IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA Plaintiff, vs. MICROSOFT CORPORATION Defendant.	Civil Action No. 98-1232(TPJ)
STATE OF NEW YORK ex rel, Attorney General DENNIS C. VACCO, et al., Plaintiff, vs. MICROSOFT CORPORATION, Defendant.	Civil Action No. 98-1233(TPJ)

. CERTIFIED COPY

July 14, 1998
9:33 a.m.

HIGHLY CONFIDENTIAL

Videotape deposition of BRIAN CROLL, taken by Defendant, pursuant to Subpoena, at the offices of Sun Microsystems, 901 San Antonio Road, Palo Alto, California, before Leigh Regan and Sarah Brann, Certified Shorthand Reporters within and for the State of California.

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Now, does Sun develop or create operating systems for computers?

A. Yes.

Q. What operating systems does Sun develop or create?

A. Solaris -- well, Solaris is the operating system.

Q. When you were using "operating system," what did you have in mind? How do you define "operating system"?

A. Specifically, operating system is the -- what we call the core OS, which means that it's the kernel and the networking protocols, the basic network protocols.

Q. The question is: Do you know whether Sun develops or creates other operating systems?

A. Yes.

Q. What other operating systems?

A. I believe they call it the Java OS.

Q. Does Sun license or sell desktop operating system products?

A. Yes, it does.

Q. Which one or ones?

A. Solaris is -- Solaris Operating System.

Q. Now, do you know what Solaris 2.6 Desktop is?

A. Yes, I do.

Q. What is it?

A. It's a pack -- basically Solaris operating environment that is used on a desktop computer.

Q. Do you know what Solaris 2.6 Server is?

A. It's the Solaris Operating System when used on a server system.

Q. Is that a different operating system from Solaris 2.6 Desktop?

A. There are differences in the product, yes.

Q. Do you consider them to be two different operating systems?

A. They -- they're -- again, this is -- when you say "operating system," can you clarify what you mean by that?

Q. I'm using the same terminology that you used earlier today.

A. Well, here it says the two products. So as a product, they're two different products.

Q. Does Sun make the Solaris 2.6 Desktop product available to customers?

A. Yes.

Q. Have you ever heard the terminology "Web enhanced Solaris 2.6"?

A. Yes, I have.

Q. And what is the Web enhanced Solaris 2.6?

A. Solaris 2.6.

Q. Is there some version of Solaris 2.6 that is Web enhanced versus some version that is not?

A. No.

Q. This is just how Sun refers to Solaris 2.6; correct?

A. Yes.

Q. And do you know why Sun uses that terminology to refer to Solaris 2.6?

A. Yes.

Q. Why is that, sir?

A. Because the public likes to hear Web, was very popular and had a very positive view of the term "Web," and we wanted to connect that popularity with the product.

Q. Let me direct your attention back to Sun Exhibit No. 1, if you will, and particularly to the page SMI 000066.

Do you have that page?

A. Yes.

Q. Just so we make sure we're speaking about the same thing, do you see that the first question is, "What is Solaris Web enhanced?"

Do you see that?

A. Yes.

Q. Below that it says, "Solaris Web enhanced is the current release of the Solaris operating system (OS) Version 2.6."

Do you see that?

A. Yes.

Q. Is that consistent with your understanding?

A. Wait a minute.

Yes.

Q. Okay. And Sun maintains that the Solaris 2.6 is the leading operating system on which Internet servers run; is that correct?

A. Yes.

Q. What is WebNFS?

A. It's a set of networking protocols that allow people to -- to share files.

Q. And just to -- in case you want to look, you notice that the paragraph beneath the paragraph I read is denominated WebNFS?

A. Uh-huh.

Q. If you want to take a second to just read that to yourself and let me know that that's consistent with your understanding.

A. That says the same thing.

Q. All right. If you look at the last clause,

if you will, of the paragraph that I directed your attention to earlier, it says, "powerful Solaris features such as WebNFS that provide speedy access to Web files become crucial."

Okay?

A. Oh, I see. Okay. Yes.

Q. And the beginning of that thought, the beginning of that sentence was that as companies move toward the Web, these features become crucial.

A. Yes.

Q. Why is that?

A. Because people will be -- because companies will be using that part of the operating system more.

Q. What makes them crucial?

A. That's what I just said, is because they'll be using them more.

Q. Okay. Would you turn to the page with the Arabic numeral 2 in the lower left corner?

A. Yes.

Q. You see Table 1-1?

A. Yes.

Q. That's denominated Solaris 2.6 Features at a Glance.

Do you see that?

A. Yes. Uh-huh.

Q. What does this table identify?

MR. EGAN: I assume it identifies the features at a glance.

BY THE WITNESS:

A. Let me just -- these are features of the Solaris product line.

Q. Do you see there's several horizontal shaded areas on this page?

A. Yes.

Q. Let me direct your attention to the second one.

A. Yes.

Q. Which has, inside the shaded area, the term "Intranet/Internet Services."

Do you see that?

A. Yes.

Q. And we've spoken sort of very quickly about WebNFS software, haven't we?

A. Yes.

Q. And below that there is an entry for Sun Web Server.

A. Uh-huh.

Q. What is Sun Web Server?

A. It's a simple HDTP Web -- Web server.

Q. Okay. What significance does the Sun Web Server have for Internet functionality?

A. It's the software that serves up HDTP protocols and Web doc- -- you can think of it as Web documents.

Q. Okay. And that's part of the Solaris Operating System?

A. It's --

MR. KUSINITZ: Objection.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. It's part of the Solaris operating product line, Solaris product line.

Q. If you would turn to "Web Browser," what is a Web browser?

A. That is very difficult to answer.

Q. What is it --

A. It refers to many different things, a browser.

Q. When you use the term, do you use the term to refer to many different things?

A. Yes.

Q. Let me direct your attention back to Sun Deposition Exhibit 5, the one with the Table 1-1 in front of you.

A. Which one is 5?

Q. That one. It's right in front of you, sir.

You see the first shaded area with the term "Java" in it?

