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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH, CENTRAL DIVISION

_____)	
NOVELL, INC.,)	
)	
)	
Plaintiff,)	
)	
vs.)	Case 2:04-CV-1045 JFM
)	
MICROSOFT CORPORATION,)	
)	
Defendant.)	
_____)	

BEFORE THE HONORABLE J. FREDERICK MOTZ

DATE: DECEMBER 12, 2011

REPORTER'S TRANSCRIPT OF PROCEEDINGS

JURY TRIAL
VOLUME XXIX

Reported by: KELLY BROWN HICKEN, CSR, RPR, RMR
LAURA ROBINSON, CSR, RPR
PATTI WALKER, CSR, RPR

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I N D E X

WITNESS	EXAMINATION BY	PAGE
JOHN KNOX BENNETT	DIRECT BY HOLLEY	4958
	CROSS BY SCHMIDTLEIN	5027
	REDIRECT BY HOLLEY	

EXHIBITS RECEIVED INTO EVIDENCE

(NONE)

1 SALT LAKE CITY, UTAH, MONDAY, DECEMBER 12, 2011

2 * * * * *

3 THE COURT: Good morning, everybody. I understand
4 that Mr. Tulchin has turned into a comedian. The answer is
5 no.

6 THE CLERK: I said that you were going to call --

7 MR. TULCHIN: I wasn't sure that would be
8 transmitted to the Court, Your Honor. It was supposed to be
9 comedic, but only for certain ears.

10 THE COURT: If Theresa hadn't already told you, no,
11 it wouldn't.

12 Are you feeling better?

13 MR. TASKIER: I am, Judge. Thank you. It was a
14 bug that knocked me down for two solid days. It was a
15 regrettably perfect example of Murphy's law.

16 MR. HOLLEY: Anything bad can happen will.

17 THE COURT: I had no idea.

18 (Whereupon, the jury returned to the court
19 proceedings.)

20 THE COURT: Good morning, everybody. Hope you had
21 a good weekend. The indisputably good news is we have
22 Mr. Taskier back with us today.

23 Mr. Holley?

24 MR. HOLLEY: Thank you, Your Honor. Microsoft
25 calls as its last witness Professor John Bennett.

1 THE CLERK: Raise your right hand, please.

2 JOHN KNOX BENNETT,

3 called as a witness at the request of Defendant,

4 having been first duly sworn, was examined

5 and testified as follows:

6 THE WITNESS: I do.

7 THE CLERK: Please be seated.

8 THE WITNESS: Thank you.

9 THE CLERK: Please state your full name and spell
10 it for the record.

11 THE WITNESS: John Knox Bennett. J-O-H-N, K-N-O-X,
12 B-E-N-N-E-T-T.

13 THE CLERK: Thank you.

14 DIRECT EXAMINATION

15 BY MR. HOLLEY:

16 Q. Good morning, Professor Bennett. Can you tell us
17 your educational background, sir, starting with college?

18 A. I attended Rice University and obtained a Bachelor
19 of Science and Master's in electrical engineering, and the
20 University of Washington where I obtained a Master of Science
21 and a doctorate in computer science.

22 Q. What did you do after getting your master's of
23 Science in electrical engineering from Rice University?

24 A. I was an officer in the United States Navy.

25 Q. And what were your responsibilities while you were

1 in the Navy?

2 A. My first assignment was as an electrical officer at
3 a new class of gas turbine power destroyers. And my
4 responsibility was to essentially debug the extensive computer
5 control systems of that vessel. I later became an engineering
6 duty officer and was assigned to Puget Sound Naval Shipyard
7 where I supervised the overhaul of two nuclear cruisers and a
8 conventional destroyer.

9 Q. What did you do after you left your service in the
10 United States Navy?

11 A. I started a company, and then I attended graduate
12 school at the University of Washington.

13 Q. And can you tell us what the company was that you
14 founded?

15 A. The company originally was just -- just me, sole
16 proprietorship, and I worked for -- or the company worked for
17 Weyerhaeuser Company. I did an energy balance system or
18 developed an energy balance software system still in use by
19 Weyerhaeuser Company to manage all of its pulp and paper mills
20 throughout the world.

21 Q. Now, you said you attended the University of
22 Washington in Seattle and got two degrees there. Was there
23 any particular focus of your academic study while you were at
24 the University of Washington?

25 A. Broadly in operating systems and more narrowly in

1 distributed object-oriented systems.

2 Q. And did you have any outside business activities
3 while you were in graduate school?

4 A. Yes. While in graduate school I cofounded a
5 company with four other individuals that did hardware and
6 software for a number of companies in the United States.

7 Q. Can you give us the names of some of the companies
8 that you worked for in that capacity?

9 A. Yes. Sequent, Motorola, Microsoft, the New York
10 Stock Exchange, IBM, Kodak, the Department of Defense.

11 Q. Dr. Bennett, what did you do after you completed
12 your studies at the University of Washington?

13 A. I joined the faculty in electrical and computer
14 engineering at Rice University and served there on the faculty
15 for 11 years.

16 Q. And were there any particular areas that you were
17 teaching and research activities focused on while you were at
18 Rice University?

19 A. I taught the classes in operating systems in
20 computer architecture and in computer system design.

21 Q. What did you do, Professor Bennett after you -- I'm
22 sorry?

23 A. Sorry. I just coughed.

24 Q. Excuse me. What did you do after you left
25 Rice University?

1 A. I joined the faculty at the University of Colorado
2 at Boulder in the Department of Computer Science with joined
3 appointments in electrical and computer engineering and
4 interdisciplinary and telecommunications.

5 Q. Have you had any administrative positions at the
6 University of Colorado?

7 A. Yes. I served as the Associate Dean of Engineering
8 for several years, and I currently serve as the director of
9 the ATLAS Institute.

10 Q. And can you tell us what the ATLAS Institute is?

11 A. Broadly it is a campus-wide initiative to -- I
12 sometimes describe it as computer science meets the rest of
13 the world. So it's how to use information in computing
14 technology to actually be of benefit to humans.

15 Q. Professor Bennett, have you published any academic
16 papers in the field of computer science?

17 A. Over 60.

18 Q. And is there any particular focus that those
19 academic papers have had?

20 A. Probably the majority have been in the area of
21 operating systems development and research and development.

22 Q. Professor Bennett, have you been retained as an
23 expert in computer science in any cases other than this one?

24 A. Yes, I have.

25 Q. How many?

1 A. I think over the past 20 years perhaps 19.

2 Q. Okay. Have you acted as a technical expert for
3 Microsoft in any previous litigation matters?

4 A. I have.

5 Q. Are you being compensated for your work as an
6 expert in this case on an hourly basis?

7 A. Yes, sir.

8 Q. And can you tell me how much your hourly rate is?

9 A. \$600 per hour.

10 Q. And how many hours approximately have you spent
11 working on this matter?

12 A. I haven't added it up recently, but on the order of
13 2- to 300 over the past two years.

14 Q. Professor Bennett, in general terms can you tell us
15 what you've done in connection with your assignment in this
16 matter?

17 A. I have read much of the substantial evidentiary
18 record. I have read and responded to the reports of the
19 Novell's technical expert. I have examined various software
20 products and pieces of software products and have written -- I
21 wrote a report. I was deposed. That's a summary.

22 Q. Have you reviewed any of the trial testimony given
23 by experts in this case?

24 A. I have.

25 MR. HOLLEY: Your Honor, at this time Microsoft

1 proffers Professor John Bennett as an expert in the field of
2 computer science.

3 THE COURT: Mr. Schmidtlein?

4 MR. SCHMIDTLEIN: No objection.

5 THE COURT: Okay. You may give your opinion.

6 THE WITNESS: Thank you.

7 Q. BY MR. HOLLEY: Now, Professor Bennett, have you
8 asked us to prepare slides summarizing the opinions that
9 you're going to deliver today?

10 A. I have.

11 Q. I'd like to show --

12 Do you have an objection?

13 MR. SCHMIDTLEIN: I do.

14 MR. HOLLEY: All right.

15 MR. SCHMIDTLEIN: May we be heard?

16 THE COURT: Sure.

17 (Whereupon, the following proceedings were
18 held at the bench:)

19 MR. SCHMIDTLEIN: Mr. Holly just handed these to
20 me. I've taken a quick look. At least Numbers 3 and Number 9
21 are nowhere in his expert report.

22 MR. HOLLEY: That's not correct at all, Your Honor.
23 The whole point of this case is about the utility of the
24 Namespace extension APIs. He's looked at that question, and
25 he's testified about, you know, how they would and would not

1 be useful. So I don't know what Mr. Schmidtlein is talking
2 about.

3 MR. SCHMIDTLEIN: His expert report makes no -- has
4 no opinion about this, would not benefit word -- I know other
5 witnesses who offer that opinion, but that is not an opinion
6 that was offered in this case. And Number 9 would have
7 made -- this is a new argument perhaps raised by Your Honor
8 that Microsoft has latched on during the trial in this case.
9 This has never been an issue during discovery, and this is
10 nowhere found in his expert report, not even remotely
11 mentioned in his expert report.

12 MR. HOLLEY: Your Honor, there's no unfair surprise
13 to Novell. They've known that these issues are in the case
14 from the very outset of the case. The entire gravamen of
15 their complaint is that the NameSpace extension APIs were
16 crucial to the development of PerfectOffice. That's now been
17 proven to be false, but this expert can testify about that
18 because his whole opinion relates -- well, it actually related
19 to printing and the logo licensing program. Those claims have
20 been dropped. But all of his opinions relate to the NameSpace
21 extension APIs whether what they were good for or not good
22 for. So I think in fairness it would be highly formalistic to
23 say that he can't testify about these things.

24 MR. SCHMIDTLEIN: Well, that's a concession --

25 MR. HOLLEY: No.

1 MR. SCHMIDTLEIN: -- it's not in his report.

2 THE COURT: Overruled.

3 MR. HOLLEY: Thank you, Your Honor.

4 (Whereupon, the following proceedings were
5 held in open court:)

6 Q. BY MR. HOLLEY: Professor Bennett, I'd like to show
7 you these two slides, and we'll obviously go through these in
8 some detail this morning. But do these slides contain the
9 opinions that you were offering in this case?

