

**Who:** Ray Ozzie, Chief Software Architect, Microsoft Corporation

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**RICK SHERLUND:** It's a pleasure to have Ray Ozzie with us this morning, chief software architect at Microsoft. We also have Colleen Healy, general manager of IR; Colleen, if you could raise your hand up front here. Terrific.

Ray, I'd like to just start by open-ended just asking you as the chief software architect at Microsoft what are the key issues you're spending your time thinking about and addressing?

**RAY OZZIE:** Well, it's good to be here. Thanks for inviting me.

I started at Microsoft a couple years ago, almost two years now, and June was when I assumed the role of chief software architect. That role is kind of an interesting role, it's a unique role. Really the purpose of that role within the organization is to deal with essentially all the major groups within the company, trying to bring a perspective to the groups of macro level technology trends or market trends that might impact them, that they might not be seeing or paying attention to as vigorously in their planning cycles; and also identifying things that might be happening, opportunities that there might be across groups or across divisions within Microsoft that again with a focus on what they're doing in a business group they might not be able to as readily recognize, architectural trends and so on.

Since I came to Microsoft, actually before I came to Microsoft, I began to have a fairly passionate reaction to the fact that there is kind of a sea change going on in the industry. I've been fortunate that in my career, I've lived through a mainframe to mini transition that was driven by certain changes in technology, mini to PC, PC to kind of LAN-based PC, client-server, that world to the Web.

And some fundamental changes are happening, enabled by the steady progress of technology: cheaper communications, dramatically cheaper communications, cheaper storage, cheaper computing. All of these trends really are netting out to an opportunity to build very relatively inexpensive large, centralized datacenters, and those same technology trends are enabling more and more powerful devices at the edge, and pretty powerful pipes connecting the two.

And so every time technology changes like that, there's an opportunity to reevaluate how you're delivering value to your customers as enabled by this new technology trend, how should we rebalance the architecture of our products based on the availability of more computation at the edge or more computation at the center.

So, I've been working with the different groups, and I think there are three primary areas of focus that I would discuss, that I would encapsulate these efforts in. One is something I'll refer to as connected entertainment, one is connected productivity, one is connected business; all of them based on changes that are happening because of services, because of the availability of a services platform that's enabled by that cheap computation, storage, and communication.

In entertainment, you know, I'm not sure about how many people here, or how many people would normally go to something like CES, but if you walk around CES, particularly this year, things are changing fairly dramatically in terms of the kinds of things that people might be able to do in the near future. There are lots and lots of different types of devices. I mean, in my own life I've always subjected my family to kind of leading edge technology. I'm kind of a gadget freak. I watch the Red Sox games from my place in Seattle by kind of watching media across the Internet. There are many, many options that are going to be happening that are going to be available to us in terms of consumption and production and sharing of media over the next few years.

CES is kind of a leading indicator, because it's the people who can deploy the things that you see at CES are geeks and gadget freaks; these are kind of geek dreams in terms of bringing media, mixing it and using it in different ways.

Microsoft's role in all of this is really to use our breadth and our expertise at software design to bring some of these scenarios to the masses, to weave together software, services, and in some cases hardware to bring some of these connected entertainment visions out very, very, very broadly.

And the same is kind of true in something I'll refer to as connected productivity. For years within the enterprise we've taken the simple productivity tools that we started out with in the early to mid '80s, and we've woven those productivity tools into higher level collaboration scenarios, scenarios that let people work together very effectively in virtual teams across boundaries.

Those tools have really, up until now, been accessible only to people within enterprises and behind firewalls. The opportunity, moving forward, because we're all connected to the Internet, because we can now deploy very broad-scale services, is to bring some of those collaboration scenarios outward to small businesses and individuals who couldn't really access them before, or to bring them, to revisit them into what form that is most appropriate to bring them externally. I think the opportunity for productivity is dramatically different and enhanced moving forward because of the breadth of the Internet.

And connected business, you know, for many, many years programmers, developers have experimented with and talked about object technologies and composite applications, and although we probably didn't use these words long ago, service-oriented architectures.

And this is actually finally becoming a reality, not just in the professional development realm but at the higher level programmer level, scripting programmer level. People are developing things that are referred to as mash-ups and connecting feeds, RSS feeds and things like that together, to bring together systems that formerly there would be no easy way to connect them.