A. Yes.

Q. And the second entry is for something called "HotJava" -- one word -- "Browser"?

A. Yes.

Q. What is the HotJava Browser?

A. It's a browser that allows you to view Web pages.

Q. So is the HotJava Browser a browser?

A. In that sense, yes.

Q. That's part of the Solaris 2.6 Operating System?

MR. KUSINITZ: Objection.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. It's part of the Solaris product.

Q. Okay. And it's included with the Solaris product?

A. We sell it with the Solaris product.

Q. Is it included with it?

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. It's -- we sell it with the product. I don't know how to say it better.

Q. Sun wouldn't say it's included with the product?

MR. EGAN: Objection to the form of the question.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. We sell it with the product and --

Q. Would it be wrong to say it's included with the product?

MR. EGAN: Objection to the form of the question.

BY THE WITNESS:

A. It depends on what you mean by "included," so you have to be more precise for me to answer the question.

MR. EDELMAN: Q. Let's look at the Sun Exhibit 3, the Sun Solaris Operating Environment Version 2.6 White Paper.

A. Uh-huh.

Q. Would you turn to page 9 of 38, please?

A. Okay.

Q. You're just a little ahead of me. Allow me to catch up, please. Okay.

Do you see there's a -- two-thirds of the way down, maybe a little less than that, there's a bold heading, Java.

A. Yes.

Q. Then the second sentence says, quote, "The HotJava Browser was also conveniently included with Solaris."

Do you see that?

A. Yes.

Q. This is a document that Sun makes available on its Web page?

A. Yes.

Q. It's a document that Sun makes available to the public?

A. Uh-huh. Yes.

Q. That term is included? Do you see that term there?

A. Yes, I do.

Q. Does Sun include any other Web browser with the Solaris Operating System?

A. Again, when you say "include," you have to define "include."

Q. I'm using "include" the way Sun used "include" in Sun Exhibit 3.

A. Okay.

MR. KUSINITZ: Objection.

MR. HOLTZMAN: Lack of foundation.

THE WITNESS: Yeah. I just -- for this question, not this document, what do you mean by "include"?

BY MR. EDELMAN:

Q. Does Sun provide any other browser in connection with providing the Solaris 2.6 Operating System?

A. Again, when you say "Solaris 2.6 Operating System," that's -- that's not clear enough for me.

Q. Do Sun's operating system products include any browser other than the HotJava Browser?

A. We include the right to get another browser.

Q. Is it shipped with the operating system?

A. No.

Q. How does one get it?

A. You send in a coupon.

Q. The HotJava Browser is shipped with the 2.6 Operating System?

A. Yes, it is, with the product.

Q. Which product or products -- I'm talking now about browsers -- can one submit a coupon for?

A. The Netscape -- I believe it's Navigator.

Q. Any others?

A. No. Netscape.

Q. Now, if you acquire Solaris 2.6 from Sun, license or purchase, whatever terminology you want to use, is there a single price that one pays?

MR. EGAN: Object to the form of the question.

BY THE WITNESS:

A. Can you say that again?

Q. I'll ask it this way: Is there a separate price for the browser?

A. No, there isn't.

Q. There's one price for the whole operating system product; correct?

A. No.

MR. KUSINITZ: Objection.

BY MR. EDELMAN:

Q. What price components are there?

A. We have -- there's one price for what we call the base level operating system, and then there are additional packages on top of that that also comprise -- are part of the Solaris product line.

Q. But the browser comes with the base level product?

A. Yes, it does.

Q. Okay. If someone wishes to license or buy

the operating system product with Sun without obtaining the browser, would Sun provide the operating system product without the browser?

A. Yes, we would.

Q. Same price, though?

MR. KUSINITZ: Objection to the question.

BY THE WITNESS:

A. It's hard to speculate. It would be a negotiation.

MR. EDELMAN: I'd like to mark as Sun Exhibit 6 a four-page document with the title HotJava Browser for the Solaris Operating Environment. I'll ask the reporter to mark it. Here's a copy for Mr. Egan, a copy for the division, a copy for Mr. Kusinitz.

(Sun Exhibit 6 for identification, document entitled "HotJava Browser for the Solaris Operating Environment.")

Q. Do you know what this document is?

A. It appears to be a Web page.

Q. Do you know from whose Web site this page emanates?

A. It appears to be from the Sun Web site.

Q. Do you understand it was made available by Sun to the public?

A. Yes.

Q. Is this a document that Sun makes available in the ordinary course of its business?

A. On the Web page, yes.

Q. Would you refer to the third paragraph following the heading Basic Web Browsing?

A. Uh-huh.

Q. And by "uh-huh" you mean --

A. Yes.

Q. You see that there's -- the paragraph reads, "By providing basic Web browsing functionality, HotJava for Solaris smoothly integrates with the Solaris Desktop

and complements the applications already present and well-known to users."

Do you see that?

A. Wait a minute. You lost me here.

Q. Third paragraph under the heading Basic Web Browser.

A. I got it.

Q. "By providing" -- do you see that?

A. Yes, I do.

Q. Do you want a moment to just orient yourself?

A. Yes.

Q. What does the statement mean, that "HotJava for Solaris smoothly integrates with the Solaris Desktop"?

A. I don't know --

MR. HOLTZMAN: Objection. Lack of foundation.

BY THE WITNESS:

A. I don't know what the person writing this actually meant by that.

Q. Do the operating system products provided by Sun, which means sold or licensed --

A. Yes.

Q. -- include any technology designed to provide

connectivity with the Internet?

MR. HOLTZMAN: Objection. Vague and ambiguous as to the term "include."