10 A. Yes, sir, they do.

11 Q. Now, let's turn to the first of those opinions.
12 Could you read that opinion for me, please?

13 A. Beta versions of software under development
14 routinely change prior to commercial release.
15 This is especially true of complex software
16 such as PC operating systems.

17 Q. Now, as an initial matter, Professor Bennett, can
18 you tell us what the beta version of a software product is?

19 A. Beta is -- the term beta is taken from the Greek
20 letter, the second Greek letter beta. It follows alpha. What
21 it represents is a release of an operating system prior to its
22 actual commercial release. Usually it can follow what's
23 called an alpha release. But in the design of any complex
24 software product, the first thing that happens is the
25 developers themselves test the product, and ultimately when

1 they think it's ready they release that product in beta form
2 to a broader constituency in order to have the product tested
3 in ways that they might not have anticipated. And then
4 feedback from that process is used to further refine and
5 develop the product in question.

6 Q. Have you yourself ever been a beta tester of
7 operating systems?

8 A. I have.

9 Q. How many times?

10 A. Many. Many times.

11 Q. What benefits, if any, do software developers get
12 from beta versions of operating systems that are still under
13 development?

14 A. I think the principal benefit is that users of
15 operating systems think of ways to use the operating system or
16 often think of ways to use the operating system that the
17 developers haven't anticipated. So they try things. They
18 experiment and find as a result cases in which the operating
19 system doesn't behave in the way that the developers might
20 have anticipated. And as a result, the developers are able to
21 make a product that better needs the -- meets the needs of its
22 ultimate users.

23 Q. Now, when you testified that you yourself have been
24 a beta tester for operating systems, what companies' operating
25 systems have you been a beta tester of?

1 A. Microsoft systems, systems from Sun Microsystems.
2 I have written operating systems and been -- beta tested
3 those. That's what comes to mind.

4 Q. Okay. Based on your experience as a beta tester
5 and your broader experience in computer science, do operating
6 system developers make changes to their products during the
7 beta testing process?

8 A. Absolutely.

9 Q. Why do you say absolutely?

10 A. I don't think I've ever seen a product that was
11 identical when released to its beta version.

12 Q. Can you provide us with any examples of features
13 that were removed from operating systems that you were beta
14 testing during the beta testing process?

15 A. I think I can think of two offhand.

16 Q. Okay.

17 A. An early version of the Sun operating system, which
18 was a derivative of UNIX, had a communication protocol that
19 was released during a beta test. The protocol behaved in
20 unexpected ways, and it was removed from that release of the
21 operating system after beta testing.

22 Another instance in which I had direct experience
23 was a Microsoft protocol called Winsock Direct path. As a
24 result of testing that my students and I did, that candidate
25 component of Windows server was removed.

1 Q. Now, Professor Bennett, based on your experience
2 and your knowledge of software development and testing, are
3 changes made to operating systems during the beta testing
4 process limited to changes required to fix bugs reported by
5 beta testers?

6 A. No. As I just testified, sometimes features are
7 removed, and in some instances features may even be added.

8 Q. Were you a beta tester for Windows 95?

9 A. I believe that I was. It was a long time ago.

10 Q. Do changes made to operating systems during the
11 beta testing process ever involve changes made to application
12 programming interfaces exposed by those operating systems?

13 A. Yes.

14 Q. How do you know that?

15 A. I have seen that. Sometimes the format of the API
16 may change, arguments may be added or deleted or refined. Or
17 some in some cases the API may be deleted.

18 Q. Dr. Bennett, in the course of your work in this
19 matter, did you have occasion to look at the documentation
20 that Microsoft provided to software developers in connection
21 with the M6 beta of Windows 95?

22 A. Yes, I did. I examined it carefully.

23 Q. And how, if at all, did your examination of that
24 documentation affect the testimony you just gave about changes
25 made to APIs during the beta testing process?

1 A. Microsoft provided in the M6 beta a list of every
2 interface APIs exposed by the Windows 95 M6 release. In that
3 list, there was a -- basically it was a spreadsheet,
4 essentially, and it indicated the status of each of those
5 interfaces and APIs, whether it was available, whether it
6 was -- had been dropped, whether it was stubbed, whether it
7 was likely to change.

8 Q. What does it mean to stub an API?

9 A. That means that the format of the API has been
10 specified, basically you know how it's going to be called but
11 you don't -- you can't call it yet.

12 Q. Professor Bennett, I'd like to show you what's been
13 marked as Defendant's Exhibit 648 and ask you if this is the
14 list that you just described in your testimony.

15 MR. SCHMIDTLEIN: We have an objection to this
16 exhibit, Your Honor.

17 THE COURT: Approach.

18 (Whereupon, the following proceedings were
19 held at the bench.)

20 MR. SCHMIDTLEIN: I believe just by the number of
21 the defendant's exhibit, this was never marked before trial.
22 We have never seen this before. This is nowhere referenced in
23 his expert report.

24 MR. HOLLEY: Your Honor, in his expert report he
25 said that he relied on the M6 documentation, which is

1 literally hundreds of thousands of pages of documentation.
2 Novell has had that documentation for years, and Mr. Alepin
3 had every opportunity to review it. This is just a subset of
4 the overall documentation. And if you look at the things
5 relied on in his report, among those things is the M6
6 documentation. I don't think you can even print out enough
7 pages to show it all. I just wanted to show him a piece of
8 the documentation.

9 THE COURT: What is this?

10 MR. HOLLEY: This is a list of all the APIs in the
11 M6 beta. And as you see, Your Honor, some of them are marked
12 stub, some of them are marked available, some of them are
13 marked will change, and some of them are marked deleted. And
14 I think this is --

15 THE COURT: How does this relate to the NameSpace
16 extensions?

17 MR. HOLLEY: It relates to the argument that once
18 APIs are in a beta version they stay there. And what this
19 list shows is that's not true at all. Many of them change
20 during the beta testing process.

21 MR. SCHMIDTLEIN: None of this is in his expert
22 report. This opinion, this analysis, none of this is in his
23 expert report.

24 MR. HOLLEY: Your Honor --

25 THE COURT: You say it is.

1 MR. HOLLEY: I'm sorry, Your Honor?

2 THE COURT: You say it is.

3 MR. SCHMIDTLEIN: No, it is not. He offered no
4 opinion about any of this stuff.

5 MR. HOLLEY: He offered an opinion that things
6 change during beta testing. And one of the things he said he
7 relied on was the documentation from the M6 beta. This is a
8 small subset of that documentation.

9 MR. SCHMIDTLEIN: I mean, this is all sandbagging.
10 This is all sandbagging.

11 MR. HOLLEY: With respect, Your Honor, that's not
12 fair. I mean, Mr. Alepin has had --

13 THE COURT: If you represent, I don't have the
14 expert report, and he relied upon the documentation --

15 MR. HOLLEY: For the M6 beta, which is a huge
16 amount of paper, Your Honor.

17 MR. SCHMIDTLEIN: This is not cited in the body of
18 his report. At the end of his report, this may be among a
19 thousand things he said he considered. But in terms of
20 saying, his expert report saying, I reviewed this and these
21 entries support my opinion, that is not in his expert report.

22 THE COURT: Overruled.

23 (Whereupon, the following proceedings were
24 held in open court:)

25 Q. BY MR. HOLLEY: Professor Bennett, is this the list

1 of APIs that you were referring to in your prior answer?

2 A. Yes, sir, it is.

3 Q. And can you -- with reference to Defendant's
4 Exhibit 648, can you tell us how it relates to the testimony
5 that you just gave?

6 A. So as I said, this is a list provided in the M6
7 documentation of all of the APIs and interfaces exposed by
8 Windows -- the Windows 95 M6 beta, so Windows 95 operating
9 system at that particular time in 1994. In the column, the
10 sixth column to the right, there's a column whose title is
11 status as of May 20th, 1994. And in that status column, there
12 are notations that include available, stub, available,
13 dropped, will change and so forth.

14 THE COURT: It seems to me the testimony speaks for
15 itself, so you don't need the document in, so we won't put the
16 document in.

17 MR. HOLLEY: Okay. Fair enough, Your Honor. Thank
18 you.

19 Q. BY MR. HOLLEY: Now, Professor Bennett, I'd like to
20 show you -- I'd like to show you some testimony given by
21 Novell's technical expert in this case, and I'm going to ask
22 you whether you agree or disagree with what Mr. Alepin said
23 here.

24 A. Mr. Alepin is being questioned in this excerpt
25 whether in his view beta testers use the software at their own

1 risk. He agrees, I also agree with that statement. He says
2 they should not run their business critical application on
3 this software. I also agree with that. He was asked whether
4 it was not finished, and he answered the expectation is that
5 the software is being worked on. I also agree with that.

6 Q. Now, Professor Bennett, let's turn to the second of
7 your 10 opinions. And can you read that for us, please?

8 A. Features are often dropped during the design,
9 development and testing of complex software products
10 in order to meet release schedule constraints and
11 for other valid technical and nontechnical reasons.

12 Q. Now, Professor Bennett, the jury has heard
13 references to the terms mission creep and feature creep in
14 relation to the development of software products. Can you
15 tell us what those terms mean based on your experience on
16 developing software products?

17 A. Sometimes they're used interchangeably. But I
18 think -- I guess if I were summarizing my experience it would
19 be that features, feature creep is the insertion of features
20 by developers because they -- they're excited about what
21 they're doing. They want to make it, you know, as interesting
22 and as exciting and as feature rich as they can. And so
23 developers tend to overdevelop their particular part of, you
24 know, of a larger software system.

25 Where I see mission creep or where I have seen

1 mission creep is where management or marketing promises
2 things, and the first time that the engineers see that is when
3 they read about it in the company's marketing brochure, so,
4 you know, expanding the mission of what the product is
5 intended to do. So that's how I would characterize those two
6 things.

7 Q. Professor Bennett, have you yourself ever managed
8 the development of any software projects?

9 A. I have.

10 Q. Based on your experience managing the development
11 of software projects, what is necessary to do in order to deal
12 with feature creep and mission creep?