And again Microsoft's role in this is to take these technologies, given the fact that all of our businesses are now connected to the Internet, and to bring them out to a much, much broader audience, and make it much easier to connect businesses together.

And so this connected entertainment, connected productivity, connected business, the opportunity really is only fulfilled if we have a services platform upon which to build these services at dramatic scale.

One of the first things that I tackled when coming to Microsoft was to kind of work with different groups to understand that each one of them was going to somehow reshape their services over time or their product over time based on services, and that internally we needed a very robust, very high-scale services platform so that every group didn't have to build a service from scratch top to bottom.

So, we've been building this services platform that will be used within the company. Ultimately, the economies of scale that we gain internally are going to be available to third party developers and enterprises who don't deploy things at anywhere near that scale.

So, kind of at a high level what I've been working on is driving a services mission throughout the company in the different areas, the three different primary business groups.

**RICK SHERLUND:** And just give us an example of how you're thinking about this. So, what would that imply for productivity software, for example? We've seen what Google is doing. Is that how we should be thinking about this, or are you thinking about it somewhat differently?

**RAY OZZIE:** Well, there are differences. As you say, there are different approaches to how to take the productivity advances that we made in the mid '80s and to up-level them into higher levels, more valuable productivity scenarios.

For as long as there have been productivity tools, there have been a wide variety of choices in terms of different approaches and different vendors. In the model of the PC-based application, you know, Open Office, Star Office, that's probably the most well-known at this moment in time in terms of functionality that's kind of like Office. It's more or less a subset of the functionality, different approach in some ways, but that's probably the most comparable from the Office tools.

And then as far back as I think pre-bubble there was a company called Desktop.com, but ever since kind of that era, technologists have been trying to kind of test themselves and see how much of the Office experience we could take up into a browser, and make it usable in some form. And in that realm, yes, there's Google Docs and Spreadsheets, there's Think Free, Zoho, there are a variety of different instances of people taking the tools and kind of replicating them up into a Web environment.

And for people for whom the tradeoffs of those different approaches, for whom it works, there is a broad variety of choices. In the pure Web model, the tradeoffs are fairly substantial. You have to be online in order to use them. Depending on whose version it is, there are different feature function tradeoffs.

But the way I approach it, and the way that I view the services opportunity related to productivity is really about more than just taking what's on the PC, and putting it up on the Web. I think that there are higher level scenarios, that if you consider that you've got software on PCs, services in the cloud, and devices, mobile devices, as

the palette that you can work with, and you try to envision the value of productivity in what you're trying to offer, you end up with a different result.

So, for example, in the realm of presentations or note-taking, if you think of it holistically, there are different things you would do with those different devices depending on the setting that you're in.

So, for example, just take presentations. Formerly we might have thought of PowerPoint and the in-room presentation of a slide deck as being the model of what a presentation might be. But now with networks and services, perhaps we should be envisioning an integrated service and software scenario that would enable, for example, a lot of these laptops to be getting that presentation streamed to them while it's being done, connected to a service, a service that might be retaining a copy of that for people to use as a reference later on. In note-taking scenarios mobile devices are now pervasive. And when you go into a meeting room, you know, some people are sitting there typing away at laptops, but some people are also writing things on whiteboards. And phones all have cameras in them now, and they have microphones and Flash memory. We should be using phones to augment meetings in terms of recording those meetings, people taking pictures of what's on the whiteboard, and having those seamlessly woven into the notes that you're taking with the meeting on the PC, or publishing into places like SharePoint, either on an internal Web site or externally.

So, again when I say the word "connected productivity", what I really mean is I think the opportunity writ large in our industry and for Microsoft is not just to try to copy or duplicate the PC-based experience, but to envision new sharing scenarios and other scenarios that weave together those different aspects.

**SARAH FRIAR:** And, Ray, maybe just simplistically I think a lot of people think of it as desktop or browser, and yet this may not be a world of browser. There's a lot of RIAs, Rich Internet Applications, coming down the road that create a desktop-like experience, but without having that software deployed there. How do you think about that evolution, because in that world of desktop versus browser, then people get to Microsoft versus Google? And so more broadly, how does Microsoft use its dominance of the desktop to keep a handle on what you're talking about, this kind of changing way of delivering applications?

**RAY OZZIE:** Well, the way that I think at a high level it's really the question really is software as a service, what is the future of software as a service, what kind of architectural models versus business models, how do we approach it, how does Microsoft approach it, and how do other vendors approach it?