BY MR. EDELMAN:

Q. Go ahead.

A. I'm sorry. Can you repeat that question?

Q. Do the operating system products provided or sold, licensed or sold by Sun, include any technologies designed to provide connectivity to the Internet?

A. Yes, they do provide some connectivity to the Internet.

Q. And what features of the product do you have in mind when you answer that way?

A. TCP/IP, for instance, is the one that comes to mind.

Q. Now, what is TCP/IP?

A. To my understanding, it's the protocol used

on the network, I mean, on -- on the Internet.

Q. Okay. And that protocol is included in the Solaris 2.6 operating product, operating system product?

MR. HOLTZMAN: Objection. Vague and ambiguous.

BY THE WITNESS:

A. We ship TCP/IP with the Solaris product, yes.

Q. Do you charge separately for it?

A. Not for TCP/IP.

Q. Do the operating systems developed or licensed by Sun include HTML?

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. Not to my understanding.

Q. Not at all?

A. Well --

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. Go back to -- the operating -- Solaris Operating System, as far as including HTML, I don't believe I would say it that way.

Q. How would you say it?

A. We include a Web browser -- actually, we have a Web browser and -- well, we co-ship a browser with the product, okay, so it doesn't include HTML.

Q. Did you use the word "co-ship"?

A. Well, yeah. As we were -- said before.

Q. So we can try to make sure we speak the same language --

A. We ship it --

Q. -- what do you mean by the term "co-ship"?

A. In the product, in the Solaris product, there -- in the desktop product, we ship a browser as part of that product.

Q. Okay. Now, do Sun's operating system

products provide any other technology necessary to provide for or facilitate connectivity to the Internet?

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. We -- as far as -- can you say that again? I'm sorry.

Q. Sure. Do Sun's operating systems products provide any other technology necessary to provide for or facilitate connectivity to the Internet?

A. We ship NFS protocols as part of the Solaris product.

Q. Okay. Any other technologies?

MR. KUSINITZ: Objection to form.

BY THE WITNESS:

A. I can't think of them off the top of my head right now.

Q. Okay. And the technologies that you have identified, are they included on all of the operating system products that Sun provides?

A. We ship it as part of the Solaris product.

Q. That's for both desktops and servers?

A. Yes.

Q. Why does Sun include these Internet technologies in the operating system products?

MR. HOLTZMAN: Objection. Vague and ambiguous as to what Internet technologies you're referring to.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. We include TCP/IP because it's been a part of the -- essentially because it's a well-known, well-adopted standard that we feel, you know, we couldn't get any money for it if we were to ship separately.

Q. Why do you ship it at all?

A. To enable people to connect into the Internet and to do networking.

Q. When did Sun begin to include the Internet technologies that you've talked about now in its operating system products?

A. I'm not aware of when. They've -- the TCP/IP is shipped as part of the Solaris product line since I've been at Sun.

Q. That's, again, 1986?

A. 1986.

Q. So since at least that time; perhaps from before?

A. Yes.

Q. Before the break, we were discussing reasons for including Internet functionality in Sun's operating system products.

Let me direct your attention, Mr. Croll, to the white paper we've been looking at, which I believe is Exhibit 3. Forgive me for a minute. I may not be able to keep this straight. It is Exhibit 3. And

specifically page 7 of 38.

Do you see the last paragraph on that page, sir?

A. Yes.

Q. That paragraph begins, quote, "The explosive growth of the Internet created demand for HTML and Java tools that run anywhere on the network."

Do you see that?

A. Yes.

Q. And it says, "Solaris 2.6 marks the introduction of Web based tools into the Solaris environment."

Do you see that?

A. Yes.

Q. Okay. What does that mean, the second sentence, "Solaris 2.6 marks the introduction of Web based tools into the Solaris environment"?

MR. HOLTZMAN: Objection. Lack of foundation.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. On this, I'm -- let's see here.

What it means is that they're including two new applications, Solaris Web Start and Answer Book 2,

as I read the -- as I read the document.

Q. And the Answer Book 2 is a help function; is that right?

A. Yes, that's correct.

Q. Uses HTML technology?

A. Yes, it does.

MR. KUSINITZ: Objection.

MR. EDELMAN: Mark as -- I guess we're up to 7 -- Sun Deposition Exhibit 7, a document bearing production numbers SMI 000194 through 197.

A copy for Mr. Egan, a copy for the division, and a copy for Mr. Kusinitz.

Q. Fair enough. Section 2.1 on the first page, Project Description.

A. Yes.

Q. Do you see it says, "With the advent of the Internet and World Wide Web, Web browsers become a critical application for the Solaris Desktop. The project will integrate and package the HotJava Browser from JavaSoft into the Solaris platform."

Do you see that?

A. Yes, I do.

Q. What does that mean?

A. Is that we are going to take the Solaris application and ship it as part of -- as part of the -- I mean -- I'm sorry -- we take the HotJava application and put it into the Solaris product.

Q. Okay. So integrated in that sense, put it into the product?

A. Yeah.

Q. "Yeah" means yes?

A. Yes.

Q. Section 3.1 on the next page, which is production number SMI 000195, do you see that?

A. 00195?

Q. No, that's the bottom. Just the production number. Section 3.1.

A. Uh-huh.

Q. It says, "denominated problem area."

Do you see that?

A. Yes.

Q. And following that it says, "Customers require a basic Web browser which can visit Web sites, view HTML pages and run Java applets. Our competitors

are all planning on providing this functionality as part of their products (many already have). HTML has become the universal document format used by more customers and systems. Java bite codes will hopefully become the universal execution format."

Do you see that?

A. Yes, I do.

Q. Would you refer, please, to Section 3.3?

A. Yes.

Q. "Business Justification."

Do you see that?

A. Yes.

Q. It says, "A Web browser has become a critical must-have application."

A. Correct.

Q. "All other platforms (e.g., Windows, Mac, other Unixes) either have already bundled the browser or have plans to do so soon."