13 A. At some point, management needs to make a decision
14 about, you know, either resource constraints or time
15 constraints or other, you know, technical or nontechnical
16 constraints in order to deliver a product on time, to make it
17 run acceptable -- excuse me -- with acceptable performance on
18 the target platform or for some other reason.

19 Q. In your experience, Professor Bennett, are features
20 ever removed from software products during the development
21 cycle in order to meet these different constraints you just
22 testified about?

23 A. I would say that's very common.

24 Q. Now, I'd like to show you some testimony given by
25 Novell's technical expert in this case and ask you whether you

1 agree or disagree with what Mr. Alepin was saying here.

2 A. Mr. Alepin's being asked whether it's important for
3 management to have hands-on control to make sure that software
4 developers don't engage in mission creep and feature creep.
5 Mr. Alepin answered in the affirmative. As I just testified,
6 I would agree with that. He states that the program manager
7 is responsible for making sure that you are going to meet your
8 dates and the product is going to do what you have agreed to
9 do and so forth. I think that's entirely consistent with the
10 testimony I just gave.

11 Q. Professor Bennett, I would now like to turn to the
12 third of your opinions and ask you if you could initially read
13 that for us.

14 A. The NameSpace extension APIs would not benefit
15 ISVs, developing word processing, spreadsheet and
16 presentation graphics applications, since these
17 applications already present a file-oriented interface.

18 MR. SCHMIDTLEIN: Your Honor, just for the record,
19 could I have a continuing objection on this one?

20 THE COURT: Yeah. And if that wasn't covered,
21 don't -- I mean, that has come up in trial. But if that
22 wasn't covered, move on to the next one.

23 MR. HOLLEY: Well, Your Honor, I think it is
24 implicit in the opinions that he gave in his expert report for
25 the reasons that I said during our conference on the bench.

1 THE COURT: Let's go on to 4, and then we'll
2 revisit it.

3 Q. BY MR. HOLLEY: As an initial matter --

4 THE COURT: No. Go on to 4. Skip over this one.

5 MR. HOLLEY: Well, Your Honor, there are questions
6 that I want to ask him about NameSpace extension APIs.

7 THE COURT: Okay. Take it down or --

8 MR. HOLLEY: Okay. Fine. We'll take it down.

9 Q. BY MR. HOLLEY: Professor Bennett, can you as an
10 initial matter tell us what the NameSpace extension APIs in
11 Windows 95 did?

12 A. The NameSpace extension APIs were part of a broader
13 set of what were called shell extensions. What they did
14 particularly was to provide the means for representing within
15 the Windows Explorer NameSpace to represent as file-like
16 objects things that weren't necessarily files. I could give
17 you an analogy, if you would like.

18 Q. Okay. I think that my might be helpful, given this
19 is a very technical issue.

20 A. So if in my closet I have shirts and pants and
21 socks and so forth, I can -- if it's in my closet I can look
22 at it and see that those things are there. But if I packed
23 all those things in a suitcase I don't necessarily remember
24 what's there. So if I had a tool that would allow me to
25 enumerate the contents of my suitcase, that would be the kind

1 of analog of what the NameSpace extensions do for things that
2 are packaged up in that way.

3 Q. Based on the analysis that you have done of the
4 NameSpace extension APIs and Windows 95, is it easy or
5 difficult to create a NameSpace extension for a software
6 developer?

7 A. It's a challenging piece of software development.

8 Q. Why?

9 A. It's part of the operating system. NameSpace
10 extensions have to both provide, you know, include operating
11 code that is written by the developer and also have to call
12 operating system calls -- call other operating system
13 functionality. In addition, NameSpace extensions have to
14 expose interfaces that may be called by other NameSpace
15 extensions.

16 Q. And what significance, if any, do you attribute to
17 that fact that NameSpace extensions have to interact with one
18 another?

19 A. It complicates the job of the developer of the
20 NameSpace extension. Ordinarily a software, you know, an
21 application program developer writes their program, calls
22 interfaces in the operating system, and that's all they have
23 to worry about. They don't have to worry about third parties
24 calling their software in unexpected ways especially at the
25 operating system level.

1 Q. Professor Bennett, did software developers need to
2 use the NameSpace extension APIs in order to launch their --
3 in order to enable users to launch their applications?

4 A. No, sir.

5 Q. I'd like to show you what's previously been marked
6 as demonstrative Exhibit 47A. Now, have you done any work
7 yourself in determining whether Novell or later Corel could
8 add icons to the Windows desktop that could be used to launch
9 their applications?

10 A. I have.

11 Q. And what, if anything, did you determine about
12 whether this method of launching applications use the
13 NameSpace extension APIs?

14 A. First, I installed PerfectOffice for Windows 95,
15 which is also sometimes called WordPerfect 7 and
16 Quattro Pro 7. I installed shortcuts on the desktop as shown
17 here, and I tested those products and examined for those
18 products for the use of the NameSpace extensions using a
19 software tool designed for that purpose and determined that no
20 use was made of the NameSpace extension APIs.

21 Q. Now, I'd like to show you, Professor Bennett,
22 what's previously been marked as demonstrative Exhibit 47.
23 Can you first of all tell us what this is showing?

24 A. This document -- this picture is of the Windows 95
25 desktop and shows an entry in the start menu called

1 Corel Office 7, which then, if the -- if someone clicks on
2 that, the list of menus to the right of Corel Office 7 is
3 shown, and the various Corel applications or various
4 PerfectOffice applications are presented and can be double
5 clicked on to launch the application.

6 Q. Did you do any analysis, Professor Bennett, to
7 determine whether this method of launching Quattro Pro --
8 excuse me -- WordPerfect and presentations made use of the
9 NameSpace extension APIs?

10 A. I did do that analysis, and no use was made of
11 NameSpace extension APIs.

12 Q. I'd like to show you, sir, what's been marked --
13 excuse me -- as demonstrative Exhibit 94. Now, with regard to
14 the documents on the desktop labeled test1 and test2, can you
15 tell us what that shows?

16 A. Based on the icon test1 appears to be a WordPerfect
17 document and test2 appears to be a Quattro Pro spreadsheet.

18 Q. And what would happen based on the analysis that
19 you did if someone clicked on one of those icons, the
20 WordPerfect document or the Quattro Pro spreadsheet?

21 A. If they clicked on test1, the WordPerfect document,
22 the WordPerfect application would launch and it would open
23 this particular WordPerfect document. Similarly, if someone
24 were to click on the Quattro Pro document, it would launch the
25 Quattro Pro application and then open this particular

1 Quattro Pro document or spreadsheet inside that application.

2 Q. Now, Professor Bennett, did you do any analysis
3 yourself to determine whether this method of launching
4 WordPerfect and Quattro Pro made use of the NameSpace
5 extension APIs?

6 A. I performed that analysis, and no use of the -- no
7 use was made of the NameSpace extension APIs.

8 Q. Professor Bennett, did Novell or Corel after Novell
9 need the NameSpace extension APIs in order to add a folder to
10 the file system where documents created using Novell's Office
11 productivity applications were stored?

12 A. I'm sorry. Could you repeat the question?

13 Q. Sure. Did Novell need the NameSpace extension APIs
14 in order to add a folder to the Windows 95 file system where
15 documents created using those applications could be stored?

16 A. No, sir.

17 Q. I'd like to show you what's been marked previously
18 as demonstrative Exhibit 93, and with particular reference to
19 the folder called -- folders called My Documents and My Files.
20 Can you tell the jury what those do?

21 A. These are folders in the file system. The
22 My Documents, I believe, is created automatically by
23 Windows 95 as a convenient place to store documents. My
24 recollection is that PerfectOffice 7 creates the My Files
25 folder. Each of these can be used to -- as a place where

1 documents are by default saved.

2 Q. And is it necessary to use the NameSpace extension
3 APIs in order to add this sort of folder to the Windows 95
4 file system?

5 A. No, it is not.

6 Q. Now, Professor Bennett, based on your analysis of
7 the NameSpace extension APIs, is there any particular class of
8 applications for which those APIs are particularly
9 well-suited?

10 MR. SCHMIDTLEIN: Objection, Your Honor. I think
11 this is the opinion you told him to take down.

12 MR. HOLLEY: Your Honor, may we approach the bench
13 on this one? I think we've already argued it once.

14 THE COURT: Yeah. Yeah, you did, and I
15 reconsidered. Go ahead and approach.

16 (Whereupon, the following proceedings were
17 had at the bench:)

18 THE COURT: Tell my why it's in the report. It has
19 come up before the trial. But it came up during your evidence
20 from the trial, I can't remember who. I guess it was --

21 MR. HOLLEY: Well, Your Honor, it seems to me
22 highly formalistic to say, and I've never heard trial lawyers
23 who actually try cases say, that experts who have looked at a
24 topic cannot address the evidence as it is evolved at trial.

25 The man is an expert in computer science. No one

1 doubts that. And the fact that this particular issue did not
2 have the prominence two years ago that it now has doesn't mean
3 that it isn't appropriate for him to address it. Novell's
4 experts did the same thing. So --

5 MR. SCHMIDTLEIN: No.

6 MR. HOLLEY: So I think, you know, obviously the
7 federal rules on expert reports, Rule 26, are designed to
8 avoid trial by ambush. But it would also be a very strange
9 use of those rules to preclude people from putting on expert
10 testimony about the way the case has been -- has come in
11 during evidence.

12 So, you know, can I point you to a paragraph of his
13 report where he addresses this in these terms? No, I cannot.
14 But this is clearly an issue that has come up at the trial,
15 and I think it is perfectly appropriate for us to put on
16 expert testimony about it. One moment and I will be finished.

17 There's no doubt that the use of the NameSpace
18 extension APIs is the central issue in this case. So the idea
19 that they're surprised that he's giving opinions about this
20 topic is not -- is not plausible, and it just strikes me as
21 splitting hairs to say that he has looked at these mechanisms,
22 he has studied them. He's not allowed to offer his view.