First generation software as a service vendors really conceptualize, you can think of in the tech industry the pendulum always swings one way or another every time there's an architectural change. And the pendulum really swung -- when the Web really first showed its promise, the pendulum swung all the way over to let's try to deploy everything in a browser.

And there is a lot of promise in things that can be deployed in a browser, particularly if you've got an application that needs to reach every set of eyeballs on the face of the earth. It's a great mechanism to reach the broadest possible audience.

However, as I said before, there are tradeoffs that you get, that you have in terms of the end-to-end experience that you're trying to deliver when you use a broad-based model.

So, just take sales force automation as a really good case in point. You do want to centrally maintain records, you do want to correlate activities that are going on between customers. But salespeople are inherently mobile. They run around from place to place. They use the phone a lot. They might fire up the PC at Starbucks and quickly connect, or they might be using it in their car where they might not have a connection or might have a sketchy connection. And because of that, more and more the concept of software as a service has shifted back to something that I'll refer to as software plus service where you envision the solution as a service-delivered solution, but you use service, software, and sometimes even hardware to put together an experience that is really seamless for the thing you're trying to do.

So, for example, Microsoft's CRM, it's a service-based model, CRM Live. It starts with a service, but it also uses Outlook as the client so that it operates very, very seamlessly offline or through a browser, and it even offers the option for enterprises to deploy a server version of that same service on premises if they'd like to do close systems integration or manage the service quality in a way that is totally under their control.

This software plus services evolution is not just an issue in the business market, it really permeates all of how we deliver things in every dimension of our business. At the complete opposite extreme, Xbox and Xbox Live is a seamless experience that's centered in the Xbox Live service that brings millions of Xbox gamers together, and it extends itself out to the software on the box, and the hardware design that was all created with a seamless experience in mind.

A successful e-mail experience today involves broad-based e-mail access, client-based access in something like Outlook, and phone-based access.

And so in essence I think the technology is moving to the software plus service, but the great thing about software as a service at a highest level is the business proposition of offering things with a service-centric approach supports all of those architectures.

**SARAH FRIAR:** Right, but it doesn't just all become browser or all desktop; there is a piece in the middle, making a lot of sense.

**RAY OZZIE:** Yes.

**RICK SHERLUND:** So, Ray, let's think about this then. The advantages that Microsoft offers, as you visualize kind of what's coming over the horizon, similar to the time when you architected and envisioned Notes, and collaboration became something that was born from those thoughts, it would seem that we have a similar opportunity now, perhaps analogous, because of the collaboration capabilities you can bring in a connected environment.

And so for Microsoft, you have a lot of different pieces. You've got entertainment, you've got a lot of mobile, you've got small business and just there's database, there's infrastructure, there's productivity. So, as you think about a comprehensive platform, is there an advantage Microsoft can deliver because you have a presence in

so many different segments of the market that would contribute to more of a comprehensive solution as you think about software as a service?

**RAY OZZIE:** That's a big question. There are a number of advantages that we have both technologically and I'll say experientially. From a technology perspective our investments are huge investments in MSN, which were largely disconnected from, say, the enterprise business historically over the years. The concept of operating a service that services 250 million mail users, 250 million Messenger users is on 7 by 24. It's an infrastructure that is rich in real life experiences in how to deploy composite applications where part of the application comes from one group, part is from another group; they have different service qualities, they have different operational mechanisms in terms of if there is a problem, how do you get those groups to respond to get the problem fixed. Those are experiences that as we bring our enterprise offerings up into services are just extremely advantageous, that experience helps a lot.

The flip side of that is as anyone who has sold enterprise software is keenly familiar with the fact that enterprise requirements are fairly substantial. It's not just a matter of taking consumer software and winging it over the firewall into an enterprise. There are very substantial retention requirements in terms of system integration and making sure that things are centrally manageable from a central console that includes many, many vendors' offerings. Building something where IT is the purchaser is radically different.

And so in this world moving forward where we have actually a blend, where the boundary is kind of blurring, where we work at home, we shop at work, where some of the systems that traditionally we would have sold to enterprises, where that value is being offered more broadly, I believe Microsoft's enterprise experience helps that unmanaged world, and our unmanaged experience, the experience in the consumer world helps the enterprise world tremendously.

