

WHAT HARNESS RACING CAN EXPECT IN TECHNOLOGY
BEFORE ITS NEXT CONGRESS

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Al Bergstein: I'm going to take you on a different type of journey and look into the next 10 years of computing, which is going to effect all of us and all of your businesses in a much more fundamental way than even the last 10 years. One of the things that we have that is similar to all of you is we were founded by a person who loves gaming. Bill Gates is a well-known poker player and enthusiast, and we also run a large gaming property called MSN Gaming. It has all sorts of card games and things like that online, including bridge, and Bill is known to sneak on to the bridge site and play bridge with people anonymously. Also we face significant legal issues, like all of you. We have seen our company go global over the last 10 years in particular—much more than it was 10 years before that. We have a variety of global issues and one of our key issues is that we are constantly being asked to better understand the customer, which is something you all are familiar with.

From 1995, when we were primarily focused on the desktop, until today, we have focused on moving to some of the things that you're seeing in the marketplace today—which is consumers and devices, including gaming boxes in the home front. The PC experience is making that a richer, more fully fledged type of experience for the person who has a computer, and also is merging into the server and enterprise backend type of back office environment in a much more compelling way.

We see a couple things that are really driving all businesses today. Some of those are customer needs—what your customer wants from you and what you feel you need to provide your customer. Your partner requirement. Partnering in all businesses is just exploding with all the mergers and acquisitions and so forth. The demand from companies is for 24 hours, seven days a week mobility, so that all the employees of a company can use their company data anytime, anywhere. Also the different types of channels and lines that any company will have will explode as you find greater markets. From the outside we see a whole lot of things happening to influence companies' capabilities technologically—from competition to the marketplace.

Regulation is certainly one that we're familiar with at Microsoft. One of the key messages we're driving forward to is that no matter what it is that you're going to build this on—whatever platform you're going to build your technology on in the future—it has to be agile to those needs.

We've seen the Internet come out and I know that there's great deal of good old fashioned skepticism out there about where the Internet is today after the bubble burst. Certainly Bill Gates and Steve Balmer enjoyed riding the bubble up. We predicted the bubble's explosion and we are totally convinced that we are going to see a decade of increased growth moving forward. I think what we have found out is that all of you know the laws of economics still do apply, there is not any “new economy” out there and risk-reward is at a new level. People are saying that they are really looking at those risks and the rewards before they go forward with new types of technology bets.

One of things we do see is that, through the Internet bubble and through the burst of the Internet on the scene in the last five to 10 years, now technology enablement is available to all and is continuing to explode with devices that

enable it to become cheaper and cheaper and become imbedded everywhere you are—whether it's your car or home or whatever.

One thing we're finding—that businesses have found and tell us over and over again in our executive briefing center—is that just because you are connected to the Internet does not mean that you are doing a great job of integrating those services and issues that you need to communicate to your customers and partners. We're seeing that all these changes seem to take about five years through a wave and that the Internet bubble of the last five years was just about that. It started around 1995 and ended about 2000, but now we're seeing a new way of going.

Over the last five years we've seen most businesses that got on the Internet became what we call “server-centric.” Everything you did—you put up a big database or a big Web site—was on a big system and you basically controlled it from that one single source system. It was very server-centric. Your customers at the other end using their Internet browser by and large were really using things that were fairly dumb. They couldn't do much except type in a few commands and get some information back. They didn't have a great deal of ability to use that very expensive, smart device—their

laptop or whatever it might be—to really interact in a rich way with their Internet site. It was primarily hardware driven in the sense that people were out buying computers because they didn't have computers and we saw that start to slow down a great deal in the last couple of years because of the penetration of devices in general. I think we're in what I call a 'time-out mode' where that's plateauing temporarily and we're going to see a vast explosion in devices that are just now starting if you look at palm size devices and others that are coming down the road.

The biggest worry of most businesses was to take this information that they had put on the Internet and make sure that everyone that came to the store could buy something or could see something at the store. The main thing was keeping the business open and alive. And there were a lot of challenges in the last five years as we went from systems that were primarily small types of PCs and departments or desktops to the equivalent of giant name frame-like systems because of the demand of the Internet allowing tens of thousands of people to simultaneously use your site. I know that I went through that myself. I ran the operations of Expedia, which is the large site that does all the online travel agency, and when I took over it went from 900

tickets a day to 16,000 tickets a day when I left. There were a lot of growing pains that we went through on that.

