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Subject: BillG Internet Speech -Transcript

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Attached is the complete transcript of Bill's Internet speech this morning.

It is also live on the web http://www.microsoft.com/internet/

GOVERNMENT EXHIBIT 502

Bill Gates
Internet Strategy Workshop Keynote
December 7, 1995

MODERATOR: Ladies and gentlemen, please welcome Paul Maritz, group vice president, Platforms.

MR. MARITZ: Good morning. I'd like to welcome you all to Seattle. I'd also like to extend a welcome from Seattle to those of you who are joining us via our satellite downlink.

Our objective today is to basically lay out to you how we view the Internet and how Microsoft will contribute in terms of integrating the Internet and Windows for a richer experience for our users and to extend the investments of our developers, and how we will participate broadly in all of the opportunities that the Internet offers.

The outline of the day will basically be that Bill Gates will come up in just a minute and lay out the whole strategy for you, and describe how we see the Internet, where we will be participating, and also the key news that you will be able to take away from today's event.

We'll then have a short Q&A with Bill, and then a break. And then I will come back up again and drill down in more depth in terms of the news today, and show you how we are implementing all of this in terms of our platforms and our tools. We'll then again have a short Q&A to clear up any issues that there may be. We'll break for lunch. We'll come back, and then Pete Higgins, my colleague, will join me, and he will go through our investments in office productivity tools, content, and online services.

We'll then have an extended Q&A at the end of the day. And with the extended Q&A, that's what we would like to use for the more philosophical questions. So these short Q&A sessions after Bill's session and my session will be primarily to clear up any nagging issues or any confusion, and we'll delay any of the broader issues that may take longer discussion to the end of the day when we will have time to go through them.

So with that I'd like to then ask Bill Gates to come up and join us and present our strategy. Bill? (Applause.)

MR. GATES: Well, good morning. I was realizing this morning that December 7th is kind of a famous day. (Laughter.) Fifty-four years ago or something. And I was trying to think if there were any parallels to what was going on here. And I really couldn't come up with any. The only connection I could think of at all was that probably the most intelligent comment that was made on that day wasn't made on Wall Street, or even by any type of that analyst; it was actually Admiral Yamomoto, who observed that he feared they had awakened a sleeping giant. (Laughter.)

Well, the Internet is a very exciting development. It's sort of the beginning of a world of electronic communications. In any phenomenon like this you get long periods of time where people anticipate it, and yet there isn't critical mass. There's not enough users, so there isn't enough content; there's not enough content, so there isn't enough users.

If you go back 20 years ago to the original vision of Microsoft -- a computer on every desk and every home -- there was a clear view that eventually computers would be connected together, be dialing up, and there'd be a pool of available information. And to me it's actually amazing how long it's taken for communications costs to come down for this to become a key application of the PC.

Interestingly enough, the key elements -- hypertext protocols, TCP/IP -- those are not new elements. Those have been there. It's a combination of the improvement in communication switches, the use of fiber for the backbone, a critical mass of PCs which use reasonable graphics. And it was all birthed in a university environment, with some degree of government support, although that's no longer a key element.

If you look at how these things start, the most important thing to recognize is that it's at critical mass. In terms of pure technology, you can look at anything that has that property and criticize it very easily. But in fact, for something at critical mass, any weaknesses or limitations it has almost become strength, because you get thousands of companies jumping in to fix those problems, viewing it as a commercial opportunity.

So in the same way that when the original IBM PC came out there was a lot about it that was very arbitrary and a lot about it that was very limited. Great engineers in many locations, certainly in lots of computer companies, looked at it and said, "Boy, that machine has sure got a lot of problems." And yet for the last 20 years the evolution of that architecture has driven most of what's gone on in this industry.

And the Internet is exactly the same way: A lot that's missing, but clearly it'll evolve into the ultimate as a wide area communications network. So it's a wonderful opportunity.

There are those who think that as the price of communications come down software is less relevant, that you don't need as much software. Our view is the opposite of that. The value of making navigation easy, of categorizing information, of letting people create and publish information -- these are greatly improved by low-cost communication. The ideal for us would be if PCs were free and infinite bandwidth communications was free. Then the only element in the value chain would be the software. And we think things are moving in that direction, but over some period of time.

Just to go through a couple of the eras this has been in. In the early days of the PC the modem speeds were fairly low, and also the typical protocols in the Internet were FTP, Telnet, Email. There's a certain irony that these protocols were exactly the protocols that I and so many other people who are in PC software companies today worked with as a student.

The communication speeds we can get out of today's phone network -- that's narrow band. And we've gone a long ways towards exploiting narrow band. Unfortunately we're getting very close to the limit of what we can do there, and so there's a need to get to a next level in the infrastructure. And we're hoping that in the next few years that takes place.

Now, on the Web there were some intermediate steps, like Gopher. But HTML, HTTP linking, has become the dominant protocol. And in fact there are ways of extending that so its integration with NNTP, SMTP is fairly strong. The typical browsing experience today involves some text and lots of pictures. And that's an area where there's still some need to improve the speed. There's a limit to how far software can go in terms of compressing those things, and so the network has to be part of that.

As we look out into the future, we will get to broad band with these video speeds, we will have rich interactivity, and the variety of devices that are attached will be much greater than it is today. It doesn't make much sense to hook up TVs until you get to broad band. It doesn't make much sense to think of PDAs as being part of this until you have reasonable speed, at least narrow band speed, wireless connectivity.

