

FINAL TRANSCRIPT

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SYMC - Symantec at Goldman Sachs Software and IT Services Retreat: Desktop Virtualization Panel

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Derek Bingham

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PRESENTATION

Derek Bingham - *Goldman Sachs - Analyst*

Alright? Alright, great. We're going to try to get going right away and stay as close on schedule as we can. I'm Derek Bingham from the software team, and let me also introduce Krishna Kakarala here at the end of the row, who's part of our emerging technology research and has done a lot of the real deep dive reports on the Desktop Virtualization space.

We have a really top-notch group of panelists here with us, and we're very grateful for all of you to -- for joining us. Maybe -- I think the best thing to do would be to let each of you just introduce yourselves and give a real quick background of how you fit into the virtual desktop ecosystem, and then, also, as part of your introduction, why don't you kick it off by just giving us your quick thoughts in terms of if you think about what the desktop looks like 5 years from now -- what is that vision for you? And why don't I start it with you, Jeff?

Jeff Jennings - *VMware - VP Desktop Products*

Alright. So, my name is Jeff Jennings, and I'm responsible for product management and marketing for the desktop products at VMware, and just talk a little bit about the desktop vision.

In 5 years or so, what we expect to see is a desktop that's deconstructed, where you have the different components of the desktop able to be managed separately, and that the real value comes from being able to recombine them at will in order to provide a dynamic environment where the user can access whatever they need, at whatever time on whatever device. And, so, we see that virtualization is a key component in deconstructing that desktop and being able to bring it back together again. So, that's a quick synopsis.

Derek Bingham - *Goldman Sachs - Analyst*

Perfect.

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Ken Berryman - Symantec Corp. - VP Endpoint Virtualization

So I'm Ken Berryman. I lead the Endpoint Virtualization product group at Symantec. So, that's all of the businesses that have to do with Endpoint Virtualization technology.

I think in 5 years, similar to what Jeff just described, we see a world where the user is disconnected from the device, so you have a workspace that is fully portable, that travels with you to whatever device that you have.

Inside of that workspace, you have applications that you have access to from many different types of delivery models. So, some of them continue to execute locally on the -- on whatever device that is. Some of them get delivered from the clouds. Some of them get delivered from the data center.

The idea is, you don't know and you don't care. As a user, you get to be productive with what you have. The IT shop knows and cares, because they are using those different delivery mechanisms to drive down the cost of endpoint computing, and to improve the management, security and reliability of endpoint computing.

So the world is separation from the device, user experience continues to improve, IT costs goes down because the virtualization technology that vendors like us will offer, allows that separation to take place.

Mike Cristinziano - Citrix Systems - VP Strategic Development

I'm Mike Cristinziano. I run Strategic Development at Citrix. That's primarily M&A, and I share the same vision as both Jeff and (crosstalk) -- You know, I'd go on to say that the real benefit that this separation of concerns leads to us total cost of ownership reduction, while at the same time improving the enduser experience, to the point where endusers will want to do their desktop this way.

CIOs will want to deliver their desktop in this way virtually as it will allow for customers and users to be happy, pull the service and the management costs, and the problems you run into in today's world eliminated.

Harry Ruda - Desktone - CEO

Good morning. My name is Harry Ruda, and I'm Chief Executive of Desktone, perhaps a company a little less well-known than my illustrious co-panelists here. You may know me better from my previous company, which was Softricity, where I was the CEO and cofounder, and got me first into the virtualization game, where we did application virtualization, so Softricity ended up being acquired by our friends at Microsoft.

Desktone is kind of evolutionary to that, and really, talking about a vision here, what I see is that there's going to be some coexistence in the virtual desktop space, that there'll be implementations of virtual desktop that companies will embrace through existing platforms, but also there will be an offering that enables companies to take advantage of virtual desktop through a service provider, through third-party hosted services, by companies like Verizon and IBM, and what Deskstone does is really implement and enable those service providers to provide that third-party desktop as a service or desktop in the cloud.

Derek Bingham - Goldman Sachs - Analyst

Alright, thank you.

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Tarkan Maner - Wyse Technology - CEO

Tarkan Maner with Wyse Technology. We're quite well-known. (inaudible) company. How many of you know Wyse? W-Y-S-E. Wyse. Wyse.com. Raise your hand if you know. About half of the room. We started our business in 1980. We've been around about -- around 29 years.

This is our 29th year, and we are in the client virtualization -- by the way, we should change this topic title to Client Virtualization, because we do also laptops, not only desktops, very important point. We've been around, as I said, 29 years, private held Company. Public, private -- couple of times it went public. We took it private in 2004.