Another thing is that it was primarily a consumer to an application. You type in a command at a Web site, you get back some information. It was primarily about gaining information access and primarily a one-way type of story. You present information to the user and this created a great deal of monolithic islands of information that didn't integrate well with other islands of information. And that integration between these islands was something you did after you created them.

What we're seeing now is a major shift that is forcing developers on the Internet and companies to re-evaluate how they move their entire infrastructure forward. We're seeing a vast amount of distributed computing—meaning that between users and users and backend systems and backend systems—that's proliferating and expanding. A lot of that's driven by mergers and acquisitions. We're seeing a lot of smart clients being created—the explosion of the laptop, the traveling computer user, the palm PC phenomenon and now the high-end cars are being built with computers. These things have the power of the very large systems of 20 years ago, and

they are not being utilized anywhere close to their capability at this point in time.

As people and devices are much more prolific, the shift is now moving to being able to create software that can run any device anytime and anywhere. That's a big shift and the main worry now is how do I get the value back out of the system that I created. Where is that break-even point? A lot of what's going on is about user to application. The same old model, but we're also seeing now a major shift in backend application to application—the ability to talk to each other because you're finding that you're needing to bring together, in a much more dynamic way, all of your partnerships. Perhaps a racetrack might need to show other racetracks or other partners of theirs on the same screen—we call it a portal; something like Yahoo or MSN is a portal—and it brings together that information from a variety of information providers. You can't go it alone anymore. You have to be able to integrate that and you have to do that in an automated fashion behind the screens.

Now it's more of a question of information action. You know that as well as anybody, that you want people to actually do something with this information, which is place a wager most likely. Or do some other type of

two-way communication between your track and whatever the particular environment you're trying to support and go for. We're also seeing that new buzzwords are really the best breed of constellations, so what used to be an island of information is now being pulled together in this type of dynamic constellation of information and that the best of breeds of those are the ones going to win. Integration has to be built in by design.

We're doing a number of things around that, but we want to back off and take a look first and say, "What are the big dynamics of change that are going on in the next 10 years that we see." One thing is that the customer expects computers to always work and always be there. The customer demands the proliferation of these devices everywhere and we're going to continue to drive software products that are always working. That's the assumption and design. Also productivity is a big driver. We're going to see that the knowledge workers, who are the primary users of Excel or our tools in general, are going to become vastly more productive because they're going to be able to have that information anywhere they go, anytime, wherever they need it.

Communication is the huge driver as everyone is aware of. Wireless is beginning to be seen. I was at the Seattle airport yesterday and noticed when I turned my laptop on, my wireless card said that I had a wireless connection available to me in the airport that I wasn't even aware was there. The wireless world is going to be one of the huge drivers in the next 10 years. It is happening now, it has enough bandwidth so that it can deliver compelling content whenever anyone wants it, wherever they are in most major cities today.

Being able to read dynamically on computers is going to change the way that education as well as your user base out there operates. Dynamic business meetings are something that we see, especially since 9-11, and is not only going to drive the ability for business users to work together; where you want to communicate to somebody who is a business partner of yours without flying there. The underlying technologies of this are going to drive the ability for people to get together in new ways that may surprise you.

Anybody who currently is raising a teenager in this country probably watch them go online and game with multiple people they may not even know anywhere in the world at anytime. This is going to drive your ability to

create virtual communities of people of like interests in the horseracing industry so that there should be no reason in the very near future that I couldn't call up a friend of mine using my laptop or whatever and say, "Hey, there's a really interesting race going on. Let's go online and take a look at it." I can actually be having a chat session or voice call with a group of people and see their faces on the screen and at the same time we're watching a race and talking about the race and the horses.

This technology is here today. The question is how you can use it and take advantage of it either today or in the very near future. There is going to be no slow down of business solutions out there. The TV gaming environment is about to explode with the ability to get broadband high speed Internet access to the home and the marriage of television and computing in new ways that are just now being seen. Our whole bet with the Xbox is all about the ability to turn that gaming console for the teenager into the only gaming console inside of the home—in the home entertainment center at the same time. The compelling reason for anyone to buy an Xbox today, at the cost, is that it has a DVD player in it so you can take advantage of the fact that you're plugging this into your home television and that you can actually play a DVD on the same device. It also has a high-speed Internet connection and

if you're connected with a broadband connection like DSL or cable modem you can now display high-speed Internet content as well. This coming together in the living room is going to make a revolution in the way that you can deliver information to the home.

We're also going to see a variety of new Internet user experiences— primarily communication-centric. Users are now demanding the ability to access their information anywhere and we're seeing a variety of devices that allow you to take that information with you and that poses some challenges.