But once you have those and it's all connected to a single network, there will be a spectrum of information appliances. The PC will be by far the most important. And, in fact, for full-screen viewing it will be the dominant device. But there will be others. Even you can think of the phones as an information appliance, where the only data type you want to deal with is the audio.

Now, our vision of online connectivity goes back a long way. In terms of the very specifics of the Internet, it wasn't until 1993, where some of the people who work for us were going back to the universities they'd been students at -- usually as part of a recruiting activity -- and seeing that this phenomenon was sweeping a number of campuses -- for example, Cornell -- as a way of not only allowing computer science students but the campus as a whole to publish course schedules, to look at reviews. And it was quite dramatic, because it seemed to happen overnight.

Now, when you have a proximity like that you can get a fairly high speed network. Also in that environment you can have shared terminals that people are going up to and using almost like you'd think of a public telephone. So it's a perfect environment for this to flourish.

In 1994, the growth was very clear outside of even the university environment. So very early in 1994 we got a lot of people together, and we did a good job doing some of the foundation pieces -- the emphasis on TCP/IP; DNS; the Internet assistant, which is the extension toward the publishing of HTML.

Nineteen ninety-five is really the most important year. This is the year that we made a humorous video about the Internet and showed that at our analyst meeting. Somehow that didn't get on the slides. But today the Internet is the primary driver of the new work that we're doing across the entire product line. You will hear from us that, you know, we're not forming an Internet division. To us, you know, it's like having an electricity division or a software division. The Internet is pervasive in everything that we're doing.

I have referred to the current period as almost like a gold rush. And it's a very positive thing. What it means is you get almost an unnaturally high level of investment in trying out different approaches. And although the fact is that many of those approaches will move to a dead end, because at the heart of this there's something very, very important, a number of those will be entirely successful and move us forward more rapidly.

Now, the gold rush atmosphere today is primarily confined to the United States. We expect it to sweep the world as you get a critical mass of localized content and as you get communications costs down in the different countries. This will vary country to country, because of course the telecommunications regime is highly regulated, and typically there is a single supplier.

I'd say the signs we're seeing as we sit down and talk with the various phone companies around the world is that they will provide low-cost Internet access. It looks like they'll be able to do it in some cases for far less than is being discussed in the United States. In some cases governments view it as something that they'll subsidize, and so provide it at a rate that a commercial provider wouldn't typically want to provide.

There's never been a greater time for the software industry. But, of course, with the willingness to provide funding, with the number of people who all see the same thing here with the incredible visibility, there is intense competition. And I would say that not only are the specific winners unclear, even the areas that will provide the most value are somewhat unclear today.

If you go back to the original PC revolution, most people would have expected the biggest value element would have been building PCs. And although there have been some wonderful successes there, like Compaq or Apple, in fact the greatest value came in providing microprocessors, software, and a third area that is not often talked about, but the value created is every bit as great as that of Intel or Microsoft, and that's HP's pretty unbelievable success in the printer business. So those were non-obvious areas.

Here many of the elements of the Internet are subject to such low-friction competition; that is, the ability to distribute new kinds of content, the ability to author new kinds of content, the ability to build a browser, which is a small enough piece of software that today we have many, many dozens of companies doing that. It's unclear which of those things will be valuable.

But we have no doubt in the final analysis there will be lots of companies who do well, while at the same time the value of the Internet in terms of allowing business to be done more efficiently, allowing people to learn things in a better way, and even its use as a vehicle for entertainment will have a huge impact.

Now, there are some people who talk about this as an era where the rules of competition are different. And I don't really agree with that, so I thought I'd go back through some earlier lessons of competition. Have we ever seen people giving away software before? Well, the price that we made MS-DOS available to IBM for was about $80,000. It was a zero royalty deal. They could use it forever, do whatever they wanted, and could get it out there and hopefully make a standard of it, get lots of copies out there. In any period in the PC industry, you name the year, I'll name several people who were giving away software to create strategic value. That's a well understood technique and very important.

MS-DOS is also an example of something where every popular piece of software in our industry is cloned. That is, any time a piece of software is popular, the APIs are well known; everybody knows what is being published and evangelized to the software developers. And so there are always businesses that start up to build clones of that software. And depending on the scale of that software and the relative excellence of execution of the person whose software it is and the people cloning it, you may or may not have somebody catch up to that. If they catch up, then the value of the software becomes zero. That is, if you have two people providing equivalent software, the value is zero. Now, if the cloner catches up and moves ahead, then you get back to a positive value situation where they're providing something worthwhile.

And with MS-DOS, there were at one time 14 different clones of MS-DOS that were done. We kept the prices very, very low; we kept moving to new versions; and were able to do very well with that. In fact, in the final analysis, one of our biggest competitors for MS-DOS ended up being IBM because they decided to interpret their license in such a way that they can distribute MS-DOS to other computer companies. So it's always fun to compete with your own code.

In the case of Windows, we have an example. Now, the key point I wanted to draw there is we have an example where the early analysis of success or what would go on, you know, was fairly negative. People were really viewing that as something that wouldn't catch on. People said, "Why would software want so much abstraction? Wouldn't that slow things down? And why would people ever want to use that?" And it took many years of persistence, basically a very long-term approach, before that came to the fore. And so, in the short run, it was very difficult to see that Windows would assume a preeminent role.