**SARAH FRIAR:** And then maybe parallel to all the technology changes we've talked about, there's obviously a business model evolution going on, and how will people fund purchases, and we hear people talk about advertising models using search and so on. How do you think about that spectrum? You've kind of laid out the desktop through software plus service browser, but how people will actually fund it and how this business model could look; and how, I guess, open is Microsoft to the idea of advertising-driven models, for example, instead of paid-for software?

**RAY OZZIE:** Right. Well, that's a great question. I mean, historically Microsoft has operated on a hybrid of two models predominantly, either licensing or subscription, depending on how you characterize the nature of sometimes we deliver licenses in the form of a subscription with support and other things built into that. That's been Microsoft's historical model.

Google's success very clearly causes an inflection point within our industry and within Microsoft in terms of understanding the real power of advertising as an economic engine that can be used to fund software.

This really was a wakeup call within Microsoft in terms of, wow, this is not just something that might impact the business model within some of our existing markets, but it might actually open some significant new markets to us where we didn't really understand how to monetize that software before within that market.

A lot of the software that we generate is used at home by consumers, and consumers tend to be more comfortable with software that they can get free. Some people get it illegally. Some people do pay for it; some people pay for it on one machine and duplicate it on multiple machines. But it's very clear that consumers have embraced the advertising model.

And there is I would say for the past at least -- I've been at Microsoft for two years - - most of while I've been there, there has been an increasing shift, particularly as Office Live was coming to market, in terms of really exploring the opportunity space in things that we can bring out to a much, much broader audience under the advertising economic model.

It's not going to work for all software. We have no reason to believe that advertising is the most significant thing for enterprises. Enterprises have a lot of complex requirements. And although some of the advertising might be able to be tactically used in certain products within that market, I think that's probably going to stay predominantly in the model that is within.

Consumers, it's clearly advertising. Small business is really a hybrid, it's somewhere in between, and I think that you'll see not just us but everyone in our industry, there will probably be in the small business realm initial offerings that are advertising-based, supported by subscriptions where those small businesses want a higher quality of service, more storage, higher level functionality and so on.

**SARAH FRIAR:** And maybe one of the hooks around advertising, particularly for Google, has been search as kind of a way to, you know, if my search is better than your search, advertisers flock to me, therefore I can sustain a business model because of that advertising spend.

Obviously Microsoft has been I don't want to say playing catch-up, but it's been under pressure to prove that search for you can also be equally viable. How can you change the paradigm shift a little on search to fall to your strengths? And I know you've talked about changing just the look of search, embedding it much more with content and with your community, but maybe give us some color around that would be helpful.

**RAY OZZIE:** Well, I think one of the things to recognize about Microsoft is that we have many different offerings that serve different markets. Whether it's Microsoft that brings it to a broadly horizontal market segment like Xbox is very clearly for gamers, we have media properties that are very specifically in that realm, we have productivity offerings, we segment it a certain way, and then our partners sub-segment it beyond that by customizing our offerings.

I believe that if you step back and look at search, it is very powerful right now that there is kind of a central destination that everybody can rely on to go to, to search the Web. It's more or less people -- in my parlance I'd regard it as more or less the command line of the Internet, people kind of start there. And that's one place that people start, but there are many different segments of customers have different centers of their starting experience. People who are into productivity really do treat Outlook as the center of their world. People who are into gaming and entertainment might treat the portal where their friends are the center of their world.

And there is a very, very increasing segmentation of audiences out on the Internet. I think this really gives us as an industry an opportunity to really say what's the best way to weave search into the destinations and places that they are interested in and they go to a lot.

If you look at statistics on search, every week roughly half of people who search use more than one search engine in order to satisfy their needs, the things that they're looking for. And that really says that although people are amazed by search, it didn't exist before, they're still not completely satisfied with the results, and they're looking for other opportunities to satisfy those requests.

I think there's a lot of opportunity in domain specific, in concentration in domain specific areas, whether it's in entertainment related search, or actually in the last couple days, I think yesterday we announced an acquisition, Medstory. For those of you who haven't tried it, just try it, go there and type into the search box what ails you or what ails somebody in your family, and I think you'll actually be quite pleased, quite surprised at the quality of the results and the design of the results to satisfy that specific domain. And that search technology is first being woven into MSN Health, and ultimately it will be woven into the mainline search.