One of the other things we're going to see an explosion of in this year is that Microsoft and other companies are going to be delivering new ways of what we call natural interfaces with handwriting, speech and vision. Some of our products in this coming year will take advantage of much of our multi-billion dollars of research in this area in the last five years.

I've talked a little bit about hardware breakthroughs such as broadband wireless. Another thing since 9-11 that has become very compelling to the industry at large is Smart Card use. I think we're going to see a rapid uptake in the next couple of years of devices that will allow you to identify the

person at the other end. Businesses that will be driving that security Smart Card environment will spill over into the home and schools and so-forth and you'll see a better ability to take advantage of these technologies.

A lot of PCs are being built today with microphones and cameras and this is going to allow the two-way communications to take off. Later this year, Microsoft and Compaq and a few other companies are going to deliver the tablet PC, which has wireless capabilities without a keyboard. One that you can plug in if you need a keyboard but that people will be able to carry around with devices that allow them to write on the screen. Pocket PCs, screen phones and home networking are the last, but not least, environment and hardware breakthroughs. Many people are starting to adapt to the low cost wireless networking for the home. It is not hard to do. It is going to be built into more and more computers as we go forward and this will allow this interaction, this ability to be able to walk around the house and have Internet access in an easier and cheaper way.

One of the things that we're seeing also in this communication explosion is people want one address. Today you might have a work address for your e-mail and a home address for your e-mail and you want to be able to bring

that together. If you're at work and you want to schedule a meeting on your home calendar or visa versa, if you want to pull a meeting together or if you, as a racetrack, wanted to send out some type of notification to somebody about an upcoming event and automatically ask the user if they'd like to schedule that into their calendar—just click here—we're going to enable that capability. It's difficult when you have two different calendar systems; we'd like to have a way to bring the calendar systems together for the user.

Online notification is something we are working on, and advance technologies around this. We feel that notifying you no matter where you are is very important to exploding the use of the Internet. So that when I leave my desk and go to my car, my car can know what the best route is to get home. If an accident happens, the State of Washington sends a notification via e-mail to drivers that there is an accident on a bridge back to Seattle and your car can take action on that.

We're driving that type of technology but it's up to your industry to think about ways to take advantage of that infrastructure that we're building widespread to all users. If you have a race coming up you can notify somebody that this is happening and they can take action on it no matter

where they are—whether they're wirelessly connected or connected by a desktop. That comes back to scheduling where you can dynamically schedule a person's calendar to be able to know that this event is coming up.

The TV games world is definitely seeing a radical change today and in the near term. The expected richness of the experience of being on television and what people are expecting because of their ability to be on the Internet, and this capability on the Internet to interact with different types of content and do something with that content versus this still relatively dumb world of the television where you're just being a passive observer. The marriage of that is coming on very rapidly. Television products like Tivo, Microsoft's bet with MSN TV, which is going to be showing up later this year, and others is a compelling way of bringing that multiple interaction now that you have a broadband connection to the home in many cases. You can do two-way communications. Plugging that in to a front-end type of device that doesn't have to be a proprietary box like today's cable set-top boxes but are interactive boxes like a gaming console that runs your whole interactive television.

That's going to drive the ability to do new things in the home with home entertainment that we haven't seen by the end of this decade. It will radically transform the landscape of home entertainment. The key thing in all of this is that the user needs to be in control of their content, and we believe in the fact that you can't have dumb devices at the far edge. You have to have devices that have the ability to interact with them and allow the user to come back to you. That is very good news for everybody in this room who is trying to create an interactive gaming world out there that you all can take advantage of. You should be able to produce software that can move that capability to the home in a very painless manner.

In addition, this new tablet PC that will be coming out later this year gives a new type of form factor. It will be wireless in almost all cases and is a two-way communication device that is more like an 8.5 x 11 sheet of paper. One of Bill's pet peeves is that over the years he and others are forced to use paper to take notes and he's wanted to be able to say, "How can I integrate the information from my laptop and annotate that information in an easy fashion that gives me unlimited paper capabilities, as well as the ability to search and sort on that information." We're about to deliver on that product this year. I've used one and it's pretty amazing.

Another huge change we're seeing, and I'm sure you don't need to be told about this, is telephone technology and cell technology. The ability to have a phone and have Internet access in almost any major city is one thing, but you start to go overseas to places like Hong Kong and China and see that virtually everybody has a cell phone but most don't have computers. That says that you better be aware how to get your data to phones.