This Company has done servers, PCs, and, more importantly, (inaudible) for the past 29 years. And we kept our market leadership in that space for the past 29 years. We do client virtualization software and hardware, do (inaudible) thin clients companies art space. Now the new terminology is into obviously client virtualization, and two hot topics.

Green company and cloud company is our space. In the previous presentation, a couple of people kind of funneled flat computing and green company in different ways and so forth. I heard IBM is in the application business right now. That was interesting. But, overall, we believe in the space, and the space is growing heavily, and we are approaching it as both from a software and hardware perspective partner, and everybody at this space -- at this panel, and glad to be here.

Derek Bingham - Goldman Sachs - Analyst

Great. Well, now that we have some perspective on the long-term vision for desktop virtualization, like to dig into what that means in terms of market opportunity dollars or seats, and I'll focus this question to you, Mike and Jeff, first, because I think the analysts have already baked in some desktop virtualization revenue into their '09 forecasts for your companies. So, what I'd -- it's sort of a multipart question.

What you think about when you look, say 5 years ahead, percentage or proportion of enterprise desktop piece, you see utilizing this kind of technology, and then, also, address some of the hurdles both from a business perspective and technology perspective that need to be addressed before we get to that future state, and, then, where you see that tipping point occurring, where we get beyond the early adopters and move into the early majority, and even technology laggards adopting this technology. So, Mike, we'll start with you and then move to Jeff.

Mike Cristinziano - Citrix Systems - VP Strategic Development

Sure. Well, when we come at the virtual desktop market and look at our Zen desktop offering, it's a natural evolution from where we began and still participate with our Zen app virtual application delivery product, and if you start there, we've managed to build a billion dollar-plus business, really just getting an inch deep into the global fortune 2000 and the midmarket.

There are very few companies that have standardized on Zen Appware. All of the applications in the desktop by default is delivered via Zen App, and you might ask, why is that and how does it change in the future? So a billion dollars, just tip of the iceberg. The way to view it is, there's a 500 million enterprise desktop that are available to target. And your question is, how fast do you -- how many do you get and on what trajectory?

The way we think about it is, the Zen App business has seen maybe, if we had to use a guesstimate, 7 million. It's the only desktop that an enduser out of our 70 million touchpoints, 70 million endusers, are using Zen App, but only 10% of them, say 7 million, are actually using it for everything. And, so, when you look at 500 million, that pales in comparison. So I think that's the magnitude of the addressable market. You might also ask why haven't we done better, and there are certain obstacles that led to this niche market as opposed to a mainstream market, and what we think is, virtualization has come along, and the form -- first in the form of VSX and Zen, which is becoming pervasive and Hyper V recently launched, it changes everything.

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It allows the customer to remove the obstacles that have prevented more widescale mainstream adoption. Those obstacles are things that range from the customizability personalization of the desktop, app compatibility is another one, some apps are hard to get the work on Zen App versus an XP image in a virtual machine.

And there's a few other things that -- slowly but surely we knocked those things down, and virtualization is really, I think, the final thing that had to happen to allow mainstream adoption. So, with that said, it's still new. And, the cost equation isn't right now nearly as attractive as the Zen App solution, but customers have to be willing to pay to knock down those remaining obstacles.

Our design point is for 40% cost reduction over traditional desktop management for desktop products, and to get there, we've done some innovations that leveraged what we've done in Zen App, which includes the remote presentation protocol, some of the brokering technologies, some of the security technologies, and now with Zen, a complete solution, all from one vendor.

The other thing is, I think, delivering on what I heard Jeff say earlier, which is the separation of user data from the apps, from the operating system VM itself is instrumental in reducing the cost further and minimizing the storage footprint that you get, and really not just the footprint of the storage, but the cost of managing images. I think that adds up real fast.

So, as those things finally get conquered, I think there's no reason every desktop can't be a virtual desktop. I think it enables whole new models, like Citrix it turns out is one of the first companies internally to have a program where we encourage employees to buy their own laptop or PC, and they buy it. We pay them some money for it. They can buy bigger, they can buy smaller, and then they use our infrastructure to get their virtual desktop delivery.

So, we're living proof that this can work, and it's a new program, but we think that every company will do that over time. Some will get it from the cloud, some will get it from the internal cloud in IT, and there's no reason over a long period -- I hesitate to predict how long in answer to your question, but that 500 million desktops all ripe for adoption.

Derek Bingham - Goldman Sachs - Analyst

Just a quick followup. You mentioned the target is to get to a 40% -- is it 40% reduction from the current --

Mike Cristinziano - Citrix Systems - VP Strategic Development

Relative to traditional desktop management, yeah.