The third example I give are some of the components that go into Microsoft Office. These are cases where, once again, embrace and extend was what it was all about. When we were developing a spreadsheet, we didn't sit down and say, "What's the world's best spreadsheet?" I mean, we had that conversation, but we understood that the market was a market for Lotus 123. People knew 123; they had 123 macros.

The only thing that people were interested in buying was a better 123, and so, with Excel, we embraced their macro language. We embraced all the extensions they did. And yet, we did extensions. And so this was a case where the company coming from behind actually moved at a speed, adopted things like graphical interface in a timely fashion, was able to pull ahead of the original product that was there. The same thing can be said for Microsoft Word, although the framework of competition was a little different.

A final product I want to talk about is Windows NT because it has many of these same aspects. It's a case where a product came out and, you know, was viewed with a great deal of skepticism. It's a case where, in order to compete with Netware, we really needed to embrace all of their protocols – the NCP protocols, directory synchronization, which redirector that would connect up to their servers.

In every way, the networking market was overwhelmingly a Netware market, and only by providing the same kind of performance and a real ease of sliding one of our servers in and not changing the redirectors and not having to do new things with the security scheme, only by that kind of embrace and extend were we able to get to a position where now Windows NT, although still at lower volume than Netware, is gaining share on a very rapid basis.

Now, part of our extension had to do with making it a general purpose server supporting a broad range of applications and investing over $100 million a year in our overall evangelism effort to get applications to come up there. So evangelism plays a very key role in this -- working with developers, understanding what developers need, and what's going on.

So the Internet, the competition will be kind of, once again, embrace and extend, and we will embrace all the popular Internet protocols. Anything that a significant number of publishers are using and taking advantage of we will support. We will do some extensions to those things.

This is exactly what Netscape does. They support all the standard protocols, but in the case of things like frame sets or tables or what was called light script, they chose to make extensions. Now, those extensions can be cloned by someone else. Likewise, all the extensions that we make will be clonable by other people. And so you get the interesting question, will it be a case where everybody's tied in doing these things, in which case you've got about zero value, or will one party or another be ahead in this?

It's not as simple a question as you might think because the rate at which publishers are willing to embrace new extensions is finite. You can't have year after year 20 new extensions and such a variety of browsers out there that people don't really even know what to test against, what they can expect. However, at the same time, the richness of Web pages today is not high enough, and given the intense competition between people with similar types of content, they're always looking for something that can make their pages more effective, more appealing than other people.

So I have a period of two or three years here of intense enhancement. One of the numbers you might want to look at is what is the size of a browser like the Netscape browser today, and what sort of rate of increase in size has there been there? And as we get to some of the new things, many of which we'll talk about today, you'll see another substantial uptick in typical browser size for common applications.

So this lays out in the different areas of Microsoft what we're going to be doing. And so I just took the major groups at Microsoft. For Windows, it's very simple. We want to be the best Internet client. A major way that we'll do that is through integration. We'll take what we do as a stand-alone machine or as a machine that works on local area networks; we'll tie that into the ways that we embrace the Internet, taking the best of the local case and the Internet case and bringing those together. And we're going to be doing some demonstrations of that.

Windows NT, I can't tell you how impactful it is to have the Internet in terms of driving overall server volume, and this is not server volume for run-of-the-mill file and print sharing. This is server volume where there's quite a bit of richness on the server, and so you've got to have a server that has the general purpose capability that Windows NT provides.

You are running not only HTTP servers, but rather large amounts of application codes that connect into those HTTP servers using today's standards like BGI or CGI, and it'll be Perl script, it'll be C++, it'll be Java. Lots of codes running up on the server in these scenarios. That's very different than file sharing, where 99 percent of the code runs in the client, but it's also different than the old mainframe world where 99 percent of the code runs from the server.

The Internet is a case where you really do take advantage of the intelligence at both ends. And so we see the market size for Windows NT as being much, much larger than it was before the phenomena kicked in.

In the case of Office, of course, Office is doing very well competitively. It has become, for many corporations, the way that they share documents, and not just sharing files, but also mailing the documents around, and more and more working on those documents together with the annotations or simultaneous viewing.

Now, one of the things that has held Office back is that when you have a corporation and you're creating all these documents, it's kind of hard to find them. It's kind of hard to browse through and see exactly what you're interested in, essentially to publish them inside the corporation. Today, we've got a funny inversion which is, it's harder to find documents on the LAN than it is on the wide area network, specifically the Internet.

That is, the searching tools, the ways you find things and browse through a series of links to get to a document are better in a wide area case. That's an unusual inversion because all networking problems are easier to solve when you have a smaller scale. So it's very, very easy to adopt all of this richness into the server platform and put the hooks into Office so that you can publish out, so a document is searchable, so it fits into a browsing hierarchy.

And so, the importance within a company of having common document formats for spreadsheets, word processing documents, is far greater in this environment where you can publish things and people will be sharing it. And it makes it far more strategic to think through how you can build business scenarios. How do you do budget planning?

Well, having a series of Web pages that are used internally, you browse to find the templates, you browse to find the status of what's going on. People plug their things in as they get done. It's far better with this technology applied than it's ever been before. And so, the Office tools and the way that companies work with them will be more strategic in this environment.

For developers, there's quite a range of development, things that people want to do. We will have integrated tool sweeps to give people a choice of languages. When we talk about developers, a key distinction I'll be making is between content developers and programmers. There will be far more content developers, but they won't be doing programming. They'll be using rich sets of controls that they plug into the active pages they create and those will be made very easy for them to take.