But I think within this marketplace there's plenty of opportunity, now that we're past kind of the first generation of search, to explore these other alternatives.

But I think advertisers really they just want to reach their audiences. And to the extent that Yahoo!, that Microsoft, that Ask, that other people who have alternative search mechanisms make it easy for advertisers to transfer their campaigns from one search environment to another, they'd like to get good leads, do lead generation no matter where those audiences are, and I think we have every reason to believe that that will have a very viable and healthy ad ecosystem.

**RICK SHERLUND:** Ray, there are a couple questions I'd like to get your thoughts on with respect to Google. How do you identify sort of where they're going? And as a competitor over the next three to five years, how do you think about them?

And also, their strengths and weaknesses: Clearly search is a terrific strength; are there strengths other than the technology in terms of sort of natural monopolies, lock-ins of customers? What are kind of maybe some of the non-technical constraints that you have to deal with as you try to address that traditional market?

**RAY OZZIE:** I'm not sure that from a -- any very substantial growing business in high tech has certain natural strengths that bind things together. They tend to be characterized, I characterize them as ecosystems that form around different products and services. The most fundamental members of the ecosystem in search that we were just talking about are end users and advertisers. And again to the extent that end users have choice and mobility, I think that offering them more choice will promote healthy traffic in a number of competitors to Google. And in the advertising ecosystem again I believe that advertisers want to generate leads through that advertising; and to the extent that we generate them effective leads, they'll use these multiple systems.

But rather than focusing on what Google might do or what Google is doing, I actually step back and I look at how Microsoft competes with Google, or how Microsoft actually competes with anyone.

Having competed with Microsoft on the outside, from the outside, we always imagined how Microsoft itself operated, how did Microsoft do competitive intelligence, what did Microsoft do, because we were on the outside looking at this incredible machine.

Looking at being in Microsoft now, looking at the culture, at what goes on, it's a very, very interesting environment, because for the history of the company, the company has had many very strong competitors. And at any given moment in time, the company might have several very strong competitors.

And I think rather than examining the specific mechanism by which Microsoft competed with one competitor, what's fascinating is to see the opportunities that were the broader opportunities that were created within the company as a side effect of competing with a given competitor.

If you look at Microsoft some years ago, before I was there, and how Microsoft decided to compete with PS2, what emerged from that very focused competition was the entire connected entertainment division and opportunity. This is going to be a huge opportunity that kind of has gaming as one core root element of it, but expands into media scenarios and many, many other scenarios, both with centrally created content, and content at the edge.

If you look at the Linux compete that has happened over the years, that very focused competition effort broadened into essentially the strength that you see in the Server & Tools business today, a broader opportunity than just simply an operating system compete effort that has netted out to very substantial opportunities for our business.

In the Google case what's fascinating to me is that although you can characterize Google as search, and search compete, what really has happened at Microsoft is that there are two very significant things that have happened within the company as a side effect of that specific compete, one that we just talked about, which is the ad ecosystem, a recognition that the economic engine behind advertising might have significant opportunities in many, many ways throughout offerings within the company; and the other one is essentially services-based infrastructure. Once the realization was made by the different groups that every product will have a services component, it made sense for the company to kind of go back to its roots, its platform roots and say, what kind of a platform within the company should we be building that essentially treats the service layer as a system that presents opportunity to internal first party properties and third party properties. And I actually believe that's going to present tremendous business opportunities moving forward that might have been catalyzed by Google, but are not necessarily directly related to it.

**RICK SHERLUND:** So, every time we've seen Microsoft confronted with a change in technology, it introduces new competitors, new risks to the business, but it also creates new opportunities.

**RAY OZZIE:** Absolutely.

**RICK SHERLUND:** Why does it take Microsoft so long to respond to these opportunities? We've seen it repeatedly: Google in search, Netscape in Browsers,

you go on and on, and Notes. Microsoft ultimately comes along and has prevailed historically. Why does it take so long for us to see Microsoft respond in the market?

**RAY OZZIE:** I think from an internal DNA perspective I don't believe that the company fundamentally believes culturally that the right way to compete is just to jump out and do something that's exactly the same. I think basically from what I've seen, and I can't respond to each of those instances, I don't know what it was like to be in Microsoft in an era competing with Notes, I can imagine, but I think we go back to what are our core strengths, what are the things that the existing market is doing with the products, the installed base that we've got, and how can we learn from what that competitor is doing and bring some of those features to market in a way that benefits our existing customer base. I think there is a very big focus on the customers, on that existing customer base.