Derek Bingham - Goldman Sachs - Analyst

So, when do you see us getting there? Are we there today, or is it --?

Mike Cristinziano - Citrix Systems - VP Strategic Development

Yeah, I think in -- every customer's a little different, depending on how automated they are, and what's the dating is say on the desktops themselves. One of the interesting things to note is virtual desktops actually allow you to continue to use the existing desktop instead of -- you can actually delay a refresh as a result of doing it virtually. So, but that's just another different.

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Derek Bingham - *Goldman Sachs - Analyst*

So, Jeff, you come at this from a different perspective. Citrix's had a long history in terminal services, again, where it's very well-known for strong presence in the server virtualization market. How do you -- how does that give you a different perspective on how this market evolves, or --?

Jeff Jennings - *VMware - VP Desktop Products*

Sure. So, VMware got into this space because of customer demand quite literally. This was back in 2005. The Company was really focused on selling server products and adding value there, and we had a number of customers coming to us and saying, hey, we can run desktops on this and it's good for these types of use cases, and so we looked at that and said, yeah, you're right. We need to build on that.

And, so, we started really taking a very serious look at that. One of the things that our customers told us very clearly is that they were benefiting from virtualization on the management on the server side, and what they wanted to do was extend all those management benefits, that very quick provisioning being able to reflash a virtual machine, being able to move a virtual machine transparently between two different types of hardware.

They were asking for those types of features but on a desktop. And so they saw this as a way of achieving that, and so we very quickly looked at that. We had the same analyst report with the 500 million business PCs, and absolutely that's a market that we think is ripe for this type of technology, not just because 500 million is a lot of desktops, but because we think virtualization can start solving some of the very, very basic problems that all desktops have.

And I think that the thing that strikes me is that there's a lot of questions about how do I get time to value around desktops, and I'm sure we're going to talk about that a lot on this panel, but once you get past that question and say, is it something that you think you need, all of the customers say yes. I need to improve management.

I need to improve security and I need a way in order to deliver my applications to users on a variety of devices and mobility. All of those resonate very clearly. In the short-term, I think that the addressable market for virtualization of the desktop is clearly around financial, around healthcare and we're also seeing a lot of call centers, in cases where security and quick manageability is very important. And so that's a relatively small segment.

I think that as we improve the technology, and as we add new features, and one of them for example at VMworld this year, we announced client virtualization, so we're going to be able to bring out a virtualization platform that runs on an endpoint, so a laptop or a desktop. It will be able to integrate into the same management environment, so you will manage the same as you would a server environment.

You'll also be able to enhance security by ensuring that the disk is encrypted for example, and the result is that we won't dictate a particular form factor to you. If you want server-based, that's great. If you want client-based, that's great. But what you're going to benefit from is this enhanced manageability with common interface for doing that, and the security that we can layer on top. And once we do that, we think that the addressable market will significantly open up. In fact, a small percentage would be reserved at the top for applications that maybe aren't suitable for virtualization, of which there are a few.

Derek Bingham - *Goldman Sachs - Analyst*

So, in terms of specific timing, if you have any visibility into that -- when we open up the use case beyond financial, healthcare, call center?

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Jeff Jennings - VMware - VP Desktop Products

So I think it'll start happening in larger numbers in 2010.

Derek Bingham - Goldman Sachs - Analyst

Okay.

Tarkan Maner - Wyse Technology - CEO

Let me give you actually some of the perspective, obviously, for the hardware company with some software when you compare with the rest of the panel.

Based on our market data, about 5% to 6% of all enterprise desktops and laptops are actually using a Thin Client approach, with the Thin Clients that you would buy from Wyse, or a PC user's a Thin Client, because PCs also can be repurchased as Thin Client software. Only 10% of that 6% is truly a client virtual environment.

Because virtualization's a little bit different than a Thin Client. Thin Client can add more value to the virtual environment. So when you look at it from an enterprise client perspective, less than 1% is truly client virtualized today.

However, with the new software from these vendors at the panel left services, you heard about cloud computing, all the green initiatives, security issues, software is a service -- actually take that software as a service to the next concept, IT as a service. So our desktop is a service (inaudible). Now, you're talking to a customer. It's our facts, not from (inaudible), from the customers.

In the past, they only used these technologies for their call centers. Now, with all these capabilities and reducing costs, they are moving to all their task brokers beyond, now into knowledge workers and their mobile workers. Now we're talking about customers, large banking institutions in this market that are purchasing these type of devices and software for the 70%, 80% of the business. And, actually Goldman is one of them.