There will be a huge explosion in the number of Internet users simply based on the cell phone. People who would never purchase a computer will probably interact with the Internet via cell phone. You have to be able to display your data in form factors that you will not even be able to understand right now. In the tool sets that you choose for your development platform you need to be aware of the fact that it's not just the computer screen that you're going to be delivering this data to. You're going to be doing interactive development—for interactive types of development from something that's sort of dumb in some ways like the telephone, which has a very slow way of entering data or perhaps voice annotation, to something that's very rich like a normal type of laptop. I talk to many developers around the world right now that come to Microsoft and the key problem is

creating a variety of developers in a company that has different groups creating different interfaces. Our newer tool sets now are built to automate that process so it's good news that it's getting to market quickly for you.

Later this year we're going to be delivering a standard spaced technology that allows you to have phones with a lot more data or you can have a data device like a pocket PC integrated into a cell phone. There's a variety of devices and the message here for you is do not think that the device on the other end is just one type of device. What we're going to see in the next 10 years is just an explosion of devices. Your refrigerator in the next ten years is going to have computers built into them with interface devices. We already have a prototype at Microsoft doing just that so you can scan your food as you put it in or take it out and it will alert you when you're low on milk or something like that. This device is also connected to the Internet, so don't think the Internet is just one thing.

What we're driving at is new ways of making sure that digital rights management is addressed. It's a big problem for us. Content is really the key issue going forward. I heard the head of Disney's research and development company speak, and what he said is that the value in the world

of the future is the person who has the stories. What he was trying to get at is the content is going to become the king. The device that delivers it will blend into the background, and compelling content is what is needed. You all have compelling content and you can get it out to a variety of new audiences by using this. The key issue is how do you protect that content from theft and Microsoft knows that very well when you talk about countries like China.

I've talked a little bit about the meetings environment and how the technologies in the future are going to be changed with ubiquitous computing, and one of the key things is the idea of remote presence. The ability to participate in group activities in a much richer way than we have today. Most video conferences looks like talking heads on television, a bunch of people in a room look at a television monitor and talk to one person who's somewhere else in the world. It's not an ideal way of working.

We're working in our research group with a type of camera—a group of cameras that are on a round pod that sits on the table and this gives the person a 360 degree view of the conference so that you actually end up with the person being inserted into the conference. You can take that way of displaying the data and put it in the middle of the racetrack or the middle of

a crowd and actually be able to make the person at the other end of this interactive device feel like they're at the racetrack in a much more interesting way than simply a one-way push of a video stream like a television screen.

This is not very far from production. We have actually been demonstrating this inside of Microsoft research and it is very close to becoming a product. You will be seeing technologies like this by the end of the decade immersing you in the place that you want to work at, whether it's a racetrack or a business meeting.

How are we going to deliver on this? What is Microsoft doing to help your development teams deliver on this type of vision of all these devices and all this content and so forth? We've created this thing that you might hear about called Microsoft.net that is a way of being able to deliver software as what we call a service. You have islands of information now but how do you make those accessible across the Internet to anyone, anywhere.

Whether it's a user that's typing information in or another computer device somewhere that wants to automatically go out and grab your information and

integrate it with its integration so it can display its story to the user on the other end and pay you some amount of money to do that service.

The technologies that we have just released in the last week called Visual Studio.NET is a developer's platform for being able to create these types of tools today. We're also going to make sure that we fully work with distributed computing on the Internet, that we are not a stand alone island and that all of the work we've been doing in the last five years has been based around common standards which you'll hear as you read articles about SOAP and XML and things like that which may just be acronyms that don't mean a lot to you, but the key take away in that is that these standards have to be fully accepted by the community at large so that you have an easy way of communicating between other companies and yourself. That's something that hasn't been there until the last fourteen months.

Some of the things that we're going to be offering as generic services which we're either offering today or offering in the near future is the ability to identify the user. We find that a big problem if we run a product like Expedia, if you run a product like Microsoft or Yahoo or something like that—or even if you're running a racetrack Web site—is how do you know

that the person on the other end is who they say they are. You have the legal issue of actually where are they and can I place a bet because of the legal issues of that country? You have other issues. Wouldn't you like to know what language the user would like the information displayed in? All of Microsoft's new technologies are using a new technology called Unicode, which allows the programmer to stop worrying about what language the user needs it displayed in and puts that technology in the middle in an automatic sensor. If the user says, "I want it displayed in Chinese,," the computer takes the input that you've done and automatically displays it in Chinese. It's not a translation in the sense of live translation but it's basically being able to abstract out the issue of how you display a Web site in some other language than English.