The Office example, you know, I don't know that it serves our customers to kind of jump out there and be reactionary and just try to slap some stuff out there on the Web. We have spent a lot of time with our customers, we continue to spend a lot of time with our customers trying to understand. You know, they've made huge investments in Office; how can services best help those Office users in ways that we might not have envisioned or that they might be recognizing but they might not have shared with us, or recognized themselves until they saw what was possible.

**SARAH FRIAR:** And this might be a derivative on that question. What have you done as you've come onboard to change the speed of innovation? You talked about creating a platform, a service platform across the organization looking for synergies in each of the groups.

And then I think secondarily what I find when I talk to investors, they always want to know what that next big thing is. So, for Microsoft for a long time it's always been Vista, or even to some extent Office 2007. Do you think we'll have something three years out that we'll point to like that, or from here on is it much more evolutionary? I know that's a tough question.

**RAY OZZIE:** By my DNA, I like to look several years out, and to incubate and create businesses around products that are forward thinking, sometimes to a fault, a little bit out ahead of the market, at least in the Notes case. And Microsoft's approach to innovation is fairly nuanced, and I'll just try to describe it kind of at a macro level.

We are a very large company that has a lot of opportunity. You can approach opportunity from a customer perspective or you can approach it from a technology perspective. If you look at how Craig Mundie and I kind of divide our duties, Bill transferred his duties essentially some of it to me and some of it to Craig, Craig starts at the technology and research end of the spectrum. And in research you take the fundamental things that are happening -- I mean, I'll give you some examples: many-core processors, the fact that chips will have many, many, many different cores on them; Flash memory, architectural it's going to have a very interesting fundamental impact on system design moving forward. And on and on, there are just many different --

**SARAH FRIAR:** Virtualization.

**RAY OZZIE:** Exactly. And essentially MSR, essentially with a very long term outlook, clean sheet of paper, tries to understand what the capabilities are in that realm.

One step up from there toward the customer end is something that we call -- well, I have an organization in my group called Live Labs. Live Labs does what I'll refer to as applied research. And that is the people who work in that organization, there are some researchers, but there are also some people who have built applications, a lot more people who have woven those things into specific applications and deliverables. And they build prototypes. They try to say, well, my gosh, okay, so we've got this raw technology; how might a product be built around this. Let's put it out on the Web and see how people might use this.

Something that you might or might not have heard of in that realm that came out of Live Labs recently, a very, very cool product or offering, is called Photosynth, and what it does is it takes a world of photographs online that people are taking with digital cameras, and essentially correlates them such that you can navigate, you can take a large corpus of photographs that many people have uploaded, and really look at it in 3-D and see all sorts of interesting ways of doing things. And they're exploring the opportunity space in essentially digital photograph and how we might use services and computers in that realm.

At the next step toward product, our incubation efforts that are within the product groups themselves, we have a number of these things, and some very notable products have emerged from those incubation groups. Those groups are really looking at the customers, at the market, and saying, okay, here are the products that customers are using today, let's talk to them, figure out where there might be new opportunities, and try to prototype things with a real market focus. And Office Live is an example of something that came from that world. It was an incubation off to the side within the Office group that has emerged into a business.

So, we have the opportunity, because of our success, to take a fairly broad and nuanced approach to innovation, but as a business we try to navigate the waters of how to bring those innovations to market in a way that helps those customers.

**RICK SHERLUND:** Ray, at the Financial Analyst Meeting in July we sat next to each other at lunch, and I'd asked the question whether you thought that these changes as the company moves to software as a service or software and service would be cannibalistic to your traditional business on balance, or on balance would it be additive. And you gave me a very considered and thoughtful response.

Six months, nine months later now, do you have a better assessment of where you think that might come out?

**RAY OZZIE:** I think that net-net the answer is in most cases it's not going to be cannibalistic, but in certain specific cases there will be some -- at the fringes there will be some substitution of one thing versus another. Let's just take Office Live as a very specific example. Office Live's sweet spot is in serving the IT needs of small businesses that don't have an IT group. So, you might have five people, 10 people in an office. They hire this guy Tony to come in for \$175 an hour once in a while to reboot the Internet. They really don't, they have a fear of technology. They're businesspeople, they don't specialize in technology. And historically we have relied on a partner channel to bring an offering called Small Business Server to people at

the low end of the medium business market and the high end of the small business market.