You have only 5,000 Thin Clients. I'm going to talk to your CIO. It's a crime not to use these things in a client virtualize environment, and using still these Fat Desktops that you need to manage, secure for no reason. So, from a timing perspective, 2010, I think it's the right timeframe. I think we've seen this in '09.

This is the time to go this way. Big banks, including Wall Street, in these tough times are investing in the space. We have large banks in London and the USA told us -- out of 20 projects their CEO is continuing this specific project in client virtualization vis- -vis the other IT projects, because it's a cost-saving issue, a social issue, it's a green issue, it's a cloud computing issue, and all the ecosystems help in that kind of a drive. So we are expecting moving from .6% of penetration in the space even larger penetration. On top of that, on the small/medium business environment, now Telco -- as you heard it from Verizon, now Telco's getting space. They are providing desktop as a service to their clients as an annual fee, or a monthly fee, and from that perspective also, there's going to be a big surge, we believe.

Derek Bingham - Goldman Sachs - Analyst

Ken, I'd be interested to get your thoughts, -- I'm hearing 2010, I've heard that from a couple of people. I'd be curious to hear if you agree with that, and then, also, as the desktop virtualization wave plays out, are there certain -- there's lots of different flavors of desktop virtualization -- there's terminal services, there's app streaming, there's server-side VDI, client-side VDI. I mean, if you had some thoughts on it, if one of those is an easier case to make maybe in a touch year like 2009, maybe leads the charge as others follow later.

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Ken Berryman - Symantec Corp. - VP Endpoint Virtualization

Sure. So, I think pointing to a year-end thing, that's going to be the year of desktop virtualization really isn't the way, at least we think about it. As you mentioned, there are a variety of different technologies, all of which have a place in the enterprise, and all of which have their own ROI, their own time-to-value story, and when you look at the way these things have been deployed, many of them reach, 10%, 15%, 20%, of endpoint, but nothing in the end reaches 100%.

So the idea is, how do you take advantage of application virtualization? Application streaming? Various different flavors of desktop virtualization. Presentation virtualization in a common framework with a common set of management tools, a common approach to security, a common approach to managing and controlling your information, and that's really what we're trying to do at Symantec.

When we look at our endpoint footprints today, many of our products are on tens of millions. In fact, our endpoint security product has more than 100 million endpoints today, so we have experience with very broad deployment in terms of number of endpoints out there, desktops and laptops, for these types of technologies. And you don't tend to see really rapid (inaudible) of adoption for this kind of stuff.

What you see is, enterprise is steadily adding to the technology that they have in the field today, driving benefit from pointwise application in a common framework where they can use the same management tools to steadily drive value down. I would argue that the two barriers that we have right now standing in front of all of us, and there are really only two. One we haven't talked about yet, and that's user experience.

If you make user experience more difficult than it is today, you don't get adoption, and that was -- has been the problem with many of these technologies thus far. I think what we're starting to see is that you can deliver steadily improving user experience, you can give folks what they expect from their computing experience with the virtualization technology inside of it without dramatically changing what they're doing.

So, that's one barrier that's being solved. I think the second barrier is cost of implementation. If you need a lot of new servers, if you need a lot of new infrastructure, it's going to be difficult in this environment. That barrier is solved by layering on top of what enterprise is already having minimizing the upfront investment. So I think for us, what we would argue is that depending upon the type of enterprise -- and we're seeing adoption across all industries, financial services, healthcare, government, higher ed, obviously are the top contenders, but we see lots of interest in retail.

We see lots of interest in basic manufacturing, because some of the use cases are really around creating that mobility of experience, driving out the cost of that experience. The number that we typically see for the annual cost per endpoint per user in enterprise, is anywhere from \$5,000 to \$7,000. \$5,000 to \$7,000 for each one of those devices per year, and that's not all hardware costs.

If going to Thin Clients can give you some benefit, but the majority of that cost is the management cost, the internal help desk. It's the calls to have somebody come out and reimagine your machine. All of that we can attack with a 30% or 40% or even greater savings by applying a combination of existing management techniques and the new benefits that the different approaches to virtualization can bring.

This is not a one size fits all solution. It's a how do you take the complexity out of the different approaches that are there, and give customers a new way of thinking about it.

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Derek Bingham - *Goldman Sachs - Analyst*

Harry, I wanted to also give you a chance to respond on this. You have a -- if cost implementation is a big hurdle? You have a unique delivery model that you're working towards. How might that change delivery?

Harry Ruda - *Deskton - CEO*

This is a great segue into Deskton and our whole concept of desktops as the service, quite frankly. The economy being what it is, there's a heavy emphasis now placed on cost reduction. We see two kinds of costs, of course.