Now, underneath those controls, whether it's an animation control, a 3D browsing control, a timeline control, they'll be hundreds and hundreds of them. The way it's actually implemented is not that important to the content person, but they are interested in plugging those things together without having to debug a lot of codes.

There will be codes written here, but a lot of it will be shared through these components that are plugged into the pages. MSN, we're going to talk about how an Internet online service can fully embrace the idea of the Internet and yet create a community that has value added on top of that, and we'll also give you a little bit of a glimpse, but only sort of a hint, of some of the new consumer offerings we're doing that is online things that we could not have done if the Internet wasn't there to provide the large base of customers who can get at the new content.

Now, there's many ways that the improvements to the Internet need to be done sort of as an industry-wide effort. The security problems on the Internet are very well-known. I hear we even have some legislation that makes it tough to share software on a global basis because of the U.S. Munitions Act. We need to get that cleared up. We need to get the directory protocols extended. And that's a broad industry initiative.

There's a need for so-called quality of service. This is a term of art that you'll hear quite a bit. This is the idea that, if you want to communicate on the Internet between two points and you want to send real-time data like video and audio, you need to be able to clear in advance bandwidth reservations so you know that that conversation or that video will be delivered.

Now, there are many techniques or hacks for delivering video and audio without quality of service. You basically get enough buffer on the other side that you hope the lack of predictability in bandwidth won't cause an interruption, because if you have somebody listening to the audio or watching the video, an interruption is very distracting.

It's only when you get quality of service guarantees that you know the movie won't be interrupted, the audio won't be interrupted, and then you can get something that's a superset of telephony. It's very worthwhile to continue to take today's packet-oriented structure and come up with tricky ways to get as much out of it as we can, but fundamentally, we have to have quality of service guarantees in order to convince corporations to completely drop all the line leasing and special networks that they've built up.

The security and quality of service points are very key, and that's a huge milestone because the amount of revenue that then is driven into the generic Internet as people drop those specialized corporate networks, it is very, very dramatic. And it's a wonderful development because people then think, okay, the information sharing they do within their corporation, what portion of that should they open up so that their customers, vendors, consultants are able to participate into that same information sharing, because they'll have the single network that it's all being transported across.

Transaction protocols. Even within the next few months here, there'll be a lot of progress on this. Basically it'll be very, very straight-forward to spend money on the Internet. Even transactions as little as a cent, the overhead of processing that transaction will be small enough that it can be done economically. And that is essential because if you want a publisher to go out and put content up, they've got to be able to charge a non-zero price, but a very low price so that people browsing around find it attractive.

We'll talk a lot about active pages, that is getting code into pages. One term that is getting a little complicated in the industry today is the word "application." You know, there's a whole spectrum of what that term can encompass. In a sense, when I just type in a little Email message and send it, in the most trivial sense that's an application, because somebody's going to view that on their screen.

Now, if I put in a little Excel spread sheet, a little slider bar, I put some buttons that if you click on them, something happens, now I'm moving up the spectrum. You get to a point in the spectrum where you have something like an encyclopedia page or a magazine page. But that's still fairly low down compared to, say, building a personnel management package or an accounting package. And so the amount of code in applications, there's a variation by factors of thousands in how much there is. And the exact APIs that make sense on authoring tools will vary through those different applications.

There shouldn't be any hard breaks in terms of, if you want to take an application and make it richer and richer, you can move up and use those same tools. So that's now why broadly people talk about active pages instead of the static pages that are out there. Part of this will be three-dimensional browsing. I think a huge percentage of Internet use will be three-dimensional metaphor, I would say in a few years, because that is a much more engaging way to move around and find things.

So a broad set of industry committees, some of them very special purpose, some of them more general, like the IETF, the ATM forum, these will be places that these standards evolve. And because there's only one Internet, these will, by definition, be open standards that everybody can build their software on top of.

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I want to go through here what I call the Internet business model. This is stepping through different levels of the value chain and how we see ourselves participating, how we see the size of the opportunity in each of these. You see, I put bandwidth -- or connectivity, but I call it bandwidth -- here at the bottom. Then I put the company that connects you up, does the support at the next level, then the server, server apps, the browser tools and content.

Content is the biggest of all of these. And, you know, it's sort of like saying in the TV industry, "Where was the money made?" Of course it was made on the content, not in making TVs or recording studio equipment. In technology, the richness of this technology means there will be opportunities in other areas. But overwhelmingly, content is where in the long run the really differentiated, branded scale-type assets will exist.

So starting with bandwidth, this is a business that Microsoft is not involved in whatsoever. Our relationship to the companies in this area are very similar to the relationship we had with Intel, or have with Intel, on microprocessors or with Compaq on systems. That is, it's extremely important that we work together with them to make sure they're building up their networks in a way that supports new applications. And so, whether it's the Bell operating companies here in the U.S. or the cable companies here or the foreign phone companies, we actually have a unique sales force that we've put together that works directly with these companies and finds out what kind of investments they're looking to make.

Right now our message to them is very clear, and that is that we want them to build IP networks and build them with as high a bandwidth as possible with as low a price as possible. And I have to say, the response we're getting back from them is very, very encouraging. It looks like they'll offer these things at aggressive prices that really will build buying.

Now, it's reasonable to have a tiny bit of skepticism about this, because you have to remember these are the same people who only a few years back were saying that they would provide broad band connections into millions and millions of homes with target dates that arrived very, very soon. And when they finally really sat down and thought about "Well, what's the revenue opportunity compared to the costs of building out these networks?" they backed off. And so, although broad band is the holy grail, it's much further away than ever before.

