, which is part of the hardware stack that we specified for the hardware partners. There is USB on the back and eSATA ports for expandable storage.

###### Experience

To install Home Server, you would buy a machine or, for people who are knowledgeable about setting up systems, we also have a system builder software-only SKU of this product. Most average consumers would purchase this through a hardware/software partnership. Windows Home Server is new software from Microsoft, launched last week, which helps families and consumers organise the files that are most precious to them, to share those files among the PCs within and outside the home, and to protect them through some new innovation that we have built into the product.

###### Set-Up

The out-of-the-box experience is that I take this box home, plug in the power cable, plug an Ethernet cable into my router, and then walk around to each PC in my house and go through a very simple set-up programme. The set-up programme asks you five questions, three of which are yes/no questions, one is name the server and give it a password, and the last one involves looking at the orange sticker and entering the long product ID. Once you have done that, Home Server does a few things, the first of which is to put a link on every desktop. This link simply gets you to the folders on the server, just as we know that, within the workplace, we pre-populate some folders with music, photo and video server. It is nice to take the islands of information that we have in the house and put them all in one central repository.

###### Monitoring the Health of the Network

We also put a small piece of code on each client. If I hover down in the lower right-hand corner, it says: ‘Windows Home Server network is healthy’. One of the features of Home Server is to monitor the health of your network across all of your PCs. If your son or daughter down the hall is installing a gaming server in their room and they turn off their firewall to play Counter-Strike with their friends, a notification announces that the Windows firewall is off, and it tells you which PC. Imagine giving that to one of your family members so that they can help themselves, instead of calling you.

###### Back-Ups

Daily

The other thing that the code does on the client PC is daily back-up of that PC. We do full end‑to‑end back-ups of every PC in the house, every night, with no user intervention. If your machine is sleeping, we will wake it up, back it up and put it back to sleep, and you can designate what time of day you want it backed up. Back-up gives me a few options. If we go into the Home Server console, I can see all the PCs on my network, each of which I can double-click and open up a list of all the back-ups that have completed. We have done some real innovations in the way that we do back-ups on this device, one of which is just a differential back-up; i.e. we back up only the changes you made since the previous day. While that is a nice feature, real innovation comes in a new technology where we have a single-instant store in the back-up on this system. If my wife and I have the same pictures on two machines, we will back them up only once and keep track of who had them where. We have the same applications on every machine, but we will back them up only once. We do that at the bit level, so if my wife corrects red-eye on a photo and I do not, when we back it up we will spawn two instants of this in the server. Back-up is very efficient. I have been running Home Server for a long time and probably nine months of back-up for every PC in my house. I have not had to do a single thing to back those up. To restore a file, I would simply double click one, which opens an Explorer window where I can grab a file.

Full-system

We have also allowed you to do full-system restore from these back-ups. If the hard drive crashes on one of the PCs in your home, you can simply put in a new hard drive, re-boot from a restore CD that we ship out, and restore your machine. You can pick any back-up from any date. One of my favourite scenarios is that my sister-in-law has four teenagers at home. Imagine what those PCs look like after four teenagers have had their hands on them. I go to their house and set the network up how I like it. I save that back-up, let them trash it, and then just go back and restore it to the day that I was there last. It is a great innovation. We also allow you to go beyond. If your hard drive is running out of space on your PC, buy a larger hard drive, put it in and restore the last instance of your back-up to your new, larger hard drive.

###### Server Storage

We have a technology in this product that we call drive extender, which allows you to access the storage directly. If you had two hard drives on this server, with 500Gb each, there are two extra bays in this particular server. The Home Server tells you that it is running out of space, so you would simply buy a new eSATA drive, open up one of the bays and slide it in, and your server volume will grow by the volume you just inserted. We will also allow you to check a box on certain folders that duplicate them across physical drivers on the server, to make sure that you have a redundant copy on those drives. A lot of people ask me whether we implemented RAID to do that, but we did not. We go beyond RAID in that we allow you to not only have different drive sizes and to rebalance across them, but also to plug in through different buses to the Home Server. If you want to dust off all your USB drives and plug them into your Home Server, or if you want to get an eSATA chat feed that has another 10 drives in it and plug that into the Home Server, all of those drives can participate in the same storage pool on the server, so it is a great innovation. One of your testers has 28 drives connected to his machine.