Capital expense, capital expenditure and operating expenditure, so the idea of desktops as a service of desktop in the cloud, is really one way of avoiding capital expense, because you turn your virtual desktop over to a third-party service operation and you're charged on a monthly subscription basis like other services, and the service providers are typically known brands, Verizon, IBM, Hewlett Packard, these are the early adopters of these cloud services.

But the other interesting thing is not only do you eliminate the infrastructure cost of actually setting up your own infrastructure to support BDI, but as you look at operating expense, Mike talked about a target of saving say 40% over the cost of existing PC support.

What we're seeing, and we've got a case study coming out with one of the early adopters, happens to be an IBM customer, off an IBM service. They're going to speak to a 60% cost savings over their annual PC deployment and support costs. We're seeing other customers now looking at implementing this desktop as a service, that are experiencing, and are likely to experience, 50%, 55%, 60% cost savings.

So we're not only talking about an elimination of the capital expense of building an infrastructure and supporting a BDI infrastructure, but also a dramatic decrease in ongoing annual operating expense. So we think that cost now becomes a compelling reason to actually adopt virtual desktops, where up to today, there's been lots of positive reasons for virtual desktop as being deployed, and I think we've spoken about some of the security, central management, all of the above, but PCO has been perhaps a constraint, and I believe that when we talk about the percentage, and how many desktops will be adopted, I'll leave that up to the analysts and whatever.

We're seeing the early signs right now of actual generally available services by major service providers coming out. We're building on our platform and we believe that there's a very compelling cost issue for actually adopting these services. So, you'll start to see more and more of these services come up on 2009, and by 2010, I think they'll be globally available.

Derek Bingham - *Goldman Sachs - Analyst*

Harry, for your hosted model, who ought to be the early adopters? Are these --

Harry Ruda - *Deskton - CEO*

I think Jeff indicated some early adopters. We see the same thing. Call centers. If you look at vertical markets, our chief vertical here is financial services. Unquestionably. We're seeing opportunities in the retail space.

Pharmaceuticals I'd say would be the first adopters. Education being another one, and that's the case study that's coming out is a big school system. In terms of use cases, I think call center is one of the largest early adopters of this. It's relatively easy to implement in terms of the applications and the kind of desktops that need to be supported. We're seeing offshore developers, another use case.

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Knowledge workers I think will be the early adopters. I don't believe that one size fits all. I completely agree with the tenet that there'll be a coexistence of different virtualization technologies, client side virtualization, server side virtualization, thick client, thin client, whatever, but ultimately there's going to be a service component here which is going to be undeniable, and a certain percentage of this will be based on a hosted model, and I believe it's a huge opportunity right now.

Derek Bingham - *Goldman Sachs - Analyst*

Let's shift gears here for a minute, and think about the implications for the hardware vendors and the chip vendors of desktop virtualization, and, Tarkan, since you come from that market as a hardware vendor, we'll start this topic off with you. As we talk to customers in the market, and you mentioned actually Goldman Sachs is a large -- has large deployment of virtual desktop.

Tarkan Maner - *Wyse Technology - CEO*

Not yet. You need to --

Derek Bingham - *Goldman Sachs - Analyst*

Well, on the software side, we certainly use the technology, although we use traditional PCs as endpoint device. We also hear about Thin Client devices, zero state devices, and also thinking more broadly, using smartphones and mobile internet devices as access points to a virtual desktop in the data center.

Wanted to get your thoughts about how all these technologies on the hardware side play out, and also think about them in the context of both the connected use case as well as the -- you mentioned laptops are another device that lots of people use, and how the offline use case plays out as well for hardware.

Tarkan Maner - *Wyse Technology - CEO*

So, all these things you talked about are driving obviously the surge for the client virtualization, whether that client is a desktop PC, a laptop PC, or a smartphone. Like (inaudible) was talking about from Verizon earlier, because all these target devices at the end of the day should be appliances.

You asked earlier question, what's the next 5 years? In the next 5 years, basically what we're going to have is an application, voice, data, video, all in one. We have TVs, we have phones, we pay \$1,000 for Cisco IP phones which is a Thin Client basically. It does only make a phone call, right?

What we're seeing right now in the marketplace is that customers want one device does it all. Now, this device might be your smartphone, your desktop or your laptop client. It's going to depend on the enduser, but what we are seeing is, it's triple play, voice, data, video, all in one. So, at the end of the day, the device needs to deliver the user experience, on these three types of rich content based on the applications which are going to spit out that content over the internet or over published applications within the company, within enterprise or divided in network or land.

So, within that concept, the device is actually less of a problem. Issue is, what (inaudible) you going to use, what content you're going to see or hear, and what kind of applications you're going to use for that type of content, based on the user within the enterprise. So, in order to accomplish that, obviously you need (inaudible) chips.