I stuck this slide in this morning. (Laughter.) The reason I stuck it in is I want to make it very clear that, unlike process or performance, where year by year you just see this smooth curve, Moore's Law just driving us to where we want to go, in communications it's not quite that smooth. There are literally specific generations and, within those generations, specific capabilities that define what applications work well.

Today's phone system is the narrow band. Probably the ultimate speed out of that is the 28.8. There are people who think they can squeeze another 20 or 30 percent, but it's probably not worth going through another generation of modems if we can get the next level to kick in.

Again, simultaneous voice data is a very big deal here. If you want to bring a human touch to product support, to product sales, down across the Internet, where you can look up your bank statements, but then if you're confused, you push a button, somebody comes on line and talks to you. Even a still image of that service representative can come up, but the only thing that's real time there is the voice.

That's very important. And there's some tricky ways of how you integrate that in the Internet. Today, without the quality-of-service guarantees, actually voice will often go essentially around the Internet but be coordinated in a way that the user thinks that it's one session, but what they're seeing on the screen and who they're talking to are all logically the same thing.

Now, for a lot of people who are new to the Internet and aren't quite as fascinated with the technology, sitting there and waiting for still images to be downloaded is a bit of a concern for them,

particularly when they compare how hard is it to look up a movie schedule in the newspaper, how hard is it to call someone up. And so it's unfortunate, but although tech speed is great here, images do take time.

We're very enthused about mid band, which is the term covering ISDN and PC cable modems. And we're not handicapping one ahead of the other because, to be honest, the sincere investments in one area will depend on the recognition of threat coming from the other. So as the ISDN guys, the phone company, see cable modems coming, they'll do a better job in ISDN, and vice-versa.

And so we're agnostic in terms of the escalation that'll take place there. It really makes the Internet experience quite a bit better for still images, and great things can start to be done with video, although it's somewhat limited probably to meetings, video conferences and special types of video -- not TV watching, not movie watching.

Broad band is the step after that. And certainly in concentrated environments -- in the business district, in universities -- you'll have broad band quite pervasively within the next few years, but not reaching out to a high percentage of consumers' homes anywhere in the world, with very few exceptions. There are places like Singapore, Hong Kong or Stockholm that have decided to run the fiber pervasively through their cities and provide it at very low cost. You'll have a few showcase areas where you can do broad band and see what the benefits of that are. And as the prices come down and the number of applications go up, that will arrive. But it'll arrive sometime in the next 20 years, not sometime in the next two or three years.

Now, this idea of an Internet online service, today may be the first day you hear that term. It's a very important concept to us because it means an online service where all the content of the Internet is fundamental to the offering, and so it's not necessary for an information provider to go through anyone in order to be out there and make it available. And yet there's a recognition here that, for the person getting onto the Internet, having a great mailbox, having community chat, having easy sign-up, being able to call up and ask a question about their bill at any time, having things aggregated together onto that bill, ways that contents are organized together and highlighted for new things, as well as a significant budget to buy in unique content being part of the offering, that there will be a business here.

Now, when I talk about a significant budget to buy content, what I mean is taking things that will be out on the Internet that are not free, where somebody decides, okay, they're going to have a subscription. So you can take the budget that's in this and go and buy that content. Now, there's sort of three different ways you can buy it.

You can buy it so that it's exclusively in the online service community, so MSN could take part of that annual budget and say, "Look, this thing out here will pay you enough." Now, it could be paid in any way -- a certain fixed amount of money or per subscriber, whatever -- but you buy it so that it only appears to members of MSN.

Another approach is to take offerings that are out there, that remain out there, what we call a la carte, and say, "Yes, for our members we want to avoid you having to pay that subscription fee, so we'll pay enough or come up with a deal where it's in MSN not exclusively, but you avoid paying that subscription fee by being a member of MSN."

A final way to do it, which is just sort of a form of that, is it's available to MSN members at a discount, but not free as part of being MSN. But they are advantaged relative to somebody who's not joining that community.

Now, this programming budget will have to be fairly substantial. And some of the things that will be published within the community will be created internally -- a community of Windows users, Windows NT users, office users, and the things that they're interested in. Some of those will only be in the community. Like all online services, the content that's out there, some portion of it you make free so

people can have a sense of it and it's almost like an advertisement to be lured in. So anything you go out and buy, then you have to determine what part is free. That's a fairly important thing in that negotiation because the number of eyeballs that'll be on the free stuff will be higher, and that determines the ad rates that come if you do this.

There isn't a perfect analogy to that programming budget in today's world. The closest might be somebody like an HBO, although it's pretty rare to go for a total exclusive in a format like that, and it won't be that uncommon in this format. This idea of working with a community like MSN is particularly attractive in the era of the Internet where the people who are able to get subscriptions or to get advertising revenue, that will be quite modest.

And there are, in the gold rush phase, which allows for the next four or five years, lots of people putting out free content. But there are people who are saying, "Wait a minute. What kind of business case are we going to have here and who are very interested in this type of thing?" How much bidding there'll be for these properties, what those structures will look like, that's all in front of us. But with MSN, we think there's an opportunity. So we're diving into this, and that is somewhat different than some of the classic online service players in this environment.

Okay, the next level up is the server operating system and the Web servers, the basic HTTP Web servers. Our point of view on this is that Web support is another network protocol, and so it should be integrated in with the server operating system, which, in our case, is Windows NT Server. And we see the OS part of that as being a significant business.