23 MR. SCHMIDTLEIN: He didn't look at them before his
24 expert report. These are -- this is stuff that -- this is the
25 question of what does Microsoft say the intended use of these

1 things were? Their people --

2 THE COURT: Okay. I'm going to overrule the
3 objection. This would be an appropriate, unlike other things
4 perhaps, for rebuttal testimony. So if you want to rebut
5 this, you can rebut it, but I'll allow it.

6 (Whereupon, the following proceedings were held
7 in open court:)

8 THE COURT: Ladies and gentlemen, this is
9 technical. I don't think, in fairness to Novell an opinion on
10 this was ever expressed directly in -- expressly by the
11 witness in his expert report, which poses some difficulty for
12 Novell, but it is obviously an issue which has come up during
13 the trial which is very much part of the case now, so I'm
14 going to allow the testimony.

15 So that's what the issue is all about, and I
16 understand Novell's concern. But I sort of have to balance
17 things, and I think this is -- I would think probably has
18 always been part of the case. It certainly is part of the
19 case that you have to decide.

20 Q. BY MR. HOLLEY: Professor Bennett, have you asked
21 us to prepare a slide that addresses the issue of the kinds of
22 applications that can make use of the NameSpace extension
23 APIs?

24 A. Yes, I have.

25 Q. I'd like to show you what's been marked as

1 demonstrative Exhibit 352. Is this the slide that you just
2 referred to?

3 A. Yes, sir.

4 Q. And with reference to this slide, which is now up
5 on the screen, can you explain to the jury what you have
6 concluded about the kinds of applications that could make
7 effective use of the NameSpace extension APIs?

8 A. To begin with, the NameSpace extensions are --
9 provide the ability to represent something that's not a set of
10 files, using a file-like metaphor. So in this instance, the
11 routinely mail programs bundle up all of your e-mails in a
12 single file, and they do that for efficiency reasons and for
13 technical reasons having to do with how e-mail is managed.
14 But it's very useful to be able to see what your e-mail
15 messages actually are.

16 So what the -- you know, the NameSpace extensions
17 provide one way of looking inside this JKP.pst, which is all
18 of my e-mails messages bundled together and then displaying
19 those messages as shown down below here. And the Capone was a
20 simple mail utility that was available with Windows 95. In
21 the M6 beta release it made use of these NameSpace extensions
22 to provide this functionality.

23 Q. Now, sorry, Professor. I didn't mean to interrupt.
24 Keep going.

25 A. Well, I was just going to move on to the second

1 point.

2 Q. Fair enough.

3 A. Which there is no example shown, but some
4 management systems bundle a set of documents into one blob, if
5 you will. And so it might be useful for people who want to
6 inspect those documents to be able to see a quick preview of
7 all the documents in their blob.

8 So those are two examples of what in my judgment
9 the NameSpace extensions are intended to be used for.

10 Q. Was it necessary, Professor Bennett, based on your
11 analysis for e-mail clients in Windows 95 to use the NameSpace
12 extension APIs?

13 A. It was not necessary. As the case in point, the
14 Capone e-mail client provided in Windows 95 removed or did not
15 use the NameSpace extensions in the released version of that
16 component in Windows 95.

17 Q. In your work in connection with this case, have you
18 come across any shipping e-mail client that did use the
19 NameSpace extension APIs in Windows 95?

20 A. No, sir.

21 Q. Now, Professor Bennett, have you also asked us to
22 prepare a slide that addresses the kinds of applications that
23 would not benefit in your view from the use of the NameSpace
24 extension APIs?

25 A. Yes, I have.

1 Q. I'd like to show you what's been marked as
2 Defendant's Exhibit 353. Is this the slide that you just
3 referred to, sir?

4 A. Yes, sir.

5 Q. And can you tell the jury with reference to this
6 slide your opinion about applications that would not benefit
7 from using the NameSpace extension APIs?

8 A. So this picture shows a set of word processing
9 documents that have the suffix doc, a set of spreadsheet
10 documents that have the suffix xls and a set of presentation
11 documents that have the suffix ppt. All of these documents
12 are already files. So having a tool that lets you see files
13 as files isn't of particular utility.

14 It's like, using my clothing example, if my suits
15 are already hanging in my closet, I can just look and see
16 what's there. If they're not in my suitcase, I don't need
17 anything to tell me what my clothes are.

18 Q. Professor Bennett, certain Novell developers have
19 testified in this case that they wanted to use the NameSpace
20 APIs to add certain Novell products to the Windows Explorer.
21 Are you familiar with that testimony, sir, that they wanted to
22 add a document management system, an e-mail client, a search
23 engine, a clip art gallery and an ftp.http browser?

24 A. Yes, I'm familiar with that testimony.

25 Q. I'd like to show you what's been previously marked

1 as demonstrative 185. With reference to this list of five
2 Novell products on the right, do you have any opinion about
3 the utility of using the NameSpace extension APIs to insert
4 these five products into the Windows 95 shell?

5 A. I do.

6 Q. And what is that opinion, sir?

7 A. May I go down the list?

8 Q. Yes. Please address them one by one for the jury.

9 A. So the -- I don't know much about the Soft
10 Solutions document management system. I have seen no evidence
11 other than the testimony about that. But as I understand it,
12 it was a product that, I think it was used by lawyers,
13 actually, that might have -- you know, depending on whether it
14 managed its documents as files or in a blob would depend on
15 whether or not it was -- it might be useful. But there isn't
16 enough information at least that's been made available to me
17 to offer any more observation than that.

18 Q. And just to follow up, when you say that your
19 opinion depends on whether the Soft Solutions document
20 management system managed documents as files versus in a blob,
21 what do you mean by that?

22 A. Oh, this is back to the -- whether my clothes are
23 hanging in the closet or whether in the suitcase. So if
24 documents are all lumped together and that's the way the
25 system manages them, then conceivably, the NameSpace

1 extensions might be a utility, although there are other
2 mechanisms that might be easier to employ.

3 Q. And can you explain a little bit about what you
4 mean by that, about other mechanisms that might be easier to
5 employ?

6 A. Well, the NameSpace extensions are only one way of
7 interpreting content of encapsulated or contained objects.
8 There are many others that could have been employed.

9 Q. Now, turning to the second of the five Novell
10 products, the WordPerfect e-mail client, what is your opinion
11 about whether that could sensibly make use of the NameSpace
12 extension APIs?

13 A. Well, it certainly is the case that an e-mail
14 client could make use of the NameSpace APIs. But as I said,
15 they are a very complex piece of software, and there were
16 similar ways to do it. Certainly all of the mail clients that
17 I have seen that ran on Windows 95 did not make -- in products
18 did not make use of NameSpace extension APIs.

19 Q. What about the third product on the list, the
20 QuickFinder search engine, do you have any opinion about
21 whether that product could sensibly make use of the NameSpace
22 extension APIs?

23 A. Well, the NameSpace extension APIs are not useful
24 for searching for anything. They might only be useful for
25 interpreting what you find. So if the -- the search engine

1 itself, the NameSpace extensions provide no utility.

2 Q. What about the presentations clip art gallery, is
3 that a product that you believe could sensibly make use of the
4 NameSpace extension APIs?

5 A. It is -- the NameSpace extensions could have been
6 used to represent icons of various pieces of clip art, but the
7 clip art itself ultimately were files. It would have been
8 much similar to use existing Windows 95 functionality to
9 display icons in a folder that could be then used to select
10 various pieces of clip art. That would have been a minor
11 programming exercise, whereas the development of a NameSpace
12 extension would be a significant exercise.

13 Q. And finally, the ftp.http browser, do you have any
14 opinion about whether that would be a product that sensibly
15 could make use of the NameSpace extension APIs?

16 A. Well, again, the NameSpace extension APIs don't aid
17 you in finding anything or browsing, you know, to -- they only
18 help you in interpreting what you might find. So it is
19 conceivable one could use the NameSpace extensions to
20 interpret something that might be browsed to. But in balance,
21 that's a lot of work for limited utility.

22 Q. And before we move to a new topic, I just want to
23 be sure that I understand your testimony. What is your
24 testimony about the utility, if any, of using the NameSpace
25 extension APIs for the two applications on the left side of

1 this chart, WordPerfect and Quattro Pro?

2 A. In my view, the NameSpace extensions provide no
3 utility for those products.

4 Q. Now, in the course of your work in this matter, did
5 you have occasion to determine whether there was a document
6 management system or an e-mail client included in the version
7 of PerfectOffice for Windows 95?

8 A. To the best of my knowledge, there was not.

9 Q. Now, let's turn to your fourth opinion. And as an
10 additional matter, could you read that for us, please,
11 Professor Bennett?

12 A. Microsoft Office 95, Microsoft Office 97,
13 and Microsoft Office 2000 did not use the NameSpace
14 extension APIs. Athena did not use the NameSpace
15 extension APIs.

16 Q. Professor Bennett, turning to the first sentence of
17 that opinion, did you yourself use Microsoft Office 95,
18 Microsoft Office 97 and Microsoft Office 2000 at the time
19 those products were in widespread use?

20 A. Yes, I did.

21 Q. What, if anything, did you observe as a user of
22 those products about whether they were using the NameSpace
23 extension APIs?

24 A. I don't recall seeing anything in any of those
25 products that would have suggested the use of NameSpace

1 extension APIs.

2 Q. Did you perform any technical analysis of these
3 three products, Microsoft Office 95, Microsoft Office 97 and
4 Microsoft Office 2000, to determine whether they were calling
5 the NameSpace extension APIs?

6 A. Yes, I did.

7 Q. And can you tell us what you did, sir?

8 A. I used a tool that allows me to look inside the
9 executable code for these products and inspected that code to
10 look for evidence of the use of NameSpace extension APIs. As
11 a result of that analysis, I concluded that the NameSpace
12 extension APIs were not used in any of these products.

13 Q. Now, I'd like to show you some trial testimony
14 provided by Novell's technical expert in this case, and I'd
15 like to ask you whether you agree or disagree with Mr. Alepin
16 as to the use of the NameSpace extension APIs in Microsoft
17 Office 95 and Microsoft Office 97.