Do you see that?

A. Yes.

Q. These other platforms, Windows, Mac and Unixes, those are operating systems?

A. Yes.

Q. And if you refer to Section 3.5 --

A. Well, let me be precise. Macintosh is a computer system. It's not an operating system.

Q. Okay. Section 3.5, "Opportunity Window/Exposure."

Do you see that?

A. Yes.

Q. "There is immediate demand for a bundled browser both from external customers and internal

projects (e.g., Sherlock). Solaris 2.6 has several hard dependencies on a bundled browser. There are also other unbundled products which may wish to include a browser, CDE Internet Access Plus Pack NEO/JOE."

Do you see that?

A. Yes, I do.

Q. What is Sherlock?

A. Sherlock is the Answer Book 2 -- it's the code name for the Answer Book 2 product.

Q. What does the statement mean that "Solaris 2.6 has several hard dependencies on a bundled browser"?

A. I don't know what that means in this document.

Q. When did Sun release Solaris 2.6?

A. Last summer, August.

Q. When did Sun first consider integrating a Web browser in that operating system?

MR. HOLTZMAN: Objection. Vague and ambiguous as to the use of the term "integrate."

BY THE WITNESS:

A. We -- as far as -- I don't know -- I don't know when we first thought of that or looked at it.

Q. Do you recall when -- the first you heard about this?

MR. EGAN: Objection to the form of the question. You heard about what?

MR. EDELMAN: Fair objection. Let me clarify the question.

Q. Do you recall when is the first time you learned that Sun was integrating a browser into the Solaris 2.6 product?

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. Integrating -- so what I can say is that we -- we decided when we were releasing Solaris 2.6 that we needed to include as part of the Solaris product a browser application essentially to just do some very fundamental capabilities. That was my recollection of those discussions.

Q. And to the extent you know, why was it, the decision made to include that kind of browser with Solaris 2.6?

A. We included the application in the Solaris 2.6 product really for a couple of reasons. One was that we couldn't get money for it in the marketplace separately, that the market value had been set to zero for that functionality. As a result, we couldn't get money for it. The other thing is that in order to

install the Solaris environment using a new capability called Web Start, we wanted to have a browser be part of that installation process.

Q. So you used browser technology to actually install the operating system?

A. That is an option that we gave people.

Q. In 2.6?

A. In 2.6.

MR. EDELMAN: Okay. Let me mark as Exhibit 8, I believe, Sun Exhibit 8, a -- I think it's a three-page document, bearing production numbers SMI 000125 through SMI 000127.

Of course, copies for Mr. Egan and the division, and for Mr. Kusinitz.

Q. Do you see the date of this document?

A. Yes.

Q. Is that June 15, 1995?

A. Yes.

Q. Was this document prepared in the ordinary course of Sun's business?

A. I believe it was.

Q. And kept in the ordinary course of Sun's business?

A. I believe it is.

Q. Okay. If you would look at Section 1, you see Introduction?

A. Uh-huh.

Q. It says, "The Netscape Navigator is the Web

browser from Netscape Communications Corporation. SunSoft has announced that it will integrate the Netscape Navigator into its Solaris platforms."

A. Yes.

Q. There's that "integrate" word again, huh?

MR. KUSINITZ: Objection.

BY MR. EDELMAN:

Q. Do you see that?

A. Yes, I do.

Q. Would it be fair to say, then, by 1995 there was at least consideration of integrating a browser into the operating system products?

A. Appears so.

Q. From Sun?

A. In this document.

Q. In this -- right. If you look at Section 5 on the next page, do you see it says "Business Opportunities/Exposure"?

A. Hang on. What section was that?

Q. Section 5.

A. Section 5. Okay. Okay.

Q. Do you see the beginning of that section reads, "Web browsers are becoming (if not already) the mostly highly used applications on the desktop, "and it

says "- They may be the mail tool of the future. Customers will expect the Solaris Desktop to include tools to access the Web by default."

Do you see that?

A. Yes, I do.

Q. Do you know what that means, "Customers will expect Solaris Desktop to include tools to access the Web by default"?

A. Tools to access by default? I don't understand the word "default," "by default." I understand when they say "expect the Solaris Desktop to include tools to access the Web." I think that it's clear that our customers would expect to see, you know, common applications such as mail tool available to them on that desktop.

Q. Then if you see the second paragraph under Section 5, "SunSoft has announced that it will integrate the Netscape Navigator into its Solaris platforms, since CDE" -- Common Desktop Environment; is that what that is?

A. Common Desktop Environment, correct.

Q. "Since CDE will be the new default desktop for Solaris, it is not unreasonable for customers of Solaris/CDE to expect/demand Netscape on CDE."

A. Right.

Q. Do you see that?

A. Yes, I do.

Q. It says that SunSoft has announced that it will integrate the Navigator.

Do you know --

A. I have no idea what that is.

Q. As far as you know, Sun's never made such an announcement?

A. I have absolutely no recollection of that.

Q. If you look at the last paragraph on Section 5, it says, "Integrating/bundling Netscape with CDE will address all the above issues in addition to making CDE more attractive and hip (comes with Web browser)."

Do you see that?

A. Uh-huh.

Q. Would it be fair to say then, that by June of 1995, Sun expected that its customers would be expecting or even demanding that a Web browser be integrated into its operating system product?

A. I believe they would expect to see a browser run on the Solaris environment.

Q. Would that be included in the operating system product?

A. No, I think running on the Solaris environment.

Q. What's the distinction between those two?

A. One is an application that runs on the environment. That's basically on top of CDE.

Q. Of course, this does say twice in the document, it uses the word "integrate," doesn't it?

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. Apparently, in the document it says "integrate," yes.

Q. And at least in terms of the document, it was, in fact, to integrate it into the operating system product; correct?

A. I don't know what they mean by "integrate" here.

Q. Those are what the words say, though, don't they?

MR. KUSINITZ: Objection.