Now, beyond the Web server, there will be other things that run on the server -- Database, Merchant, Work Group applications. And there, there is a very large business. Certainly Oracle today has had it as a large business. This is where advanced work group fits in and some of the servers that have all the billing capabilities as part of their features.

In the client operating system, we see the browser being integrated in with that, and there's some very nice benefits that come to use with that. And the operating system business, we can say with some certainty, is a great business with lots of opportunities.

Now, that takes me to my first demonstration, which is I want to show a product that we are shipping today.

<INTERNET EXPLORER DEMO>

But the next thing I want to show is what comes after Internet Explorer 2.0. And, for me, I think actually this is one of the most interesting, probably the most interesting, demonstration we're going to show today, is how you can take and integrate it in a way that makes looking at local information far, far better and at the same time makes browsing the Web better than it is today while reducing the number of things that a user has to learn.

So let's take a look at it.

<WINDOWS INTERNET ADD-ON DEMO>

Well, the next area the tools business. The tools business has always been an interesting business, because it's very strategic. If you've got an operating system, you want there to be great tools of all types, and yet certain parts of the tools business are actually fairly small.

We've taken for this slide a very broad definition of the word "tools," so we're including Microsoft Office as a tool, and we call that a user tool. That's where you want to prepare pages and write script. Using DBA or any other scripting language, you can put behavior into your pages, and so you get nice

wizards that help you, you get templates, you get all the richness of those tools, and they work on both print and electronic. So that will be a good-sized business.

There'll be two other kinds of tool businesses. One will be for content builders. Content builders would be publishing companies or cable channels or teachers who want to put courses together. For them, they want to do nice layouts. They want to create 3D objects. They want to animate those objects, but they don't want to have to go and do specialized programming.

Now, content building is an area that we're very involved with in terms of our "Blackbird" product, which is now called Internet Studio, and with the work we've done with Softimage, which are leading animation tools that to date have required high-end work stations, but they're being brought down onto typical Windows NT PCs.

We see that as a reasonable business to be in, one that's very important for us to really push the state of the art. Likewise, the developer business will have many, many products there -- VB, C++, and some others that'll come along that will help people write the code there.

As I started off saying, content is the ultimate business. Now, this is not a business that any one company is going to have a huge share of. It's just like book publishing. There'll be so many subjects, so many experts, different countries, that even a huge media organization like Time/Warner merged with Turner I think will only be a few percent of the overall revenue in page visiting that goes on here.

In fact, in today's world, the broadcast world, where it's very difficult to start up a magazine or have a newspaper, the distribution costs mean that if you want to have something that has modest popularity, it's not economic. On the Internet, however, where searching is so efficient and distribution is so efficient, you can go after more targeted audiences, and so the variety of magazines or whatever we call these things that newly evolve will be extremely broad.

Microsoft is picking a few areas to get involved in content, but we're not saying that will be something where we're a huge part of the market that develops.

Well, now is I want to step through for you what's new today, what we're announcing as major steps we're taking on the Internet. Some of these things are things that you'll see more detail and more demonstration on later, but I thought putting this up front and going through it would be worthwhile.

The first thing is the Windows integration. What you saw here today is just the tip of the iceberg of what we're doing, but even that has had an unbelievable reaction. We'll make this available as an Internet add-on during 1996 for Windows '95 and Windows NT. There will not be a major user update of Windows '95 during calendar '96. Windows '95, you know, it's what people want. There's a lot of work for people adopting that, so the thing we'll make available is an add-on that people who use Internet will overwhelmingly choose to use. People who don't use the Internet, there's no reason why they would choose to adopt that.

Now, this add-on, although it's coming out in that form when we first ship it, in the future, it will just be a standard part of the Windows product, and the Internet add-on is the product that we'll be making available at no cost.

The Internet add-on unifies folders and Web pages. It's something that you have to think about a little bit to realize how powerful that is. Navigating folders has been fairly tricky. You know, you don't know what's there; you can't find things. Also, navigating Web pages, it's very easy to get lost and not know what's going on, and we believe we've created a solution to those that'll make information sharing a lot easier than it is right now.

We'll have active pages using OLE. Any OLE components work in this environment, so all the OCX controls work. You'll see that later.

Another feature here is PC collaboration. Any two PCs hooked up to the Internet, you can share applications. So you can take a window or an entire screen and share it with someone else. And it works great across Internet. So that means you can edit a document together, work on a spreadsheet together. Nothing special required. You just say who you want to connect up to, and, boom, you're sharing with them.

Internet telephony will be new here, and the ability to connect up to the Internet just by clicking on a single button, and you'll be up there.

And so all of these things come together to create the Internet add-on that we're doing.

Another new thing is our approach in scripting. Paul Maritz will be talk about VB Script, which is a lightweight, portable, safe version of VB for the Internet, and we'll have the source code up there on the Internet. It's freely licensable, very, very straightforward.

We also will be supporting, in our operating system runtime, all the things that people are doing in popular pages, and so that means that the Java runtime and Java Script runtime are part of what we're committing to provide,

And so people have a choice. They can use VB, C++, Java, Java Script, however they want to do that, and the browser will browse those pages. We are working with a number of companies and actively seeking others who want to collaborate with us on designing these extensions.