###### Protecting and Sharing Content

Lastly, we take the ability for you to store and centralise your information and to protect your PCs, but also to share that content to other clients. We allow media-sharing, which is any Windows Media Connect device. It could be an Xbox 360 in your den, Sonos, or a Roku Soundbridge – any of those can natively see the Home Server, simply by you turning that feature on or off. Home Server is also a software platform, where third parties will write applications that run on Home Server. Right now, we have over 35 add-ins that are available and very easy to understand. These range from home automation – turning on or off your lights – to media-sharing and security.

###### Remote Access

Many people ask me about remote access. Another nice feature about the sharing aspect of Home Server is that we make it very easy for people to share your Home Server outside your home. When you set up Home Server, one of the options during set-up is to make this Home Server available to the outside world. We give you a free internet domain name when you set up Home Server, and a free public certificate attached to it. When you set it up, you can get any internet-connected computer in the world back to your home.

Once I have logged in remotely, I get access to shared folders. If you want to share a video file with a grandparent, you simply throw it up on your Home Server and make that available behind or in front of a password wall. If you are on holiday and fill the chip on your digital camera, I just go to the business centre at the hotel and upload all my photos back to my Home Server. It allows me to connect back to the Home Server.

If I have an important file that is sitting on a desktop, the other feature of Home Server’s remote access is about giving me secure, remote desktop support to all the desktops that I have in my house. I also have access to the remote server console. You might ground the son who installed that games software, so you can go in and change his access to his music file.

###### Conclusion

I have merely scraped the surface in terms of the product features, so please stop by at our booth and check it out as a way to share and protect the PCs and memories that are most important in the household.

Thank you.

Bob Kelly

Thank you Steven. So you all want one do you not? It is a great product, we are really excited about it. I do have to correct an inadvertent mistake from Steven. This is a Medion device, not an HP device, no disrespect to our friends at HP, Medion has that promo down at the booth so please go take advantage of that, we are really very excited about this release. So delivering on dynamic IT, we have taken you now along a journey from Windows Server, to Virtualisation to Systems Centre, to sequel to Windows Home Server.

We are on a path, a wave of innovation around dynamic IT that started earlier in 2007 around Vista and Office, and is exploding as we run out now for the next six months. We are very excited about the innovation that we are bringing to market, we are convince ed that these tools that we are bringing to market are going to help you do your job better than you have ever been able to do before.

##### TechNet Edge

As I stated at the very beginning of the conversation, this event is about you. This is about a dialogue between Microsoft and you, and ensuring that you have the experience and can have the hands-on capabilities that you want to have to really understand the technology and to give us great feedback. As a part of that, we are also announcing a new place for you to go and participate with Microsoft, called TechNet Edge. TechNet Edge is a way to supercharge the relationship between you and Microsoft and will bring to TechNet, live viral quality, such as video, blogging and things such as this event here, virtual event, are all going to show up on the TechNet Edge site and really give you a balance between the deep know-how of TechNet, and that experiential, community, transaction‑orientated conversation you want to have, when you what to have it.

##### The Rest of the Week

We are really excited about TechNet Edge, we hope that you find its innovation something useful for you, and something fun for you, as you do your job. That is dynamic IT, now the rest of the week you have an opportunity to go to labs, go to sessions, go to hands-on labs and really get your hands dirty with the technologies. Please take advantage of it, push us, make sure that we deliver what we say we are delivering, give us the feedback and ask the hard questions.

We love this interaction, it is interaction that makes us who we are, and hopefully enables us to deliver new, better and more scalable reliable solutions for you, as you do your job as an IT Pro or developer. With that, thank you very much, and enjoy the rest of IT forum.

**This Full Transcript was produced by Ubiqus (+44 (0)20 7269 0370)**