BY THE WITNESS:

A. You know, words mean what you want them to mean.

Q. That is what the words say?

A. It is printed in the document, yes.

MR. EDELMAN: Thank you.

Mark as Exhibit 9 a document of several pages bearing production numbers SMI 002132 through SMI 002136.

Q. Okay. Was this document prepared in the ordinary course of business at Sun?

A. Yes.

Q. And it's kept in the ordinary course of business at Sun?

A. Yes.

Q. Would you refer please to Section 2 on the first page. It's headed Description, and the first sentence there says, "Sun's network architecture is centered on the Internet protocol (IP)."

Do you know what that means?

A. It means that we use the IP protocol as the design center for our networking infrastructure.

Q. Okay. You see the second paragraph, "The Internet protocol family which includes IP has been extremely popular."

A. Correct.

Q. "Virtually all modern operating systems now support TCP/IP either as a standard feature or as an add-on."

Do you see that?

A. Yes.

Q. So at least according to this document, by April 25th, 1994, Sun understood that virtually all modern operating systems were including support for Internet connectivity?

A. No. It says, "Virtually all modern operating systems now support TCP/IP."

Q. What is the distinction in your mind?

A. Well, that's what it says here.

Q. Do you know what that means, "support TCP/IP"?

A. It means that TCP/IP can run on the system.

Q. Okay. Now, you've been with Sun since 1986. From, just now, focusing on that time period, have the features of operating systems expanded over time in that 12 years or so that you've been with Sun?

A. The -- in the definition of "operating system" that we spoke about earlier, which is the kernel and the -- the networking, the network components, it's actually remained relatively static as far as capability in the OS. What's happened is it's gotten better, higher quality, faster.

Q. So, in your view, has the Solaris Operating System product evolved over time?

A. The operating system product, and product line, has evolved.

Q. Okay. Let me ask you this: Do you read any trade publications?

A. Yes.

Q. Do you read PC Week?

A. Occasionally, yes.

Q. With what frequency? You said "occasionally." Could you just give me some sense of how frequently you read it?

A. Every day.

Q. Okay. That's --

A. Very frequently, PC Week.

Q. Do you know who Janpieter Scheerder is?

A. Yes, I do.

Q. Who is Janpieter Scheerder?

A. He's currently the president of the storage division.

Q. Of?

A. Of Sun.

Q. Would you consider him to be an authoritative spokesperson for Sun?

A. He's president of a division.

Q. I wonder if you could just answer my question, however. I'm asking for what you consider.

MR. HOLTZMAN: Objection. Vague and ambiguous as to what's meant by "authoritative spokesperson."

BY MR. EDELMAN:

Q. Go ahead, sir.

A. What I can say is he's the president -- that's a matter of opinion. He's the president of a division.

MR. EDELMAN: I'd like to mark as Exhibit 17 a multi-page document which we will identify as a July 1, 1996 -- I'll use the term "story" -- from PC Week, with the headline, "Making Java Pay, Sun Microsystems Plans to Profit from the Java Programming Language."

Mr. Egan, a copy for you, and copies for counsel.

(Sun Exhibit 17 for identification, document entitled "Making Java Pay, Sun Microsystems Plans to Profit from the Java

Programming Language.")

BY MR. EDELMAN:

Q. Again, let us know when you're ready to proceed, sir.

A. I've seen the document, yes.

Q. Do you recall if you've ever seen this document before? I don't mean in this form, but whether you've ever read this article before.

A. I don't remember.

Q. Possible? You just can't recall?

A. I just can't recall.

Q. Let me direct your attention to the second page of the exhibit. It says, at the top, page 24, but it's the second page of the exhibit.

Do you see there's a heading just after the first block of text, "Serve It Up"?

A. Yes.

Q. Would you count down, please, three paragraphs? You see it says, "Count Janpieter Scheerder lucky, then," and I'll ask you to read to yourself that paragraph and the next one, because I'm going to ask you a question about the next paragraph and I'd like you to have the context.

A. Okay. Okay.

Q. Okay. Do you see the fourth paragraph, the one after the one I -- that begins "Count Janpieter Scheerder lucky" ends with the sentence, "Scheerder acknowledges that Netscape has what looks like prime territory now, but he predicts that as the Internet matures 'Most of the functions will drop into the OS and they don't have an OS.'"

Do you see that?

A. Yes.

Q. Do you understand "OS" to mean operating system?

A. Yes.

Q. And would you agree with the sentiment attributed to Mr. Scheerder that the operating systems would evolve to include these Internet functions that are discussed?

MR. HOLTZMAN: Objection. Mischaracterizes what the document says.

BY MR. EDELMAN:

Q. Go ahead, sir.

MR. EGAN: Can you repeat your question, or can we have it read back?

MR. EDELMAN: Why don't we have it read back. Sure.

(Requested portion of record read.)

MR. EGAN: You are referring to a specific part of the document?

BY MR. EDELMAN:

Q. Go ahead, sir.

MR. KUSINITZ: Objection. Mischaracterizes.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. Yeah, I don't understand what you're referring to.

Q. What do you understand this phrase that most of the functions will drop into the OS --

A. I think what he's saying is that we, Sun, would sell these functions as part of an operating environment Solaris product line, and as a result, the Netscape business would be, you know, they would have a competitor in us, essentially. A competitor to Sun.

Q. By "drop into the OS," these products would -- the phraseology you said would be sold as part of the operating system product?