Now, in our devices now we have GPUS, graphical processing units. It's high definition TV quality. With these TVs, with a Thin Client now, and that Thin Client actually does the phone calls for you over the IP network. It's your computer for all your

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applications, and delivers video to you. So, in order to accomplish that, obviously, we're pushing our chip infrastructure of vendors to have faster chips, better high-definition TV quality.

Think about your cellphone. You're holding your cellphone in your hand, making phone calls as you're listening to the panel. In that cellphone there are 5 different chips. One for the cell coverage, one for the application, one for the GUI, right, one for the OS running on that, and one for the other systems running on -- in the (inaudible) of that device.

All those chips are going to be one as we move forward. It's going to be a system on a chip model. It's happening already in Thin Client. In Thin Client, unlike a PC which requires all the Symantec software on the top of that, you have all the stuff, right? All the chip infrastructure would cost money. All the flash.

You just mentioned, everything going into a TV model. You push your own buttons, content comes in better. It's video, data or voice. You push the button. Everything goes back. My mother still is having a hard time to turn off her PC down, because she cannot (inaudible) if she needs to go to start button to turn it off.

That computer model is going to change. And it's changing right now. And that change is going to happen from the user experience perspective like Ken said. Voice, data, video and the infrastructures support that in a combined integrated model, and that's what we're seeing happening.

With that kind of user experience delivery, we believe both in the enterprise market as well as the SMB space and through desktop as a service in the consumer space, these type of appliances are going to take over that old PC model.

Derek Bingham - *Goldman Sachs - Analyst*

Ken, I know you have a different perspective on this. And if you look at the data of PC sales, laptops I think have now overtaken desktops as the primary device sold in the PC market. Love to get your thoughts on how virtualization will play out in following that trend.

Ken Berryman - *Symantec Corp. - VP Endpoint Virtualization*

Sure. So I think there are a couple of things that are very important to recognize. One is that building on exactly what Tarkan said, we're going to see an increasing complexity in the number of device types, and, in particular, a lot of devices that are tailored not to the desktop of today, but to particular kinds of applications.

That's already happening -- first happened with email. That's how Blackberrys got to be so popular. It was a device that was particularly well-suited for a single application, and it was just a much better way of doing it than trying to do a full desktop on a device that would fit in the palm of your hand.

So we will see more variety of devices, and if you just look out at the audience here, there are a lot more Macs here this year than there have been in previous years, right? That's another place where you see more diversity of device types. And, so, for virtualization, what that means is that you have to support the full range of platforms.

You have to be focused in my view not so much on the desktop, but really on the application. What users care about, what any of us care about, are the applications that you're using at any particular time with any particular device. And what we should focus on is how do you get the right application to the right device at the right time dynamically in the most well-managed, most well-protected, lowest cost way?

I think when you're using virtualization technology to do that, you're benefiting the enduser and you're driving down the cost of IT. If you're using virtualization technology, push in particular device type or any particular model, it's running against the

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overall trend. So the overall trend here is -- and the hardware providers are working in this direction and the silicon providers are working in this direction -- build some of the underlying virtualization technology in to allow the same tools to ride across the top of all of them.

Derek Bingham - *Goldman Sachs - Analyst*

One more big topic that I want to throw out to the group, and then we'll give the audience a chance to ask questions. If you have some questions, get them ready. It's Microsoft. And they have the hugest stake on the desktop right now in its traditional form. And maybe I'll start, Jeff and Mike, with you.

But everyone feel free to chime in because I'm sure there's some strong feelings here, but is this going to be a benefit to Microsoft? Is this a threat to Microsoft? Are they going to be a player in this space? Are they going to be dragging their feet? What do you think about how this plays out to Microsoft, Mike?

Mike Cristinziano - *Citrix Systems - VP Strategic Development*

I'll go first. Citrix for many years has a close relationship with Microsoft. The -- on this topic of desktop virtualization, I think it took them a while to get it, and I think they might have been waiting to have their own -- their middle high provider available. With that said, they I think are approaching this -- what you said is very much how I think Microsoft thinks about desktop delivery and management.

There is no one size fits all. No continue under the banner of systems center to compete with Symantec and others to deliver on that vision that you talked about. But when it comes to desktop virtualization, there are certain things that are not core competency today at Microsoft, and those things are actually the things that they, together with us, have worked in the terminal server, presentation server and now Zen App world to really refine.

And, so, in this particular area of hosted desktop virtualization, Citrix has emerged as the go-to market partner best friend of Microsoft, mirroring the model that we put in place over the last dozen years or so, and so I think they are ready, willing and able to deliver with Citrix on a hosted virtual desktop model.