Now, you know, with Netscape, some of the extensions they put out they just did by themselves. Others they worked in groups to make those decisions. Here, we'd like to get as large a group as possible to make those decisions early and make sure that multiple people who put out browsers have those capabilities.

A big part of this, and one that we're very excited about, is what we call active VRML, and we're proposing that as a standard for 3D navigation. That really is a -- that's part of the focus that Microsoft has had on 3D graphics, not only buying Softimage, but also buying Altamira and hiring in a group of the world's greatest graphics people to make sure that both on a runtime level and a tools level Windows would get out in front and we could be helping the hardware people do some really fantastic new things in terms of graphics.

At the server level, we are integrating the Internet information server into Windows NT. That means it's a standard feature of Windows NT. We're also putting our search engine capabilities -- that is, that there's integrated support for -- in Office. The Internet Fast Find is part of that server. Now, those are open protocols; all the applications can support it. It does a really super job taking what we've done with Doc Obj properties and how those are explicit in our file formats and letting you search, filter, and query on those properties, as well as free text indexing.

And so it's better than what you're used to up on the Web, because Web pages don't have properties; they only have the pre-text indexing. So we have that, and we have the property querying that makes it all that much easier to navigate and query around. This product will shift in the first quarter, and Paul will talk about some people who are using it today. So we're very, very far along there.

We'll have a number of BackOffice editions coming out next year, a proxy server; sometimes people think of that as a fire wall. We'll have the media server; this was code named "Tiger" or "Bengal." It let's you do audio and video across the Internet. We'll have a Merchant server, and we'll have some extensions for content and site management. So lots of new capabilities integrated into BackOffice.

In terms of Office itself, we're very far along having HTML in almost all of our applications. We'll complete that very soon for all of them. And we'll have previewers available as well. Now, people say, "Why do you want previewers when you've got HTML?" Well, remember, HTML does not have the full richness of these document types. So, for example, you can't print HTML and have anything reasonable like footnotes and headers, page breaks. And so particularly for Excel documents and Word documents you want to be able to send those formats around. And the fact the previewers are up on the Internet means you can view them and print them universally.

We are working on a new major release of the Office. In fact, the releases we just did for Windows 95, the majority of the team was not working on that release. They were hard at work on the Intranet release. And that was a trade-off that we made back in 1994. We decided, look, let's get the largest team building on this release where the major theme is the Internet and the Intranet. And so there are some very neat things that come out of that: the property indexing that I talked about, the wizards that attack the online cases, and making these short-cuts pervasive, so that moving around is very, very easy.

We're going to show you the direction that Office is headed. This is not specifically the next major release. Some of the things that we are going to show in here in fact will take us a couple releases to get to. But we've got a scenario that we've pulled together that I think illustrates how Office is far more ingrained in business processes than it ever has been before.

<MICROSOFT OFFICE DEMO>

All right, wonderful. That gives you a sense of where we're going with Office and how it fits in. It's almost like a new tool, although it's really drawing on the incredible installed base that's there and the learning that people have of understanding those tools.

Now, moving up to other types of tools, away from user tools to content tools, there's a number of things we're doing. "Blackbird" has been something we've been working on for quite some time. A key point is that any browser -- our own Internet Explorer across any of these platforms, or any browser that embraces the extensions that we're incorporating -- can run "Blackbird" titles. And any server can offer up those "Blackbird" titles. And so "Blackbird," by using the extension, provides richer layout and things the publishers have really come to us and said they need on the electronic platform. And so it fully leverages everything that we're talking about. And it's a business by itself. We'll, of course, be a heavy user of it, but we're hoping that tens of thousands of other people will be as well.

Another content tool that we've got is of course our Softimage work. We did something very interesting recently, where we took a lot of Softimage technology and put it into a product called 3D Moviemaker. Today that's a stand-alone product that lets kids make movies. But it's pretty stunning the flexibility it gives them in picking actors, picking sounds, really sequencing the camera angles and how those things work. So it's a good glimpse of what we're going to be doing to let there be tools to build these active VRML pages by having a family of Softimage products that can run on very reasonably priced PCs using the latest graphics hardware.

The Microsoft Network is evolving. There is some changes in our strategy here that Pete Higgins will go through specifically. We are working in partnership with lots of network providers -- that is, phone and cable companies around the world -- to provide a broad choice for IP networking.

The MSN content we're putting together won't require special clients. The extensions we're making to Internet Explorer that will be part of Windows and available on the other platforms is all that MSN will need to work with. So, as you move from pre-Internet content to the MSN content, you won't have to load extra things into memory. It'll be a very seamless way of moving back and forth.

We see that the success that we want to have here, just like the success that we had with all the things we've done today, will require working with other companies, particularly companies that are bringing the elements to the picture that we cannot provide. The network operators are a big part of that. I mentioned we've created, starting about 18 months ago, a special sales force that works hand-in-hand with them.

System manufacturers, people like Compaq and all the others, have a lot they can do here in terms of providing multi-processor systems, fault tolerant systems, and their reaction to the opportunity has been fantastic, although also, in some cases, integrate the software in.

Software vendors are critical here. Just like any operating system, you've got to get the extensions to be used, and so we're taking our evangelism that was so effective with Windows 95 and the 32-bit interfaces, and the things you're hearing this morning are the top priority for them to go out and to popularize and you'll see us with a lot of developer conferences using our ability to send information out through the Internet and on CDs, making this all very, very clear for those developers so they can move at full speed.