A. Product line.

Q. What did you do to prepare for your deposition?

A. I met with our attorneys.

Q. Okay. When did you do that?

A. Last week.

Q. Okay. Was anybody else present?

A. Yes. Well, not in those meetings.

Q. Okay. How many meetings were there?

A. Oh, I think -- two.

Q. Two with your attorneys without anyone, or two all together?

A. I had two separate meetings to talk about this case.

Q. A total of two, then?

A. I believe it was two. There might have been a meeting, like an hour meeting or something that I'm missing here.

Q. Who was present at the first meeting, that you recall?

A. Our Sun lawyers.

Q. By "Sun lawyers," you mean internal and --

A. External.

Q. -- external?

A. Correct.

Q. And anyone else?

A. Not at that meeting.

Q. Was there another meeting?

A. Yes.

Q. Who was present at that meeting?

A. Lawyers from the Justice Department and from -- representing the states.

Q. Do you recall how many people there were?

A. No. I mean, a couple, handful.

Q. Do you recall the names of any of the people?

A. I'm terrible on names. Bad question.

Q. Were any of the people sitting at this table present?

A. Yes.

Q. Could you identify --

A. Two gentlemen at the end.

Q. Okay. For the record, the witness has identified Mr. Kusinitz and --

MR. HOLTZMAN: Mr. Holtzman.

BY MR. EDELMAN:

Q. -- Mr. Holtzman. Thank you.

Were there other people in attendance too?

A. In that meeting, boy -- no other parties than those.

Q. How long was that second meeting?

A. Maybe two hours.

Q. Where did it take place?

A. In this room.

Q. In this room right here?

A. (Witness nods head.)

Q. When did that meeting take place?

A. It was either Wednesday or Thursday.

Q. Okay. Of last week?

A. Yeah. Maybe it was Tuesday. My schedule...

Q. To the best of your recollection, please tell us what transpired at that meeting.

A. We talked about some of the documents that were shown here. I mean, they showed me the documents. We -- I answered a number of questions with regards to the content in the subpoena. And that was basically it.

Q. Do you recall what documents you were shown?

MR. EGAN: Is this at the second meeting?

MR. EDELMAN: Yes.

Q. We're talking only about the second meeting now.

A. Let's see here.

I have a hard time recalling the specific documents, but the ones that I've recognized when we were talking earlier were clearly part of that.

That's about it.

Q. What subjects were discussed?

A. Questions with regards to the -- the Solaris product line and the structure of the product line. Question to some of our intent of why we did certain things from product strategy standpoint. Those types of questions.

Q. Just so I understand, you say questions of our intent.

Could you elaborate on what you mean by that?

A. Questions of why we did certain actions in the past.

Q. Such as?

A. Some of the same questions you asked about, for instance, you know, what our intention was with regard to -- in putting in the HotJava Browser, you know, and including that in the Solaris product line. Those kinds of questions.

Q. Did you discuss some of these issues of, for example, whether to use the words "integrate" in responding to questions?

MR. ESTRADA: Objection. Vague and ambiguous.

BY MR. EDELMAN:

Q. Go ahead, sir.

A. The -- what I remember is -- that stuck with me was to make sure that I answered the questions as asked, and make sure that I understood what the questions were.

Q. Anything else that stuck with you?

A. That was the main one.

Q. Okay. Were there any other subjects discussed, other than the ones that you've now identified?

A. I'm sorry.

Q. Were there any other subjects discussed other than the ones you've identified?

A. Not to my recollection.

Q. Did you ask for this meeting?

A. No.

Q. Do you know who asked for it?

A. No, I don't.

Q. Do you know if Sun asked for the meeting?

A. I do not know.

Q. Did you take any notes at the meeting?

A. No, I didn't.

Q. Have you met with anybody representing Microsoft Corporation in connection with your deposition?

A. No, I haven't.

MR. HOLTZMAN: Q. And what do you mean when you say office productivity?

A. It means the kind of thing that you would do in an office day to day, word processing, spreadsheet, people -- let's see. What other things? Writing a presentation, those kinds of things.

Q. Then you also alluded to a category of users as power desktop users.

A. Right.

Q. What do you mean by that?

A. Those are typically specialists. People, for instance, a mechanical engineer who is designing a ship, electrical engineer who is designing a chip, software engineer who is designing software. People who are more using the desktop technology for a specific function in their specialty.

Q. Now, why in your business do you make the distinction between those two different categories of desktop users?

A. They are very distinct markets, in that the requirements are entirely different.

Q. Can you describe the way in which the requirements differ?

A. In the more power desktop environment, what -- you typically -- the requirements of those applications are much, much more stringent than the general office productivity type of applications. So, as a result, the underlying system is really different. The way they buy the systems is really different as well.

Q. "They" in that answer meaning whom?

A. The engineering departments who are using the power technologies, the power desktop technologies. So,

it goes from how they buy them, where they buy them, and how they use them is really very distinct from the other area.

Q. How, if at all, does the distinction between office productivity users and power desktop users play into your marketing efforts for Solaris?

A. We don't market Solaris for the general office productivity type of application customer. We basically just market it for the power user.

Q. Now, you referred I think in one of your earlier answers to it being a done deal that people want what you have now referred to as those Windows products.

A. Right.

Q. Why do you view that as a done deal?

A. Because at this point the applications available on that platform are not available on the Solaris platform, number one. So, people can't even get the applications that they want for that. So, it's largely application driven.

Then on top of that it comes down to distribution channel as well, in that, how it would be very difficult for us to actually get that operating system in the hands of end users.

So, those are the really, in my mind, the two big reasons why it's better for us to focus in the power desktop area.

Q. Why is it difficult to get the Solaris

operating system product in the hands of office productivity users on the desktop?

A. Well, typically you -- the way you do this is through having hardware OEMs.

In other words, if a computer system manufacturer that would then take the product, marry it, and send it out, it's the biggest volume, best way to reach the market.

Q. What if any difficulties has Sun had in getting distribution through that channel?

A. Well, at this point there is no -- I mean, that channel is closed to us, in the sense that there is no opportunity for us to ship the product on any of those OEMs' platforms.

Q. Do you have any understanding why?

A. Well, it goes back to the earlier point, in that to a large extent for the office productivity applications there is really only one platform that's viable today.