18 A. Mr. Alepin is being asked if any Microsoft Office
19 productivity application before 1997 used the APIs. He
20 testified, as I understand his testimony, that he did not.
21 That is consistent with my analysis.

22 Q. Now, let's turn to the second sentence of your
23 fourth opinion. And as an initial matter, can you tell us
24 what Athena was?

25 A. Athena was a mail and news client that was included

1 with the OSR/2. OSR stands for OEM service release. OSR/2
2 was a release of Windows 95 or a version of Windows 95 made
3 available in the second half of 1996. Athena was the code,
4 the internal code name for the mail and news client that was
5 available at that release.

6 Q. Did you perform any technical analysis,
7 Professor Bennett, to determine whether the version of
8 Internet mail and news that was released, commercially
9 released by Microsoft used the NameSpace extension APIs?

10 A. I did.

11 Q. And can you tell us what you did, sir?

12 A. Using a tool designed for the inspection of
13 executable code, I looked inside Athena and determined that no
14 use was made of the NameSpace extension APIs in that part of
15 Windows 95.

16 Q. I would like to show you what was previously marked
17 in cross-examination of Mr. Alepin's, demonstrative
18 Exhibit 100. How if at all does this relate to the testimony
19 that you just gave?

20 A. This is a snapshot of the product called
21 PE Explorer. PE Explorer is that software tool that I was
22 referring to that allows you to look inside an executable
23 code. In this case, the code that I was looking inside was,
24 it was a file name named mailnews.dll. You can see that in
25 the upper left there. Mailnews.dll was the executable code

1 that if the NameSpace extensions had been in use, we would
2 have seen evidence of that inside the shell 32.dll that is
3 imported by this dll. So this is a list of all the functions
4 or the APIs of shell 32 that are being deported or used by
5 Athena, and none of these refer to NameSpace extension APIs.

6 Q. Now, Professor Bennett, just before we leave this
7 topic, when you say that you analyzed different versions of
8 Microsoft Office to see whether those versions were using the
9 NameSpace extension APIs, how, if at all, does that relate to
10 the question of whether the component products of Office,
11 namely Microsoft Word, Microsoft Excel, and Microsoft
12 PowerPoint were using the NameSpace extension APIs?

13 A. I inspected all of the executables inside those
14 products, which included Word, Excel, PowerPoint, to make --
15 to render the opinion that I gave.

16 Q. All right, sir. Let's turn to the fifth of your
17 opinions. And as an initial matter, could you just read for
18 us what this opinion is?

19 A. Microsoft had valid technical reasons for
20 withdrawing support for the NameSpace extension APIs.

21 Q. And can you tell us based on the work you have
22 done, Professor Bennett, what your opinion is about the
23 validity about Microsoft's technical reasons for withdrawing
24 support for the NameSpace extension APIs?

25 A. The NameSpace extensions were -- well, I need to

1 give a slightly long answer, if I can.

2 Q. That's fine.

3 A. So first, the NameSpace extensions were developed
4 for Windows 95 at a time when Windows 95 necessarily -- or,
5 you know, as a product needed to run on systems that had a
6 very small amount of memory and limited processing power. So
7 the decisions had to be made that privileged the availability
8 of functionality over reliability or robustness.

9 In this case, the NameSpace extensions APIs
10 themselves ran in the same process as all of the other shell,
11 the Windows shell, so the start menu, the desktop and so
12 forth. Because NameSpace extensions represented a way for
13 third parties to insert operating system code into the shell,
14 that meant that a misbehaving NameSpace extension would not
15 only crash itself, it would crash the entire operating system
16 and would do so in a way that would make it -- since it would
17 crash the shell, it would crash the part of the operating
18 system that a user might use to fix the problem. So the only
19 solution in that case would be to reboot the system. If the
20 user had been working on something like a document or
21 something, they would lose their data.

22 Q. Now, the jury has heard a little bit about this.
23 But can you tell us more about what you mean when you say that
24 NameSpace extensions written by third-party software
25 developers ran in the same process as the rest of the Windows

1 95 shell?

2 A. Operating systems are -- all software, really, are
3 built from several processes. In the case of Windows 95,
4 there was a process that had all of the functionality
5 associated with the shell. And for reasons having to do with
6 limited memory, the decision was made for these NameSpace
7 extensions even though they were developed potentially, you
8 know, by third parties to allow them to run inside the
9 operating system -- the same process as the important
10 operating system components that managed the user interface.

11 Q. Now, I'd like to show you, Professor Bennett, some
12 testimony given in this matter by Novell's technical expert.
13 And I'd like to ask you whether you agree or disagree with
14 Mr. Alepin when he talks about the potential for the system to
15 become unresponsive and for users to potentially lose work if
16 a NameSpace -- if a NameSpace extension malfunctioned.

17 A. So as you have said, Mr. Alepin was asked whether
18 or not, you know, if the NameSpace extension misbehaved
19 whether it could bring the shell down and make the system --
20 he answered that it could make the system unresponsive.
21 System unresponsive is another way of saying it would hang.
22 That meant that the user could no longer interact with the
23 system, and therefore, the user couldn't do anything to
24 remediate the problem.

25 He was also asked whether, you know, data could be

1 lost, and he answered in the affirmative. I agree.

2 I have no opinion on the statement by the Court
3 that bad word might be used.

4 THE COURT: Have you lost any work?

5 THE WITNESS: Yes, sir, I have. And I may have
6 resorted to that.

7 Q. BY MR. HOLLEY: Were there any technical issues to
8 the robustness reliability issue that you just described with
9 the NameSpace extension APIs based on the work that you did in
10 this case?

11 A. Yes, sir.

12 Q. And can you tell me what those were?

13 A. First, the NameSpace extensions were built on top
14 of a set of functionality called OLE, O-L-E, all caps, which
15 stood for object linking and embedding. But the OLE
16 functionality as implemented was represented -- used up a
17 large amount of memory. And so in order to make the shell
18 NameSpace expenses not take up too much memory, Mr. Nakajima
19 implemented a, I'll call it, a lightweight version of OLE or
20 certain OLE functionality that wasn't as robust as the
21 standard OLE functionality.

22 So that tradeoff, which was made again to privilege
23 functionality over reliability represented a potential threat
24 surface, is sometimes the term we used, exposure to more
25 opportunity for the system to crash.

1 There were other groups within Microsoft, most
2 notably the Windows NT and Cairo teams, these were two other
3 operating system efforts under way at Microsoft at the same
4 time who had -- who placed more emphasis on reliability and
5 wanted to -- wanted to see reliability emphasized more in
6 products that Microsoft -- you know, operating system
7 products.

8 Those views of or where to draw the line between,
9 you know, when balancing functionality and reliability was
10 based on the record I have read, you know, a subject of active
11 debate within the company at that time.

12 Q. Now, when you say that a decision was made by the
13 Windows 95 Chicago team to privilege functionality over
14 reliability and robustness, what do you mean by the word
15 privilege in that context?

16 A. Oh, to place more emphasis upon. So the Windows 95
17 was intended to be an operating system used by ordinary people
18 on computers that they can afford. So at the time memory was
19 quite expensive. So a decision was made that Windows 95 had
20 to run on a system that contained four megabytes of memory,
21 which was a fairly small amount of memory. As a result, the
22 desire for a large number of users to make productive use of
23 personal computers, Windows 95 placed a strong emphasis on
24 ease of use and functionality.

25 In contrast Windows NT, which was at that time

1 intended to be, I think it's fair to say, that business users,
2 corporate users were more its target, those kind of users
3 based on what I have read placed more emphasis on reliability
4 than they would be willing to forgo certain kinds of
5 functionality in order to have a system that stayed up for a
6 long period of time.

7 Q. Now, with reference to OLE or object linking and
8 embedding that they referred to in a prior answer, as a
9 technical matter does the fact that two different software
10 products both use OLE technology mean those two products are
11 compatible with one another?

12 A. If they have been designed to use OLE technology in
13 compatible ways, the answer would be yes. Absent that careful
14 design, the answer would be probably not.

15 Q. Now, are you familiar with a computer science
16 concept called model view separation?

17 A. I am.

18 Q. And can you explain to the jury hopefully in
19 relatively nontechnical language what it means to talk about
20 model view separation?

21 MR. SCHMIDTLEIN: Objection, Your Honor. We've got
22 a similar problem we've been talking about.

23 THE COURT: Approach the bench.

24 (Whereupon, the following proceedings were held
25 at the bench:)

1 MR. HOLLEY: This is the point, Your Honor, that
2 the NameSpace extension APIs allowed software vendors to
3 create the views of data in the right-hand pane of the Windows
4 Explorer which were inconsistent with views provided by the
5 operating system itself. The Cairo team architects thought
6 that that was a very bad design because they thought that
7 there should be standard views. So if we had a list of
8 objects, you could say, I want to see the details about who
9 wrote this document, what date, how big it is. I'd like to
10 see icons that represent the document. I'd like to see
11 thumbnail views of the document.

12 The Cairo team thought that that was, that
13 systematic way of providing consistent views was the way to
14 design an operating system. Mr. Nakajima did not agree and
15 thought that it would be fine to let ISVs create their own
16 views. It was another part of the debate between the two
17 teams.

18 THE COURT: But it wasn't referred to in the
19 opinion, in the report.

20 MR. HOLLEY: I think that's fair, Your Honor. I
21 can move on.

22 THE COURT: Okay.

23 MR. HOLLEY: Fair enough.

24 (Whereupon, the following proceedings were
25 held in open court:)

1 Q. BY MR. HOLLEY: Professor Bennett, were any changes
2 made to Windows 95 between Microsoft's decision to withdraw
3 support for the NameSpace extensions in October of 1994 and
4 the formal publication of those APIs in the spring of 1996?

5 A. Yes.

6 Q. And can you explain what those changes were?

7 A. In order to address some of the reliability and
8 robustness concerns, each NameSpace extension was required to
9 be what's called rooted, which meant it ran in its own
10 process, and therefore would have less likelihood of bringing
11 down the entire operating system shell if it were to have --
12 if it were to misbehave.