In the corporate world, pulling all the pieces together, systems integration, support, training, that requires solution providers, and the work we've been doing on Windows NT and BackOffice has been constantly strengthening the relationship we have with those system providers, whether it's the large companies like DEC or EDS or Andersen (sp), or the smaller companies of which there are thousands and thousands who have been going out and installing networks.

They see helping companies get their infrastructure together to exploit the Internet as the greatest opportunity they have, and so the asset that we have there, the relationships we have there will be very critical.

We're also working with our large accounts. We have a close relationship and letting them see how they can build on Windows and Office and Windows NT to fairly easily implement these scenarios. It's mostly good news here because the kind of things people have been doing to go to client server -- pervasive electronic mail, graphical applications -- those are exactly the steps you need to take to use this broader network and reach out to a wider set of people than just the internal employees.

This is a competitive environment. In no sense do I want to say this is a full set of companies involved. I think there is a difference in many ways in terms of approach. For example, if you take IBM Lotus, we view rich information browsing like the type you do across the Internet as a standard operating system feature.

At one point, people had a view that Notes would become a kind of operating system and people would write personal management systems or something on top of Notes. Notes is not broad enough to be an application platform in the full sense that the operating system is, and so as we do the integration, we think we've got something that's very strong there.

Netscape. Their greatest strength -- well, they really have two great strengths. They've got their very high browser share, and they've got the attention of the world in terms of what are they going to do, you know, are they leading the way, and what is it that we should adopt that they are moving towards. Very important for us in competing with them will be growing our browser share. That's a metric that I will look at on a very regular basis and see what it is that we need to do.

America Online is the best example of a classic online service that's done a great job growing their installed base; in fact, had more growth in the last six months, even in the face of the Internet, than ever before. And so, there are some real positive aspects to their model in terms of how they built a community. We're really going to be taking the best of what they've done, the best of our technology, and the best of the Internet in putting those together.

When we announced MSN, we said after a year we expected to have a million subscribers. We are very serious about that, and we feel very much that we're on track from that. That's a number that will grow from that point further in years ahead.

Another class of vendors, particularly for servers, are the UNIX vendors, and I think it's very illustrative to look back at what happened with file sharing. People thought the UNIX systems would be valuable for that, but in fact, they never gained any significant market share. The hardware was too expensive. The performance really wasn't differentiated. And so it was something that proved to be illusory.

Here, if we do a good job in Windows NT server, take that momentum, do the integration right, we think that an overwhelming percentage of servers will be Windows NT, but that's another metric that is very easy for us to look good on a regular basis and determine, you know, how are we strong, what is it that we should be doing to make that happen?

Real quickly, I wanted to touch on some of the benefits. Users, the unification makes these things easy to learn. You don't have to think about directory and folder searching tools being different than Internet tools. You don't have to think about the shell and the browser being two different things. We didn't show it, but we also will integrate in the help facilities. So as you're browsing local help, those are just more Web pages that happen to be stored locally, although some of them have links that can connect you back into our support activity. In fact, I'll be demonstrating a little bit of that in a second.

For users, we'll make it so it's click a button, boom, and you're out, connected. Very, very automatic. We'll make it easy to find documents, easy to share screens for the most flexible ad hoc cooperation. Most collaboration/cooperation won't take place where somebody's set up -- you have this role, you have this role, you're protected from this. If you want to work together with somebody on a document, you shouldn't have to go through that. You should just go into your address book, click on them, and, boom, you're both there sharing whatever application you want to be working on -- Microsoft, not Microsoft, any Windows application. The Internet is letting you do that work together.

The authoring tools for end users need to address the online and the print and, of course, they want better content which all these things move the Internet towards being more relevant with great content.

So now let's take a quick look at what we've got up on our site, including some things we're doing that relate to customer support.

<INTERNET INFORMATION SERVER/BACKOFFICE DEMO>

From a developer's perspective, they'll want choices of languages. The world is full of hundreds and hundreds of languages and the most popular languages today are VB, C++, and Cobol, and Java or various forms of Java may be added to that list as one of the popular languages.

To really support that well, you want an object model that is language independent. You want tools that can work with those various languages, including rich forms layout capability. So we'll come in and provide that and allow people to leverage what they know today, Windows, OLE, Visual Basic, and Office.

For content providers, we've also got to make things very attractive. We won't have this atmosphere where everybody's willing to just do everything for free for a long, long time, and so we've got to make it easy to charge, and that's coming along. We've got to create advertising infrastructure, where even though we're going to be doing very rich tasking, replication, and mirroring, that we can monitor

usage against unique user IDs so they have what they need to justify the value they're creating for those advertisers.

And having the hooks in for all of that speed optimization and yet good data reporting is a very interesting software problem that we'll provide. Rich content without programming, it just goes without saying. They want all those controls to pick from and do that in a visual fashion. And they need very powerful servers in order to have scalability, so the response time for everything that's going on with their content is very, very strong.

So this is my summary. Microsoft and the Internet. If you only remember four points, these are key points. We're hard-core about the Internet. Anything we're focused on we're generally hard-core and we are focused on this and therefore, very hard-core. There's lots of opportunities to improve the Internet. It's not a static situation. A static situation wouldn't be good in terms of its richness, its ability to appeal, and what can be done with the system software.

We believe that integration and continuity are going to be valuable to end users and developers and we think that everybody involved in this needs to take a long-term approach, building up the eyeballs, building up the usage levels, and so that's certainly what we're doing here and we're very excited about that. Thank you.

END OF GATES REMARKS