Q. Which is the one that's viable?

A. Windows --

Q. When you say "viable," what do you mean by that?

A. That has a live ISV community, that you can

get all the right applications on.

That's just a full product that fulfills requirements of the users.

Q. Has Sun, over the past number of years, taken steps to try to get applications developed for the Solaris platform?

A. Oh, yes.

Q. Can you describe what Sun has done in that regard?

A. Well, we have a very large developer program. It used to be called the catalyst program. Now it's the software developer connection, I believe is the name, that does a lot of events. We have quite a few people working, support ISV's, software developers, to get them the right applications that run on the Solaris environment.

Q. Have those efforts extended to again office productivity applications?

A. Yes, but not recently. I mean at one time, yes, we were very active trying to get the office productivity applications on board.

Q. And how would you describe the success or failure of those efforts?

A. It didn't work.

Q. Do you have any understanding as to why not?

A. Well, yes. There is -- one comes down to volume, so that as the volume of your platform decreases, it's less economically feasible for someone to offer a product there. So, it's hard to get people on board, is one.

Secondly, it usually involved porting the

application from one platform, usually the Windows platform, to the Solaris environment, which is relatively difficult to get high quality product out of that, at the end of the day.

Q. Is Windows 3.1 or 3.X -- you know what I am referring to by 3.X?

A. Yes.

Q. Is that a competitor today for Solaris?

A. No.

Q. Why not?

A. Because it plays mostly in the general purpose environment office productivity, not in the markets that we play.

Q. With respect specifically to power desktop

users, are there other reasons why Windows 3.X in your view doesn't compete with Solaris?

A. My understanding is that it does not have the technical capability to really run the kind of applications I am talking about, the mechanical CAD, electrical CAD, you know, a more robust type of applications.

Q. Now, is Windows 95 a competitor -- does Windows -- let me start that again.

Does the Windows 95 product currently compete with Solaris?

A. No.

Q. Why not?

A. Same reasons, is that it doesn't have the level of underpinnings to allow the, what I would call big-time applications to run on top of it. So, for the power desktop it doesn't have the right kind of applications.

Q. Based on your general understanding of the product, does Windows 98 compete with Solaris?

A. No.

Q. Why not?

A. It's the same part of the same product line as Windows 95, and so forth.

It's not -- it's more geared for the office

environment, in my opinion.

Q. When you say the office environment, do you mean --

A. Office productivity.

Q. Okay.

Q. You have also testified today about Sun's practice with respect to shipping, or, as you put it, co-shipping a browser product or products, as well as other Internet technologies, is the term that was used with Solaris. Do you understand what I am referring to here?

A. Yes, I do.

Q. You testified a little bit about some of the

reasons that Sun ships the HotJava browser with Solaris 2.6. Can we go back through what those reasons are?

A. Okay.

Q. Can you just describe them, and describe if there is more than one?

A. There are many. The first one is, in order to boot the system using a new feature, which we call Web Start, we put that in -- we needed to have a browser with the system, so at boot-up time you could use the browser. That's one reason.

The other reason that is also there is that people do want to be able to use the browser.

And then the third reason is that we also want to make sure that, for like the boot-up process specifically, we have some degree of control over what the browser looks like and what it does.

Q. Are there other reasons primarily -- given Sun's, the different target markets you have talked about, namely power desktop users, the server side, and embedded operating systems, are there other reasons why Sun has chosen to ship the HotJava browser with Solaris 2.6?

A. Yes. One of the things is that, as I said earlier, we couldn't ship it as an unbundled, as a

separate product entirely, because right now the market basically values it at zero, zero dollars. So, it would be very difficult to charge for that product.

Q. From where you sit, would it be preferable to ship the HotJava browser unbundled?

MR. EDELMAN: Objection to the form.

THE WITNESS: From where I sit, yes, because I much prefer -- we incur cost to do a browser. It would be way better to be able to get the cost back out as a separate price, yes.

MR. HOLTZMAN: Q. Why can't you do that?

A. Because the value of a browser has been set to zero right now in the marketplace.

Q. You testified a little bit about the server operating system market being a target market for Solaris.

A. Right.

Q. Is there anything about that market that provides a reason for shipping the HotJava browser with Solaris?

A. Yes. What I was saying earlier about having a degree of control over the browser and its technologies, that's critical, because that's linked very closely to whether a server is useful or not.

Q. What do you mean by that?

A. You think of it this way. It's two sides need to talk to each other. If the browser can't talk to the server, then we can't sell servers. So, if we lose any kind of control over whether the browser can talk to our server or not, it will be very difficult for us to sell servers.

Q. How, if at all, does that affect your choice of which browser to ship with Solaris 2.6?

A. One of the factors is we want to have one that we have some degree of control over. So, HotJava is obviously one that Sun has control over.

Q. Is the choice of the HotJava browser, does that relate to any perception that customers demand HotJava, as opposed to a different browser?

A. No.

Q. Why not?

A. They prefer to have another brand name browser.

Q. What is your basis for that?

A. Just customer feedback, what people say, and market share numbers.

Q. What have you heard in that respect?

A. Typically people prefer the brand N, Net

Navigator brand, very, very deeply.

Q. Has responding to any sort of competitive pressure been a factor in deciding to ship a browser with Solaris 2.6?

A. Yes.

Q. Would you describe the nature of that competitive pressure?

A. Typically when people are going through and looking at products they have check lists of what they expect to see in a product. As a result, we -- it's important that we keep up with the Joneses, so to speak. And our main competitor, on NT 4, you know, they go ahead and do that kind of stuff.

Q. Do what kind of stuff?

A. They include the browser as part of the product.

Q. The "they" there is Windows NT?

A. Is Windows NT, also Windows on the Office side, too.

Q. Does anything that is a part of the Solaris operating system depend on the presence of a browser product to function?

A. No.

Q. In going to Answerbook2, describe generally what that is.

A. Essentially it's online help.

Q. It's a series of files that somebody can go to, to --

A. To view, and if you have a question on something, you go to it. And it looks like a Web page, so it's easy access to help.