I think that's true in an executive sponsorship level all the way down to the field, where the field is incented to make this happen. A lot of it actually has -- it was very good for Citrix. I can just imagine -- we have our friends at VMware to thank, because I think Microsoft knows that if they don't it with us, VMware could end up running away with this space.

So, I think that's a line and they are very much -- as long as they're going to get paid, get behind this type of model. So what this is about is -- it may disrupt the -- how the Windows operating system finds its way into customers. It changes the model. It could -- in one scenario it could result in the PC OEM not shipping a Windows OS, which, if you're Microsoft that's a pretty scary proposition, given you have a monopoly, why change anything, right?

So, but at the same time it is the Windows OS, and that OS needs to be licensed, and when it gets licensed, Microsoft gets paid. So if it's good for Windows OS, which we think this is, it'll find a home.

Jeff Jennings - *VMware - VP Desktop Products*

So, good for Windows OS. We thought that would be that way on the server side, and it has been to some degree, but they've gone and done their own thing, and I think that ultimately they'll do the same thing from a desktop perspective, because it's going to end up being a very critical piece of their business, since their desktop revenues are huge.

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But with that said, they haven't articulated a clear strategy around any of this, beside their partnership with Citrix, and so I think that there's a couple of factors that play into that. The first thing is that they're really just getting their heads around virtualization, and they're working hard on the server side in order to try to catch up, and they just really haven't spent the time on the desktop side to make that commitment and move forward.

Waiting and seeing is not an unusual strategy for Microsoft, and personally I think that's probably where they're coming from. With that said, they have assembled a few components.

There's App V which is the Softricity acquisition, and that gives them application virtualization. They did make the Cordaro acquisition, which was the desktop management piece that they had in their portfolio. So I wouldn't say that they're completely just sitting around and not doing anything, but what they haven't done is articulated a clear strategy of being opportunistic, and certainly in the future at some point we'll see them out in the marketplace.

Harry Ruda - *Deskone - CEO*

I don't claim to have any insight or insider insight into what Microsoft plans on doing. I don't think anybody can really state that. Me, I see this is as Microsoft is playing a hedge, if you will, on this market.

They are placing certain bets on virtualization and desktop virtualization, partnering with Citrix certainly. Some of their recent announcements with server virtualization and their announcement of certainly coming into the virtual desktop space, but at the same time, the key to Microsoft, I think, is the whole licensing strategy.

As goes their licensing strategy, so goes Microsoft, and I haven't seen any dramatic change in licensing for Windows. For large corporations, of course, that happen to be on SA subscription agreement, there's B, C, D licensing now which allows a Windows -- a desktop Windows operating system to run on a server, and on a concurrent basis for certain numbers of desktops. Maybe that's the first movement, if you will, towards a virtual desktop.

But until they fully embrace that, Microsoft is going to hold back, because they're not going to threaten their basic franchise here in Windows, and selling Windows operating systems on PCs, and I think they've started to make some moves in the applications space, specifically on Office with announcements about Office Live, so now you're going to start to see them embracing the clouds somewhat with some of their applications, but until they make any dramatic changes on licensing, Microsoft is still, from what I can see, still based on, I'm going to be pushing Windows through my PC channel, and that's it.

And it would be nice if they were to relax a little bit. My old product, Softricity, SoftGrip, they just announced a SPLA license for, so service provider license agreement, which is nice to see. When they do that with Windows, then we'll see them make a major change.

Derek Bingham - *Goldman Sachs - Analyst*

So in the interest of being maybe somewhat controversial, create maybe a good entrance for questions, I think there are two areas that are real challenges for Microsoft, and where they are providing some resistance to the adoption of the kind of technologies that we're talking about, and Harry said on one of them, it's licensing.

But there's an aspect of licensing which is very challenging for Microsoft. One of the easiest ROI cases we have to make is moving to more realtime management of licenses in the enterprise, and particularly going after licenses like Vizio and Project, which a lot of people say they want, and actually never use.

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And when you start using our application streaming technology to track actual use of those applications and pull the bits back when they're not being used anymore, you can dramatically lower the licensing costs. Well, the same technology could let you license on a minute-by-minute basis for use of any applications.

So you could actually move the per-use licensing to most of the applications -- obviously something they don't want to do, obviously something customers would love to do by and large, because it would dramatically lower the cost of licenses. So that's one area.

The second area, and it was brought up by Michael, is the operating system. With some of the virtualization technology that we have, and, in particular, as you see more hypervisors shipping either in the chipset or out the door on the PC as it goes out the door, so hypervisor on the endpoint, you can start to run applications like the browser on top of Linux and not have the user know.