13 Q. And how does running rooted address the reliability
14 robustness issues that you described earlier?

15 A. It has to do with whether or not the NameSpace
16 extension is in the same process as critical user interface
17 components or is in a separate process.

18 Q. Professor Bennett, what changes, if any, were made
19 to Windows NT between Microsoft's decision to withdraw support
20 for NameSpace extension APIs in October of 1994 and formal
21 publication of those APIs in mid 1996?

22 A. Windows NT did something slightly different. It
23 created two instances of the Explorer process and placed all
24 of the -- well, I'll say all of the critical user interface
25 components in one, I believe that was called the primary

1 Explorer in the documentation in this case, and then had
2 the -- all of the NameSpace extensions run in another instance
3 of the Explorer.

4 Q. And what, if any, impact did that change have on
5 the robustness and reliability issues that you've described in
6 your testimony?

7 A. That also by placing the NameSpace extensions in a
8 process that was separate from the critical user interface
9 components meant that if a NameSpace extension failed, the
10 user would have at his or her disposal the means to restart
11 the offending instance of the Explorer and would not have to
12 reboot the system.

13 Q. Now, I'd like to show you what was put up during
14 the direct examination of Mr. Alepin in this case as slide
15 Number 14 and represent to you that these are reasons
16 Mr. Alepin gave why in his opinion Microsoft had no valid
17 technical justification for withdrawing support for the
18 NameSpace extensions in relation to robustness and reliability
19 issues. And can you take us through each one of these bullets
20 and tell us whether you agree or disagree with Mr. Alepin with
21 regard to the points that he's making here?

22 A. Well, to start with the first point, it is true
23 that Microsoft did not change the NameSpace extensions APIs
24 themselves, but it did change the context in which those --
25 the execution context in which those NameSpace extensions

1 actually executed as I described just a moment ago, by placing
2 the NameSpace extensions in a different process than the
3 process in which critical user interface components ran.

4 Q. And just so we're all clear, what significance do
5 you attribute to the fact that the process context in which
6 the NameSpace APIs ran was changed before the APIs were
7 published?

8 A. That was the key issue in addressing the -- some of
9 the reliability concerns.

10 Q. Now, let's look at the second of Mr. Alepin's
11 points where he says the NameSpace APIs continue to run,
12 quote, in process, close quote, after re-documentation in
13 1996.

14 Do you agree or disagree with Mr. Alepin that this
15 statement undermines the validity of Microsoft's technical
16 justifications for withdrawing support for the NameSpace
17 extension APIs?

18 A. I do not believe that the statement undermines the
19 validity of the technical justification. It is true that the
20 NameSpace extension APIs were an in-process -- or were
21 implemented in part as an in-process OLE server. But the
22 process in which they ran was different at the point in which
23 the supporting documentation reemerged for those APIs.

24 Q. And can you explain a little bit more what you mean
25 when you say it's true that the NameSpace extensions continued

1 to be in-process OLE servers but ran in a different process
2 than the rest of the Windows 95 shell?

3 A. So there are hundreds, probably thousands, I don't
4 know, hundreds anyway, of in-process OLE server. You know,
5 that's the way in which OLE components create interfaces that
6 can be -- that can interact with other components. So in
7 process in this case is a term of art simply referring to a
8 particular kind of implementation kind of mechanism.

9 The NameSpace extensions themselves did not run in
10 the same process in the -- at the end of the -- after the
11 changes had been made as they had been running before the
12 changes had been made.

13 Q. Now, turning to the third of Mr. Alepin's points
14 where he says that Microsoft's Athena PIM, which I think he
15 meant personal information manager, runs, quote, in process,
16 close quote, on Windows 95. And he refers to Plaintiff's
17 Exhibit 324. Just as an initial matter, Professor Bennett,
18 have you reviewed Plaintiff's Exhibit 324 in connection with
19 your work on this matter?

20 A. I have.

21 Q. And do you agree or disagree with Mr. Alepin that
22 his statement of Athena undermines the validity of Microsoft's
23 technical justifications for withdrawing support for the
24 NameSpace extension APIs?

25 A. I disagree.

1 Q. And can you explain to us why, sir?

2 A. Well, first, as I have testified, my analysis, at
3 least of the shipping -- the version of Athena that shipped
4 was that Athena made no use of the NameSpace extension APIs.
5 So its consideration is largely irrelevant to any discussion
6 of the NameSpace APIs.

7 Again, Athena did and was, you know, used OLE. It
8 was implemented as an in proc server dll, dynamic link
9 library, but that fact has no particular relevance to whether
10 it used the NameSpace extension APIs. In fact, it has no
11 relevance as to whether it used the NameSpace extension APIs.

12 Q. And just to be clear, in proc is short for in
13 process?

14 A. Oh, sorry. Yeah.

15 Q. Let's turn to the next of Mr. Alepin's statements.
16 He said to us, to the jury that Microsoft's Internet Explorer
17 used the NameSpace extension APIs, and he concluded from that
18 that Microsoft's technical justifications for withdrawing
19 support for the NameSpace extensions APIs were not valid. Do
20 you agree with that, sir?

21 A. I do not.

22 Q. And can you explain why?

23 A. So first, I believe the version of Internet
24 Explorer that made use of the NameSpace extensions was
25 Internet version, Internet Explorer version 4, which was part

1 of Windows 98, released in Windows 98. So the fact that
2 Internet Explorer in 1998 made use of extensions after they
3 had been, you know, after documentation had supported and
4 published seems to have little bearing on a decision to remove
5 support for them.

6 Second, I'll just observe that at that time
7 Internet Explorer was part of the operating system and was a
8 component of the operating system and was tested and shipped
9 with the operating system.

10 Q. What significance do you attribute to the fact that
11 Internet Explorer was a component of the operating system in
12 this context?

13 A. It was the same -- it was a component just like
14 My Briefcase or Network Neighborhood. It was built, designed
15 and integrated into the operating system and was tested as a
16 trusted component of the operating system prior to release.

17 Q. And you used the term there I'm not sure we've
18 heard before in the trial. What does it mean to say that
19 something is a trusted component of Windows?

20 A. The operating systems necessarily expose interfaces
21 that are used by third parties, like APIs that application
22 developers use to write programs. Operating systems also
23 expose a different set of interfaces, sometimes called system
24 interfaces that are used by other components by the operating
25 system. Those other components of the operating systems are

1 considered trusted because they are built at the same time and
2 they are tested carefully as an integrated whole.

3 Q. Now, let's look at the next of Mr. Alepin's
4 statements. He says other processes put the shell at equal,
5 if not greater risk.

6 Do you agree or disagree with Mr. Alepin that that
7 statement undermines the validity of Microsoft's technical
8 justifications for withdrawing support for the NameSpace
9 extension APIs?

10 A. I disagree.

11 Q. And why, sir?

12 A. I don't -- I mean, to me as a technical matter,
13 this statement doesn't -- doesn't make a lot of sense. I
14 don't mean that pejoratively, but it's like -- it's possible I
15 might be struck by lightening when I ride my bicycle, but I'm
16 still going to wear my bicycle helmet.

17 Q. And can you explain -- I appreciate the analogy,
18 but can you explain --

19 A. Sorry. I thought that would be helpful. The
20 whether or not other, you know, other processes executing with
21 the operating system might or might not expose reliability
22 issues is no reason not to address one in the one you know
23 about.

24 Q. The next point that Mr. Alepin made was that the
25 issue about the robustness and the reliability of the

1 NameSpace extensions API should have been apparent early in
2 the development process. And from that statement he drew the
3 inference that the validity of Microsoft's technical
4 justifications was suspect. Do you agree with him there?

5 A. I do not.

6 Q. Why?

7 A. So I think it's certainly the case that developers,
8 Mr. Nakajima in this case, knew, made a conscious decision in
9 the balance as we've talked about between functionality and
10 reliability, he made a cert- -- a particular, I'll call it a
11 risk benefit analysis and implemented the NameSpace extensions
12 as he did. That's not -- that doesn't mean that management at
13 Microsoft would perform a different analysis or that that
14 analysis would be constant over time.

15 Q. And what do you mean that it doesn't mean the
16 analysis of tradeoffs would be constant over time?

17 A. It means that as more information is available or
18 as decisions might be made in a broader context, in this case
19 it was clear that the decision to remove documentation and
20 support for -- or to remove support for these NameSpace
21 extensions, you know, it was made at very high level, you
22 know, that reflects that there was a period of time where the
23 pros and cons were weighed and a decision was made.

24 Q. Now, let's look at the last of Mr. Alepin's
25 statements. He says that it was not a technically difficult

1 fix. And I'll represent to you, and you may have read the
2 testimony, that he's saying it wasn't a difficult fix. The
3 reliability and robustness issues, and then his sub bullet is,
4 what was accomplished for Windows NT by March of 1995, and he
5 makes reference to Plaintiff's Exhibit 279 for that
6 proposition.

7 As an initial matter, Professor Bennett, have you
8 in connection with your work on this case had occasion to
9 review Plaintiff's Exhibit 279?

10 A. I have.

11 Q. And do you agree or disagree with Mr. Alepin that
12 it was not a technically difficult fix to remedy the
13 reliability and robustness issues presented by the NameSpace
14 extensions APIs?

15 A. Nothing about operating system design and
16 development is easy. The -- there is no specific evidence
17 that I have seen in this case that described, you know, how
18 much work was involved. We know this particular exhibit is an
19 e-mail message in 1995. To the best of my recollection, this
20 e-mail message simply says, here's how we're going to do it,
21 not that we have done it. And we know from the evidence that
22 it was -- wasn't done until about a year later.

23 Q. Looking at all of these points in summary, do they
24 have any impact on the opinion that you've given today that
25 Microsoft had valid technical justifications for the decision

1 to withdraw support for the NameSpace extensions APIs?

2 A. They do not. I stand by my opinion as rendered.

3 Q. Now, Professor Bennett, let's look at the sixth of
4 your opinions. And as an initial matter, could you read that
5 opinion for us, please?

6 A. Novell could have used or continued to use the
7 NameSpace extensions APIs after Microsoft withdrew
8 support for those APIs on October 3rd, 1994.