Q. And the files in Answerbook2 are listed in

HTML format?

A. I believe they are.

Q. Does Solaris 2.6 offer users the opportunity to get help a different way?

A. Yes.

Q. How is that?

A. We have a set of man pages, manual.

Q. Is a browser required to view those help pages?

A. No, it's not.

Q. In going back to the Web Start feature, does the use of the browser in that, for that feature, does that relate to the ability to go out and access the Worldwide Web?

A. No.

Q. Why not?

A. It's meant to load Solaris for the first time on the machine. So, it's for installation of the operating system.

Q. Now, talking again generally about Web Start and Answerbook2 --

A. Right.

Q. -- do those two things require the use of the HotJava browser to function?

A. Not to my understanding.

Q. Can other browsers be used to perform those functions?

A. Yes.

Q. Why is that? Why does Sun make it that way?

A. Because we assume that after the operating system is loaded for the first time that customers are going to want to have other browsers.

Q. What's the basis for that assumption?

A. The fact that people wanted the Netscape -- well, there are a couple of reasons. One I think is the scope of the product. HotJava browser is a very simple product that basically can only handle that basic level of capability, where there is the more full-blooded, full-featured type of browser that people use for more general Web browsing kinds of things. And that's where Netscape and Internet Explorer, those types of browsers, come in.

Q. And to get those kinds of browsers what does a user or a customer have to do?

A. Download it.

Q. When you say download it, what do you mean?

A. They would have to go to the Web and download the software and load it, download the application on to

their system.

Q. When you say the application --

A. The browser application.

Q. When you say application, what do you mean?

A. It's -- it's typically a piece of software that sits on top of the operating system and that people use, and performs a function that they are looking for.

Q. You talked a little bit earlier about the distribution channels for Solaris 2.6, and you identified OEMs and VAR's; is that correct?

A. Yes.

Q. When an OEM or a VAR -- let me know if it's different for either of those -- license Solaris 2.6, do they have to ship the HotJava browser to their customers?

A. No.

Q. Why not?

A. We don't require them to do that.

Q. To your knowledge, has that ever come up?

A. Not specifically for the HotJava, HotJava browser. That hasn't come up.

Q. What means, if any, does Sun make available to OEMs and/or VAR's to enable them not to reship the browser to their customers?

A. Basically what they can do is just deinstall it. So, there is an installation package that allows you to load software and a deinstallation package that allows you to unload it. So, you just unload it.

Q. You talked about the installation process. Is there something that's part of that installation process that would enable an OEM or a VAR not to install the HotJava browser?

A. Yes.

Q. Can you describe what that is?

A. It goes similar to the process that I have stated. At one level you can choose not to add that package, which has the Java browser as well as other things, if that's the first choice. Then the second choice is, once you have loaded it, you can go through the deinstall process, to take it away.

Q. If an OEM or a VAR wants to supply their customers with additional browsers or a different browser, are they able to do that?

A. Absolutely.

Q. Why does Sun permit that?

A. Because if the OEM wants to do that, they can do that. There is nothing that we -- there is no reason for us to keep them from doing that.

Q. You testified earlier that Sun includes a coupon for Navigator --

A. Yes.

Q. -- with Solaris 2.6?

A. That's correct.

Q. Why does Sun do that?

A. Earlier we were talking about the demand for a browser running on the Solaris environment is there, and also at the same time we -- customers expect to have that functionality for free from us. So, we have to then add a capability for a customer to get ahold of it. So, we put -- that's why we put the coupon in.

MR. HOLTZMAN: Q. When you and other members of your group are talking to customers, does a comparison between Windows 95 and Solaris come up commonly?

A. I have never encountered that.

Q. If you could turn now to Exhibit 9, another multiple-page document, with the production numbers SMI 002132 through 2136.

If you look at the first page of Exhibit 9, the second paragraph of text, which reads "The Internet Protocol family, which includes IP, has been extremely popular. Virtually all modern operating systems now support TCP/IP, either as a standard feature or as an add-on." Do you see where I am?

A. Yes, I do.

Q. Do you agree with that second statement as written here?

A. Yes.

Q. Does the fact that all modern operating systems now support TCP/IP require or have anything to do with the fact of whether a browser is shipped with an operating system product?

A. Can you repeat that?

MR. HOLTZMAN: Do you want to read that one back?

(Requested portion of record read.)

THE WITNESS: No.

MR. HOLTZMAN: Q. Why not?

A. It's a different level of functionality and capability. I mean, the TCP/IP existed far before a browser ever did.

Q. Does TCP/IP support something that's delivered by browser products?

A. Not to my knowledge.

Q. Is it true that either of those two browsers could be used to view the files in Answerbook2?

A. Yes.

Q. Why is that? Why did Sun do it that way, if you know?

A. I do know.

It's very important that all the content that we see can be viewed by multiple browsers, because we again don't have control over that market or what happens in the browser market. As a result, to deliver this kind of functionality, we have to make sure that many different browsers can actually view the files that we have here.

Q. Now, if the -- if a browser is either not installed or uninstalled, does that in any way affect the functioning of the kernel?

A. No.

MR. EDELMAN: Q. There was some discussion on cross-examination about whether there would be any effect on the operating system if a browser were installed or uninstalled. Do you recall that?

A. Yes.

Q. Am I correct in my understanding that your responses were limited to the effect of the, on the Solaris 2.6 operating system?

A. I am sorry?

Q. Were you limiting your responses to the

Solaris 2.6 operating system?

A. To the Solaris operating system.

Q. Right. You weren't talking about operating systems manufactured or developed by other companies, were you?

A. No. Just Solaris.