Have the exact same experience with Firefox that they have on Windows that you would have on top of a different operating system. So you can imagine carving away applications with different operating systems underneath, because the virtualization down below lets you do it.

That's an enormous threat to Microsoft, and they're going to fight that tooth and nail all the way. Unclear how long they'll be able to hold that dike though, because once the hypervisor's there, it's relatively straightforward to do.

Derek Bingham - *Goldman Sachs - Analyst*

We just probably have about a minute if there's a question or two.

Unidentified Audience Member

Yeah, how soon will we see the knowledge worker use case become real in the enterprise?

Tarkan Maner - *Wyse Technology - CEO*

The question is how soon --?

Unidentified Audience Member

So knowledge workers are, as you had pointed out, not one of the earlier waves of adoption, but -- so when is that going to happen?

Tarkan Maner - *Wyse Technology - CEO*

We've seen that already happening, in government, in financial services, in obviously healthcare because of the HIPAA regulations. People don't want to use an unsecured PC. You're seeing these things happen right now. We believe in '09 it's going to --

Unidentified Audience Member

Does that include -- what I really meant to say is the occasionally connected somewhat mobile use case?

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Tarkan Maner - Wyse Technology - CEO

So, on the mobile use cases, that's why we have now (inaudible) think line, solid state lines with no hard disk, even no flash, and we have tremendous pipeline happening now as we speak. Second half of this year, we already started doing that, and we're seeing a huge pipeline for '09.

Derek Bingham - Goldman Sachs - Analyst

So VMware will have a client virtualization piece that will run on a laptop, and that'll be next year.

Jeff Jennings - VMware - VP Desktop Products

We run on a laptop today, so we stream applications for the laptop. You can set it so that it's fully installed, so -- and this is to my point about you have to support a full range of models.

Laptops aren't going away anytime soon, and laptops are disconnected plenty of the time. Ubiquitous universal bandwidth is just not there and won't be there. So you have to support it, but the reality is that with some of the technologies you see out there, it is supported today.

Derek Bingham - Goldman Sachs - Analyst

Unfortunately, I think we're -- we have a question

QUESTIONS AND ANSWERS

Unidentified Audience Member

Can I ask just one quick question -- kind of play devil's advocate? Because as I walked out of the room, I bumped into a couple of investors who said, this is all very interesting, but you know what, times are so tough I just can't listen to a topic on desktop virtualization, because I don't believe it's going to happen anytime soon.

So, that's definitely the real bear case, but within your companies, and maybe it's more around the -- a public company question, are you paring back your investment, or how are you thinking about moderating for a tough budget environment where people probably don't want to buy something new right now, versus 3 to 5 years from now you think it's a really big deal.

Mike Cristinziano - Citrix Systems - VP Strategic Development

So, for Citrix we're looking across the board around cost containment, and we've committed to expanding operating margin, protecting UPS, even if next year it becomes a tough revenue growth year. So -- but that's across the board.

I would go on to say that we -- in areas that we've found savings, we continue to funnel those savings into new growth initiatives, especially Zen desktop. And for us it's not a new thing. For our customer base, it's a natural evolution of what they've been buying from us for many years. It just allows them to address more users and more apps from one vendor, Citrix, who's been delivering this with Zen App, so we don't see it as new. We -- our pipeline is well ahead of our expectations. It's triple what we thought it would be at this stage, having shipped in May, and we remain bullish.

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Ken Berryman - Symantec Corp. - VP Endpoint Virtualization

So for Symantec, we continue to invest in growth. We continue to invest in virtualization of all kinds with heavy emphasis on virtualization at the endpoint, because what we hear from customers is it is actually one of the faster ROI, faster time-to-value stories, with things like license reduction, with things like solving some of the mobile use cases, and particularly in compliance-heavy places like healthcare.

So, it's an area we're going to continue to invest in, and we see a very strong pipeline there. I think it's -- it is important to note as well that we view this as fundamental technology that changes lots of other categories. It's not just about virtualization, it's about management and security and a physical and virtual world from the endpoint to the data center, and that's what Symantec is going to continue to build.

Jeff Jennings - VMware - VP Desktop Products

VMware is putting out the desktop into a separate business unit in order to have more focus. Our new CEO feels so strongly about that, and from a hiring perspective, while the rest of the Company is on a bit of a hiring pause, the desktop is an investment area for the Company.

Derek Bingham - Goldman Sachs - Analyst

Alright, well, unfortunately we've got to lock it down. But, I'm sure you can catch these gentlemen offline. Thank you so much, everybody, for participating. I really appreciate it.

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