9 Q. And can you tell us the basis for this opinion?
10 What do you mean when you say that?

11 A. The NameSpace extensions were not removed from the
12 operating system. They were still available. The
13 documentation on how to use them and examples of how to use
14 them had been made available with the M6 beta. That
15 information was available to developers including Novell. And
16 they could have made use of that information on an ongoing
17 basis.

18 Q. Now, I'd like to show you what's admitted into
19 evidence as Defendant's Exhibit 142.

20 Professor Bennett, have you seen what is marked as
21 Defendant's Exhibit 142 in connection with your work on this
22 case?

23 A. Yes, I have.

24 Q. And can you tell the jury what this is?

25 A. This is what we call a header file. It is source

1 code that provides the -- or describes how to access certain
2 functionality within the operating system, in this case,
3 functionality within the operating system shell. This
4 particular header file also has a great deal of textual
5 documentation about how the NameSpace extension APIs function.

6 Q. Based on your experience as a professor of computer
7 science and a software developer, how does the commentary in
8 this header file relate to other header files that you've
9 seen?

10 A. This is a particularly verbose header file. Many
11 header files simply enumerate the interfaces and various
12 definitions. This header file summarizes how, you know, how
13 the interface works, how it is used, what the arguments are.
14 There is a lot of detail there.

15 Q. Now, I believe you testified in response to an
16 earlier question that not only was there this header file, but
17 there were examples in the M6 documentation about how he used
18 the NameSpace extensions APIs. Did I understand you
19 correctly?

20 A. There was at least one that I recall sitting here
21 today included in what's called the software development kit
22 that was published with the M6 -- it was on the M6 beta CD.

23 Q. And what use, if any, could software developers
24 gain from looking at such examples?

25 A. Well, examples are wonderful. You know, this

1 information tells you how to do it, and one can with
2 engineering efforts derive all you need to know from looking
3 at header files like this. But having a working example with
4 all of the bells and whistles implemented allows you to
5 carefully walk through exactly what was done in order to in
6 your contemplated product do similar kinds of things. It's
7 very helpful to have an example.

8 Q. Now, Professor Bennett, you may recall this, but I
9 will represent to you that Mr. Alepin testified at this trial
10 that if Novell had tried to use the NameSpace extension APIs
11 after October of 1994, it would have received a compiler error
12 because those APIs were no longer included in this header file
13 in the M7 beta version of Windows 95. Do you agree with that,
14 sir?

15 A. The -- it is true that the header file included --
16 this header file included with the M7 beta had some of the
17 interfaces removed. And it's true that a compile error would
18 have been observed if one had made use of one of the removed
19 interfaces. However, simply using the one that you already
20 had from the M6 beta would have made that software compile and
21 execute successfully.

22 Q. How could the software developer use the header
23 file from the M6 beta once the M7 beta has come out?

24 A. Simply by, you know, copying, dragging it over and
25 dropping it into the M7 beta software.

1 Q. How long would that take?

2 A. Two seconds.

3 Q. What risks, if any, based on your experience as a
4 software developer are entailed in calling APIs the operating
5 system vendor has said it's not committed to supporting in the
6 future?

7 A. There are risks. It's a risk benefit tradeoff.
8 This is, you know, at the time -- in the time frame in
9 question in, you know, 1994-1995, I think it's fair to say
10 that software was moving from kind of a cowboy era when
11 everybody went and routinely messed with operating systems
12 data structures. There are entire books published on
13 undocumented interfaces and how to use them. But the -- you
14 know, it remained the case in this time frame that it was
15 possible to make use of unsupported interfaces. It is -- I
16 know from personal knowledge that application developers did
17 make use of those kinds of interfaces including WordPerfect.
18 And the tradeoff is, you know, it's a conscious decision made
19 at the time.

20 Q. Based on your experience what factors go into that
21 tradeoff decision?

22 A. The -- I mean, I guess the first factor is the
23 value of using the interface. You know, how important -- is
24 this the only way I can do this? And how important is the
25 particular functionality I'm trying to achieve to the overall

1 design goals of the product? Second, whether or not the, you
2 know, there's a judgment on the likelihood that the interface
3 will change or go away at some future, and I might make a
4 tradeoff that says, all right, if it goes away or changes,
5 I'll deal with that whenever that happens.

6 Q. What, if anything, have you seen in your review of
7 the record of this case about whether software developers, in
8 fact, used the NameSpace extension APIs during the period
9 between June of 1994 and October of 1994?

10 MR. SCHMIDTLEIN: Objection, Your Honor.

11 THE COURT: Approach the bench.

12 (Whereupon, the following proceedings were
13 had at the bench:)

14 MR. SCHMIDTLEIN: Again --

15 THE COURT: It's not in the report?

16 MR. SCHMIDTLEIN: Actually, I know it may be hard
17 to believe, I'm exercising a fair amount of restraint given
18 the number of new things we're hearing today.

19 THE COURT: Mr. Holley, is this new?

20 MR. SCHMIDTLEIN: This is nowhere in his report,
21 the number of other ISVs who were supposedly using the APIs --

22 THE COURT: No. I understand. That's a distinct
23 issue.

24 MR. HOLLEY: Well, but, Your Honor, the question
25 about whether or not one could use the APIs despite the fact

1 that they were, quote, undocumented was very much an issue at
2 the report and at the deposition. The fact that -- and he
3 testified that he reviewed the documents produced by the
4 parties. Some of those documents show, for example, that
5 Stack and Semantic used the NameSpace extension APIs between
6 the time that they got them in June and when they were told in
7 October not to use them. And that within a matter of weeks
8 after that, they, unlike Novell, coped with it and redesigned
9 their products. That's part of the record of this case.

10 THE COURT: No. I think that that's -- it's
11 sustained.

12 (Whereupon, the following proceedings were
13 held in open court:)

14 Q. BY MR. HOLLEY: Professor Bennett, let's turn to
15 the seventh of your opinions, please. And as an initial
16 matter, could you read for us what the seventh opinion is?

17 A. Novell could have used Windows 95 common file
18 open dialog in creating versions of its Office
19 productivity applications for Windows 95.

20 Q. Professor Bennett, what, if anything, as a
21 technical matter prevented Novell from using the Windows 95
22 common file open dialog in creating versions of its Office
23 productivity applications for Windows 95?

24 A. Nothing.

25 Q. Now, I'd like to show you what's been previously

1 marked in this case as demonstrative Exhibit DR3. As an
2 initial matter, can you tell us what this is?

3 A. This is the window that pops up when a user does
4 something in application that is going to talk to the file
5 system, for example, opening or saving a file would be common
6 examples. In this case, opening a file.

7 Q. Did ISVs need something other than the Windows 95
8 common file open dialog in order to enable their users to get
9 access to virtual folders like Network Neighborhood and
10 My Briefcase and My Computer?

11 A. They did not. As can be seen here, the common file
12 open dialog displays Network Neighborhood and My Briefcase and
13 the available options to Explorer.

14 Q. What ability, if any, did software developers have
15 to customize this common file open dialog?

16 A. There were a number of Windows 95 APIs made
17 available to provide for that for customization.

18 Q. And can you give some examples of the things that
19 one might be able to do to the Windows 95 common file open
20 dialog in order to customize it?

21 A. It will -- I'll try to point. So the funny little
22 buttons you see to the right of where it says desktop, those
23 kinds of icons and buttons could be changed and added.
24 The -- what shows down here, a default file name could be
25 shown, the types of documents that list could be added to.

1 There are other kinds of options. Basically almost everything
2 shown here could be customized in some way.

3 Q. Professor Bennett, had Novell wanted to add buttons
4 to the Windows 95 common file open dialog as used in its
5 application for the QuickFinder search engine, for a viewer,
6 for WordPerfect and Quattro Pro documents and a list of
7 recently accessed information sources, could it have done that
8 using things made available by Microsoft for free to software
9 developers?

10 A. Yes.

11 Q. I'd like to turn to the eighth of your opinions.
12 As an initial matter, Professor Bennett, could you read us the
13 eighth opinion?

14 A. Novell created its own file open dialog for
15 Windows 95 without using the NameSpace extension APIs.

16 Q. What is the basis of that opinion,
17 Professor Bennett?

18 A. I obtained a copy of PerfectOffice 7 and inspected
19 using the same tool as I have described previously the
20 executable code for WordPerfect and Quattro Pro and so forth
21 determined -- to determine whether or not those products --
22 those components or those products made any use of the
23 NameSpace extension APIs. The results of that analysis was a
24 conclusion that they did not.

25 Q. Based on your analysis of Perfect Office 7 or

1 Corel WordPerfect 7, whatever you call the product, did you
2 see any custom containers being added for the five products we
3 talked about earlier, namely, the Soft Solutions, document
4 management system, the WordPerfect e-mail clients, the
5 QuickFinder search engine, the presentations clip art library
6 or an ftp.http browser?

7 A. Not that I recall.

8 Q. Based on your review of the file open dialog
9 contained in WordPerfect Office 7 for Windows 95, was there
10 any functionality in that file open dialog that Novell
11 couldn't have created using either the Windows 95 common file
12 open dialog or other functionality supplied by Windows 95?

13 A. I don't believe so. I think everything I observed
14 could have been created using functionality available in
15 Windows 95 to all developers.

16 THE COURT: Let's skip 9 for a while and go to 10.
17 I know -- just skip 10. When you move on, move on from 8 to
18 10.

19 MR. HOLLEY: All right. Okay. I'm not quite done
20 with this one yet.

21 THE COURT: Fine. Fine. Fine.

22 MR. HOLLEY: I appreciate the Court's advice.

23 Q. BY MR. HOLLEY: Was it possible for ISVs like
24 Novell to display the system NameSpace, meaning the contents
25 of the tree in Windows Explorer, without using the NameSpace

1 extension APIs?

2 A. Yes. And just to be clear, there were NameSpace
3 extension APIs that remained available to ISVs during the
4 entire time period.

5 Q. But my question -- and I appreciate the
6 clarification. My question was without using them, without
7 using the NameSpace extension APIs, was it possible for ISVs
8 such as Novell to display the treeview that shows up in the
9 Windows Explorer inside the ISVs application?