Now, there is some subset of Small Business Server that will switch over to Office Live. The partners who would have installed those Small Business Servers are now building, many of them are building applications on top of Office Live that are vertical. But there will be at some fringe, at the edges between these businesses some things that go one way or the other.

But I really believe, as I said earlier when I was talking about connected entertainment, connected productivity, connected business, that net-net we've found as an industry that whenever there's a big technology shift like this, it tends to be more additive to the business net-net than significantly deleterious to one.

**RICK SHERLUND:** The worst fear would be the stagnation of technology, and there's no need for innovation.

**RAY OZZIE:** I don't see that happening.

**RICK SHERLUND:** Exactly.

And so in the case of Office, if we just looked at, say, a hosted version of Office, and it sounds like there's opportunities there for collaboration and other things, which you have a lot of expertise to weave into a service offering like that, but for the consumer that maybe just wants to collaborate with the soccer team schedules and things like that, you could argue there could be some cannibalization. But wouldn't that really be more just like a cornerstone of an offering that if you lost a couple hundred million dollars a year of potential revenues, thought of as a customer acquisition cost, and the traffic that could drive, that could be monetized in a lot of different ways, wouldn't that be something that the company would be better served in saying, okay, we're willing to do that, that probably makes sense viewing the whole way of leveraging that asset?

**RAY OZZIE:** I think one of the real opportunities of services is the fact that it is an amazing channel to so many people that we might not have otherwise touched. When Microsoft started, the channel to reach a consumer or information worker audience was through computer stores. You would have shrink-wrapped retail software, and you'd go out there. The state of the art right now on the Web is essentially a landing page that is a very focused landing page related to a specific offering or value proposition, and you use mechanisms to drive people to this landing page, either classic marketing, ad keywords, a number of different mechanisms to attract people to this landing page.

When you're at this landing page, you have essentially a learn, try, buy up-sell. You teach them, you give them a little bit of a taste to see what they're getting into, but not so much that it scares them off from a complexity standpoint, you deliver the messages in a way that they can progressively learn about the value. And then you have the opportunity, you've earned the opportunity to up-sell them into higher level products and services.

When I look at the half billion people who are using Office today, and there are a number of those half billion people who are using it who paid for it, and there are a number of those users who didn't pay for it, but find immense value in it. That's why

they found a way to use it. I look at it, and I go, wow, if I could reach those people with a service, a message out on the Internet, and there are many people beyond those half billion who might not have even sampled the value of having a place to write a document and actually print it out in a really nice way from a presentation standpoint and so on, I view the Internet as a market expansion opportunity, and part of the opportunity for Microsoft and all vendors in our industry is really to shift from our classic way of marketing and going to market with our products to this Internet-based model.

**RICK SHERLUND:** Ray, we need to wrap up and get to the next session, but what's the investment that's required to deliver on your vision? I guess I think of it in a couple buckets. One would be -- and you were quoted a year ago in this article talking about the number of datacenters that you need, and you have to position an extra hydropower source. But both the customer acquisition bucket and the capital spending bucket, how should we think about what investments are required to deliver on this vision?

**RAY OZZIE:** Well, I don't really have anything to add that Steve hasn't talked about, and we can talk about in a more nuanced way, if you like, I'm sure at the Financial Analyst Meeting coming up in July.

But in essence the investments start out with people, smart people. We continue to hire people who have a really good understanding of platforms and systems, because essentially, as I was saying, I believe that there's an opportunity because there is a transformation of the computing environment from purely clients and purely servers into a mixed client-server-service model. We continue to need smart people.

There is a level of datacenter infrastructure that we continue to need to build, and this is just going to be a continuous investment that is, in essence, a balance. We invest in those datacenters based on anticipated need, and the capabilities of the underlying software that we have that manages those datacenters. And our teams are working on software that makes our use of those datacenters more and more and more optimal over time, but there should be a recognition that there's more that demand exceeds supply worldwide with datacenters, and that's why we need to keep building them. But this is a progressive thing, and Steve and Chris have already talked about that in the past.

**RICK SHERLUND:** Right, terrific.

Well, Ray, thanks so much for being with us. And, Colleen, thanks as well.

**RAY OZZIE:** Thank you. (Applause.)

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