The Chinese are coming on awfully strong. I was over in Hong Kong and ShenZhen last fall and the amount of interest in the Internet over there is mind-boggling. They are going to be the largest users of the Internet very soon, certainly by the end of the decade.

Notification is something that we should provide an infrastructure for your development team to be able to use and we've already done that. It's called

Passport Alerts Messaging. We have Hotmail and other properties we're going to be allowing you to take advantage of from a development point of view. Things like X and L storage. We have a speaker here whose laptop was destroyed in transit. In the near future you'll be able to put that information up on the Internet and wherever you go you'll be able to seamlessly connect to it and be able to take another laptop and download that to a wireless Internet connection. You won't have to worry about the information being locked in your laptop and having that stolen or destroyed.

That requires a certain level of security, which we're building into all our products at this point. A base calendar that can be used anytime by anybody that integrates with your work calendar so you don't have to worry about it. You're here and you want to go and do something next week, you can look at both calendars and it will present a seamless calendar brought to you on the Internet.

There's no reason why you can't add services around the gaming industry to add on top of this base platform or to take advantage of that base platform.

As I mentioned earlier, the concept of being able to offer a race that's coming down in this Friday or Saturday to a customer and have

programmatically the ability to automatically add that race event to their calendar if they give you the permission to do that. It shouldn't be up to the user and you'd probably lose some users that have to go in and add that to their calendar manually.

We want to give you the ability to stop worrying about the identity of the customer so when they come from AOL into your site you are passed, behind the scenes, the user's identity from AOL or from Microsoft MSN and you don't have to recreate that infrastructure. That should give you the ability to get your products to market in much more rapid manner. We have this thing called Microsoft.Netpassport. Hotmail uses .Netpassport to identify who you are coming in. It's not a very rich form of identification. It says that as long as I know that it's Alberg, and I have my password that this Web site can identify me and say that I have access to my e-mail. It doesn't say that I have given my password to my wife to check my e-mail while I'm gone, but as we expand this service to you, the developer, you'll be able to ask your user base more information like their language, their time zone or whatever it might be and gather more information about the customer. In conjunction with things like Smart Cards, it will probably be

able to satisfy the legal requirements as time progresses as to where this user is and what they have the legal right to do.

Right now it's too rudimentary to be able to do this without adding hardware like biometrics or something, but September 11 has given a much greater impetus to the entire world on security—to get these types of devices built into more and more computer systems. My laptop has a Smart Card reader in it, and when I go online and want to get into Microsoft's corporate network to access my email or files I insert the same card that I use at Microsoft to get through the badges on the doors. There's no reason why I can't authorize the use of that card for much wider variety. It would certainly be a convenience to me to see that card being used in a wider variety of uses.

Alerting is something that we've already created as a service to developers out there and you can actually take advantage of today. Every copy of Windows XP that is sold today has the capability of alerts built in to it. eBay is one of our 13 live partners we're working with, so when you get outbid on eBay you can tell eBay to send a notification to MSN. MSN then distributes the notification to wherever I'm logged onto. Your developers

can take advantage of that so that if you bet on a race you can send an alert to the person who signed up saying, “The race is going to happen in 10 minutes, why don’t you get online.” Then you can click on that alert and be taken to the Web site where the gaming is going to happen. These are infrastructures that we are already delivering to your development community that allow you to take this on and create new ways of using this. We’ve got a mere 40 million users of this today and it’s only been six to eight months. We see that with about 400 to 500 million users of the Internet that we’ll get there pretty quickly to allow this infrastructure to be in extremely widespread use.

You’re familiar with our desktop devices but we also have a wide range of developer tools that your teams can take advantage of today to start delivering that infrastructure to your users in much more compelling ways. If you look at these new mechanisms for orchestrating business services and being able to enable manageable smart clients that you can actually see some new ways that get you to market much faster than today.

In conclusion Microsoft’s big bets really are in the following area. We not only have Windows and Office, we have this MSN service that you can tie

into today with your interfaces and deliver to over 90 million active users on MSN today. We have a variety of TV devices and games that are just now hitting the market and we have a lot more work to be done with those. We are aggressively working in the handheld devices market to make sure that wireless devices are really smart and able so that you can program to them. We also have the business servers in the enterprise. This is a quick overview of what we see as the next 10 years and what it holds for you. I think it's all good news for racing.