10 A. Yes, it was. This is an example.

11 Q. Okay. And how was that possible? I mean, not in
12 gory detail. But what made that possible?

13 A. I --

14 Q. What APIs -- was there a particular API in Windows
15 that you could call to display the system NameSpace in that
16 way?

17 A. IShellFolder.

18 Q. Are you familiar from your work on this case with
19 something called CHICOAPP?

20 A. Yes, I am.

21 Q. And what can you -- can you tell us what that was?

22 A. CHICOAPP was an example application of -- that
23 included source code and a written document that described how
24 the source code worked that demonstrated how a software
25 developer could create a look and feel or functionality

1 roughly equivalent to what the Windows Explorer did. And it
2 was made available in June of 1994.

3 Q. And just to be clear, this was a sample application
4 created by whom?

5 A. Her name was Nancy -- I forget her last name, but
6 she was a developer at Microsoft.

7 Q. Now, Professor Bennett, I'd like to show you some
8 testimony provided in this case by Novell's technical expert.
9 This is demonstrative Exhibit 349. Now I'd like to ask you
10 whether you agree or disagree with Mr. Alepin that without
11 using the NameSpace extension APIs but just using the common
12 controls in Windows 95 Novell had the ability to create a file
13 open dialog that would include not only the elements of the
14 Windows 95 NameSpace, but also enable Novell to add whatever
15 custom file locations it wanted.

16 A. So as you have just said, Mr. Alepin was asked
17 whether Novell could have created file -- a file open dialog
18 that would include the Windows 95 system NameSpace and to add
19 custom file locations without using the NameSpace extension.
20 Mr. Alepin answered in the affirmative, and that is also
21 consistent with my belief, as well.

22 Q. Now, let's skip Number 9 and talk about your
23 10th and final opinion, Professor Bennett. And as an initial
24 matter, could you read that for us?

25 A. PerfectOffice, WordPerfect, PerfectFit,

1 AppWare and OpenDoc are not middleware, as
2 that term is generally understood and are not
3 remotely capable of enabling ISVs to develop
4 general purpose personal productivity applications.

5 Q. Now, as an initial matter, Professor Bennett, based
6 on your experience in the software industry and your knowledge
7 of computer science, is every software product that exposes a
8 set of APIs middleware as that term is understood in your
9 field?

10 A. No.

11 Q. Why not?

12 A. If that were the case, then almost everything would
13 be middleware. The commonly accepted definition of middleware
14 is software that layered on top of an operating system that
15 provides a broad set of functionality sufficient to develop
16 general purpose applications.

17 Q. Now, I'd like to show you what was marked -- what
18 was shown to Mr. Alepin during his direct testimony as his
19 slide Number 6. And I'll represent to you that Mr. Alepin --
20 and you may have read this testimony yourself. I assume you
21 did. Mr. Alepin said that middleware was this yellow box
22 in-between the operating systems, and that it enabled
23 applications, the purple box up above, to rely on APIs exposed
24 by the middleware so that the application would then run on
25 multiple operating systems as opposed to being tied to any

1 given operating system.

2 Are you familiar with that testimony from
3 Mr. Alepin?

4 A. I am.

5 Q. Did you ask us to prepare any slide which lists
6 technical flaws that you see in Mr. Alepin's description of
7 middleware?

8 A. I did.

9 Q. Let me show you what's been marked as demonstrative
10 Exhibit 351. Now, with reference to this slide, can you walk
11 the jury through what it is that you're trying to describe
12 here?

13 A. Well, I will start in the middle, which is the --
14 what has been represented as the middleware. This
15 consisted -- or was represented to consist of three potential
16 components, WordPerfect and PerfectFit, OpenDoc and something
17 called AppWare. WordPerfect, as I think everyone here has
18 heard, is a document -- is a word processing system that
19 exposed macros for things like being able to capitalize a word
20 by hitting a few characters or something like that.

21 OpenDoc was a -- was a standard developed by a
22 number of companies represented to be something that would
23 provide some of the functionality of OLE, the object linking
24 and embedding functionality available in Microsoft Windows 95.
25 Because -- well, I don't know if that's the reason, but a lot

1 of companies participated in the design of that specification.
2 And in -- that participation of many -- of many companies
3 resulted in a specification that was, I'll use the term
4 bloated. I think the best analogy is, you know, an elephant
5 is a mouse designed by a committee.

6 As a result, there were very few actual
7 implementations of OpenDoc. Those that existed tended to
8 be -- to consume large amounts of memory and be relatively
9 slow. And it was -- I think the chief proponent of OpenDoc
10 was Apple, and I don't even think Apple used OpenDoc in its
11 flagship productivity software.

12 AppWare was a graphical programming tool developed
13 by a company called Serius, S-E-R-I-U-S, I believe, and
14 acquired by, I think it was WordPerfect at the time. It
15 was -- it used a graphical building block approach. And there
16 were I think in its heyday about 70 such building blocks that
17 could be assembled on a graphical display to create sets of
18 functionality.

19 The -- I guess if I'm -- an analogy might be, you
20 know, imagine a Lego kit with 70 Lego blocks. You could make
21 lots of interesting structures with 70 blocks, but you can't
22 make a pencil. It's not the general purpose. You can only do
23 those things that are contemplated by the modules.

24 So those components either separately or taken in
25 aggregate do not represent a -- do not expose a sufficiently

1 broad set of APIs to write any kind of general purpose
2 software and certainly not a full-featured personal
3 productivity application.

4 Second, while it is the case that AppWare and
5 OpenDoc had implementations that ran on different operating
6 systems, the WordPerfect software was written specifically --
7 WordPerfect for Windows 95 was written specifically for 95, so
8 this aggregation would not have -- you know, certainly would
9 not have supported, for example, NameSpace extension APIs
10 because that was a unique component of Windows 95.

11 MR. SCHMIDTLEIN: Your Honor, that was just opinion
12 Number 9.

13 THE COURT: Okay. I'm going to overrule that, but
14 ask you to skip 9. But unless you really want to argue that
15 we can do that when the jury is out.

16 MR. HOLLEY: Your Honor, I think the evidence is
17 what the evidence is. But we won't spend a whole lot of time
18 talking about the two bottom blocks.

19 Q. BY MR. HOLLEY: Professor Bennett, there's been
20 testimony in the case that WordPerfect and PerfectFit did
21 support certain add-on applications like Thesauruses and spell
22 checkers, as well as vertical applications for particular
23 industry segments, like medical offices or funeral homes.
24 How, if at all, does the availability of those sorts of
25 applications running on top of WordPerfect affect your opinion

1 concerning whether an exposed sufficiently broad set of APIs
2 to be middleware as that term is understood in computer
3 science?

4 A. It does not make those -- you know, make
5 WordPerfect middleware. Adding functionality to a particular
6 instance of a word processing application, say to support
7 medical or legal documents more efficiently, doesn't in any
8 way enable the creation of more capable or feature rich
9 general fully-featured personal productivity applications.

10 THE COURT: I don't remember medical and funeral --
11 excuse me -- I'm sure, as I say before, my memory is certainly
12 not perfect. I don't remember. Is this the same thing that
13 we're talking about box scores?

14 MR. HOLLEY: This was my example the other day,
15 Your Honor, of an application for a dental office where it
16 would automatically send out reminders to getting your teeth
17 cleaned.

18 THE COURT: I see.

19 MR. HOLLEY: But it's the same general principle.
20 The idea --

21 THE COURT: Okay. I understand. I just don't
22 remember funeral homes. You send out reminders that you're
23 not dead yet?

24 MR. HOLLEY: Make sure to prepare for the future.

25 Q. BY MR. HOLLEY: Professor Bennett, I'd like to show

1 you a list of middleware examples that Mr. Alepin used in his
2 direct testimony. It's slide number -- they're hard to read.
3 I think it's slide Number 7 that Mr. Alepin used. Based on
4 your understanding of the meaning of the term middleware in
5 computer science, which, if any, of these products that
6 Mr. Alepin listed meet that definition?

7 A. I think only one of them. The Sun Microsystems
8 Java technology, I think it's fair to call it middleware.

9 Q. And are you familiar with any general purpose
10 personal productivity applications that were successfully
11 developed for Sun Microsystems Java technology during the
12 period 1994 through 2000?

13 A. I'm aware of an attempt, but no successful
14 implementation.

15 Q. Which attempt are you referring to, sir?

16 A. I believe there was an attempt to port various
17 PerfectOffice products to Java that according to the public
18 press or statements made in public press by those involved, I
19 think it was characterized as an abject failure.

20 Q. So I'd like to show you what's been marked as --
21 what's been marked as demonstrative Exhibit 359. Does this
22 demonstrative accurately reflect your opinion about whether
23 any of these middleware examples that Mr. Alepin provided
24 enabled the development of full-featured personal productivity
25 applications during the period 1994 through 2000?

1 A. It does.

2 Q. And so it is your testimony that none of these
3 products did that; is that correct; sir?

4 A. In the time period that you have specified, that is
5 my opinion.

6 MR. HOLLEY: Your Honor, I pass the witness.

7 THE COURT: Okay. Let's take a short break. And
8 as soon as we get right back, we'll here from Mr. Schmidtlein.

9 (Whereupon, the jury left the court proceedings.)

10 (Recess.)

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1 STATE OF UTAH)

2) ss.

3 COUNTY OF SALT LAKE)

4 I, KELLY BROWN HICKEN, do hereby certify that I am
5 a certified court reporter for the State of Utah;

6 That as such reporter, I attended the hearing of
7 the foregoing matter on December 12, 2011, and thereat
8 reported in Stenotype all of the testimony and proceedings
9 had, and caused said notes to be transcribed into typewriting;
10 and the foregoing pages number from 4954 through 5027
11 constitute a full, true and correct report of the same.

12 That I am not of kin to any of the parties and have
13 no interest in the outcome of the matter;

14 And hereby set my hand and seal, this ____ day of
15 _____ 2011.

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KELLY BROWN HICKEN, CSR, RPR, RMR

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